

Cochin Smart Mission Limited



Smart City
MISSION TRANSFORM-NATION

Request for Proposals

For

**Selection of Master System Integrator for
Establishment of Integrated Command, Control and
Communication Centre (IC4) in Kochi
Under
Smart City Mission**

MANAGING DIRECTOR

COCHIN SMART MISSION LIMITED (CSML)

10th Floor, Revenue Tower, Park Avenue, Kochi - 682 011,

India. PHONE: 0484-2350355

E-MAIL: csmltenders@gmail.com



Cochin Smart Mission Limited (CSML)

REVISED NOTICE INVITING TENDER (NIT)

Cochin Smart Mission Limited
10th Floor, Revenue Tower, Park Avenue,
Kochi - 682 011, India.
Phone: 0484-2350355, 2380980
E-mail: csmltenders@gmail.com

No. CSML/ICT/RFP/001

Date: 23/05/2018

Cochin Smart Mission Limited (CSML) invites online bids from eligible bidders through website www.csml.co.in, www.kochimetro.org and www.etenders.kerala.gov.in - under organization name – “Kochi Metro Rail Ltd.” for **“Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi”**

The revised details are as under.

Sl. No.	Event's Name	Information
1.	Organization	Cochin Smart Mission Limited (CSML)
2.	Project	Smart City Projects under Smart City Mission
3.	NIT No.	CSML/ICT/RFP/001
4.	Name of Work	RFP for Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi
5.	Project duration	8 months (Establishing & Commissioning IC4) + O & M of 5 years after commissioning
6.	Form of Contract and Class of Contract	Open Tender Two Cover bidding (E- Tender)
7.	Type of Quotation	Item rate - BOQ based contract

Sl. No.	Event's Name	Information
8.	Tender document Fee	Rs.88,500 (Rupees Eighty Eight Thousand Five Hundred Only) through Online e-Tendering Payment Gateway (https://etenders.kerala.gov.in) only.
9.	Earnest Money Deposit (EMD)	Rs. 1 Crore (Rupees One Crore Only) in the form of Bank guarantee issued by a scheduled commercial bank in India.
10.	Bid Document Downloading Start Date	23 rd May 2018
11.	Last date for sending pre-bid queries	12 th May, 2018 till 17:00 hrs. at https://etenders.kerala.gov.in OR csmltenders@gmail.com
12.	Date, Time & Place of Pre-bid Meeting	13 th May, 2018 at 15:00 hrs. Venue: Kochi Cochin Smart Mission Limited, 10 th Floor, Revenue Tower, Park Avenue, Kochi - 682 011, India.
13.	Last date for Online Purchase of Tender Document	9 th July 2018, till 17:30 hrs.
14.	Last date of Online Submission of Bids	10 st July 2018, till 17:30 hrs.
15.	Last date of submission of original EMD and Power of Attorney (Hard copy)	13 th July 2018, before 15:00 hrs.
16.	Date & Time for Opening of Bids	13 th July 2018, at 15:00 hrs.
17.	Bid Validity	180 days
18.	Officer Inviting Bids	Managing Director, CSML
19.	Bid Clarification and Queries Addressed to	https://etenders.kerala.gov.in OR General Manager Email: csmltenders@gmail.com
20.	Method of Selection	The method of selection is Quality and Cost Based Selection Method (QCBS). The weights given to Technical and Financial proposals are: Technical = 70% and Financial = 30%

Sl. No.	Event's Name	Information
		The Contract will be awarded to the bidder evaluated with the highest overall score (combined Technical and Financial).

-sd-

Managing Director
Cochin Smart Mission Limited

e-Tender Submission Guidelines

1. The Bid should be submitted online at website <http://etenders.kerala.gov.in> by the due date and time, as specified in the NIT. Late/delayed tenders submitted online after the due date and time, for whatsoever reasons will not be considered. The Server Date & Time as appearing on the website. <http://etenders.kerala.gov.in> shall only be considered for the critical date and time of tenders. Offers sent through post, telegram, fax, telex, e-mail, courier will not be considered.
2. Partially completed/incomplete bids shall not be considered.
3. All communication shall be done online through website <http://etenders.kerala.gov.in> OR csmltenders@gmail.com
4. Bidders shall be required to arrange all resources, including Digital Signature Certificates and Internet Connections at their own cost, for participating in online tenders at <http://etenders.kerala.gov.in>.
5. M/s Cochin Smart Mission Limited (CSML) shall not be responsible for any delays what so ever in receiving as well as submitting offers, including connectivity issues. M/s. Cochin Smart Mission Limited (CSML) shall not be responsible for any other delays in submitting any documents wherever applicable.
6. M/s. Cochin Smart Mission Limited (CSML) will not be responsible for the cost incurred in preparation and submission of bids including the cost of digital certificate, regardless of the conduct of outcome of the bidding process.
7. **Two cover system**

If two bid systems is insisted, Bidders are required to submit offer in Two covers, namely

“Power of Attorney / Prequalification / Technical “-- **Cover - I**

And

“Financial” ---Cover –II

8. Cover –I (Fee / EMD / PQR / Technical)

- a) Tender Fee - To be paid online at <http://etenders.kerala.gov.in> only.
- b) EMD – To be paid in the form of Bank guarantee issued by a scheduled commercial bank in India in the format prescribed in RFP. The scanned copy of Bank Guarantee (EMD) to be uploaded in the E-tender website. Original EMD to be submitted (in a sealed envelope mentioning name of work) in the Tender Box at the CSML office, 10th Floor, Revenue Towers, Park Avenue, Ernakulum – 682011 before due date and time for submissions, mentioned in RFP.
- c) Power of Attorney (PoA) to be scanned and uploaded in the e-tender website. Original PoA to be submitted (in a sealed envelope mentioning name of work) in the Tender Box at the CSML office, 10th Floor, Revenue Towers, Park Avenue, Ernakulum – 682011 before due date and time for submissions, mentioned in RFP.
- d) Bidders are requested to upload the scanned copies of the following details along with documents indicated in RFP “online”.
 - i) The scanned copy of the NIT duly signed and stamped in all pages.

9. All documents signed and scanned including GCC, SCC, Annexures to GCC, SCC, and Financial Bid Cover II (Price Bid)

Bidders are requested to quote rates in the Finance cover (BOQ) only.

Price bid to be uploaded only in e-tender website: <http://etenders.kerala.gov.in>

PLEASE DO NOT QUOTE/MENTION RATES ANYWHERE ELSE IN THE TENDER OTHER THAN BOQ

10. In case applicant does not hold any document, which need to be uploaded OR there is no need to upload the mentioned document please upload a scanned copy stating the reason for not uploading OR a blank sheet for proceeding with tendering. Provisions for uploading cannot be left blank.
11. Please note that queries related to enquiry specifications, terms & conditions etc., shall be sent to General Manager Email: csmltenders@gmail.com before the clarification end date/time specified in the NIT.
12. Tender opening will be done online at the time and dates specified in NIT / RFP.
13. The bidders are requested to go through the instruction to the bidders in the website <http://etenders.kerala.gov.in>. The bidders who submit their bids for this tender after digitally signing using their Digital Signature Certificate (DSC), accept that they have clearly understood and agreed the terms and conditions in the website including the terms and conditions of this tender.

14. M/s. Cochin Smart Mission Limited (CSML) reserves the right to accept any offer in whole or in part or reject any or all offers without assigning any reason M/s Cochin Smart Mission Limited (CSML) reserves right to accept any or more offers in part. Decision of M/s. Cochin Smart Mission Limited (CSML) in this regard shall be final and binding on the bidder.
15. M/s. Cochin Smart Mission Limited (CSML) reserves the right to cancel any tender process at any stage without assigning any reason.
16. Corrigendum / addendum, which form part of the tender document, shall be published in the company website and e-tender website (<http://etenders.kerala.gov.in>) only and bidders are advised to check the websites regularly for the updates related to the tender before submitting the offer.

Disclaimer

- I. The information contained in this Request for Proposal Document (“RFP Document”) or subsequently provided to Bidder/s, whether verbally or in documentary form by or on behalf of Cochin Smart Mission Limited (“CSML”) is provided to Bidder(s) on the terms and conditions set out in this RFP Document and any other terms and conditions subject to which such information is provided.
- II. This RFP Document is neither an agreement nor an offer and is only an invitation by CSML to the entities that are qualified to submit their Proposal (Bidders) as stated in the Notice Inviting Bid.
- III. The purpose of this RFP Document is to provide the Bidders with information to assist the formulation of their Proposal.
- IV. This RFP Document may not be appropriate for all persons, and it is not possible for the CSML, their employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP Document.
- V. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP Document and where necessary obtain independent advice from appropriate sources.
- VI. The CSML, their employees and advisors make no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of the RFP Document.
- VII. No reimbursement of cost of any type whatsoever paid to persons, or entities, expressing interest in the work.
- VIII. The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by CSML or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and CSML shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation for submission of the Bid, regardless of the conduct or outcome of the Selection process.
- IX. CSML may in their absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP Document.

- X. CSML reserves the right not to proceed with the work, to alter the time table reflected in this document or to change the process of procedures to be applied for selection of Service Provider.

- XI. The issue of this RFP does not imply that CSML is bound to select a Bidder or to appoint the Selected Bidder (as defined hereinafter), for implementation and CSML reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever.

Definitions/Acronyms

SL. NO.	Term/Acronyms	Description
1	AAA	Authentication, authorization, and accounting
2	AFCS	Automatic Fare collection Software
3	ANPR	Automated Number Plate Recognition
4	AP	Access Point
5	AVLS	Automated Vehicle Locator System
5	Bid	Offer by the Bidder to fulfil the requirement of the Authority for an agreed price. It shall be a comprehensive technical and commercial agreed price. It shall be a comprehensive technical and commercial response to the RFP
6	BOM	Bill of Material
7	BOQ	Bill of Quantity
8	CA	Chartered Accountant
9	CAPEX	Capital Expenditure
10	CB	Capacity Building
11	CCA	Controller of Certifying Authorities
12	CCC	Command and Control Centre
13	CCCC	Command Control and Communication Centre
14	CCTV	Closed Circuit Television
15	Consortium	A consortium consists of multiple members entering into a Consortium Agreement for a common objective of satisfying the Authority requirements & represented by lead member of the consortium, designated as a "Lead Bidder".
16	COP	Common Operating Platform
17	COTS	Commercial Off The Shelf
18	CSML	Cochin Smart Mission Limited
19	CV	Curriculum Vitae
20	DBA	Database Administrator
21	DC	Data Centre

SL. NO.	Term/Acronyms	Description
22	DCP	Deputy Commissioner of Police
23	Deliverables	Products, infrastructure and services agreed to be delivered by the Bidder in pursuance of the agreement as defined more elaborately in the RFP, Implementation and the Maintenance phases and includes all documents related to the user manual, technical manual, design, process and operating manuals, service mechanisms, policies and guidelines (such as security related, data migration related), inter alia payment and/or process related etc., source code and all its modifications.
24	DIT	Directorate of Information Technology
25	DNS	Domain Name Server
26	DR	Disaster Recovery
27	DRC	Disaster Recovery Centre
28	DRM	Disaster Recovery Management
29	DSC	Digital Signature Certificate
30	Effective Date	The date on which the Contract Agreement for this RFP comes into effect
31	EMD	Earnest Money Deposit
32	EMS	Enterprise Management System
33	ERP	Enterprise Resource Planning
34	ETA	Estimated Time of Arrival
35	ETD	Estimated Time of Departure
36	ETM	Electronic Ticketing Machine
37	e-Procurement portal	Means the electronic tendering system of the Government of kerala ie. https://etenders.kerala.gov.in
38	FRS	Functional Requirement Specifications
39	GI Pipes	Galvanized iron Pipes
40	GIS	Geographical Information System
41	GoK / GOK	Government of Kerala
42	GPRS	General Packet Radio Service

SL. NO.	Term/Acronyms	Description
43	GPS	Global Positioning System
44	GSM	Global Systems for Mobile Communications
45	GST	Goods and Service Tax
46	GUI	Graphical User Interface
47	HD	High Definition
48	HDPE	High-Density Polyethylene
49	HO	Head Office
50	IBMS	Integrated Building Management System
51	ICCC	Integrated Command & Control Center
52	ICT	Information and Communication Technology
53	IDS	Intrusion Detection System
54	IEC	Information, Education and Communication
55	INR	Indian Rupee
56	IOE	Internet of Everything
57	IP	Internet Protocol
58	IPS	Intrusion Prevention System
59	IR	Infra-Red
60	IRC	Indian Road Congress
61	ISP	Internet Service Provider
62	ISO	International Organization for Standardization
63	ITIL	Information Technology Infrastructure Library
64	ITMS	Intelligent / Integrated Traffic Management System
65	KMC	Kochi Municipal Corporation
66	KPI	Key Performance Indicator
67	KVM	Keyboard, Video display unit and Mouse unit
68	LAN	Local Area Network

SL. NO.	Term/Acronyms	Description
69	LED	Light Emitting Diode
70	LOI/LOA	Letter of Intent/Letter of Award
71	MCR	Modern Control Room
72	MIS	Management Information System
73	MoU	Memorandum of Understanding
74	MPLS	Multi-Protocol Label Switching
75	MSI	Master Systems Integrator
76	MSME	Micro, Small and Medium Enterprises
77	MTBF	Mean Time Between Failures
78	MTTR	Mean Time to Repair
79	MUX	Multiplexer
80	NDA	Non-Disclosure Agreement
81	NFC	Near Field Communication
82	NIC	National Informatics Centre
83	NOC	Network Operations Centre
84	Non-Compliance	means failure/refusal to comply the terms and conditions of the tender
85	Non-responsive	means failure to furnish complete information in a given format and manner required as per the RFP / tender documents or non-submission of tender offer in given forms / pro forma or not following procedure mentioned in this RFP / tender or any of required details or documents is missing or not clear or not submitted in the prescribed format or non-submission of tender fee on EMD
86	NSP	Network Service Provider
87	OEM	Original Equipment Manufacturer
88	OFC	Optical Fibre Cable
89	OGC	Open Geospatial Consortium
90	O&M	Operation and Maintenance

SL. NO.	Term/Acronyms	Description
91	OPEX	Operating Expenditure
92	OS	Operating Systems
93	OTP	One Time Password
94	PA System	Public Address System
95	PAN	Permanent Account Number
96	PDU's	Power Distribution Units
97	PIS	Passenger Information System
98	PKI	Public Key Infrastructure
99	PMO	Project Management Office
100	PoC	Proof of Concept / Pilot Demonstration
101	PoE	Power over Ethernet
102	PoP	Points of Presence
103	PTZ	Pan Tilt Zoom
104	QCBS	Quality and Cost Based Solution
105	QR Code	Quick Response Code
106	Required Consents	The consents, waivers, clearances and licenses to use Authority Intellectual Property Rights, rights and other authorizations as may be required to be obtained for the software and other items that DIT, GoM their nominated agencies are required to make available to Bidder pursuant to this Agreement;
107	RLVD	Red Light Violation detection
108	RF	Radio Frequency
109	RFID	Radio Frequency Identification
110	RFP	Request for Proposal
111	RLVD	Red Light Violation Detection
112	RoW	Right of Way
113	RPO	Recovery Point Objective

SL. NO.	Term/Acronyms	Description
114	RTO	Recovery Time Objective
115	SCADA	Supervisory control and data acquisition
116	Service Level	The level of service and other performance criteria which will apply to the Services delivered by the Bidder;
117	SI	System Integrator
118	SLA	Service Level Agreement; Performance and Maintenance SLA executed as part of this Master Service Agreement;
119	SMPS	Switched Mode Power Supply
120	SNMP	Simple Network Management Protocol
121	SOC	Service Operations Centre
122	SOP	Standard Operating Procedure
123	SOS	Save Our Souls. SOS is the international Morse code distress signal
124	Successful Bidder	The bidder who is qualified & successful in the bidding process and is awarded the work
125	SSL	Secured Socket Layer
126	SWM	Solid Waste Management
127	TIA	Tender Inviting Authority
128	TPA	Third Party Auditor
129	TRAI	Telecom Regulatory Authority of India
130	TRS	Technical Requirement Specifications
131	UAT	User Acceptance Testing
132	UPS	Uninterruptible Power Supply
133	URL	Uniform Resource Locator
134	VA	Video Analytics
135	VMS	Variable Message System
136	VCA	Video Content Analytics
137	VLAN	Virtual Local Area Network

SL. NO.	Term/Acronyms	Description
138	VMD	Variable Message Display
139	VMS	Video Management Software/System
140	WAN	Wide Area Network

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1. Instructions to Bidders / Applicants

1. Instruction to Bidders / Applicants

1.1. GENERAL INFORMATION AND GUIDELINES

1.1.1. PURPOSE

AUTHORITY seeks the services of a reputed company, for “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**”. This document provides information to enable the bidders to understand the broad requirements to submit their Proposals. The detailed scope of work is provided in [Section 2.0](#) of this RFP document. AUTHORITY for this project is **Cochin Smart Mission Limited (CSML)**.

Cochin Smart Mission Limited (CSML), is a Special Purpose Vehicle (SPV) set up to implement smart city projects under Smart City Mission (SCM).

The intending Bidders must read the terms and conditions carefully and should only submit his Bid if he considers himself eligible and he is in possession of all the documents required.

- (i). Applicants need to refer General Conditions of Contract (GCC) for ‘definitions and abbreviations’.
- (ii). The applicant is required to examine carefully all the contents of the RFP Document including instructions, conditions, forms, terms, specifications and take them fully into account before submitting the Bid. Failure to comply with the requirement(s) of RFP Document will be at the Bidder’s own risk & responsibility.
- (iii). Applicants / Bidders shall be required to arrange all resources, including Digital Signature Certificates and Internet Connections at their own cost, for participating in online tenders at <http://etenders.kerala.gov.in>. Applicants need to register and download application from the website.

- (iv). Corrigendum / addendum, if any, issued to the RFP / bid document, which form part of the tender document, shall be published in the CSML website and e-tender website (<http://etenders.kerala.gov.in>) and bidders are advised to check the websites regularly for the updates related to the tender before submitting the offer. The authority assumes no responsibility what so ever in case of delay in bid submission by the bidders.
- (v). Bid and all other related documents are to be submitted in English. Supporting documents should be translated in English and submitted online.
- (vi). All costs for site visits, obtaining information/ data and preparation/ meetings, etc. in relation with Bid submission shall be borne by the applicants.
- (vii). All requisite documents as detailed in RFP are to be submitted by the bidder(s)/ applicant(s). Incompleteness of the documents as required may lead to the rejection of applicants bid.
- (viii). CSML reserves the right to verify all the credentials and inspect their executed works/ assignments etc. to satisfy themselves about their performance and capability to execute the assignment satisfactorily, if found any failure on submitted details, CSML holds the right to invoke performance security or Bid security wherever applicable.
- (ix). CSML reserves the right to not to choose any applicant, relinquish the Bid process or reissue Bid with or without modification as it chooses. CSML is not bound to furnish any explanation as to its decision to any of the participants.
- (x). Bid is to be submitted online in Two cover system consisting of Technical Proposal and Financial proposal as detailed in RFP

General

- a) While every effort has been made to provide comprehensive and accurate background information, requirements and envisaged solution(s) specifications, Bidders must form their own conclusions about the solution(s) needed to meet the Authority's requirements. Bidders and recipients of this RFP may wish to consult their own legal advisers in relation to this RFP.

- b) All information supplied by Bidders as part of their bids in response to this RFP, may be treated as contractually binding on the Bidders, on successful award of the assignment by the Authority based on this RFP.
- c) No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of Authority. Any notification of preferred bidder status by Authority shall not give rise to any enforceable rights by the Bidder. Authority may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of Authority.
- d) Bids shall be received by the Authority on the e-Procurement portal <http://etenders.kerala.gov.in> before the time and date specified in the schedule of the tender notice. The Authority may, at its discretion, extend this deadline for submission of offers by issuing corrigendum and uploading the same on e-Procurement portal.
- e) Telex, cable or facsimile offers will be rejected.

1.1.2. CONSORTIUM

- (I) The Bidder for participation in the Selection Process, may be a single entity or a group of entities (the "Consortium"), coming together to execute the project. The term 'Bidder' used herein would apply to both a single Entity and a Consortium.

a. Sole Bidder

The Sole Bidder must be a System Integrator company which has the capabilities to deliver the entire scope as mentioned in the RFP. The Sole Bidder cannot bid as a part of any other consortium bid under this RFP.

b. Consortium of Firms

Bids can be submitted by a consortium of firms. A consortium should not consist of more than **three parties (including the Lead Bidder)**. One of the Firms would be designated as a "Lead Bidder". The Lead Bidder would have the sole responsibility of ensuring the delivery of products

and services mentioned in all volumes of this RFP. The Lead Bidder would also be responsible for ensuring the successful execution of integrated solution including meeting the SLAs. The list of Consortium Members needs to be declared in the bid which cannot be changed by the bidder later on. Any change in the consortium partner will need to be approved by Authority.

The Lead Bidder will be responsible for:

- i) The management of all Consortium Members who are part of the bid, and
 - ii) The Design, supply, delivery and installation of all products and services submitted in their bid and as part of the contract
- (II) No Member at any given point of time may assign or delegate its rights, duties or obligations under the Agreement/Contract except with prior written consent of AUTHORITY.
- (III) No bidder applying individually, or as a member of a Consortium, as the case may be, can be member of another consortia bidding for the project.
- (IV) In the event the Bidder is a Consortium, it shall, comply with the following additional requirements:
- a) Number of members in a consortium **shall not exceed 3 (three)** including the Lead Member
 - b) The Members of the Consortium shall nominate one member as the Lead Member
 - c) The Members of the Consortium shall be responsible for successful implementation of the project throughout the terms of the contract.
 - d) The Lead Member shall be authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Members respectively from time to time in the response to this RFP. The Lead Bidder shall be authorized to incur liabilities and receive instructions for and on behalf of all consortium members. Entire execution of the Contract, including payment, shall be done exclusively by/with the Lead Bidder

- e) Any of the Lead Bidders cannot be a Consortium Member with another bidder in a separate bid
- f) Internal arrangement between the Consortium Members is left to the bidders. It is the responsibility of the lead Bidder to ensure that all the other Consortium Members in the bid are compliant to all the clauses as mentioned in the bid, failing which bid can be disqualified
- g) The Members of the Consortium shall submit a declaration as set out in [Annexure 1.5](#) inter alia consisting of the following:
 - 1) Undertaking that each of the members of the Consortium shall have an independent, definite and separate scope of work which was allocated as per each member's field of expertise
 - 2) Commit to the profit and loss sharing ratio of each member
 - 3) Commit to the scope of work, rights, obligations and liabilities to be held by each member; specifically commit that the Lead Member shall be answerable on behalf of other members for the performance of obligations under this Agreement,
 - 4) Provide a brief description of the roles and responsibilities of individual members; and clearly define the proposed administrative arrangements (organization chart) for the management and execution.
 - 5) Include a statement to the effect that all the members of the Consortium shall be jointly and severally liable for all obligations in relation to the Agreement/Contract until the completion of the project in accordance with the Agreement/Contract;
- h) Any change of a Consortium Member other than the Lead Member can be done only under extreme circumstances such as non-performance of the Consortium member, insolvency or bankruptcy of the Consortium member, which shall be done only with the prior written approval of AUTHORITY. Provided that in the event of any such approved change of Consortium member, the new member (company) replacing outgoing

Consortium member shall have same or higher financial, technical and legal qualifications as the outgoing member, and to the satisfaction of CSML. In the event AUTHORITY does not grant approval for the change of the Consortium member other than the Lead Member or suitably qualified replacement member (companies) are not available/ found, the exit of such Consortium member shall constitute a breach of the Contract.

- i) All members of the consortium are required to follow the highest level of work ethics, if any member of the consortium has a Conflict of Interest or indulges in Prohibited Practices; the whole Consortium is liable to be disqualified. Further, in the event any entity has been barred by the Central Government, any State Government, a statutory authority or a public-sector undertaking, as the case may be, from participating in any project or bid, and the bar subsists as on the date of Last Date of Submission, it would not be eligible to submit a Proposal either by itself or as part of a Consortium. Lead member should have minimum 51% share in Consortium. Consortium agreement to be submitted.

1.1.3. SUB-CONTRACTING

Sub-Contracting is not allowed for this RFP

1.1.4. COMPLETENESS OF BID

The Bid should be complete in all respects. Failure to furnish all information required by the RFP document or submission of a proposal not substantially responsive to the RFP document in every respect will be at the Bidder's risk and may result in rejection of its Bid and forfeiture of the EMD.

Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.

Failure to comply with the requirements of this RFP may render the bid non-compliant and the Bid may be rejected. Bidders must:

- a) Include all documentation specified in this RFP, in the bid
- b) Follow the format of this RFP while developing the bid and respond to each element in the order as set out in this RFP
- c) Comply with all requirements as set out within this RFP

The Bidder shall be deemed to have carefully examined the Terms & Conditions, Scope, Service Levels, Specifications, and Schedules of this RFP. If bidder has any doubts/clarifications as to the meaning of any portion of the Conditions or the specifications, he shall, before the last date and time for Submission of Pre-Bid Queries, shall submit them to Authority in writing in order that such doubt may be removed or clarifications are provided.

1.1.5. PROPOSAL PREPARATION COSTS

The bidder shall submit the bid at its cost and expense. AUTHORITY shall not be held responsible for any cost incurred by the bidder. Submission of a bid does not entitle the bidder to claim any cost and rights over AUTHORITY and AUTHORITY shall be at liberty to cancel any or all bids without giving any notice.

All materials submitted by the bidder shall be the absolute property of AUTHORITY and no copyright etc. shall be entertained by AUTHORITY.

1.1.6. PRE-BID MEETING AND QUERIES

- 1) AUTHORITY will host a Pre-Bid meeting as per the date mentioned in the RFP NIT sheet. The representatives, limited to 4, of the interested organizations may attend the pre-bid conference at their own cost. The purpose of the conference is to provide bidders with information regarding the RFP and the proposed solution requirements in reference to the RFP. Pre-Bid meeting will also provide each bidder with an opportunity to seek clarifications regarding any aspect of the RFP and the project.

- 2) All Bidders shall e-mail their queries to csmltenders@gmail.com in the form and manner as prescribed in [Annexure 5](#). The response to the queries will be published on e-Tendering Portal i.e. www.etenders.kerala.gov.in No telephonic / queries will be entertained thereafter. This response of AUTHORITY shall become integral part of RFP document. AUTHORITY shall not make any warranty as to the accuracy and completeness of responses.
- 3) AUTHORITY shall endeavor to respond to the questions raised or clarifications sought by the Bidders. However, AUTHORITY reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this clause shall be taken or read as compelling or requiring AUTHORITY to respond to any question or to provide any clarification.
- 4) AUTHORITY may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidders. All clarifications and interpretations issued by AUTHORITY shall be deemed to be part of the Bidding Documents. Verbal clarifications and information given by AUTHORITY or its employees or representatives shall not in any way or manner be binding on AUTHORITY.

1.1.7. AMENDMENT OF RFP DOCUMENT

All the Corrigendum / Addendum made in the document would be published on the e-Tendering Portal i.e. www.etenders.kerala.gov.in and shall be part of RFP.

The Bidders are advised to visit the e-tendering portal on regular basis to check for necessary updates. AUTHORITY also reserves the right to amend the dates mentioned in this RFP.

1.1.8. SUPPLEMENTARY INFORMATION TO THE RFP

If AUTHORITY deems it appropriate to revise any part of this RFP or to issue additional data to clarify an interpretation of provisions of this RFP, it may issue supplements to this RFP. Any such corrigendum shall be deemed to be incorporated by this reference into this RFP.

1.1.9. CSML'S RIGHT TO TERMINATE THE PROCESS

AUTHORITY may terminate the RFP process at any time and without assigning any reason. AUTHORITY reserves the right to amend/edit/add/delete any clause of this RFP Document. This will be informed to all and will become part of the RFP and information for the same would be published on the e-Tendering portal.

1.1.10. SITE VISIT AND VERIFICATION OF INFORMATION

- 1) The Bidders are encouraged to visit and examine the site or sites and obtain for itself, at its own responsibility and risk, all information that may be necessary for submission of the bid and entering into the Contract. The costs of visiting the site or sites shall be at the Bidder's own expense.
- 2) AUTHORITY will arrange for the Bidder and any of its personnel or agents to gain access to the relevant site or sites, provided that the Bidder gives AUTHORITY adequate notice of not less than 5 (Five) days prior to such proposed visit.
- 3) No site visits shall be arranged or scheduled after the deadline for the submission of the Bids and prior to the award of Contract.

1.2. KEY REQUIREMENTS OF THE BID

1.2.1. RFP DOCUMENT/TENDER FEE

RFP can be downloaded free of cost from the website www.etenders.kerala.gov.in. RFP Document Fee/Tender fee of **Rs. 88,500 (Rupees Eighty Eight Thousand Five Hundred Only)** shall be paid through online e-Tendering Payment Gateway only (<https://etenders.kerala.gov.in>) for submission of bid. The RFP document fee shall be non-refundable. Without the payment of tender fee the bids will be taken as incomplete and non-responsive and shall not be considered.

1.2.2. EARNEST MONEY DEPOSIT (EMD)

- 1 In terms of this RFP, a Bidder is required to submit EMD of **Rs.1,00,00,000 (Rupees One Crore Only)** in the form of Bank guarantee issued by a scheduled commercial bank in India in the format provided

in [Annexure 7](#) of the RFP.. Scanned copy of EMD should be submitted on e-procurement system (<https://etenders.kerala.gov.in>) and original hard copy should be submitted to CSML before stipulated date and time. No exemption for submitting the EMD will be given to any agency. Bid security in any other form will not be entertained.

- 2 The Unsuccessful Bidder's EMD will be returned on issue of, Letter of Acceptance (LOA) to the Successful bidder. The Bid Security, for the amount mentioned above, of the successful bidder would be returned upon submission of Performance Bank Guarantee for an amount equal to **10%** of Total Contract Value in the format provided in [Annexure 8](#) of the RFP.
- 3 No interest will be paid by AUTHORITY on the EMD amount and EMD will be refunded to all Bidders (including the successful bidders) without any accrued interest on it
- 4 The Bid submitted without EMD, mentioned above, will be summarily rejected
- 5 The EMD may be forfeited:
 - a) If a Bidder withdraws his bid or increases his quoted prices during the period of bid validity or its extended period, if any.
 - b) In case of a successful bidders, if the Bidder fails to sign the contract in accordance with the terms and conditions.
 - c) If during the bid process, a bidder indulges in any such deliberate act as would jeopardize or unnecessarily delay the process of bid evaluation and finalization.
 - d) If, during the bid process, any information is found false / fraudulent / mala-fide, and then AUTHORITY shall reject the bid and, if necessary, initiate action as per applicable provisions.
 - e) If the bidder does not agree to correct arithmetic error.
- 6 The decision of AUTHORITY regarding forfeiture of the EMD shall be final and binding upon bidders.

1.2.3. BID VALIDITY PERIOD

Bid shall remain valid for the time period mentioned in the NIT i.e. for **180 days**.

On completion of the validity period, unless the Bidder withdraws his bid in writing, it will be deemed to be valid until such time that the Bidder formally (in writing) withdraws his bid – not to be deemed.

1.2.4. COMMERCIAL FINANCIAL BID FORMAT

The Bidder must submit the Commercial / Financial Bid online through (<https://etenders.kerala.gov.in>) as detailed in [Annexure 3](#) of this RFP.

1.2.5. BID PRICE

Commercial Bid / Financial proposal shall be submitted online through (<https://etenders.kerala.gov.in>) as per the BOQ format detailed in [Annexure 3](#). Bidders shall give the required details of all applicable taxes, duties, other levies and charges etc. in respect of direct transaction between CSML and the Bidder.

Bidders shall quote for the entire scope of contract on a “overall responsibility” basis such that the total bid price covers Bidder’s all obligations mentioned in or to be reasonably inferred from the bidding documents in respect of providing the product/services.

Prices quoted by the Bidder shall remain firm during the entire contract period and not subject to variation on any account. A bid submitted with an adjustable price quotation shall be treated as non-responsive and rejected.

1.2.6. DEVIATIONS AND EXCLUSIONS

Bids / Proposals shall be submitted strictly in accordance with the requirements and terms & conditions of the RFP.

1.2.7. TOTAL RESPONSIBILITY

Bidder should issue a statement undertaking total responsibility for the defect free operation of the proposed solution as per the format mentioned in [Annexure 1.8](#)

1.2.8. DISQUALIFICATION

The bid is liable to be disqualified in the following cases or in case bidder fails to meet the bidding requirements as indicated in this RFP:

- a) During validity of the bid, or its extended period, if any, the bidder increases its quoted prices
- b) The bidder's bid is conditional and has deviations from the terms and conditions of RFP
- c) Bid is received in incomplete form
- d) Bid is not accompanied by all the requisite documents
- e) Information submitted in technical bid is found to be misrepresented, incorrect or false, accidentally, unwittingly or otherwise, at any time during the processing of the contract (no matter at what stage) or during the tenure of the contract including the extension period if any
- f) Financial bid is enclosed with the same document as technical bid.
- g) Bidder tries to influence the bid evaluation process by unlawful/corrupt/fraudulent means at any point of time during the bid process
- h) In case any one party submits multiple bids or if common interests are found in two or more bidders, the bidders are likely to be disqualified, unless additional bids/bidders are withdrawn upon notice immediately
- i) If any of the Lead Bidder is also partner in any other bid, then all the affected bids shall be disqualified

1.2.9. KEY PERSONNEL

CSML has identified certain key positions and minimum qualifications for each of the positions that should be part of project team of the bidder (hereby referred to as "key personnel"). Details of these key positions are provided in [Clause 1.3.14 Section C](#)

a) INITIAL COMPOSITION; FULL TIME OBLIGATION; CONTINUITY OF PERSONNEL

Bidder shall ensure that each member of the Key Personnel devotes substantial working time as per the staffing schedule/ manpower plan to perform the services to which that person has been assigned as per the bid.

Bidder shall not make any changes to the composition of the Key Personnel and not require or request any member of the Key Personnel to cease or reduce his or her involvement in the provision of the Services during the defined term of the engagement unless that person resigns, is terminated for cause, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires.

In any such case, the CSML's prior written consent would be mandatory.

b) REPLACEMENT

In case any proposed resource resigns, then the Bidder has to inform CSML or the respective City nodal officer within one week of such resignation.

Bidder shall promptly initiate a search for a replacement to ensure that the role of any member of the Key Personnel is not vacant at any point in time during the contract period, subject to reasonable extensions requested by Bidder to CSML or City nodal officer.

Before assigning any replacement member of the Key Personnel to the provision of the Services, Bidder shall provide CSML with:

- a) a resume, curriculum vitae and any other information about the candidate that is reasonably requested by CSML; and
- b) An opportunity to interview the candidate.

The bidder has to provide replacement resource of equal or better qualification and experience as per the requirements of this RFP.

If CSML objects to the appointment, Bidder shall not assign the individual to that position and shall seek an alternative candidate in accordance with the resource requirements of this RFP.

The bidder needs to ensure at least 4 weeks of overlap period in such replacements. CSML will not be responsible for any knowledge transition to the replacement resource and any impact/escalation of cost incurred by the bidder due to resource replacement.

c) **HIGH ATTRITION**

If in the first 6 month period from the Contract Effective Date and in any rolling 12 months period during the Term of contract, 15 percent or more of the members of the Key Personnel cease or reduce their involvement in the Services for any reason other than with CSML's prior written consent, Bidder shall:

- a) provide CSML with a reasonably detailed explanation as to the reasons for such change, including, where applicable and permitted, notes from any exit interviews conducted by Bidder with any departing member of the Key Personnel; and
- b) if such change to Key Personnel has or is likely to have any material adverse impact on the provision of the Services or any substantial part thereof, undertake, at its own costs, such remediation acts as are reasonably necessary in order to improve the retention of the Key Personnel including making reasonable changes to the human resources policies and procedures applicable to the Key Personnel (including those related to compensation, benefits and other conditions so that they are competitive with the market) as may be necessary to ensure that such policies and procedures comply with Good Industry Practice.

1.3. BID SUBMISSION INSTRUCTIONS

1.3.1. BID SUBMISSION FORMAT

The entire Bid shall be submitted strictly as per the format specified in this RFP. Bids with any deviation from the prescribed format are liable for rejection.

1.3.2. BID SUBMISSION INSTRUCTIONS

1. Complete bidding process will be online (e-Tendering) in two covers system. Submission of bids shall be in accordance to the instructions given in the Table below:

Particulars	Instructions
<p>Technical Proposal</p>	<p>The Technical Proposal shall be prepared in accordance with the requirements specified in this RFP and the formats are prescribed in Annexure 1 and Annexure 2 of the RFP. Technical Proposal shall also include following:-</p> <p>Scanned copy of EMD and Power of Attorney</p> <p>The Pre-Qualification Proposal along with supporting documents shall be prepared in accordance with the requirements specified in this RFP and the formats are prescribed in Annexure 1 of the RFP.</p> <p>The Technical Proposal establishing fulfillment of Pre-Qualification eligibility along with supporting documents shall be prepared in accordance with the requirements specified in this RFP and the formats are prescribed in Annexures of the RFP</p> <p>Technical Proposal including Pre-Qualification Proposal along with supporting documents should be submitted through online bid submission process via website www.etenders.kerala.gov.in. Hard copy of Original Bank guarantee (towards EMD) and Power of attorney shall be submitted in the Tender Box at CSML Office, 10th Floor, Revenue Towers, Park Avenue, Ernakulam – 682011 before the due date and time as per NIT / latest Corrigendum if any.</p>
<p>Financial Proposal</p>	<p>The Financial Proposal shall be prepared in accordance with the requirements specified as detailed in Annexure 3 of the RFP.</p> <p>Financial Proposal should be submitted through online bid submission process only via website www.etenders.kerala.gov.in. Submission of Financial Proposal in hard copy will result in rejection of bid</p>

Note: AUTHORITY will conduct the bid evaluation based on documents submitted through online e-tendering portal.

- The following points shall be kept in mind for submission of bids;

- a) AUTHORITY shall not accept delivery of Bids in any manner other than that specified in this RFP. Bid delivered in any other manner shall be treated as defective, invalid and rejected.
- b) The Bidder is expected to price all the items and services sought in the RFP and proposed in the technical proposal. The Bid should be comprehensive and inclusive of all the services to be provided by the Bidder as per the scope of work and in accordance with the terms and conditions as set out in the Contract.
- c) AUTHORITY may seek clarifications from the Bidder on the technical proposal. Any of the clarifications by the Bidder on the technical proposal shall not have any commercial implications. The Financial Proposal submitted by the Bidder should be inclusive of all the items in the technical proposal and should incorporate all the clarifications provided by the Bidder on the technical proposal during the evaluation of the technical offer.
- d) Technical Proposal shall not contain any financial information.
- e) If any Bidder does not qualify the pre-qualification criteria stated in [Section 1.3.13](#) of this RFP, the financial proposal of the Bidder shall be unopened in the e-Tendering system.
- f) It is required that all the proposals submitted in response to this RFP should be unconditional in all respects, failing which AUTHORITY reserves the right to reject the proposal.

1.3.3. LATE BID AND BID VALIDITY PERIOD

Bids received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained and shall not be opened in the e-Tendering system. The validity of the bids submitted before deadline shall be till 180 days from the date of submission of the bid.

1.3.4. MODIFICATION AND WITHDRAWAL OF BIDS

No bid shall be withdrawn in the interval between the deadline for submission of bids and the expiration of the validity period specified by the Bidder on the bid form. Entire EMD shall be forfeited if any of the Bidders withdraw their bid during the validity period.

1.3.5. NON-CONFORMING BIDS

A Bid may be construed as a non-conforming proposal and ineligible for consideration:

- a) If it does not comply with the requirements of this RFP
- b) If the Bid does not follow the format requested in this RFP or does not appear to address the particular requirements of AUTHORITY.

1.3.6. LANGUAGE OF BIDS

The Bids shall be submitted in English language only. If any supporting documents submitted are in any language other than English, then the translation of the same in English language is to be duly attested by the bidder and submitted with the bid, and English translation shall be validated at AUTHORITY's discretion.

1.3.7. AUTHENTICATION OF BID

- a) Authorized person of the bidder who signs the bid shall obtain the authority letter from the bidder, which shall be submitted with the Bid. All pages of the bid and its annexures, etc. shall be signed and stamped by the person or persons signing the bid.
- b) The Bidder should submit a Power of Attorney as per the format set forth in [Annexure 6](#), authorizing the signatory of the Bid to commit the Bidder.
- c) The person or persons so authorized for signing the Bid shall initial all pages of the Bid including supporting documents and printed literature. The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder. Any interlineations, erasures or overwriting shall be valid only if the person or persons signing the Bid have authenticated the same with their respective signature alongside such interlineations, erasures or overwriting. Each page of the offer should be numbered. Documents to be scanned and uploaded to the portal.

1.3.8. ACKNOWLEDGEMENT OF UNDERSTANDING OF TERMS

By submitting a Bid, each Bidder shall be deemed to acknowledge that he has carefully read all sections of this RFP, including all forms, schedules, annexure, corrigendum and addendums (if any) hereto, and has fully informed itself as to all existing conditions and limitations.

1.3.9. EVALUATION PROCESS

- a) AUTHORITY will constitute a Bid Evaluation Committee (BEC) to evaluate the responses of the bidders
- b) The BEC constituted by AUTHORITY shall evaluate the responses to the RFP (Technical proposal, and financial proposal) and all supporting documents / documentary evidence. Inability to submit requisite supporting documents / documentary evidence, may lead to rejection.
- c) The decision of the BEC in the evaluation of responses to the RFP shall be final. No correspondence shall be entertained outside the process of negotiation/ discussion with the Committee.
- d) The BEC may ask for meetings with the Bidders to seek clarifications on their proposals and may visit Bidder's client site to validate the credentials/ citations claimed by the bidder.
- e) The BEC reserves the right to reject any or all proposals on the basis of any deviations.
- f) Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.
- g) Please note that BEC may seek inputs from their professional, external experts in the Bid evaluation process.

1.3.10. BID OPENING

- a) Total transparency shall be observed and ensured while opening the Bids. All Bids shall be opened online in the presence of Bidder's representatives who choose to attend the Bid opening sessions on the specified date, time and address.
- b) AUTHORITY reserves the right at all times to postpone or cancel a scheduled Bid opening.
- c) Bid opening shall be conducted in 2 (Two) Stages;

Stage 1 - RFP Document fee / Tender fee & Bid Security/EMD, Technical Proposal including Pre-Qualification Proposal

Stage 2 - Financial Proposal / Commercial Bid
- d) The venue, date and time for opening the Technical Proposal are mentioned in the Tender Notice in the RFP. The date and time for opening the Financial Proposals would be communicated to the qualified bidders.
- e) Bid of those bidders who have not submitted "Bid Security" and "Fee of Bid Document submission" shall not be opened.
- f) Bids of those Bidders who have not submitted valid "Bid Security" and valid "Cost of Bid Documents" shall be considered as non-responsive and liable to be rejected summarily.
- g) Any Tender not containing the required documents and not fulfilling the qualification criteria indicated in the RFP / Tender document shall be summarily rejected.
- h) The Financial Proposals of only those bidders will be opened who scores equal to or more than **70% (Seventy percent) marks** in Technical Evaluation.
- i) Prior to the detailed evaluation of bids, Employer will determine whether each Bid (a) meets the Pre-qualification eligibility criteria (b) has been properly signed (c) is accompanied by the required EMD and (d) is substantially responsive to the requirements of the Bidding documents.

- j) A substantially responsive bid shall be, one which confirms to all the terms, conditions, and specifications of the tender documents, without material deviation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the supply; (b) which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the Bidder's obligations under the contract or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive
- k) The Financial Proposals of only those bidders will be opened who meets the Pre-qualification Eligibility and Technically Qualified.
- l) The Bidder's representatives, who are authorized from the bidder, shall only be allowed to present in the bid opening process. They shall sign a register evidencing their attendance and may be required to submit authority proof, in case asked for same. In the event of the specified date of Bid opening being declared a holiday for AUTHORITY, the bids shall be opened at the same time and location on the next working day. In addition to that, if their representative of the Bidder remains absent, AUTHORITY will continue process and open the bids of the all bidders
- m) During Bid opening, preliminary scrutiny of the Bid documents shall be made to determine whether they are complete, whether required EMD has been furnished, whether the Documents have been properly signed, and whether the bids are generally in order. Bids not conforming to such preliminary requirements shall be prima facie rejected. AUTHORITY has the right to reject the bid after due diligence is done.

1.3.11. EVALUATION OF TECHNICAL PROPOSAL

Prior to evaluation of Bid, the CSML will determine whether each Proposal is responsive to the requirements of the RFP. The CSML may, in its sole discretion, reject any Proposal that is not responsive hereunder. A Proposal shall be considered responsive only if:

- i) It is received by the Proposal Due Date including any extension thereof
- ii) It is accompanied by the "Bid Security" as specified and "Fee of Bid submission"

- iii) Applicants has submitted all Documents in specified format as mentioned in the RFP
- iv) It is not non-responsive in terms hereof.

The evaluation of the Technical Proposals will be carried out in the following manner:

Evaluation of Pre-Qualification Proposals

- a) Authority shall open the tender submitted online and check for payment of Document Fee and Earnest Money Deposit (EMD) and then the Technical Proposal including Pre-Qualification Proposal will be opened. Technical proposal including Pre-qualification proposals will not be considered further if the mentioned requirements as per RFP are not fulfilled. **Each of the Pre-Qualification condition mentioned in Clause 1.3.13 of the RFP is MANDATORY.** In case the Bidder does not meet any one of the conditions, the bidder will be disqualified.
- b) The Technical Proposal including Pre-Qualification proposal **MUST** contain all the documents in compliance with instructions given in the [Annexure 1](#) and [Annexure 2](#)
- c) Response to the Pre-Qualification Requirements shall be evaluated in accordance with the requirements specified in this RFP and in the manner prescribed in [Clause 1.3.13](#) of the RFP.

Further Evaluation of Technical Proposals

- a) Authority will review the technical bids of the short-listed bidders to determine whether the technical proposals are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at AUTHORITY's discretion.
- b) The bidders fulfilling the pre-qualification eligibility criteria listed under [Clause 1.3.13](#) and having submitted technically responsive bids will be further required to showcase proposed products to Authority. The Goods proposed to be supplied by the Contractor and services to be delivered shall confirm to the technical specifications of the Tender Document. For shortlisting the technically qualified bidder, Bidders technical solutions proposed in the bid document will be evaluated as per the requirements and guidelines specified in the [Annexure 2](#) and technical evaluation criteria as mentioned in [Clause 1.3.14](#) of the RFP.

- c) Bidders shall make the technical presentation and showcase proposed products to Authority as per the agenda mentioned in [Clause 1.3.14](#) of the RFP.
- d) Each Technical Proposal shall be assigned a technical score out of a maximum of 100 points. (Refer [Clause 1.3.14](#) of the RFP). In order to qualify for the opening of financial proposal, the Bidder must get a minimum overall technical score of 70 (Seventy).
- e) The Bidders are required to submit all required documentation in support of the evaluation criteria specified (e.g. Detailed Project citations and copy of work order Completion Certificate, client contact information for verification, and all others components) as required for technical evaluation along with the Technical propos
- f) At any time during the Bid evaluation process, BEC may seek oral / written clarifications from the Bidders. The Committee may seek inputs from their professional and technical experts in the evaluation process.
- g) Authority reserves the right to do a reference check of the past experience stated by the Bidder. Any feedback received during the reference check shall be taken into account during the technical evaluation process.
- h) Each Technical Bid will be assigned a technical score out of a maximum of 1000 marks. Only the bidders who get an Overall Technical score of 70% or more for the criterias detailed in Technical Evaluation Framework as given in [Clause 1.3.14](#) will qualify for financial / commercial evaluation stage. Failing to secure minimum % of Technical marks shall lead to technical rejection of the Bid.
- i) The Financial Proposals of Bidders who do not qualify technically shall be kept unopened in the e-Tendering system.
- j) AUTHORITY reserves the right to accept or reject any or all bids without giving any reasons thereof.
- k) AUTHORITY shall inform to the technically shortlisted Bidders about the date and venue of the opening of the financial proposals.

1.3.12. FINANCIAL PROPOSAL EVALUATION

- a) All the technically qualified bidders will be notified to participate in Financial Proposal / Commercial Bid opening process.
- b) Financial Proposals for the technically qualified bidders will then be opened on the notified date and time and reviewed to determine whether the financial proposals are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at AUTHORITY's discretion.
- c) Financial Proposals / Commercial Bid that are not meeting the condition mentioned in [Annexure 3](#) shall be liable for rejection.
- d)
 - i) If there is a discrepancy between the unit price and the line item total amount that is obtained after multiplying unit price with the quantity, the unit price shall prevail and the line item total amount shall be corrected, unless in the opinion of the Employer there is an obvious gross misplacement of the decimal point in the unit price, in which case the line item total amount as quoted shall govern and unit price shall be corrected.
 - ii) If there is error in a total corresponding to addition or subtraction of subtotals, the Sub totals shall prevail and the total shall be corrected and
 - iii) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in such case the amount in figure shall prevail subject to (i) and (ii) above.
 - iv) Tenderers shall be requested to accept correction of arithmetical errors. Failure to accept the correction shall result in the rejection of the Tender and forfeiture of bid security
 - v) Tenderers should quote for all-inclusive rate including transportation, loading and Unloading, taxes, delivery charges etc

- e) The Normalized commercial score of the technically qualified bidders will be calculated, while considering the Total Cost of Bid (TCB) given by each of the Bidders in the Commercial Bid as follows:

Normalized Commercial Score of a Bidder = {Lowest TCB / Bidders TCB} X 1000 (adjusted to 2 decimals)

1. The bid price will include all taxes and levies and shall be in Indian Rupees and mentioned separately.
2. Any conditional bid would be rejected
3. Kindly note that the indicative/estimated quantity provided in the RFP would be used for evaluation purposes; however the payment would be done on actual usage basis.

FINAL SCORE CALCULATION THROUGH QCBS

1. The final score will be calculated through Quality and Cost selection method based with the following weightage:

Technical: 70%

Commercial: 30%

Final Score = (0.70* Technical Score) + (0.30* Normalized Commercial Score)

2. The bidder with the highest Final score shall be treated as the Successful bidder.
3. In the event the Final scores are 'tied', the bidders whose score is tied securing the lowest (among all the tied bidders) financial score will be adjudicated as the Best Value Bidder for award of the Project. Decision of authority is final.

1.3.13. PRE-QUALIFICATION ELIGIBILITY CRITERIA

The proposal failing to meet all of the below pre-qualification eligibility criteria shall be disqualified and will not be considered for financial evaluation process.

Sl. No	Basic Requirement	Specific Requirements	Documents / Evidence Required	Applicability
PQ1	Legal Entity	<p>Lead Bidder</p> <p>The Sole Bidder or the Lead Member of consortium should be registered in India under Companies Act 1956/2013 (as amended) or in abroad</p>	<ul style="list-style-type: none"> • Copy of Certificate of Incorporation • Registration under Companies Act, 1956/2013 / Copy of Registration Certificates • For Global Players , Equivalent certificate in the country of incorporation • Copy of purchase orders showing at least 5 years of operations OR Certified true copy of relevant extracts of balance sheet and profit loss statements for last 5 years demonstrating bidder have been in operation for at least 5 years as on date of submission of the bid 	Lead Bidder
		<p>Consortium Members</p> <p>The Members of consortium should be registered in India under Companies Act 1956/2013 (as amended) or in abroad</p>		Consortium Members
PQ2	Annual Turnover	The Sole Bidder or the JV (Joint Venture) / consortium members	Certificate from the Statutory Auditor (Chartered	Lead Bidder /

Sl. No	Basic Requirement	Specific Requirements	Documents / Evidence Required	Applicability
		<p>altogether should have average annual Turnover of Rs. 200 Crore for last 3 audited financial years (2014-15, 2015-16 and 2016-17) ending March 2017 from IT systems / IT System integration / IT services / ICT / system integration services / communication infrastructure / city surveillance / ICT based utility management / ICT based law enforcement / Transport management / Telecom / Telecom Services / command & control center implementation / Network Operating Center (NOC) / Cloud services business in India or abroad.</p> <p>Also, in case of JV (Joint Venture) / consortium should satisfy the following:</p> <p>(i) Lead member of JV (Joint Venture) / consortium shall have minimum average</p>	<p>Accountant) / Company Secretary</p> <p>Year-wise details of turnover, balance sheet, financial statement,</p> <p>The said certificate also need to be counter signed by authorized signatory of the bidder</p>	<p>Consortium Members</p>

Sl. No	Basic Requirement	Specific Requirements	Documents / Evidence Required	Applicability
		<p>annual Turnover of 51% of Rs. 200 Crore and</p> <p>during last 3 audited financial years (2014-15, 2015-16 and 2016-17) ending March 2017.</p>		
PQ3	Experience in development / implementation of Smart City component	<p>The Sole Bidder or Lead Member or any member of its consortium should have experience in implementation and maintenance of any of the following projects:</p> <p>a) Command & Control Centre / Network Operations Centre (NOC) OR</p> <p>b) Surveillance command center OR</p> <p>c) Multi-layer GIS for ULBs</p> <p>In India or abroad in last 10 (Ten) financial years (FY 2008-09, 2009-10, 2010-11, 2011-12, 2012-13, 2013-14, 2014-15, 2015-16, 2016-17 and 2017-18) of worth-</p>	<p><u>In Case of ongoing project</u></p> <p>Case study + Copy of work order + Assignment Details as per the format provided.</p> <p><u>In Case of completed project</u></p> <p>Case study + Copy of work order + Assignment Details as per the format provided.+ Completion Certificate</p> <p>In case of NDA, Company Secretary / Chartered Accountant Signed Certificate providing details of Scope of work and Value and stage of project.</p> <p>In case the experience shown is that of the bidder's parent / subsidiary company, then the</p>	<p>Lead Bidder / Any Consortium Members</p>

Sl. No	Basic Requirement	Specific Requirements	Documents / Evidence Required	Applicability
		<p>(1) INR 80 Crore in single work order</p> <p>OR</p> <p>(2) Two orders each of INR 50 Crore</p> <p>OR</p> <p>(3) Three orders each of INR 40 Crore</p> <p>to any PSU / Government Institution / / Urban Local Bodies / government offices</p> <p>Bidder can propose separate (one or more) projects for each component for evaluation.</p>	<p>following additional documents are required:</p> <p>i) Letter from the Company Secretary of the bidder certifying that the entity whose experience is shown is parent/subsidiary Company</p> <p>ii) Shareholding pattern of the bidding entity as per audit reports</p>	
PQ4	Blacklisting	<p>The Sole Bidder or Lead Member and all member of its consortium including its subsidiary / group companies should not have been blacklisted by Central/State Government/ PSU entity in India or similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices as on date of submission of the proposal.</p>	<p>Undertaking by the authorized signatory as per the format given as Annexure 4</p> <p>Self-certificate on company's letter head duly signed by company secretary.</p>	Lead Bidder and all Consortium Members

Sl. No	Basic Requirement	Specific Requirements	Documents / Evidence Required	Applicability
PQ5	Certifications	The Sole Bidder or the Lead Member of consortium should have a valid ISO 9001:2015 and ISO 27001:2013. Also, the Lead bidder (System Integrator) should be CMM level 5/ISO 9001:2015 certified	Valid Copy(ies) of certificates	Sole Bidder / Lead Bidder
<p>Note:</p> <ol style="list-style-type: none"> For International projects, original client certificate and other documents shall be duly verified by Indian embassy / High Commission. The same shall be submitted with the bid document. For projects where fee has been received in any currency other than Indian Rupees, than the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of publication of the tender document shall be used for conversion of amount in foreign currency to Indian Rupees equivalent. Bidders are allowed to submit experience in terms of technical qualification of their holding company and/or subsidiary company only. Letter to be submitted from parent Company that, there will be unconditional support to the subsidiary for technology / software etc. However, the parent/ subsidiary company of the Bidder should on its own meet the technical experience as stipulated in this RFP and should not rely for meeting the technical experience criteria on its sister subsidiary/ co-subsiary company or through any other arrangement like Technical Collaboration agreement. For the purpose of this clause, a holding company, in relation to one or more other companies, means a company of 				

Sl. No	Basic Requirement	Specific Requirements	Documents / Evidence Required	Applicability
		<p>which such companies are subsidiary companies; and</p> <p>5. a subsidiary company' in relation to any other company (that is to say the holding company), means a company in which the holding company— (a) controls the composition of the Board of Directors; or (b) exercises or controls more than one-half of the total share capital at its own</p> <p>6. For the purpose of evaluation criteria, if the bidding company (the lead bidder in case of consortium) is 100% subsidiary of an international or Indian company then the lead bidder's parent company's or parent company's other subsidiary relevant experience can be considered as lead bidder's experience.</p> <p>7. Projects executed for bidder's own or bidder's group of companies shall not be considered.</p> <p>8. For the above criteria bidder means MSI or its consortium partners (in case of consortium)</p>		

Note: AUTHORITY reserves right to visit bidder's customer where such a similar project execution has taken place.

The bidders need to submit appropriate supporting evidences to satisfy the criteria

1.3.14. TECHNICAL EVALUATION CRITERIA / FRAMEWORK (SUPPORTING DOCUMENTS TO BE ATTACHED)

The Bidder's technical solution proposed in the Technical Evaluation bid shall be evaluated as per the evaluation criteria in the following table.

Section #	Evaluation Criteria	Total Marks
A	Bidder's Organizational Strength and Experience	100

Section #	Evaluation Criteria	Total Marks
B	Proposed Solution, Approach & Methodology (Common Cloud based DC and DR approach, Innovation, Command Center Platform Support during the contract period – L1, L2 and L3, etc.)	150
C	Resources Planning, Key Personnel, Project Governance, Exit Management and Transition Management	200
D	Common Command Center Application Platform OEM and CSP Credentials	200
E	Technical Presentation and Live Demo	350
Total		1000

Important: Qualification criteria for technical evaluation and progression to financial evaluation stage.

- Minimum 70% marks of the overall technical score total

N.B- Evaluation Committee (or a nominated party) reserves the right to check/validate the authenticity of the information provided in the Pre-qualification and Technical Evaluation criteria and the requisite support must be provided by the Bidder.

OEM representative should be present at the time of Technical Presentation to CSML.

The following sections explain how the Bidders shall be evaluated on each of the evaluation criteria.

Technical bids of the Bidders qualifying in the Pre- Qualification criteria will be opened and will also be invited for doing the technical presentation.

A- Bidder's Organizational Strength and Experience (Total Marks -100)

SI No.	Criteria	Criteria Details	Documentary Evidence	Marks Allotted
1.	Bidder should have an average annual turnover of at least INR 200 Crores in any of the 3 financial years (FY 2014-15, 2015-16 and 2016-17)	<p>Annual Turnover from IT systems/IT System integration / IT services / ICT / system integration services / communication infrastructure / city surveillance / ICT based utility management / ICT based law enforcement / Transport management /Telecom / Telecom Services/ command & control center implementation / Network Operating Center (NOC)/ Cloud services business</p> <p>In case of Consortium, aggregated turnover of the consortium may be considered with 51% (minimum) of the lead bidder and 49% (maximum) of the consortium partners</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>>200 Crores to <= 350 Crores – 2.5 Marks</p> <p>>350 Crores to <= 500 Crores – 5 Marks</p> </div>	<p>Certificate from the Statutory Auditor / Chartered Accountant.</p> <p>The said certificates also need to be counter signed by Company Secretary / authorized signatory of the bidder.</p>	10

		<p>>500 Crores to <= 650 Crores– 7.5 Marks</p> <p>>650 Crores 10 Marks</p>		
2.	<p>Experience in Implementation and maintenance of large scale ICT based Utility Management System / Municipal Services in India or Abroad</p>	<p>Lead Bidder or its consortium members having experience in Implementation & maintenance of large Utility Management System / Municipal Services Project in last ten (10) financial years. Value of project should be at least of INR 20 crores.</p> <p>3 citations=30 marks, 2 citation = 20 marks 1 citation=10 marks else 0 Marks</p>	<p><u>In Case of ongoing project</u> Case study + Copy of work order + Assignment Details as per the format provided.</p> <p><u>In Case of completed project</u> Case study + Copy of work order+ Assignment Details as per the format provided. + Completion Certificate</p> <p>In case of NDA, Company Secretary / Chartered Accountant Signed Certificate providing details of Scope of work and Value and phase of project.</p>	30
3.	<p>Experience in Implementation & maintenance of Application in hosted environment in India or abroad</p> <p>of application in hosted</p>	<p>Lead Bidder or its consortium members having experience in Implementation & maintenance of application in hosted environment in last ten (10) financial years. Value of project to be at least of INR 5 crores.</p> <p>3 citations=30 marks, 2 citation = 20 marks</p>	<p>In case the experience shown is that of the bidder's parent / subsidiary company, then the following additional documents are required:</p> <p>i. Letter from the Company Secretary of the bidder certifying that the entity</p>	30

	environment in India	1 citation=10 marks else 0 Marks	whose experience is shown is parent / subsidiary Company. ii. Shareholding pattern of the bidding entity as per audit reports	
4.	Experience in Implementation & maintenance of Command and Control Centre (CCC) / Network Operating Center (NOC) of integrated ICT based Smart City / township / campus system / Emergency Services for city / Law Enforcement	Lead Bidder or its consortium members having experience in Implementation & maintenance of Command & Control Centre Project in last ten (10) financial years. Value of project to be at least of INR 4 crores. 3 citations=30 marks, 2 citation = 20 marks 1 citation=10 marks else 0 Marks	Parent Company and subsidiary company shall be construed as defined under company's act 2013	30
Total				100

Note:

1. For parameter 2,3,4

- i. Bidders are allowed to submit experience in terms of technical qualification of their holding company and/or subsidiary company only. For the purpose of this clause,

- a. a 'holding company', in relation to one or more other companies, means a company of which such companies are subsidiary companies; and
 - b. a subsidiary company' in relation to any other company (that is to say the holding company), means a company in which the holding company— (a) controls the composition of the Board of Directors; or (b) exercises or controls more than one-half of the total share capital at its own
- ii. For the purpose of evaluation criteria, if the bidding company (the lead bidder in case of consortium) is 100% subsidiary of an international or Indian company then the lead bidder's parent company's or parent company's other subsidiary relevant experience can be considered as lead bidder's experience.
 - iii. For projects where fee has been received in any currency other than Indian Rupees, then the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of publication of the tender document shall be used for conversion of amount in foreign currency to Indian Rupees equivalent Projects executed for bidder's own or bidder's group of companies shall not be considered.
 - iv. For the above criteria bidder means Lead Bidder or its consortium partners (in case of consortium)
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B- Proposed Solution, Approach & Methodology (Common Cloud based DC and DR approach, Innovation, Command Center Platform Support during the contract period – L1, L2 and L3, etc.) (Total Marks-150)

Bidder has to provide answers of the below mentioned questions in form of write-up (maximum 3 A4 sheets per question except for question No. 10, for which max 50 sheets are permitted) as a part of Technical Proposal evaluation.

Sl No.	Questions	Maximum Marks
1.	Please explain Understanding of the project as per RFP	15
2.	Please provide the proposed solution for High level Architecture of the solution proposed for the complete project as per the RFP	15
3.	Please provide the proposed solution for common cloud based DC and DR to meet the functionalities as given in RFP	15
4.	Please provide the proposed solution for networking along with Network Architecture between City Command and Control Room and common cloud based DC & DR to meet the functionalities as given in RFP	15
5.	Please provide details pertaining to Adherence to functional and Technical SLAs	15
6.	What will be approach towards the scalability, Interoperability and modularity features considering the future expansion of the project? The response to this question shall be given considering growth of Smart Cities as well as new applications or systems that may be envisaged / developed in the future.	15

7.	Please identify major risks for the project and also propose suitable mitigation plan for each of these risks.	15
8.	How the proposed solution ensures the full proof security to the system from various threats including hacking attempts, internal threats, etc? Please explain in detail approach towards the security of the overall solution from external and internal threats.	15
9.	ICCCC (IC4) platform OEM roadmap for next 10 years along with planned L1, L2 and L3 Support	15
10.	Please explain your detailed approach and methodology for executing this project	15
Total		150

C- Resources Planning, Key Personnel, Project Governance, Exit Management and Transition Management (Total Marks- 200)

Sl No.	Criteria	Criteria Details	Marks Allotted
I	Project Governance Framework at City Level	Bidder is required to submit the Governance framework in line with this RFP for the City level, it must include the following:	50

		<ul style="list-style-type: none"> • Organization Structure of the common resources deployed across the state • Resource Reporting mechanism • Format of the reports (to be submitted at the state level for the common components and project progress) • Frequency of the reporting • Structure of the review meeting with the Management Committee of this project <p>All the above mentioned line items are to be submitted along with technical proposal as Project Governance Mechanism.</p> <p>This should also be part of the technical presentation.</p> <p>It is expected that at the time of actual execution of this RFP, all the commitments given by bidder will be adhered.</p>	
II	Exit Management	<p>Bidder is required to submit the Exit Management framework in line with this RFP, it must include the following:</p> <ul style="list-style-type: none"> • Activities part of the successful exit management • Process to be followed during exit management • Mechanism to be followed for handover of the assets, data and IPR (for only those components 	25

		<p>for which customization is done in this project)</p> <p>All the above mentioned line items are to be submitted along with technical proposal as Project Exit Management Mechanism.</p> <p>This should also be part of the technical presentation.</p> <p>It is expected that at the time of actual execution of this RFP, all the commitments given by bidder will be adhered.</p>	
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III	Transition Management	<p>Bidder is required to submit the Transition Management framework in line with this RFP, it must include the following:</p> <ul style="list-style-type: none"> • Activities part of the successful Transition management from CSP to another CSP • Process to be followed during Transition management • Mechanism to be followed for movement of the data and command centre platform from one CSP to another in secure manner without losing any data or its formats <p>All the above mentioned line items are to be submitted along with technical proposal as Transition Mechanism between CSP to another.</p> <p>This should also be part of the technical presentation.</p> <p>It is expected that at the time of actual execution of this RFP, all the commitments given by bidder will be adhered.</p>	25
IV	Key personnel		
1.	Program Manager	Refer to Team Evaluation Matrix Below	14
2.	Cloud DC / DR Expert	Refer to Team Evaluation Matrix Below	14

3.	Citizen Service / Municipal Domain expert	Refer to Team Evaluation Matrix Below	8
4.	GIS expert	Refer to Team Evaluation Matrix Below	8
5.	Solution Architect	Refer to Team Evaluation Matrix Below	8
6.	Project Manager-Software	Refer to Team Evaluation Matrix Below	8
7.	Project Manager- Infrastructure	Refer to Team Evaluation Matrix Below	8
8.	Database Architect	Refer to Team Evaluation Matrix Below	8
9	Security Expert	Refer to Team Evaluation Matrix Below	8
10.	Command and Control Centre management Expert	Refer to Team Evaluation Matrix Below	8
11.	Mobile App development Expert	Refer to Team Evaluation Matrix Below	8
Total			200

Team Evaluation Matrix

Program Manager = 14 marks

a) Educational Qualification:

- BE / B. Tech / MCA with MBA/M. Tech = 4 Marks
- BE / B. Tech / MCA = 2 Marks
- Else 0

b) Certification :

- PMP / Prince 2 Certification = 2 Marks

c) Work experience in the capacity of Project/Program Manager in ICT implementation Projects:

- ≥ 10 years = 6 marks
- ≥ 8 and < 10 year = 4 Marks
- ≥ 5 and < 8 year = 2 Marks
- Else 0

d) Project/Program management Experience in ICT implementation Project of value > 100

crores:

- ≥ 3 Projects = 2 Marks
- 2 Projects = 1 marks
- Else 0

Cloud DC / DR Expert = 14 marks

a) Educational Qualification:

- BE / B. Tech / MCA with MBA/M. Tech = 4 Marks
- BE / B. Tech / MCA = 2 Marks
- Else 0

b) Certification :

- Any professional certification = 2 Marks

c) Work experience in the capacity of Cloud DC / DR Expert in ICT implementation Projects:

- ≥ 10 years = 6 marks
- ≥ 8 and < 10 year = 4 Marks
- ≥ 5 and < 8 year = 2 Marks
- Else 0

d) Cloud implementation Experience in ICT implementation Project of value >

100 crores:

- ≥ 3 Projects = 2 Marks
- 2 Projects = 1 marks
- Else 0

Citizen Service / Municipal Domain expert = 8 marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA + MBA/PGDM (2 Years Full Time) = 2 Marks
- Else 0 Marks

b) Work experience in Implementation of Citizen Centric Service/Municipal domain ICT Projects:

- ≥ 9 years = 3 Marks
- ≥ 6 and < 9 year = 1 Marks
- Else 0

c) International work experience in Implementation of Citizen Centric Service/Municipal domain ICT Projects:

- At least 1 Project = 3 mark
- Else 0

GIS expert = 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 2 Marks
- Else 0 Marks

b) Work experience in Implementation of GIS Projects:

- ≥ 9 years = 4 marks
- ≥ 6 and < 9 year = 2 Marks
- Else 0

C) International work experience in Implementation of GIS Projects:

- At least 1 Project = 2 mark

Else 0

Solution Architect= 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 2 Marks
- Else 0 Marks

b) Work experience as IT/ICT solution architect:

- ≥ 9 years = 4 marks
- ≥ 6 and < 9 year = 2 Marks
- Else 0

c) International work experience as IT/ICT solution architect:

- At least 1 Project = 2 mark
- Else 0

Project Manager-Software = 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 2 Marks
- Else 0 Marks

b) Work experience as Project Manager in software Implementation Project:

- ≥ 9 years = 4 Marks
- ≥ 6 and < 9 year = 2 Marks
- Else 0

c) International work experience as Project Manager in software Implementation Project:

- At least 1 Project = 2 Marks
- Else 0

Project Manager – IT/ICT Infrastructure= 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 2 Marks
- Else 0 Marks

b) Work experience as Project Manager in IT/ICT Infrastructure Project:

- ≥ 9 years = 4 Marks
- ≥ 6 and < 9 year = 2 Marks
- Else 0

c) International work experience as Project Manager in IT/ICT Infrastructure Project:

- At least 1 Project = 2 Marks
- Else 0

Database Architect= 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 2 Marks
- Else 0 Marks

b) Work experience as Database architect:

- ≥ 9 years = 4 Marks
- ≥ 6 and < 9 year = 2 Marks
- Else 0

c) International work experience as Database architect:

- At least 1 Project = 2 Marks
- Else 0

IT Security Expert= 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 1 Marks
- Else 0 Marks

b) Certification

- CISA= 1 Mark

c) Work experience as IT Security Expert:

- ≥ 9 years = 4 Marks
- ≥ 6 and < 9 year = 2 Marks
- Else 0

d) International work experience as IT Security Expert:

- At least 1 Project = 1 Marks
- Else 0

Command and Control Centre (CCC) Expert = 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 2 Marks
- Else 0 Marks

b) Work experience as CCC Expert:

- ≥ 9 years = 4 Marks
- ≥ 6 and < 9 year = 2 Marks
- Else 0

c) International work experience as CCC Expert:

- At least 1 Project = 2 Mark
- Else 0

Mobile App development Expert= 8 Marks

a) Educational Qualification:

- Bachelor's Degree in Engineering/MCA = 2 Marks
- Else 0 Marks

b) Work experience as Mobile App development Expert:

- ≥ 5 years = 4 Marks
- ≥ 3 and < 5 year = 2 Marks
- Else 0

c) International work experience as Mobile App development Expert:

- At least 1 Project = 2 Marks
- Else 0

D- Command Center Application OEM and CSP Credentials (Total Marks-200)

Sl. No.	Criteria	Criteria Details	Marks Allotted
1	Common Command Center Application OEM Turnover	<p>Single legal entity or its holding company, having annual revenue in the last two financial years (2014-15 and 2015-16) either in India or Globally.</p> <ul style="list-style-type: none"> • More than INR 100 Crores- 20 Marks • INR 75-100 Crores- 10 Marks <p>Bidder to submit Certificate from the Statutory Auditor / Chartered Accountant. The said certificates also need to be counter signed by authorized signatory of the OEM.</p> <p>It is expected that at the time of actual execution of this RFP, all the commitments given by bidder will be adhered.</p>	50
2	Common Command Center Application Platform Experience and Capabilities	<p>Proposed platform for City Control and Command Centre by bidder should have been deployed in India or abroad in last 5 years.</p> <p>The platform should be deployed with at least any 3 unique and relevant use cases of the following like <i>Smart Lighting, Parking, environment, Parking video nodes, Video Surveillance, Smart Card, Wi-Fi, Smart Energy, Smart Water, Smart Waste</i></p>	100

		<p>Management, Environment Monitoring, Citizen Service Delivery, Mobile work-force management, KPI Monitoring & Executive Dashboards and law enforcement.</p> <ul style="list-style-type: none"> • 5 citations (with 2 hosted on cloud) = 50 marks, • 4 citations = 40 marks, • 3 citations = 30 marks, • 2 citation = 20 marks • else 0 Marks <p>Bidder to submit Case study + Copy of work order/Client certificate detailing Scope & value from platform OEM along with name of cities and details of use cases being handled.</p> <p><u>In Case of ongoing project</u></p> <p>Case study + Copy of work order + Assignment Details as per the format to be provided.</p> <p><u>In Case of completed project</u></p> <p>Case study + Copy of work order + Assignment Details as per the format provided.+ Completion Certificate</p> <p><u>In case of NDA,</u> Company Secretary / Chartered Accountant Signed Certificate of OEM providing details of Scope of work and Value & phase of project.</p>	
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		It is expected that at the time of actual execution of this RFP, all the commitments given by bidder will be adhered.	
3	Common Command Center Application Platform Experience and Capabilities	<p>Proposed platform for City Control and Command Centre by bidder should have been:</p> <ul style="list-style-type: none"> • Platform is Deployed on cloud in India or abroad = 30 marks, • Platform is cloud ready = 15 marks • else 0 Marks <p>In case, Platform is deployed on cloud then Bidder to get Case study + Copy of work order/Client certificate detailing Scope & value from platform OEM along with name of cities and details of use cases.</p> <p>In case, if platform is cloud ready, then bidder is required to provide the undertaking from the OEM for the same, and has tested the same on Cloud. Along with this bidder will be required to submit testing reports of the platform on the cloud.</p> <p>It is expected that at the time of actual execution of this RFP, all the commitments given by bidder will be adhered.</p>	50
Total			200

E- Demo and Presentation (Total Marks-350)

Sl. No.	Criteria	Criteria Details	Marks Allotted
1	Presentation (60 Minutes for presentation + 10 minutes for 3D Simulation + 20 minutes for Q & A)	<p>Presentation will be evaluated on the quality of presentation and understanding of the requirements of the RFP. Following are the parameters for evaluation:</p> <ol style="list-style-type: none"> 1. Understanding of the project as per RFP 2. Governance Structure and team deployment plan 3. High level Architecture of the solution proposed for the complete project as per the RFP 4. Proposed solution for common cloud based DC 5. Proposed solution for common cloud based DR 6. Proposed solution for networking along with Network Architecture between City Control Room and IC4 Application hosted on cloud. 7. Proposed solution for Data Security and Cyber internal threats, etc. 8. Adherence to functional and Technical SLAs 	100

		<p>9. Approach towards the scalability, Interoperability and modularity features considering the future expansion of the project</p> <p>10. Major risks for the project & Mitigation plan for each of these risks</p> <p>11. IC4 platform OEM support roadmap for next 10 years along with planned L1, L2 and L3 support</p> <p>12. Cloud Service Provider (CSP) strategy, Exit Management and transition Plan.</p> <p>13. Other IT and non IT infrastructure procurement and OEM selection and support plan.</p> <p>14. Business continuity plan.</p> <ul style="list-style-type: none"> • marks each for the criteria given above for the presentation (5*14 = 70 marks) <p>Apart from above points, in presentation bidder is required to showcase 3D simulation for functional smart city with integrated control and command center showcasing all use cases as mentioned in this RFP. This simulation should show movement of data / feeds, working of field devices, dashboards working in command center, incident management from command center. Finally, how the whole scenario is helping citizens in the Smart City.</p> <ul style="list-style-type: none"> • 30 marks for simulation 	
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		Please note that Bidder will be required to submit softcopy of both presentation and video to CSML after presentation is over.	
2	Live Demo / POC	Bidders will be required to do the Demo / POC. Bidder will be given minimum of 1 week to establish setup for infrastructure doing the Demo / POC at Kochi. Bidder will be provided with a room from CSML to do the required setup. Details for doing POC shall be discussed during the pre-bid meeting.	250
Total			350
<p>Note: The Presentation and POC has to be lead by proposed Program Manager for this project and all technology OEMs have to be present in CSML during the presentation and Live Demo / POC</p>			

Note: AUTHORITY reserves right to visit bidder's customer where such a similar project execution has taken place.

The bidder needs to submit appropriate supporting evidences to satisfy the criteria

1.3.14 ELIGIBLE GOODS AND SERVICES

- a) For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, transportation, supply, installation, integration, testing, commissioning, training, and initial maintenance.
- b) The Bidder shall quote only one specific make and model from only one OEM, for each of the goods. Providing more than one option shall not be allowed. All goods quoted by the Bidder must be

associated with item code and names and with printed literature describing configuration and functionality. Any deviation from the printed specifications should be clearly mentioned in the offer document by the Bidder.

- c) The OEM for each products or technology quoted should be in the business of that product or solution or technology for **at least 3 (Three) years** as on the date of release of the RFP.
- d) All the OEMs should have authorized presence in India either directly or through channel partner(s) as on the date of release of RFP.
- e) The OEM should give a declaration that all products or technology quoted are neither end-of-sale nor end-of-life as on the date of installation and commissioning and are not end-of-support till the successful completion of O&M period of the project as per **Annexure 2.3.7** in the RFP
- f) The bidder's proposed OEM should not have been blacklisted by any State / Central Government Department or Central /State PSUs as on bid submission date.

Adequate supporting documents pertaining to the above points, along with a summary compliance table, should be submitted in the proposal by the Bidder.

1.4 AWARD OF CONTRACT

1.4.14 AWARD CRITERIA

1. The cost indicated in the Financial Proposal shall be deemed as final and reflecting the total cost of services and should be stated in INR only. Omissions, if any, in costing of any item shall not entitle the Bidder to be compensated and the liability to fulfil its obligations as per the Terms of Reference within the total quoted price shall be that of the Bidder. The Bidder shall bear all taxes, duties, fees, levies and other charges imposed under the Applicable Law as applicable.

Proposals will be finally be ranked in accordance with their combined technical (St) and financial (Sf) scores as detailed in **Clause 1.3.12:**

$$S = St \times Tw + Sf \times Fw;$$

Where S is the combined score, and Tw and Fw are weights assigned to Technical and Financial Proposal that will be **70:30**.

2. AUTHORITY reserves the right to further negotiate the prices quoted by the successful bidder.
3. Bidder achieving the highest combined technical and financial score will be considered to be the successful bidder and will be issued the Letter of Acceptance (LoA).

1.4.15 LETTER OF ACCEPTANCE (LOA)

Prior to the expiration of the period of bid validity, AUTHORITY will notify the successful bidder in writing or by fax or email, to be confirmed in writing by letter, that its bid has been accepted. LOA will constitute the formation of the contract. Upon the successful bidder's furnishing of Performance Bank Guarantee, AUTHORITY will promptly notify each unsuccessful bidder.

1.4.16 SIGNING OF CONTRACT

AUTHORITY shall notify the successful bidder that its bid has been accepted. The successful bidder shall enter into contract agreement with AUTHORITY within the time frame mentioned in the Letter of Acceptance issued to the successful bidder by AUTHORITY.

1.4.17 FAILURE TO AGREE WITH THE TERMS & CONDITIONS OF THE RFP / CONTRACT

Failure of the successful bidder to agree with the Terms & Conditions of the RFP / Contract shall constitute sufficient grounds for the annulment of the award, in which event AUTHORITY may invite the next best bidder for negotiations or may call for fresh RFP.

1.4.18 CSML'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

AUTHORITY reserves the right to accept or reject any Bid, and to annul the bidding process and reject any or all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for AUTHORITY's action.

Non Exclusive: CSML reserves the rights to avail the similar services from other Service Providers/ others during the Contract period.

1.4.19 PERFORMANCE BANK GUARANTEE

- a) Within fifteen (15) working days from the date of issuance of LOA, the Successful Bidder shall at his own expense submit unconditional and irrevocable Performance Bank Guarantee (PBG) an amount equivalent to 10% of contract value to AUTHORITY.
- b) The PBG shall be from a Scheduled Commercial Bank in the format prescribed in **Annexure 8**, payable on demand, for the due performance and fulfilment of the contract by the bidder.
- c) All charges whatsoever such as premium; commission etc. with respect to the PBG shall be borne by the Successful Bidder.
- d) The PBG shall be valid till satisfactory completion of Post Implementation Support. The PBG may be discharged/returned by AUTHORITY upon being satisfied that there has been due performance of the obligations of the bidder under the contract. However, no interest shall be payable on the PBG. The PBG shall be valid up to the completion of the period of **'Go- Live' / Commercial Operation Date (COD) + 62 months for the project i.e. 60 days beyond completion of O & M period.**
- e) In case the project is extended after the project schedule as mentioned in the RFP, the PBG shall be accordingly extended by the Successful Bidder till the extended period.

- f) In the event of the Bidder being unable to service the contract for whatever reason AUTHORITY would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of AUTHORITY under the contract in the matter, the proceeds of the PBG shall be payable to AUTHORITY as compensation for any loss resulting from the bidder's failure to complete its obligations under the Contract. AUTHORITY shall notify the Bidder in writing of the exercise of its right to receive such compensation within 14 days, indicating the contractual obligation(s) for which the Bidder is in default.
- g) AUTHORITY shall also be entitled to make recoveries from the bidder's bills, PBG, or from any other amount due to him, the equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction or misstatement.
- h) On satisfactory performance and completion of the order in all respects and duly certified to this effect by AUTHORITY, Contract Completion Certificate shall be issued and the PBG would be returned to the Successful Bidder.

1.5 RIGHT TO VARY QUANTITY

- a) At the time of award of contract, the quantity of goods, works or services originally specified in the bidding documents may be increased. It shall be without any change in the unit prices or other terms and conditions of the Bid and the bidding documents.
- b) If AUTHORITY does not procure any subject matter of procurement or procures less than the quantity specified in the bidding documents due to change in circumstances, the bidder shall not be entitled for any claim or compensation except otherwise provided in the bidding document.
- c) Repeat orders for extra items or additional quantities may be placed during the currency of Contract, if it is provided in the bidding document, on the rates and conditions given in the contract if the original order was given after inviting open competitive bids. Delivery or completion period may also be proportionally increased.

1.6 WARRANTY & MAINTENANCE

- a) Successful Bidder shall also provide complete maintenance support for all supplied products and connected components as outlined in this RFP for **a period of 60 months from the date of Go-Live / Commercial Operation Date (COD)**.
- b) During the warranty period, the bidder shall warrant that the goods supplied under the contract are new, unused, of the most recent version/models and incorporate all recent improvements in design and materials unless provided otherwise in the contract. The bidder further warrants that the goods supplied under this contract shall have no defects arising from design, materials or workmanship.
- c) AUTHORITY or designated representatives of the bidder shall promptly notify Successful Bidder in writing of any claims arising under this warranty. Upon receipt of such notice, the Successful Bidder shall, within the warranty period and with all reasonable speed replace the defective products, without costs to AUTHORITY and within time specified and acceptable to AUTHORITY.
- d) If the Successful Bidder, having been notified, fails to remedy the defect(s) within the period specified in the contract, AUTHORITY may proceed to take such reasonable remedial action as may be necessary, at the Successful Bidder's risk and expense and without prejudice to any other rights, which AUTHORITY may have against the bidder under the contract.
- e) During the comprehensive warranty period, the Successful Bidder shall provide free of cost all product(s), and documentation updates, patches/fixes, and version upgrades within 14 days of their failure and should carry out delivery and make operational the same at no additional cost to AUTHORITY.

The Successful Bidder hereby warrants AUTHORITY that:

- i) The supplied products / equipment / goods meeting all the requirements and the implemented integrated solution represents a complete integrated solution meeting all the requirements as outlined in the RFP and further amendments if any and provides the functionality and performance, as per the terms and conditions specified in the contract.

- ii) The proposed products / equipment / goods and the proposed integrated solution shall achieve parameters delineated in the technical specification/requirement.
- iii) The Successful bidder shall be responsible for warranty & maintenance services from licensors of products.
- iv) The Successful bidder shall ensure the maintenance of the acceptance criterion/standards in respect of the products / equipment / goods and systems during the warranty and maintenance period.

1.7 CORRUPT PRACTICES

Bidders are expected not to indulge in any corrupt and fraudulent practice. They are expected to observe the highest standard of ethics during the procurement and execution of the Contracts. In pursuance of this policy, following definitions are relevant:

- 1.7.1 “Corrupt Practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in execution of the Contracts; and
- 1.7.2 “Fraudulent Practice” means misrepresentation of facts in order to influence a procurement process or the execution of the Contracts to the detriment of CSML, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non - competitive levels and to deprive CSML of the benefits of free and open competition.

If it is found that Bidder(s) had engaged in corrupt/ fraudulent practice in securing and executing the Contracts, CSML reserves the right:

- a) Not to award Contracts to such Bidder,
- b) To cancel the Contracts, if already awarded. In case of cancellation, CSML shall be entitled to recover from the Bidder the amount of any loss arising from such cancellation in accordance with the provisions of the RFP Document. CSML shall also have the right to forfeit the Bid Security/ Performance Security of such Bidder, and
- c) To ban the business dealing with the Bidder who engaged in such practices either indefinitely or for a specified period of time.

1.8 LOCAL CONDITIONS:

It will be imperative on each tenderer to fully acquaint him of all the local conditions and factors, which would have any effect on the performance of the contract and cost of the equipment. The Purchaser shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for the change of price, or time schedule of delivery of machines, shall be entertained after the Purchaser accepts the offer.

2. Scope of Work and Terms of Reference

2.Scope of Work and Terms of Reference.

2.1. INTRODUCTION:

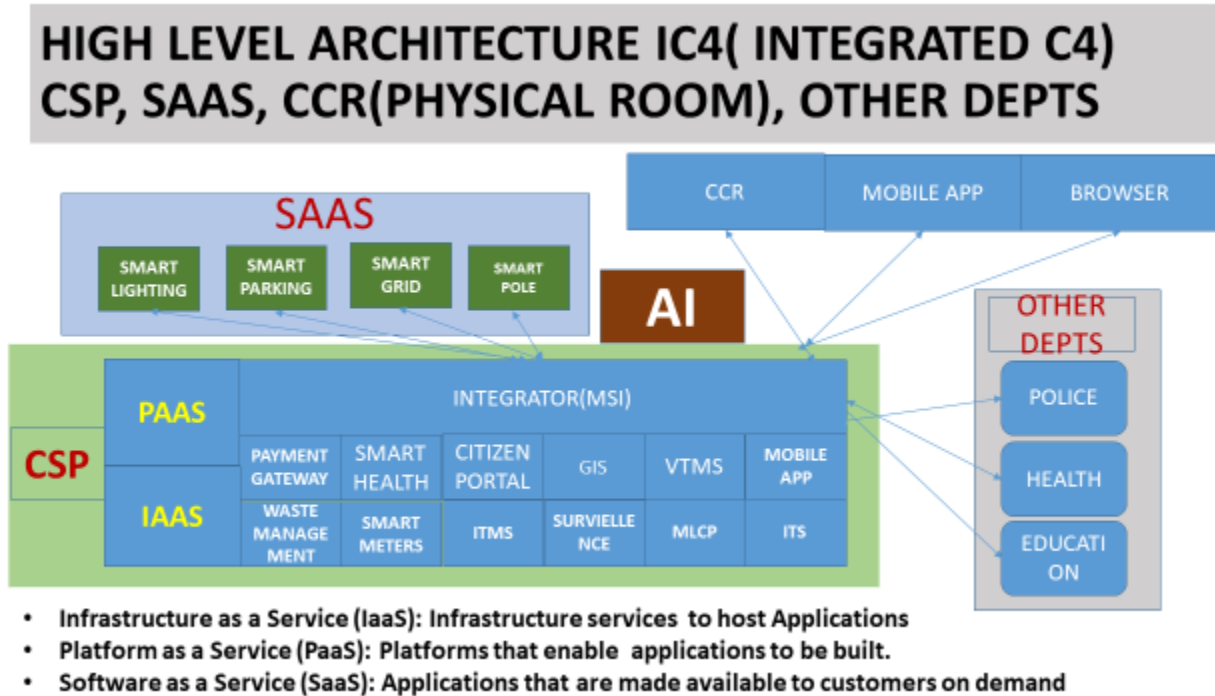
Cochin Smart Mission Limited (CSML), is a Special Purpose Vehicle (SPV) set up to implement smart city projects under Smart City Mission (SCM). CSML proposes several ICT based smart solutions in Area Based Development (ABD) area and across pan-city providing various smart features / infrastructure in line with the SCM guidelines. Establishment of Integrated Command, Control and Communication Centre (IC4) is part of the Smart City Project.

IC4 is the brain of the smart city, which gathers all the information of smart solutions of different departments of the city using ICT (Information and communication technology). IC4 is where information from different departments and various applications is collected and analyzed for better planning of the city. It has Business Intelligence and Artificial Intelligence (AI) engine which will process all the information and generate insights. These insights will be helpful in managing incidents across the city and do a better planning for the development. It also plays the role of decision support system. Accordingly, CSML has embarked to implement the project. Based on the lead given by some of the smart cities in India, the initial proposal is being prepared for establishment of IC4 in Kochi City.

2.2. Objectives of IC4:

- a. Integrated Single source of information for the whole city
- b. Platform with the ability to receive, intelligently process and disseminate information with stakeholders who are into city operations.
- c. Help in planning and simulations to predict outcomes.
- d. Act as City's emergency and disaster management platform

2.3. Schematic View of High Level Architecture of IC4



2.4. Different Applications for Integration with IC4

There are different Applications of smart city which are to be integrated to optimize the system.

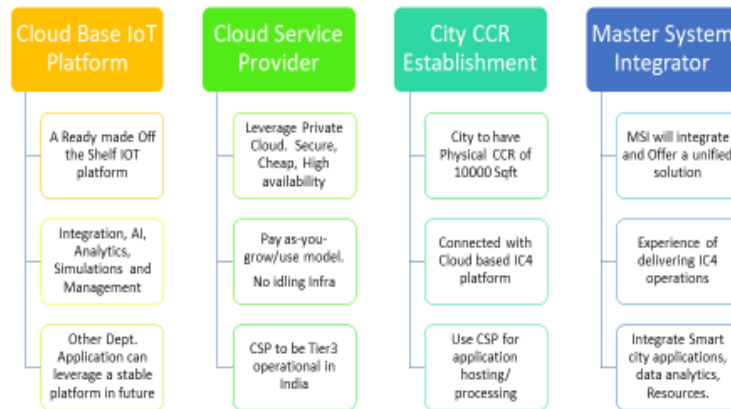
- Applications hosted on cloud.
- SaaS based Applications.
- Existing solutions of Departments like e-Health of Kerala state, IT@school of education Dept., Municipal information system, e-district application, Surveillance system of Police etc.
- Command, Control and Communication Room(CCR)
- Some applications like citizen portal, mobile app, payment gateway, etc.

2.5. Major Components of the IC4 Solution

- Cloud Service Provider (CSP)

- b. Iol- Internet of Infrastructure which is an IOT platform which integrates all solutions and facilitates, aggregation of data, big data analysis, visualization, Management, Reporting, etc.
- c. Command and control Room (CCR).

Key Components of IC4



2.6. Overview of Scope of the MSI are as below:

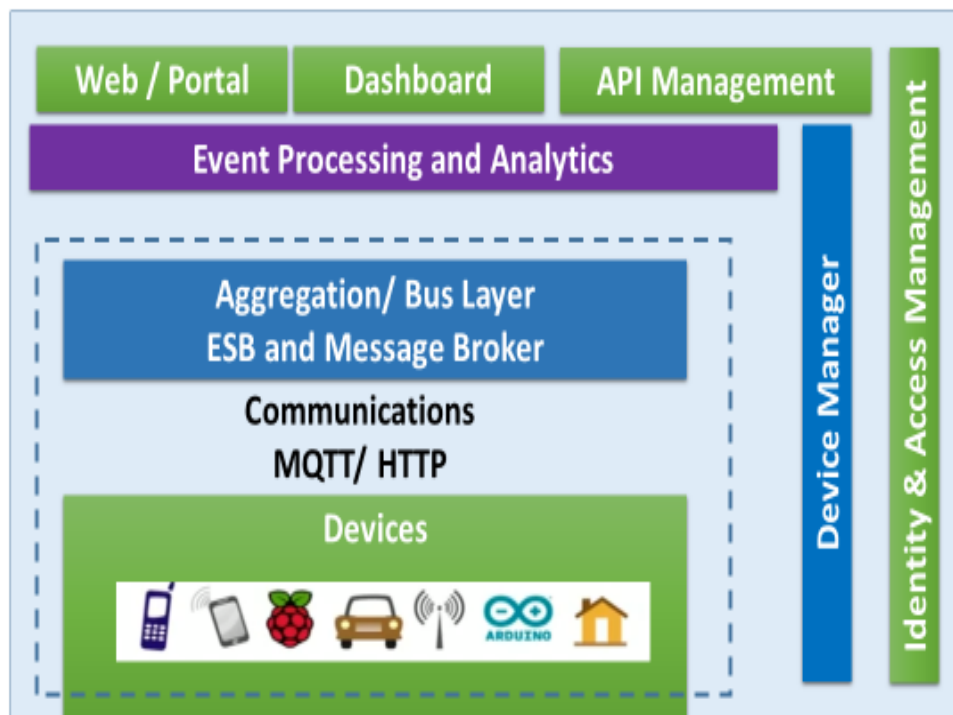
- a. The MSI will conduct a detailed assessment
- b. Design a comprehensive technical architecture and project plan.
- c. Design and development of comprehensive Internet of Infrastructure (Iol) for city command and control operations.
- d. Iol platform would have facility of comprehensive viewing and performing operations there will be a provision for generating configurable reports through dashboard and also real time monitoring
- e. Design and develop the Mobile app.
- f. Design and Development of Multi City Mobility Card (MCMC)
- g. Development of GIS based citizen Portal.
- h. Development of Smart Application for Solid waste Management.

- i. Development of Project Management Services along with Email Server.
- j. Aadhaar Integration
- k. Integration with Akshaya.
- l. Design and Construction of the City Command Control Room

2.7. Design and Development of Comprehensive IOI

1. IOT Application Architecture over view

IoT Application Architecture



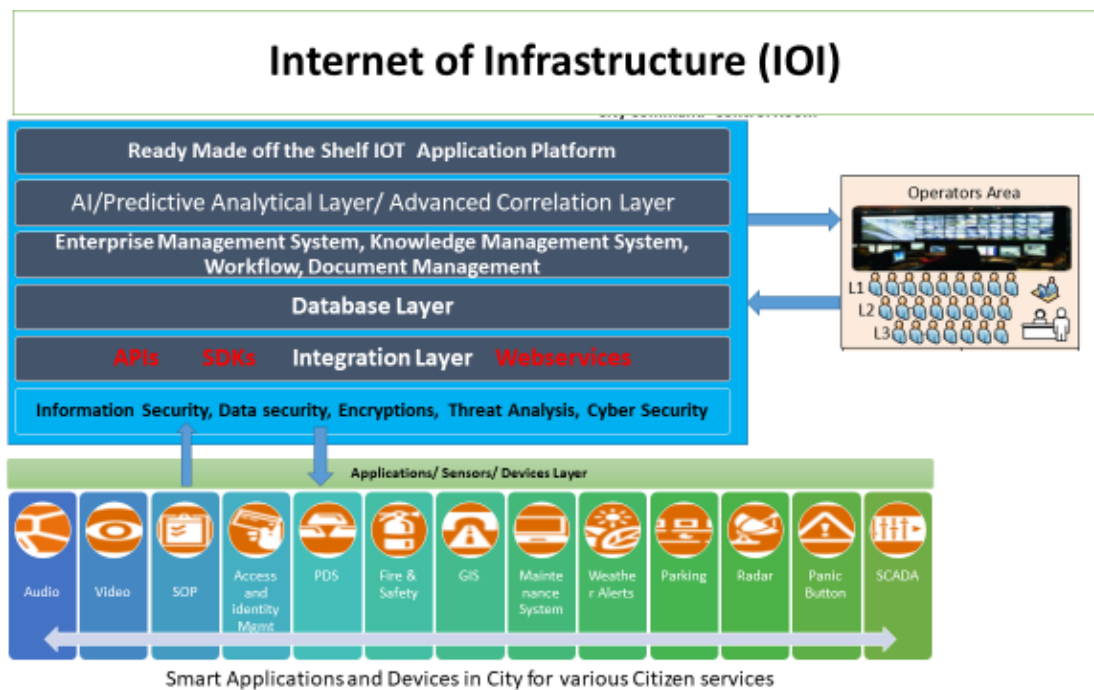
2. IOI Features Compliance Matrix attached as Annexure

3. **Types of Cloud Hosting for Smart solutions for Integration:** There are different types of software applications in the context of Smart city and these can be further categorized into different models. (Not limited to)

- a. SaaS (Software as a Service),
- b. PaaS (Platform as a service)
- c. IaaS(Infrastructure as a service)

4. MSI is expected seamlessly integrate all the Smart solutions into the IOT platform. While the IaaS and the PaaS will be hosted with the CSP (Cloud Service Provider) the SaaS based solutions will be provided by the Smart solution provider. Many of the smart applications will be on SaaS, namely intelligent lighting, Smart Parking, Smart education, Smart health, Smart Grid, etc. It may be noted that all these applications are independently hosted with the respective solution provider and can also function independently. However, a seamless integration is required which can be achieved through APIs. MSI would be required to define the Meta data standards and guidelines for integration.

5. **Functional Layers of IoI Over view**



2.8. Development of GIS based citizen Portal

1. The Master system integrator (MSI) shall use the available GIS enabled map of the City and update the features along with data related to Land , properties, water supply, Electricity, Power , Traffic etc. with Integration of solutions in Command Control Communication Centre as per the requirement of the stake holders. All the information received will also be required to be mapped on the GIS Map.
2. A Smart web-GIS portal to be developed as part of Kochi Smart City Project, a web-based application addresses issues affecting urban areas, through GIS based plans adopting smart city concept. GIS provides an effective and efficient way to handle infrastructure and asset related data and its associated attribute information from multiple sources for better decision support, improved governance and to deliver better citizen services. It aims to facilitate the citizens of Kochi with various services. The portal allows the public to easily discover and search for geospatial and textual data, through modules like know your ward/ Area. It enables users to view multiple data layers on a map and perform various functions for data analysis like search and query. The advanced search and query tools enables users to search for specified features like Landmarks, Heritage sites, know your locations etc., based on the map layers.
3. The main objective of the assignment is to develop an open source web based GIS Applications for viewing, analyzing and utilizing the Geographical Information to be deployed in IC4 (Integrated command Control Communication Center) .The customize application to integrate with the respective existing modules of the stake holders (about 10 stake holders) with their ongoing application which facilitates for information Updation used in GIS.
4. The main objective of the assignment is to develop an open source web based GIS Applications for viewing, analyzing and utilizing the Geographical Information to be deployed in IC4 (Integrated command Control Communication center) .The customize application to integrate with the respective existing modules of the stake holders (about 10 stake holders) with their ongoing application which facilitates for information Updation used in GIS.

SOFTWARE SPECIFICATION REQUIREMENTS OF GIS APPLICATION

5. Web Based Enterprise GIS Application with Customization of Web based Spatial Decision Support System (SDSS)

- a. GIS based server which support application development of web mapping solutions using APIs with unlimited number of Editing and viewing clients to support any Web server / application server like IIS, Apache, Web Sphere, Web logic, Oracle HTTP server.
- b. GIS server will support Geo-processing framework, geo-processing tools, core analysis functionalities, spatial statistics analysis functionalities with Centrally managed data, models, tools, maps, and applications further extended support to Geodata, Geocode, Geometry, Geo-processing, Globe, Image ,Keyhole Markup Language (KML), Map, Web Coverage Service (WCS), Web Feature Service (WFS) ,Transactional Web Feature Service (WFS-T), Web Map Service (WMS) web services with seamless Integration with other enterprise systems such as customer relationship management (CRM) or enterprise resource planning (ERP) systems using industry-standard software.
- c. Should have the capability for geospatial data management for the data stored in any kind of RDBMS. Should have capability for creation of web services, Web Publishing, Web Editing Application & publish maps as services within the desktop Environment.
- d. Publish a geometry service, which should help applications do geometric calculations such as buffering, simplifying, calculating areas and lengths, and projecting. Web editing should be supported in all client applications, including browser-based applications, Mobile applications, and Desktop.
- e. Server software should support a series of open APIs and standards that should allow virtually any other client (e.g., CAD, GIS, image processing, and SQL-based applications) to interact with and use the mapping, spatial analysis, and data management services of Server. The hosted services integrate with other Web services using standard Web services protocols such as SOAP and REST.
- f. GIS Server should be capable to read the following formats with associated geo-referencing and Metadata Parameters:- TIFF, NITF, BIL , IMG, JPEG, JPEG 2000, GeoTIFF, QuickBird

Standard, Basic, IKONOS® Geo Ortho Kit, Landsat Level 1G, DTED, SRTM. Provide imagery access quickly after acquisition with dynamic mosaicking and on-the-fly processing with ability for Server-side ortho rectification, pan sharpening and rendering, enhancements, filtering, and map algebra.

6. GIS Based Web Application with 3D Viewing, Data Analysis and Decision support using Artificial Intelligence in Real Time data of Smart City.

- a. Bidder should quote for web based private and public cloud solution that provides publishing, storing, and streaming services for all your spatial data types including terrain, map, feature, 3D Mesh, 3D buildings and LIDAR/UAV point cloud.
- b. Ability to upload Individual geospatial layers and complete projects that can be directly uploaded and published to the web GIS Application from client application, thus streamlining your workflow and eliminating the need for any GIS Application side login after initial installation. Software through a single publishing operation, data should be made ready for consumption by client software: Desktop, Mobile, and as well as standard geospatial applications through OGC Services.
- c. The GIS Application should have a built-in complete user access control system allows easy management of users, groups, and administrative roles controlling the GIS Application-side storage and client-side read/write permissions.
- d. Publishing and Cataloging Services: GIS Application should supports both client-side and GIS Application-side publishing with automatic and manual extraction of metadata & geospatial information and advanced client-side search options.
- e. Direct Uploading: GIS Application should have a workflow, enabling user to upload and publish individual geospatial layers and complete projects to the web GIS Application directly from client. Through a single publishing operation, data is made ready for consumption by all clients as well as other OGC clients.
- f. OGC Compliance: GIS Application should stream raster, and feature data to any application that reads the standard OGC WFS, WFS-T, WMS, and WMTS protocols. With SGS's support for WFS-T

- (Web Feature Service-Transactional), remote clients can edit feature layers and save changes to the data source.
- g. . The Platform should be capable to show the data using Geo Visualization, should be capable to provide data decision support using Artificial Intelligence and Real Time Spatial Data Analysis.
 - h. The GIS Application should be high performance easy to use with Ribbon Interface and robust and provide all the necessary tools that together provide a package that's complete, powerful and easy to use. Tools for authoring the 3D scenes over a Globe, easy-to-use tool for editing, analyzing, annotating and publishing photo-realistic interactive 3D environments so generated. The following are the features required for the required software.
 - i. Software should provide a robust set of tools for 3D measurement and terrain analysis. GIS data should be updated every month and the solution should compare and contrast the changes and give alerts of the details.
 - j. Display the exact location and elevation of any point in the 3D World, and additional information about objects.
 - k. Display the horizontal distance, elevation difference and slope angle between two or more points in the 3D View.
 - l. Display the aerial distance, elevation difference and slope angle between two or more points in the 3D View.
 - m. Ability to display 3DML files for building 3D viewing; Display the elevation difference between two points in the 3D View.
 - n. Display the measurement of the horizontal projection of an area in the 3D View. Display a visual marker for the existence of a line of sight between two points.
 - o. Mark all the visible segments, within a field of view, from a given viewing point to create a polygonal View.
 - p. Ability to create a topographic map that portrays differences in terrain elevation by connecting points of equal elevation with contour lines or by coloring terrain according to varying altitudes. The contour palettes and/or contour lines can be applied to a specified rectangular area, or to the entire terrain.
 - q. Ability to create a slope map on the terrain that can show degree (steepness) and/or aspect (direction). The terrain should be colored according to degree of slope, and arrows display the

- direction of the slope. The Color map and arrows should be applied to a specified rectangular area or to the entire terrain.
- r. Tool for the land area covered by water in different water flooding scenarios. The result of the flood analysis process is a set of polygons showing the flooded areas.
 - s. Ability to do the Volume Analysis to analyze the amount of terrain removed or added by a way of Modifying Terrain objects.
 - t. Display the terrain elevation profile along a path.
 - u. Display the best path between two locations on the terrain with slope limits as constraints.
 - v. Ability to create Threat Dome and Display the visible volume from a given point on the terrain with a specified scan field and elevation angle.
 - w. Underground Navigation: The software should allow the underground navigation mode to explore the subsurface of the terrain. Navigate under the terrain's surface and through buildings.
 - x. A Shadow Analysis tool has to be provided to calculate the shadow cast from buildings and 3D objects in a given radius based on the sun's position. The sun is positioned according to the time, date and time zone you set using the Date and Time controls. The shadows should be dynamically update when the system date and time is changed.
 - y. GPS Tracking: Ability to Create 2D or 3D objects and moves them according to position information, in NMEA format, that reads directly from a GPS or communication device through a USB or COM port or from a local or remote file. Ability to display the GPS-moving objects in a variety of 2D or 3D graphic representations and add trace lines trailing the object routes.

7. GIS Spatial Data Base Engine

- a. Spatial data to be stored, managed, and quickly retrieved from leading commercial database management systems like Oracle, Microsoft SQL Server and also for open-source Postgres SQL database.
- b. Managing a separate collection of geographic data files to an integrated environment in which one can manage spatial data as a continuous database: accessible to the entire organization simultaneously and easily publishable on the Web. Should have the concept of

automatic crawling and metadata harvesting in the COTS package itself, an administrator should be able to actually serve data (or a set of data) without worrying about the new or changed data. Crawlers can efficiently judge and serve the latest data. Hence this 'automated service management' increases the efficiency and productivity by reducing the time required to manage it.

- c. It should facilitate storing and managing spatial data (raster, vector, and survey) in a DBMS and makes the data available to many applications. Manage long transactions and versioned-based workflows. Managing historical archives, defining the specific RDBMS schema used to represent geographic data and for application logic to be retained in GIS to Provide the behavior, integrity, and utility of the underlying records.
- d. Facilitates storing and managing spatial data (raster, vector, and survey) in a DBMS and makes the data available to many applications. Support and manage spatial data in any industry standard RDMBS, Support for robust multi-user editing, storage and access of extremely large geospatial databases. Support for creation and management of Spatial views (are database views that contain the spatial field from a feature class in addition to other attribute fields).
- e. Support of centrally managed, multiple users, to provide access to rich GIS functionality Support for High performance that can scale to a very large number of users. Relational database support for GIS data management (providing the benefits of a relational database for scalability, reliability, security, backup, integrity, and so forth).

8. Technical Specifications compliance matrix is attached as Annexure 12 and Annexure 13.

9. Further following technical details are included and needs to be complied

- (i). [Annexure 14: Project Management Service Features](#)
- (ii). [Annexure 15: Technical Specifications of City Command and Control Room](#)
- (iii). [Annexure 16: Geospatial Server Software Compliance Matrix](#)
- (iv). [Annexure 17: Smart Intervention for SWM Projects Kochi Smart City](#)
- (v). [Annexure 18: Standards and Specifications of National Common Mobility Card](#)

2.9. Smart Solutions for Solid Waste Management

There are multiple solutions being implemented for Solid Waste Management in the city. All these solutions shall have smart interventions to monitor, control and manage. Besides, data from all these solutions will flow to the IC4 for analysis, simulation, planning and management. MSI will study the best options and suggest suitable designs. The functional requirements are broadly covered in the [Annexure 12 attached](#).

A list of equipment and devices which are to be managed are listed below.

1. Portable Waste Compactor for SWM Storage and Transportation
2. Mechanical Road Sweepers
3. Smart House to House Collection of SWM using E-Tricycles
4. Equipment and system for Septate Management.

2.10. Mobile App with Multicity Mobility Card (NCCM)

1. **Introduction** :The need for a citizen friendly Mobile app with an integrated single smart card which is inclusive of all citizens of different capabilities, different modes of financial transactions and different types technologies is a necessity for carrying out seamless transactions for obtaining government, public and private services. The common card payment system will be implemented for all sorts of use cases in line with National Common Mobility Card (NCCM) Program, as envisaged by Ministry of Housing and Urban Affairs. MeitY guidelines to cater to Transit operators and NCCM based ticketing solution shall be complied. The present day technologies and innovations in India has an efficient financial

platform with the advent of UPI which is not only efficient , convenient but also at zero transaction fee making it most citizen friendly as compared to any other platform in India.

2. **Brief Design and Features:** Creating all-inclusive mobile app and Single virtual Smart card for Kochi Smart City is a necessity integrating with all applications and technologies. The citizens will be able to use this App for accessing all government, public and private services. The transactions can be carried out using NFC, QR code, mobile app and internet depending on the type of interacting device. The virtual smart card which will be designed by NPCI and MSI will be valid for all services in the city and also for the shops and multi modal transport. The smart card will integrate with existing smartcards like Kochi Metro card (Kochi one) through API for two and fro communication. UPI (Unified payment Interface) (BHIM) will form the framework of the smart card as it is launched by the central government and approved by all banks. BHIM is an efficient modus of cashless transaction at practically zero transaction fee as compared to credit cards, NEFT, RTGS etc. Thus the Single Virtual Smart Card shall be ubiquitous, interoperable, most affordable and user friendly.
3. The Virtual smart card shall be in the form of a mobile app or part of the Smart city mobile app using BHIM platform with an optional physical card (only to cater to non-smart mobile user). The virtual smart card will be operable using Aadhaar pay at the CSCs (Akshaya) for digitally illiterate citizens. Thus the card will be inclusive of all citizens, all technologies and at zero transaction fee making it efficient, convenient and cheap to use.
4. The solution provided by the MSI will include various payment related aspects including Civic payments, taxes, Utilities bills payments etc. as well as non-civic payments. The technology will support both Mobile as well as Card based solutions for E-Governance services too (at Akshaya CSCs). The common card payment system will be implemented for all sorts of use cases in line with National Common Mobility Card (NCMC) Program, as envisaged by Ministry of Housing and Urban Affairs. The Advisory note from Ministry of Housing and Urban Affairs is attached here for reference. Letter issued by MeitY cater to Transit operators and Smart City Authorities for NCMC based ticketing solution shall be complied. Letters and related correspondence are attached as annexure.

5. The proposed solution should cover the planned City Mobile Application with integration with existing and new payment technologies including UPI, BBPS, BHIM, QR and Aadhaar based payment. Integration with BBPS platform will enable payment of bills through one platform.
6. Payment solutions will seamlessly integrate with Govt departments and shall be used for all sorts of Civic payments including Taxes, e-challan as well other Non-civ payments like retails.
7. For implementing these payment platforms (including UPI, BBPS and BHIM QR), MSI shall coordinate with NPCI to integrate various payment solutions platform which is independent of any particular bank for convenience of all citizens to encourage multiple options. UPI and BHIM QR can be integrated in 3 ways:
 - a. Payment solutions platform provided by MSI should be SDK based integration (similar to existing model of OLA and UBER)
 - b. Web Based in which there will be a payment collect request within the app by UPI, the request will push to any UPI enabled app in the user's mobile for completing the payments
 - c. SMS based payment collect request from the App and by clicking the link a citizen can complete the payment using any UPI app installed in his device.
8. NCMC implementation will involve – AFC deployment/upgrade based on Multi-Banks acceptance Scenario wherein customer should be able to use NCMC cards issued by any Bank. Also the transaction charges should not be passed on to customers as far as possible. The overview of NCMC has been covered in the attached Annexure of DO letter.
9. RuPay Contactless specification to be developed in line with National Common Mobility Card Specification.
10. This NCMC card will be used for all payment applications including transit, toll, parking, retail and other use cases.

11. The proposed system should integrate with all Akshaya CSCs for accepting digital payments through payment solutions including UPI, BHIM QR, AadharPay/AePs, NCMC cards, etc. for enabling an efficient e-Governance.

2.11. Project management services

1. Project management services are online systems for working and collaborating on projects. Every project has a start date, end date, and deliverable. These real-time workspaces let team members and outside partners keep an eye on every detail that brings a project to fruition. They typically provide an overview of all the projects in the pipeline, as well as the nitty-gritty details about the daily work being done to move the projects forward. Some contain tools for managing resources as well, whether those resources are workers, materials, or money.
2. Teams that have to handle multiple projects can rely on PMS to deliver projects on time and within budget. PMS helps write down information, plot deadlines, and share documents. Helps team members to be in constant communication with one another.
3. Automatically rescheduling tasks in case of slipped deadlines, generate reports that give managers insight into which team members have too much or too little work on their plates. Track time spent on projects and integrate with invoicing and billing systems. A detailed feature of the PMS is attached as Annexure.
4. **Email Server:** A comprehensive email server shall be implemented integrated with the PMS. The specifications of the email server shall match that of gmail in features and will have minimum 50 GB of storage space for each user. 250 Users to be catered initially in a scalable model

2.12. Aadhaar Integration

1. Aadhaar is a random generated 12 digit number unique identification number to all Indian residents that is: (a) robust enough to eliminate duplicate and fake identities, and (b) can be verified and authenticated in an easy, cost-effective manner. The vision of UIDAI is to empower residents of

India with a unique identity and a digital platform to authenticate anytime, anywhere. The UID has been envisioned as a means for residents to easily and effectively establish their identity, to any agency, anywhere in the country, without having to repeatedly produce identity documentation to agencies.

2. Services Offered by Aadhaar: Aadhaar enables four main services , namely, online authentication (based on biometric and demographic parameters), Aadhaar enabled Payment Bridge System(APBS : where Aadhaar acts as a financial address , APBS is an alternative to NEFT), Aadhaar enabled Payment System(AEPS: a micro ATM where a resident can authenticate using biometrics to carry out financial transactions) and electronic KYC(eKYC: can be used to instantly obtain KYC on the computer screen for opening bank account, obtain a mobile connection , etc).
3. MSI Shall set up Aadhaar User Agency (AUA) and Aadhaar KYC user Agency (KUA) service on behalf of the city and integrate with smart applications , MCMC and mobile App. Details of the integration and road map shall be discussed and finalized in the inception stage.

2.13. Integration with Akshaya.

1. Akshaya is the common service center in Kerala. The main objective of CSC is to bridge the gap between the 'Information Rich and the Information Poor'. To improve e-literacy in underserved areas and to provide a platform for Government to citizen services through a public-private partnership. Improving public service delivery by making services accessible to 'the common man' in her/his locality. Transformation of Governance to provide efficient, transparent and convenient services to the Citizens through Information & Communication Technologies.
2. Integration of Smart solutions with Akshaya shall ensure digital delivery of all services to the digital illiterate and the citizens who do not have smart phone or computer.

2.14. Design and construction of the City Command Control Room.

1. The City Command Control Room will act as a NOC for the whole city where every feature of IC4 will be available for managing, planning, simulation, taking decisions and communicating. MSI Shall be responsible designing and building the Command control Room (CCR). The job entails
 - a. Conducting site survey, obtaining necessary permissions, developing system requirements, standard operating procedures etc.
 - b. Providing physical layout of the each city CCR (with 3D simulation) with approximately minimum area of 10,000 square feet* of floor area. The floor area may be increased if required, but all the facilities and components of CCR will remain as mentioned below. There will be no additional cost for layout design for more than 10,000 square feet floor area. This layout must contain the following:
 - i. Control and Command Setup Room
 - ii. 2 Video walls of 6*3 (70 inches each)
 - iii. Seating capacity of 30 operators
 - iv. Situation Room
 - v. Office Setup for City SPV, Municipal Corporation and MSI
 - vi. At least 5 cabins for City SPV, Municipal Corporation (with seating capacity of 5 personal)
 - vii. At least 3 meeting rooms (with furniture and fixtures)
 - viii. One Conference Room with seating capacity of 20-30 personals (with video conferencing facility, furniture and fixtures)
 - ix. Pantry / Common Area (with adequate capacity)
 - x. Restroom facilities (separate for Male & Female) with adequate capacity
 - xi. Fire Escape & Evacuation Facilities (ISO 23601)
 - xii. Other facilities which will be required for specially abled people as per guidelines defined by Govt. of India
 - c. Assessment of physical security, housekeeping, waste management requirements for each CCR premises.
 - d. Assessment of IT Infrastructure and Non IT Infrastructure requirements, assessment of business processes, assessment of software requirements, assessment of integration

- requirement, assessment of connectivity requirement all locations (including buildings).
- e. Formulation of solution architecture, detailed design of smart city solutions, development of test cases (Unit, System Integration and User Acceptance), SoP documentation.
 - f. Standard Operating Procedures (SoPs) must adhere with the Governance structure of City SPV and different Municipal Corporations of the 07 smart cities, as in case of any incident or disaster decision making ability lies with the Authority.
 - g. Submit Monthly Progress reports as per the defined format to City SPV along with invoices.
 - h. Submit Monthly Progress reports of all Smart Solutions after approval as per the format defined during inception stage along with monthly progress report along with total invoices.

3. General Conditions of Contract (GCC)

3. General Conditions of Contract (GCC)

3.1.1 GENERAL CONDITIONS

1. DEFINITIONS AND ABBREVIATIONS

In this tender document and associated documentation, the following terms shall be interpreted as indicated below:

- i) **"Services"** means services to be provided as per the requirement mentioned in the scope of work
- ii) **"CSML"** refers Cochin Smart Mission Limited.
- iii) **"Noncompliance"** means failure/refusal to comply the terms and Conditions of the tender;
- iv) **"Non-responsive"** means failure to furnish complete information in a given format and manner required as per the tender documents or non-submission of tender offer in given Forms / Pro forma or not following procedure mentioned in this tender or any of required details or documents is missing or not clear or not submitted in the prescribed format or non-submission of tender fee and EMD.
- v) **"Bid"** means the proposal submitted by the Bidder(s) in response to this RFP in accordance with the provisions hereof. Wherever "Tender" / "RFP" word is used, it shall mean the same as "Bid".
- vi) **"Bidder"** means an applicant / Supplier / Contractor / Service provider /System Integrator who has submitted the Bid as per notice inviting tender of this RFP document.
- vii) **"Bid Security"** or "Earnest Money Deposit" or "EMD" shall have the same meaning
- viii) **"Bid Process"** means the process of selection of the Service Provider through competitive bidding and includes release of this RFP document, submission of Bids, scrutiny and evaluation of such Bids as set forth in the RFP.

- ix) **“Effective Date”** shall mean the date on which the Contract Agreement is concluded
- x) **e-tender website** / e-tender portal / e- Government Procurement (e-GP) Website means <https://etenders.kerala.gov.in>
- xi) **“Letter of Acceptance” or “LOA”** means the letter or memorandum communicating to the Successful Bidder on the acceptance of its Bid.
- xii) RFP Document or **“RFP”** shall mean this RFP document and shall include any addendum(s) issued thereto.
- xiii) **“Successful Bidder”** shall mean the Bidder, whose Bid is evaluated as the most competitive following the bid evaluation process as set forth in this RFP Document and to whom a Letter of Acceptance is issued subsequently.

2. DEFINITION AND INTERPRETATION

In the contract, unless the context otherwise requires:

- i) **“Acceptance of Tender”** means the letter or memorandum communicating to the Contractor the acceptance of his tender.
- ii) **“Authority”** Cochin Smart City Limited (CSML).
- iii) **“Acceptance of System”** The system including the hardware, software, solution or any deliverable shall be considered to have been accepted by designated authority, subsequent to its installation, rollout and deployment of trained manpower, when all the activities as defined in Scope of Work as laid down in the RFP have been successfully executed and completed by the MSI to the satisfaction of designated authority and the designated authority has indicated its acceptance by signing the Acceptance Certificate. Deliverable like ICCCC and hardware/software/servers would be approved by CSML.

- iv) **“Acceptance Certificate”** - means that document issued by the designated authority signifying Acceptance of hardware, software, solution, or any other deliverable pursuant to the successful completion of the acceptance test of the System.
- v) **“Applicable Law(s)”** Any statute, law, ordinance, notification, rule, regulation, judgment, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision applicable to the relevant party and as may be in effect on the date of the execution of this Agreement and during the subsistence thereof, applicable to the Project.
- vi) **“Bidder”** shall mean organization/ consortium submitting the proposal in response to this RFP.
- vii) **“MSI” or “Lead Bidder”** means the bidder including the consortium that is selected by the designated authority at the end of this RFP process and shall be deemed to include the MSI's successors, representatives (approved by the designated authority), heirs, executors, administrators and permitted assigns, as the case may be, unless excluded by the terms of the contract. The word MSI when used in the pre-award period shall be synonymous with parties bidding against this RFP.
- viii) **“Cloud Service Provider”** means an entity responsible to provide cloud based DC, DR and network services infrastructure business services and computing solutions.
- ix) **“Commercial Off-The-Shelf (COTS)”** refers to software products that are ready-made and available for sale, lease, or license to the general public.
- x) **‘Confidential Information’** means all information including any information (whether in written, oral, electronic or other format) which relates to the technical, financial and business affairs, dealers, suppliers, products, developments, operations, processes, data, trade secrets, design rights, know-how, plans, budgets and personnel of designated authority which is disclosed to or otherwise learned by MSI in the course of or in connection with the Contract but does not include information which is available lawfully in the public domain.

- x) **“Contract”** means and includes Tender Invitation, Instructions to Tenderers, Tender, Acceptance of Tender, General Conditions of Contract, Special Conditions of Contract, schedule of Requirements, Technical Specification and Annexures particulars and the other conditions specified in the acceptance of tender, and amendments.
- xii) **“Contract Agreement”** means the Contract entered into by the parties and includes the RFP, the Proposal, the Letter of Award issued by the designated authority, the acceptance of Letter of Award from the MSI together with all Annexures, Schedules, referenced documents and all amendments, corrigendum, addendums and changes thereto.
- xiii) **“Contract Value”** means the amount quoted by the MSI in its commercial bid / financial proposal.
- xiv) **“Consignee”** means where the equipment / product are required by the acceptance of the tender to be dispatched by rail, road, air or streamer, the person specified in the Acceptance of tender to whom they are to be delivered at the destination.
- xv) **“Consortium”** means and entering into the Contract with the designated authority and includes their respective successors and assignees.
- xvi) .The **“Supplier / Contractor / Bidder /Tenderer”** means the person, firm or company with whom the order of the supply is placed / participated / intend to participate in the tender.
- xvii) **“Drawing”** means the drawing or drawings specified in or annexed to the specification including GFC.
- xviii) **“Document”** means any embodiment of any text or image however recorded and includes any data, text, images, sound, voice, codes, databases or any other electronic documents as per IT Act 2000.
- xix) **“Delivery of Goods”**- shall be deemed to have completed when the delivery of all the Goods under the proposed bill of material has reached the respective designated sites or locations wherein the delivery, installation, integration, management and maintenance services as specified under the Scope of Work are to be carried out for the purpose of this RFP / Contract and has been duly acknowledged by the designated authority's representative.

- xx) **“Effective Date”** means the date on which this Contract is signed or LoI is issued by designated authority. If this Contract is executed in parts, then the date on which the last of such Contracts is executed shall be construed to be the Effective Date.
- xxi) **“Equipment / product / goods”** means the goods in the contract, which the Contractor has agreed to supply under the contract;
- xxii) **“Facilities”** means the Equipment to be supplied and installed as well as all the Installation Services to be carried out by the Contractor under the Contract.
- xxiii) **“Goods”** means all of the equipment, sub-systems, hardware, software, products accessories, software and/or other material / items includes their user manuals, technical manuals, operating manuals, service mechanisms, policies and guidelines (such as security related, data migration related) and all its modifications which MSI is required to supply, install and maintain under the contract.
- xxiv) **“Go- Live”** means commissioning and acceptance of ICCC at the location mentioned in the RFP, installation and commencement of all smart city components, including training as per Scope of Work mentioned in RFP. Bidder should have the approval from the designated authority for user acceptance testing.
- xxv) **“Integrated Command and Control Center”** means the integrated/centralized operation center to implement holistic and integrated solution for multiple (existing and future) IT initiative for the designated authority. The IT initiative may be of any department for example whether it is safe city (CCTV surveillance) and DIAL 100 of police department, DIAL 108 of health department or network of Municipal Corporation. The end objective of establishing ICCCC is to drive the actions by designated authority on behalf of all the departments for city operations.
- xxvi) The **“Inspecting Officer”** means the person/team of CSML specified in due course of time for the purpose of inspection of equipment / product and includes his/their authorized representatives.

"Particulars" include:-

Specifications

Drawings

"Proprietary mark" or "brand" means the mark and brand of the product which is owned by an industrial firm;

xxvii) **"Inspection Test"** means such test or tests as are prescribed by the specifications to be made by the Purchaser / Employer or his nominee during delivery of product & installation, and commissioning.

xxviii) **"Intellectual Property Rights"** means any patent, copyright, trademark, trade name, service marks, brands, proprietary information whether arising before or after the execution of this Contract and the right to ownership and registration of these rights.

xxix) **"MSI's Team"** means MSI who along with all of its Consortium Members who have to provide Goods & Services to the designated authority under the scope of this Contract

This definition shall also include any and/or all of the employees of SI, Consortium Members, authorized service providers/ partners and representatives or other personnel employed or engaged either directly or indirectly by MSI for the purposes of this Contract.

xxx) **"Purchase Officer"** means the officer signing the acceptance of tender and includes any officer who has authority to execute the relevant contract on behalf of the Purchaser / Employer;

xxxi) **The "Purchaser / Employer"** means Cochin Smart Mission Limited (CSML). "Purchaser / Employer" means the person named as such in the Tender Document and includes the legal successors or permitted assigns of the Purchaser / Employer.

xxxii) **"Purchase Order"** means the purchase order(s) issued from time to time by the designated authority to the MSI to provide Goods and Services as per the terms and conditions of this Contract.

xxxiii) **"Replacement Service Provider"** means the organization replacing MSI in case of contract termination for any reasons

- xxxiv) “Scope of Work”** means all Goods and Services, and any other deliverables as required to be provided by the MSI under the RFP.
- xxxv) **“SPV” means** special Purpose Vehicles designed and established to lead smart city project for Cochin City. They will be responsible for supervising monitoring and driving the implementation of command and control center and its integration with necessary services.
- xxxvi) “Services”** means the work to be performed by the agency pursuant to the RFP and to the contract to be signed by the parties in pursuance of any specific assignment awarded by the designated authority. In addition to this, the definition would also include other related / ancillary services that may be required to execute the Scope of Work under the RFP.
- xxxvii) **‘Service Level(s)’** means the service level parameters and targets and other performance criteria which will apply to the Services and Deliverables as described in the RFP; ‘SLA’ or ‘Service Level Agreement’ means the service level agreement specified in the RFP;
- xxxviii) **‘Service Specifications’** means and includes detailed description, statements to technical data, performance characteristics, and standards (Indian as well as International) as applicable and as specified in the RFP and the Contract, as well as those specifications relating to industry standards and codes applicable to the performance of work, work performance quality and specifications affecting the work or any additional specifications required to be produced by the MSI to meet the design criteria.
- xxxix) **“Sub-Contractor”** shall mean the entity named in the contract for any part of the work or any person to whom any part of the contract has been sublet with the consent in writing of the designated authority and the heirs, legal representatives, successors and assignees of such person.
- xl) **‘System’** means integrated system/solution emerging out of all the Goods indicated in the Scope of Work and covered under the scope of each Purchase Order issued by the designated authority.
- xli) **"Signed"** includes stamped, except in the case of acceptance of tender or any amendment thereof;

- xlii) **"Site"** mean the Locations as specified in the technical specifications/ scope of work at which equipment / product is required to be delivered /installed / operated / maintained by the Contractor under the contract or any other place approved by the Purchaser / Employer for the purpose in Kochi
- xliii) **"Test"** means such test as is prescribed by the particulars or considered necessary by the CSML whether performed or made by the Inspecting Officer or any agency acting under the direction of the Inspecting Officer.
- xliv) **'Timelines'** means the project milestones for performance of the Scope of Work and delivery of the Services as described in the RFP;
- xlv) **"Work"** means all the work specified or set forth and required in and by the said specifications, drawings and "technical Specifications / schedule of Requirements", hereto annexed or to be implied there from or incidental thereto, or to be hereafter specified or required in such explanatory instructions and drawings (being in conformity with the said original specifications, drawings and technical Specifications / "Schedule of Requirements").
- xlvi) The delivery of the equipment shall be deemed to take place in accordance with the terms of the contract, after approval by the Inspecting Officer /team from CSML /its representatives the consignee
- xlvii) **"Writing" or "Written"** includes matter either in whole or in part, in manuscript typewritten, or printed as the case may be.
- xlviii) Terms and expression not herein defined shall have the meanings assigned to them in the Indian Sale of Goods Act, 1930 or the Indian contract Act, or the General Clauses act, 1897 as the case may be.
- xliv) Any other details governing the construction, manufacture or supply of stores as may be prescribed by the contract.

3. CONTRACT DOCUMENTS:

Subject to Article Order of Precedence of the Contract Agreement all documents forming part of the Contract (and all parts thereof) are intended to be correlative, complementary and mutually explanatory. The Contract document shall be read as a whole.

4. SEVEREABILITY:

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

5. CONTRACTOR'S RESPONSIBILITIES

The Supplier / Contractor / Bidder shall design, manufacture, deliver, supply, install, testing, trial run and commissioning and carry out defect liability period (DLP) including **Operation & Maintenance for 5 years (including associated purchases)** with due care and diligence in accordance with the Contract.

The Contractor confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the Facilities provided by the Purchaser / Employer; The Contractor acknowledges that any failure, to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Facilities.

All activities to clear the goods and transport the equipment to ultimate destination will be done by the bidder

The Contractor shall comply with all laws in force in India. The laws will include all local, state, national or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the Purchaser / Employer from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the Contractor or its personnel, including the Subcontractors and their personnel.

6. CONFIDENTIAL INFORMATION

The Purchaser / Employer and the Contractor shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party, any documents, data or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following termination of the Contract.

The Contractor shall not use such documents, data and other information received from the Purchaser / Employer for any purpose other than the design, procurement of Plant and Equipment, construction or such other work and services as are required for the performance of the Contract.

7. CONTRACT

This contract is for the design, supply, install, testing, trial run and commissioning and carry out defect liability period (DLP) including **Operation and Maintenance for 5 years (including associated purchases)** including support during defects liability period and guarantee period of the equipment of the description, specifications and drawings, and in the quantities set forth in the contract on the date or dates specified therein. All equipment must be brand new and unused. Unpacking/seal opening has to be done in presence of CSML/authorized representatives.

The whole contract is to be executed in the most approved, substantial and workmanship manner, to the entire satisfaction of the Purchaser / Employer or his nominee, who, both personally and may his deputies, shall have full power, at every stage of progress, to inspect the equipment at such times as he may deem fit and to reject any of the equipment which he may disapprove.

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8. PERFORMANCE BANK GUARANTEE

The successful bidder shall furnish a Performance Bank Guarantee (PBG) valid up to the completion of the period of **'Go- Live' / Commercial Operation Date (COD) + 62 months for the project** from a Scheduled Commercial Bank, payable at a designated bank branch located in Kochi within 15 days from the receipt of LOA/ purchase order of the tender for an amount equivalent to 10% of the value of the Contract indicated in LOA.

The PBG shall be valid till satisfactory completion of Post Implementation Support. The PBG may be discharged/returned by AUTHORITY upon being satisfied that there has been due performance of the obligations of the bidder under the contract. However, no interest shall be payable on the PBG. In case the project is extended after the project schedule as mentioned in the RFP, the PBG shall be accordingly extended by the Successful Bidder till the extended period

The Performance Security is to ensure due performance of all obligations of the Service Provider under the Contract against an event of default by the Service Provider and/ or any Material Breach of its obligations there under.

The Purchaser / Employer shall be entitled on his part to forfeit the amount of the Performance Bank Guarantee in whole or in part in the event of any default, failure or neglect on the part of the Contract in the fulfillment or performance in all respects of the contract under reference or any other contract with the Purchaser / Employer shall also be entitled to deduct from the amount of the Performance Bank Guarantee any loss or damage which the Purchaser / Employer may suffer.

9. TAXES AND DUTIES

The Contractor shall bear and pay all taxes, duties, levies and charges assessed on the Contractor, its Subcontractors or their employees by all municipal, state or national government authorities in connection with the Facilities in and outside India.

In the event of exemption or reduction of Custom Duties, Excise Duties, Sales Tax or any other Cess /Levy being granted by the Government in respect of the works, the benefit of the same shall be passed on to the Purchaser / Employer .

10. DELIVERY

The Contractor shall be required by the Purchaser / Employer to deliver the equipment /product on delivery duty paid (DDP) basis at Kochi site locations as per Technical Specifications, the quantities of the equipment detailed therein shall be delivered not later than the dates specified in the delivery schedule. The delivery will not be deemed to be complete until and unless the equipment are inspected and accepted by the Inspecting Officer/team of CSML or its representatives

The bidder has to quote for all the equipment / product as per the schedule of requirement. Transit Insurance to be taken by the applicant.

Notification of delivery: Notification of delivery and dispatch in regard to each and every installment shall be made to the Purchaser / Employer immediately on dispatch and delivery. The tracking number of transport mode along with necessary details for tracking of the dispatched equipment's needs to be communicated to the Purchaser / Employer on every dispatch.

Time for delivery: the essence of the contract The time and date specified in the contract or as extended for the delivery of the Equipment shall be deemed to be the essence of the contract and delivery must be completed not later than the dates so specified or extended by Purchaser / Employer.

Progress of Deliveries The contractor shall allow reasonable facilities and free access to his works and records to the inspecting officer; progress officer or such other officer as may be nominated by the Purchaser / Employer for the purpose of ascertaining the progress of the deliveries under the contract.

Extension of Time for Delivery The Purchaser / Employer may extend the timeline for delivery of equipment (at one or more locations) at his own discretion due to the reasons which may be beyond the control of Purchaser / Employer. The price quoted shall remain same even in case of extended delivery time line.

11. FAILURE AND TERMINATION

If the contractor fails to deliver the equipment or any installment thereof within the period fixed for such delivery in the contract or as extended or at any time repudiates the contract before the expiry of such period, the Purchaser / Employer may without prejudice to his other rights:- Recover from the Contractor as a penalty a sum equivalent to 0.5 % value of total LOA / purchase order (contract value) per week subject to maximum of 10%, after which contract will be deemed as cancelled & PBG will be encashed by the Purchaser / Employer.

12. CONSEQUENCES OF REJECTION

If on inspection of the equipment at site, are found to be not matching the requirement of Purchaser / Employer as mentioned in the tender document and are being rejected by the Inspecting Officer/team of CSML or its representatives, the Contractor would be required to make satisfactory supplies of brand new and unused equipment meeting the requirement as mentioned in the tender document within the stipulated period of delivery.

Removal of rejected consignment

- i) On rejection of any consignment unit of product submitted for inspection at a place other than the premises of the Contractor, such consignment shall be removed by the Contractor at his own cost subject as herein after stipulated, within 10 days of the date of intimation of such rejection.
- ii) All rejected equipment shall in any event and circumstances remain and always are at the risk of the Contractor immediately on such rejection. If such equipment are not removed by the Contractor within the periods aforementioned, the Inspecting Officer/CSML representatives or its authorized personnel may remove the rejected equipment .The Purchaser / Employer shall, in addition, be entitled to recover from the Contractor the handling and storage charges on the rejected equipment after the expiry of the time-limit mentioned above.

13. FORCE MAJEURE

In the event of any unforeseen event during the currency of the Contract, such as earthquake, war, fires, floods, or acts of God, as a result of which, either party (Purchaser / Employer/contractor) is prevented, or hindered in performing any of its obligations under the contract, then it shall within a week from the commencement thereof, notify the same in writing to the other party with reasonable evidence thereof. If the force majeure condition(s) mentioned above be in force for a period of 90 days or more at any time, the either party shall have the option to terminate the contract on expiry of 90 days of commencement of such force majeure by giving 14 days' notice to the other party in writing. In case of such termination, no damages shall be claimed by either party against the other, save and except those which had occurred under any other clause of this contract prior to such termination.

14. PACKING AND MARKING

Packing: The Contractor shall pack at his own cost the equipment sufficiently and properly for transit by rail/road, air and/or sea so as to ensure their being free from loss or damage on arrival at their destination locations as specified in the purchase order. He shall decide the packing for the stores by taking into account the fact that the stores will have to undergo arduous transportation before reaching the destination and will have to be stored and handled in tropical climatic conditions (Including Monsoons) before being put to actual use. Unless otherwise provided in the contract, all containers (including packing cases, boxes, tins, drums and wrappings) in which the stores are supplied by the Contractor shall be considered as non-returnable and their cost as having been included in the contract price. Each packages shall contain a packing note specifying the name and address of the Contractor, the number and date of the acceptance of tender and the Designation of the Purchase Officer issuing the supply orders, the description of the equipment and the quantity contained therein.

In addition to the marking as specified above, distinguish color marks should be given so as to distinguish the ultimate Consignees in India

Before any equipment is dispatched from manufacturer's works it shall be property prepared and packed and the Supplier shall give the Purchaser at least fourteen days' notice that these preparations are to commence. Prior to dispatch all equipment shall be adequately protected by painting or by other approved means for the whole period of transit, storage against corrosion incidental damage, including the effects of vermin, sunlight, rain, high temperatures and humid atmospheres. The Supplier shall be responsible for the equipment being so packed and/ or protected as ensure that it reaches the Site intact and undamaged. The equipment shall be suitable for storage including possible delays in transit. The Supplier shall be deemed to have included in the price schedule for all materials and packing cases necessary for the safe package conveyance and delivery of the equipment. The flanges, valves and fitting shall be protected by wooden discs attached by means of service bolts (which shall not be used at Site) or by other approved means. The sleeves, flanges of flexible couplings shall be bundled by wire. Cases containing rubber rings, bolts and other small items shall not normally weigh more than 50 kg. Gross per case. All spare parts shall be packed for long storage under the climate conditions prevailing at the Site. Each spare part shall be clearly marked or labeled on the outside of its packing with its description, number and purpose and when more than one spare is packed in a single case or other container, a general description of its contents shall be shown on

the outside of such case or container and a detail list shall be enclosed. All cases, containers and other packages shall be marked and numbered in approved manner for the purpose of identification. All cases, containers or other packages are liable to be opened for such examination as the Purchaser may require and packing shall be designed to facilitate opening and repacking thereafter. All items shall be clearly marked for identification against the packing list. Every crate or package shall contain a packing list in a water proof envelope and a duplicate copy of the packing list shall be sent by the post to the Purchaser at site. All crates, packages, etc shall be clearly marked with a water proof material to show the weight and where the slinks should be attached, and shall also have and an indelible identification mark relating them to the packing list.

Marking: The marking of all goods supplied shall comply with the requirement of the Indian Acts relating to merchandise marks or any amendment thereof and the rules made there under. The following marking of the material is required: - The following particulars should be stenciled with indelible paint on all the materials/packages:

- a. Contract No.
- b. Purchaser / Employer Name & logo.

15. CONSIGNEE'S RIGHT OF REJECTION

Notwithstanding any approval which the Inspecting Officer may have given in respect of the stores or any materials or other particulars or the work or workmanship involved in the performance of the contract (whether with or without any test carried out by the Contractor or the Inspecting Officer or under the direction of the Inspecting Officer) and notwithstanding delivery of the stores where so provided to the interim consignee, it shall be lawful for the consignee, on behalf of the Purchaser / Employer, to reject the stores or any part, portion of consignment thereof within 45 days after actual delivery thereof to him at the place or destination specified in the contract if such stores or part, portion of consignment thereof is not in all respects in conformity with the terms and conditions of the contract whether on account of any loss, deterioration or damage before dispatch or delivery or during transit or otherwise howsoever.

16. RESPONSIBILITY FOR COMPLETENESS

Any fittings or accessories which may not be specifically mentioned in the specifications but which are useful or necessary are to be provided by the Contractor / Supplier without extra charge, and the equipment must meet the operational requirement if any at the place of delivery.

The assigned scope of work shall be performed as specified in the Purchase order / LOA/ Contract

All the charges incurred towards man-powers, materials, transportation, making the equipment etc. at the place of delivery shall be borne by the successful bidder.

17. INDEMNITY

The prices stated are to include all rights (if any) of patent, registered design or trade mark and the Bidder shall at all times indemnify the Purchaser / Employer against all claims which may be made in respect of the equipment for infringement of any right protected by patent, registration of designs or trade mark; provided always that in the event of any claim in respect of alleged breach of a patent, registered designs or trade mark being made against Purchaser / Employer, the Purchaser / Employer shall notify the bidder of the same and the bidder shall, at his own expense, either settle any such dispute or conduct any litigation that may arise there from.

The bidder shall return all such property and shall be responsible for the full value thereof to be accessed by the Purchaser / Employer whose decision shall be final and binding on the bidder. The bidder shall be liable for loss or damage to such property from whatever cause happening while such property is in the possession of or under the control of the bidder, his servants, workmen or agents.

18. CORRUPT PRACTICES

The Bidder shall not offer or give or agree to give to any person in the employment of the Purchaser / Employer or working under the orders of the Purchaser / Employer any gift or consideration of any kind as an inducement or reward of doing or forbearing to do or having done or forborne to do any act in relation to the obtaining or execution of the contract or any other contract with the Purchaser / Employer or Government for showing any favor or for bearing to show disfavor to any person in relation to the contract

or to any other contract with the Purchaser / Employer or Government. Any breach of the aforesaid condition by the Contractor, or any one employed by him or acting on his behalf, under Chapter IX of the Indian Penal code, 1860 or the Prevention of Corruption Act, 1947 or any other act enacted for the prevention of corruption by public servants shall entitle the Purchaser / Employer to cancel the contract and all or any other contracts with the Bidder and to recover from the bidder the amount of any loss arising from such cancellation in accordance with the provision of [clause 11](#) above.

19. INSOLVENCY AND BREACH OF CONTRACT

The Purchaser / Employer may at any time, issue notice in writing summarily terminate the contract without compensation to the Contractor in any of the following events, that is to say:

- a) If the Contractor being an individual or a firm:-. Any partner thereof, shall at any time, be adjudged insolvent or shall have a receiving order or order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or enter into any assignment or composition with his creditors or suspend payment or if the firm be dissolved under the Partnership Act, or
- b) If the Contractor being a company is wound up voluntarily or by the order of a Court or a Receiver, Liquidator, or Manager on behalf of the debenture holders is appointed, or circumstances shall have arisen which entitle the Court or Debenture holders to appoint a Receiver, Liquidator or Manager, or
- c) If the contractor commits any breach of the contract not herein specifically provided for.
- d) Provided always that such determination shall not prejudice any right of action or remedy which shall have accrued or shall accrue thereafter to the Purchaser / Employer and provided also the Contractor shall be liable to pay to the Purchaser / Employer any extra expenditure he is thereby put to and the Contractor shall, under no circumstances, be entitled to any gain on re purchase.

20. LAWS GOVERNING THE CONTRACT

This contract shall be governed by the Laws of India for the time being in force.

Irrespective of the place of delivery and the place of payment under the contract, the contract shall be deemed to have been made at the panel in India from where the acceptance of tender has been issued.

21. ARBITRATION

In case of any disputes arising between the Purchaser / Employer and the bidder, the matter will be referred to the Arbitrator solely appointed by MD, CSML. All the decisions made by the Arbitrator shall be final and binding to both the parties.

Cost of Arbitration: The cost of arbitration shall be borne by the respective parties. The cost shall, inter alia, include the fees of the Arbitrator(s) as per rates fixed by the Employer from time to time.

Jurisdiction of Courts: Where recourse to a Court is to be made in respect of any matter, the Employer and the Contractor agree to the sole jurisdiction of courts in Kochi.

Suspension of Work On Account Of Arbitration: There should be no impact on the ongoing supply, requirement of equipment purchased in case the matter is referred to Arbitration.

3.1.2 CONFIDENTIAL INFORMATION

- a) AUTHORITY and the Successful Bidder shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract.
- b) The Successful Bidder shall not use the documents, data, and other information received from AUTHORITY for any purpose other than the services required for the performance of the Contract.

3.1.3 CHANGE IN LAWS AND REGULATIONS

Unless otherwise specified in the Contract, if after the date of the Invitation for Bids, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or

Contract Price shall be correspondingly increased or decreased, to the extent that the Successful Bidder has thereby been affected in the performance of any of its obligations under the Contract.

3.1.4 FORCE MAJEURE

- a) The Successful Bidder shall not be liable for termination for default if and to the extent that it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- b) For purposes of this Clause, Force Majeure means an event or situation beyond the control of the Successful Bidder that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Successful Bidder. Such events may include, but not be limited to, acts of AUTHORITY in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- c) If a Force Majeure situation arises, the Successful Bidder shall promptly notify AUTHORITY in writing of such condition and the cause thereof. Unless otherwise directed by AUTHORITY in writing, the Successful Bidder shall continue to perform its obligations under the Contract as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

3.1.5 SETTLEMENT OF DISPUTES

- a) Performance of the contract is governed by the terms and conditions of the contract, in case disputes arise between the parties regarding any matter under the contract, either Party of the contract may send a written Notice of Dispute to the other party. The Party receiving the Notice of Dispute will consider the Notice and respond to it in writing within 30 days after receipt. If that party fails to respond within 30 days, or the dispute cannot be amicably settled within 60 days following the response of that party, clause GCC 3.6 (2) shall become applicable.

1. Arbitration:

- a) In the case of dispute arising, upon or in relation to, or in connection with the contract between AUTHORITY and the Successful Bidder, which has not been settled amicably, any party can refer the dispute for Arbitration under (Indian) Arbitration and Conciliation Act, 1996. Such disputes shall be referred to an Arbitral Tribunal consisting of three arbitrators, one each to be appointed by the AUTHORITY and the Successful Bidder, the third arbitrator shall be chosen by the two arbitrators so appointed by the parties and shall act as Presiding Arbitrator. In case of failure of the two arbitrators, appointed by the parties to reach a consensus regarding the appointment of the third arbitrator within a period of 30 days from the date of appointment of the two arbitrators, the Presiding arbitrator shall be appointed by the Managing Director, CSML. The Arbitration and Conciliation Act, 1996 and any statutory modification or re-enactment thereof, shall apply to these arbitration proceedings.
- b) Arbitration proceedings shall be held in Kochi, India and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- c) The decision of the majority of arbitrators shall be final and binding upon both parties. The expenses of the arbitrators as determined by the arbitrators shall be shared equally by AUTHORITY and the Successful Bidder. However, the expenses incurred by each party in connection to the preparation, presentation shall be borne by the party itself. All arbitration awards shall be in writing and shall state the reasons for the award.

3.1.6 EXTENSIONS OF TIME

If at any time during performance of the Contract, the Successful Bidder should encounter conditions impeding timely delivery of the Services, the Successful Bidder shall promptly notify AUTHORITY in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Successful Bidder notice, AUTHORITY shall evaluate the situation and may at its discretion extend the Successful Bidder time for performance in writing.

Delay by the Successful Bidder in the performance of its Delivery and Completion obligations shall render the Bidder liable for disqualification for any further bids in AUTHORITY, unless an extension of time is agreed mutually.

3.1.7 TERMINATION

1. AUTHORITY may, without prejudice to any other remedy for breach of Contract, terminate this Contract in case of the occurrence of any of the events specified in paragraphs (1) through (11) of this GCC Clause 3.8. In such an occurrence, AUTHORITY shall give a not less than 30 days' written notice of termination to the Successful Bidder.
2. If the Successful Bidder does not remedy a failure in the performance of its obligations under the Contract, within thirty (30) days after being notified or within any further period as AUTHORITY may have subsequently approved in writing.
3. If the Successful Bidder becomes insolvent or goes into liquidation, or receivership whether compulsory or voluntary.
4. If, in the judgment of AUTHORITY has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
5. If, as the result of Force Majeure, the Successful Bidder is unable to perform a material portion of the Services for a period of not less than 60 days.
6. If the Successful Bidder submits to the AUTHORITY a false statement which has a material effect on the rights, obligations or interests of AUTHORITY.
7. If the Successful Bidder places itself in a position of conflict of interest or fails to disclose promptly any conflict of interest to AUTHORITY.
8. If the Successful Bidder fails to provide the quality services as envisaged under this Contract, AUTHORITY may make judgment regarding the poor quality of services, the reasons for which shall be recorded in writing. AUTHORITY may decide to give one chance to the Successful Bidder to improve the quality of the services.
9. If the Successful Bidder fails to comply with any final decision reached as a result of arbitration proceedings.
10. If AUTHORITY, in its sole discretion and for any reason whatsoever, decides to terminate his Contract.

11. In the event AUTHORITY terminates the Contract in whole or in part, pursuant to GCC Clause 3.8, AUTHORITY may procure, upon such terms and in such manner as it deems appropriate, services similar to those undelivered or not performed, and the Successful Bidder shall be liable to AUTHORITY for any additional costs for such similar services. However, the Successful Bidder shall continue performance of the Contract to the extent not terminated.

3.1.8 PAYMENT UPON TERMINATION

Upon termination of this Contract pursuant to GCC Clauses 3.8, the AUTHORITY shall make the following payments to the Successful Bidder:

- a) If the Contract is terminated pursuant to GCC Clause 3.8 (10), remuneration for Services satisfactorily performed prior to the effective date of termination.
- b) If the agreement is terminated pursuant of GCC Clause 3.8 (1) to (3), (4), (5), (6), (7), (8) and (9). The Successful Bidder shall not be entitled to receive any agreed payments upon termination of the contract. However, the AUTHORITY may consider making a payment for the part satisfactorily performed on the basis of Quantum Merit as assessed by it, if such part is of economic utility to the AUTHORITY. Applicable under such circumstances, upon termination, the AUTHORITY may also impose liquidated damages. The Successful Bidder will be required to pay any such liquidated damages to AUTHORITY within 30 days of termination date.

3.1.9 ASSIGNMENT

If Successful Bidder fails to render services in stipulated timeframe and as per schedule, AUTHORITY, at its discretion and without any prior notice to Successful Bidder, may discontinue or minimize scope of work or procure/board any other similar agency to render similar services to complete project in stipulated timeframe.

3.1.10 DELIVERY

Equipment /Product to be delivered to Kochi and delivery address will be given along with Purchase order / LOA.

Equipment /Product to be delivered within **delivery period as indicated under [Delivery schedule](#)** after placing the order, however if CSML request to deliver on multiple deliveries, bidder need to adhere to the plan advised by CSML.

3.1.11 OTHER CONDITIONS

The Successful Bidder should comply with all applicable laws and rules of Government of India / Government of Kerala/ULB.

Support Executive/Supervisor deployed by the Successful Bidder shall not have right to demand for any type of permanent employment with AUTHORITY or its allied Offices.

Managing Director, CSML reserves the right to withdraw / relax any of the terms and condition mentioned in the RFP, so as to overcome the problem encountered at a later stage for the smooth and timely execution of the project.

3.1.12 RISK PURCHASE

In case the Successful Bidder fails to deliver the project due to inadvertence, error, collusion, incompetency, termination, misconstruction or illicit withdrawal, the MANAGING DIRECTOR, CSML reserves the right to procure the same or similar services from the alternate sources at risk, cost and responsibility of the Successful Bidder.

3.2 PROJECT IMPLEMENTATION SCHEDULE, DELIVERABLES

The project milestone for deliverables to the satisfaction of AUTHORITY is as follows:

IC4: Project Implementation Timelines

T = Date of signing of Agreement

A) Common Cloud based DC and DR

Sl. No	Deliverables	Timelines
1	Inception Report including Design of the City command and Control Room.	T+30 Days
2	High Level Architecture Diagram of the solution to include COTS integration platform and other applications as mentioned in the RFP.	T+45 Days
3	Readiness of Cloud based DC and DR to host the applications as specified in the RFP.	T+ 60 Days
4	FRS/SRS for IC4 application and other applications mentioned in the RFP.	T+75 Days
5	Go Live – Common Command and Control Application ready with app integration*	T+240 days

* This is independent of the Physical Infrastructure to be ready.

T1 = Date of Site Handover to MSI for physical setup of City IC4

B) Design and Setup of the City Command Control Room.

Sl. No	Deliverables	Timelines
1	Implementation Roadmap	T1+30 Days

2	3D Simulation of envisaged	T1+45 Days
3	Go – Live : Physical Setup of City IC4	T1+120 Days

T2 = Date for any service available for integration with Command Center Application

C) Integration of Individual Application

Sl. No	Deliverables	Timelines
1	SOPs and Use-Cases for operations in Command Center Application	T1+30 Days
2	Testing of Application Integration	T1+75 Days
3	Completion of Integration with UAT sign off	T1+90 Days

D) Operations & Maintenance (5 years after GO-LIVE)

Sl. No	Deliverables	Timelines
1	Monthly Progress Report	Every Month after Go-Live of command center application (as defined in table A of this Section)

2	Quarterly Progress Report	Every Quarter after Go-Live of command center application (as defined in table A of this Section)
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3.3 PAYMENT SCHEDULE

IC4: Project Payment Schedule

Sl. No	Deliverables	% Payment
1	Inception Report including Design of the City command and Control Room.	2.5%
2	High Level Architecture Diagram of the solution to include COTS integration platform and other applications as mentioned in the RFP.	2.5%
3	FRS/SRS for IC4 application and other applications mentioned in the RFP. Readiness of Cloud based DC and DR to host the applications as specified in the RFP.	5%
4	IC4 and other Applications of RFP ready with existing applications integrated and Citi Mobile app and MCMC card.	25%
5	Training , Handholding , Testing and Go live	15%
6	Quarterly Payment based on the SLA and quarterly report for the operation and maintenance Period.	Equated proportion of 50% on a quarterly basis.

3.4 SPECIFIC GENERAL CONDITIONS APPLICABLE FOR MSI

3.4.1 DOCUMENTS FORMING PART OF AGREEMENT

The following documents shall be deemed to form and be read and constructed as part of the Contract viz.:

- (a) The Contract;
- (b) The RFP comprising of all volumes and any corrigenda thereto;
- (c) The Proposal of the MSI as accepted by the designated authority along with any related documentation
- (d) The designated authority's Letter of Award;
- (e) The MSI's Acceptance of Letter of Award, if any;
- (f) The tripartite agreement to be entered into between <***> for provision of bandwidth services, if any; and
- (g) The Corporate Non-disclosure agreement and any other document to be submitted by the MSI and appended to this Agreement.

3.4.2 AMBIGUITIES WITHIN AGREEMENT

In case of ambiguities or discrepancies within the Contract, the following principles shall apply:

- i) As between the provisions of RFP and any Corrigendum issued thereafter, the provisions of the Corrigendum shall, to that extent only, prevail over the corresponding earlier provision of the RFP;
- ii) As between the provisions of the Contract and the RFP and the Proposal, the Contract shall prevail; and
- iii) As between any value written in numerals and that in words, the value in words shall prevail.

3.4.3 CONDITIONS PRECEDENT

The payment obligations of under the Contract shall take effect upon fulfillment of the following conditions precedent by MSI.

- a)** Furnishing by MSI, an unconditional and irrevocable Performance Bank Guarantee (PBG) within 15 (fifteen) days after issuance of the Letter of Award and acceptable to the designated authority which would remain valid until such time as stipulated by the designated authority.
- b)** Obtaining of all statutory and other approvals required for the performance of the Services under the Contract. This may include approvals/clearances, wherever applicable, that may be required for execution of this contract e.g. clearances from Government authorities for importing equipment, exemption of Tax/Duties/Levies, work permits/clearances for Bidder/Bidder's team, etc.
- c)** Furnish notarized copies of any/all contract(s) duly executed by MSI and its OEMs existing at the time of signing of the contract in relation to the Project. Failure to do so within stipulated time of signing of contract would attract penalty as defined in [clause 3.4.47](#) in this Section.
- d)** Furnishing of such other documents as the designated authority may specify/demand.
- e)** All the members of the Consortium shall have executed a binding Consortium Contract / Agreement copy of which shall have been delivered to the designated authority without the commercials;
- f)** The designated authority reserves the right to waive any or all of the conditions specified in Clause 5 above in writing and no such waiver shall affect or impair any right, power or remedy that the designated authority may otherwise have.

3.4.4 KEY PERFORMANCE MEASUREMENTS

- a. Unless specified by the designated authority to the contrary, MSI shall deliver the Goods, perform the Services and carry out the Scope of Work in accordance with the terms of the Contract, Scope of Work and the Service Specifications as laid down under Section C (Service Level).
- b. If the Goods and Service Specification includes more than one document, then unless the designated authority specifies to the contrary, the later in time shall prevail over a document of earlier date to the extent of any inconsistency.
- c. The MSI shall commence the performance of its obligations under the Agreement from Effective Date and shall proceed to provide Goods and carry out the Services with diligence and expedition in accordance with any stipulation as to the time, manner, mode, and method of execution contained in this Agreement. The MSI shall be responsible for and shall ensure that all the Goods and Services are performed in accordance with the specifications and that the MSI's Team complies with such specifications and all other standards, terms and other stipulations/conditions set out hereunder.
- d. The Goods supplied under this Agreement shall conform to the standards mentioned in the technical specifications given in the RFP, and, when no applicable standard is mentioned, to the authoritative standards, such standards shall be the latest issued by the concerned institution. Delivery of Goods shall be made by the MSI in accordance with the Agreement and the terms specified by the designated authority. In case if it is found that the Goods provided by MSI do not meet one/ more criteria, the MSI shall remain liable to provide a replacement for the same which meets all the required specifications and as per choice of MSI, at no additional cost to MSI.

3.4.5 COMMENCEMENT AND PROGRESS

- a. The MSI shall commence the performance of its obligations in a manner as specified in the Scope of Work, Service Level agreements and other provisions of the Contract from the Effective Date.
- b. MSI shall proceed to carry out the activities / services with diligence and expedition in accordance with any stipulation as to the time, manner, mode, and method of execution contained in this Contract.
- c. MSI shall be responsible for and shall ensure that all activities / services are performed in accordance with the Contract, Scope of Work and Service Specifications and that MSI's Team complies with such specifications and all other standards, terms and other stipulations/conditions set out hereunder.
- d. MSI shall perform the activities / services and carry out its obligations under the Contract with due diligence, efficiency and economy, in accordance with generally accepted techniques and practices used in the industry and shall observe sound management, engineering and security practices. It shall employ appropriate advanced technology and engineering practices and safe effective equipment, machinery, material and methods. SI shall always act, in respect of any matter relating to this Contract, as faithful advisors to the designated authority and shall, at all times, support and safeguard the designated authority's legitimate interests in any dealings with Third parties.
- e. The Goods supplied under this Agreement shall confirm to the Standards mentioned in the technical specifications given in the RFP, and, when no applicable standard is mentioned, to the authoritative standards, such standard shall be the latest issued by the MSI to be proposed and approved by the designated authority in accordance with the Agreement and the terms specified by the designated authority in the Purchase Order.

3.4.6 CONSTITUTION OF CONSORTIUM

- a. For the purposes of fulfillment of its obligations as laid down under the Contract, where the designated authority deems fit and unless the contract requires otherwise, Prime Bidder shall be the sole point of interface for the designated authority and would be absolutely accountable for the performance of its own, the other member of Consortium and/or its Team's functions and obligations.
- b. The Consortium member has agreed that MSI is the prime point of contact between the Consortium member and the designated authority and it shall be primarily responsible for the discharge and administration of all the obligations contained herein and, the designated authority, unless it deems necessary shall deal only with MSI. MSI along with all consortium members shall be jointly and solely responsible for the Project execution
- c. Without prejudice to the obligation of the Consortium member to adhere to and comply with the terms of this Contract, each Consortium member, shall, in addition to a binding Consortium Agreement, has executed and submitted a Power of Attorney in favour of MSI authorizing him to act for and on behalf of such member of the Consortium and do all acts as may be necessary for fulfillment of contractual obligations.
- d. The MSI and each of the Consortium Members shall be bound by all undertakings and representations made by their authorized representative and any covenants stipulated hereunder with respect to the Contract, for and their behalf.
- e. MSI shall submit the Consortium Agreement to be entered into between MSI,andfor the designated authority's review without commercials. MSI shall not, except with the prior approval of the designated authority, have any provision in the consortium agreement or make any amendments to the said consortium agreement which affects the rights and/or obligations of MSI, OEM-ES and/orunder this Agreement or any amendment which is contrary to the provisions of this Agreement.
- f. A notice of at least 3 months in advance is required to be given by the MSI to the designated authority if during the Term of the Contract the MSI desires to terminate any

contract/arrangement relating to the performance of Services hereunder with any member of the Consortium. Where, during the Term of the Contract, MSI terminates any contract/arrangement or agreement relating to the performance of Services with any consortium member (subject to approval of the designated authority), MSI shall be liable for any consequences resulting from such termination. MSI shall in such case ensure the smooth continuation of Services by providing a suitable replacement to the satisfaction of the designated authority at no additional charge and at the earliest opportunity.

3.4.7 MSI'S OBLIGATIONS

- a. The obligation of the MSI described in this clause is in addition to, and not in derogation of, the obligations mentioned in the RFP and the two are to be read harmoniously. MSI's obligations shall include all the activities as specified by the designated authority in the Scope of Work and other sections of the RFP and Contract and changes thereof to enable designated authority to meet the objectives and operational requirements.
- b. The MSI shall also be the sole point of contact for all matters relating to the RFP and Contract thereof.
- c. It shall be MSI's responsibility to ensure the proper and successful implementation, performance and continued operation of the proposed solution in accordance with and in strict adherence to the terms of his the RFP and the Contract.
- d. In addition to the aforementioned, MSI shall provide services to manage and maintain the said system and infrastructure as mentioned in the RFP.
- e. The designated authority reserves the right to interview the personnel proposed by the MSI that shall be deployed as part of the project team. If found unsuitable, the designated authority may reject the deployment of the personnel. But ultimate responsibility of the project implementation shall lie with MSI.
- f. The designated authority reserves the right to require changes in personnel which shall be communicated to MSI. MSI with the prior approval of the designated authority may make

additions to the project team. MSI shall provide the designated authority with the resume of Key Personnel and provide such other information as the designated authority may reasonably require. The designated authority also reserves the right to interview the personnel and reject, if found unsuitable. In case of change in its team members, for any reason whatsoever, MSI shall also ensure that the exiting members are replaced with at least equally qualified and professionally competent members.

- g. MSI shall ensure that none of the Key Personnel and manpower exit from the project during first 6 months of the beginning of the project. In such cases of exit, replacement has to be approved by the designated authority.
- h. MSI should submit profiles of only those resources that shall be deployed on the Project. Any change of resource should be approved by the designated authority and compensated with equivalent or better resource. The designated authority may interview the resources suggested by MSI before their deployment on board. It does not apply in case of change requested by the designated authority.
- i. In case of change in its team members, MSI shall ensure a reasonable amount of time overlap in activities to ensure proper knowledge transfer and handover / takeover of documents and other relevant materials between the outgoing and the new member.
- j. MSI shall ensure that MSI's Team is competent, professional and possesses the requisite qualifications and experience appropriate to the task they are required to perform under this Contract. MSI shall ensure that the services are performed through the efforts of MSI's Team, in accordance with the terms hereof and to the satisfaction of the designated authority. Nothing in the Contract relieves MSI from its liabilities or obligations under the Contract to provide the Services in accordance with the designated authority's directions and requirements and as stated in this Contract and the Bid to the extent accepted by the designated authority and MSI shall be liable for any non-performance, non-compliance, breach or other loss and damage resulting either directly or indirectly by or on account of its Team.
- k. MSI shall be fully responsible for deployment / installation / development/ laying of network

fibre and integration of all the software and hardware components and resolve any problems / issues that may arise due to integration of components.

- l. MSI shall ensure that the OEMs supply equipment/ components including associated accessories and software required and shall support MSI in the installation, commissioning, integration and maintenance of these components during the entire period of contract. MSI shall ensure that the COTS OEMs supply the software applications and shall support MSI in the installation / deployment, integration, roll-out and maintenance of these applications during the entire period of contract. It must clearly be understood by MSI that warranty and AMC of the system, products and services incorporated as part of system would commence from the day of Go-Live of system as a complete Smart city solutions including all the solutions proposed. MSI would be required to explicitly display that he/ they have a back to back arrangement for provisioning of warranty/ AMC support till the end of contract period with the relevant OEMs. The annual maintenance support shall include patches and updates the software, hardware components and other devices.
- m. All the software licenses that MSI proposes should be perpetual software licenses. The software licenses shall not be restricted based on location and the designated authority should have the flexibility to use the software licenses for other requirements if required within the territory as decided by CSML.
- n. All the OEMs that Bidder proposes should have Dealer possession licenses.
- o. The designated authority reserves the right to review the terms of the Warranty and Annual Maintenance agreements entered into between MSI and OEMs.
- p. Shall ensure that none of the components and sub-components is declared end-of-sale or end-of-support by the respective OEM at the time of submission of bid. If the OEM declares any of the products/ solutions end-of-sale subsequently, the MSI shall ensure that the same is supported by the respective OEM for contract period.
- q. If a product is de-supported by the OEM for any reason whatsoever, from the date of Acceptance of the System till the end of contract, MSI should replace the products/ solutions with an alternate that is acceptable to the designated authority at no additional cost to the

designated authority and without causing any performance degradation.

- r. Further, the MSI shall be obliged to ensure that all approvals, registrations, licenses, permits and rights which are, inter-alia, necessary for use of the Deliverables, goods, services, applications, services etc. provided by the MSI / Consortium / MSI's subcontractors under the Contract shall be acquired in the name of the designated authority and MSI shall have the non-exclusive, limited right to use such licenses till the Term on behalf of the designated authority solely for the purpose of execution of any of its obligations under the terms of the Contract. However, subsequent to the Term of this Contract, such approvals etc. shall endure to the exclusive benefit of the designated authority.
- s. That the MSI shall procure all the necessary permissions and adequate approvals and licenses for use of various software and any copyrighted process/product for use of the copyright/process/products that the MSI has proposed to supply under the Contract free from all claims, titles, interests and liens thereon;
- t. MSI shall ensure that the OEMs provide the support and assistance to MSI in case of any problems / issues arising due to integration of components supplied by him with any other component(s)/ product(s) under the purview of the overall solution. If the same is not resolved for any reason whatsoever, MSI shall replace the required component(s) with an equivalent or better substitute that is acceptable to designated authority without any additional cost to the designated authority and without impacting the performance of the solution in any manner whatsoever.
- u. MSI shall ensure that the OEMs for hardware servers/equipment supply and/or install all type of updates, patches, fixes and/or bug fixes for the firmware or software from time to time at no additional cost to the designated authority.
- v. MSI shall ensure that the OEMs for hardware servers/ equipment or Bidder's trained engineers conduct the preventive maintenance on a Quarterly basis and break-fix maintenance in accordance with the best practices followed in the industry. MSI shall ensure that the documentation and training services associated with the components shall be provided by the OEM partner or OEM's certified training partner without any additional cost to the designated

authority.

- w. The training has to be conducted using official OEM course curriculum mapped with the hardware / Software Product's to be implemented in the project.
- x. MSI and their personnel/representative shall not alter / change / replace any hardware component proprietary to the designated authority and/or under warranty or AMC of third party without prior consent of the designated authority.
- y. MSI shall provision the required critical spares/ components at the designated Datacenter Sites / office locations of the designated authority for meeting the uptime commitment of the components supplied by him.
- z. MSI's representative(s) shall have all the powers requisite for the execution of Scope of Work and performance of services under the Contract. MSI's representative(s) shall liaise with the designated authority's Representative for the proper coordination and timely completion of the works and on any other matters pertaining to the works. MSI shall extend full co- operation to designated authority's Representative in the manner required by them for supervision/ inspection/ observation of the equipment/ goods/ material, procedures, performance, progress, reports and records pertaining to the works. He shall also have complete charge of MSI's personnel engaged in the performance of the works and to ensure compliance of rules, regulations and safety practice. He shall also cooperate with the other Service Providers/Vendors of the designated authority working at the designated authority's office locations & field locations and DC sites. Such Bidder's representative(s) shall be available to the designated authority Representatives at respective Datacenter during the execution of works.
- aa. MSI shall be responsible on an ongoing basis for coordination with other vendors and agencies of the designated authority and its nominated agency in order to resolve issues and oversee implementation of the same. MSI shall also be responsible for resolving conflicts between vendors in case of borderline integration issues.
- bb. MSI shall set up a project office for ICCCC. The technical manpower deployed on the project should work from the same office. However, some resources may be required to work from

the office assigned by designated authority during the contract period.

3.4.8 ACCESS TO SITES

- a) Sites would include Command control center itself and different command and control center of projects which are to be integrated with ICCCC. Access will be provided to different command and control center only after approval of their respective authorities and as per access policy.
- b) The designated authority's Representative upon receipt of request from MSI intimating commencement of activities at various locations shall give to MSI access to as much of the Sites, on a non-permanent basis, as may be necessary to enable MSI to commence and proceed with the installation of the works in accordance with the program of work subject to compliance by the MSI with any safety and security guidelines which may be provided by the designated authority and notified to the MSI in writing. Any reasonable proposal of MSI for access to Site to proceed with the installation of work in accordance with the program of work shall be considered for approval and shall not be unreasonably withheld by the designated authority. Such requests shall be made to the designated authority's Representative in writing at least 7 days prior to start of the work.
- c) At the site locations, the designated authority's Representative shall give to MSI access to as much as may be necessary to enable MSI to commence and proceed with the installation of the works in accordance with the program of work or for performance of Facilities Management Services.
- d) Access to locations, shall be made available to the MSI on an "as is, where is" basis by the designated authority as the case may be or its nominated agencies. The MSI agrees to ensure that its employees, agents and contractors/Sub- Contractors shall not use the location, services and equipment referred to in the RFP for the following purposes:
 - i. For the transmission of any material which is defamatory, offensive or abusive or of an obscene or menacing character; or
 - ii. In a manner which constitutes violation of any law or a violation or infringement of the rights of any person, firm or company (including but not limited to rights of copyright or confidentiality); or

- iii. For their own purpose or for conducting their own business or for providing services to any third party.

3.4.9 START OF INSTALLATION

- a. Bidder shall co-ordinate with the designated authority and stakeholders for the complete setup of sites before commencement of installation. MSI shall also co-ordinate regarding Network / Bandwidth connectivity in order to prepare the installation plan and detailed design / architectural design documents.
- b. As per TRAI guidelines, resale of bandwidth connectivity is not allowed. In such a case tripartite agreement should be formed between designated authority, selected Bidder and Internet Service Provider(s). Such tripartite agreement entered for provision of bandwidth services will form an integral part of the Contract.
- c. The plan and design documents thus developed shall be submitted by MSI for written approval by the designated authority.
- d. After obtaining the approval from the designated authority, MSI shall commence the installation.

3.4.10 REPORTING PROGRESS

- a. MSI shall monitor progress of all the activities related to the execution of the Contract and shall submit to the designated authority, progress reports with reference to all related work, milestones and their progress during the contract period.
- b. Formats for all above mentioned reports and their dissemination mechanism shall be discussed and finalized with the CSML along with project plan. The designated authority on mutual agreement between both parties may change the formats, periodicity and dissemination mechanism for such reports.
- c. Periodic meetings shall be held between the representatives of the designated authority and MSI once in every 15 days during the implementation phase to discuss the progress of implementation. After the implementation phase is over, the meeting shall be held as an ongoing basis, as desired

- by designated authority, to discuss the performance of the contract.
- d. MSI shall ensure that the respective solution teams involved in the execution of work are part of such meetings.
 - e. Several review committees involving representative of the designated authority and senior officials of MSI shall be formed for the purpose of this project. These committees shall meet at intervals, as decided by the designated authority later, to oversee the progress of the implementation.
 - f. All the Goods, Services and manpower to be provided / deployed by MSI under the Contract and the manner and speed of execution and maintenance of the work and services are to be conducted in a manner to the satisfaction of designated authority's Representative in accordance with the Contract.
 - g. Should the rate of progress of the works or any part of them at any time fall behind the stipulated time for completion or is found to be too slow to ensure completion of the works by the stipulated time, or is in deviation to tender requirements/ standards, the CSML designated authority's Representative shall so notify MSI in writing.
 - h. MSI shall reply to the written notice giving details of the measures it proposes to take to expedite the progress so as to complete the works by the prescribed time or to ensure compliance to RFP requirements. MSI shall not be entitled to any additional payment for taking such steps. If at any time it should appear to the designated authority or designated authority's Representative that the actual progress of work does not conform to the approved plan MSI shall produce at the request of the designated authority's Representative a revised plan showing the modification to the approved plan necessary to ensure completion of the works within the time for completion or steps initiated to ensure compliance to the stipulated requirements
 - i. The submission seeking approval by the designated authority or designated authority's Representative of such plan shall not relieve MSI of any of his duties or responsibilities under the Contract.
 - j. In case during execution of works, the progress falls behind schedule or does not meet the Tender requirements, MSI shall deploy extra manpower/ resources to make up the progress or to meet

the RFP requirements. Plan for deployment of extra man power/ resources shall be submitted to the designated authority for its review and approval. All time and cost effect in this respect shall be borne, by MSI within the Contract Value.

- k. The designated authority reserves the right to inspect and monitor/ assess the progress/ performance of the work / services at any time during the course of the Contract, after providing due notice to the MSI. The designated authority may demand and upon such demand being made, MSI shall provide documents, data, material or any other information pertaining to the Project which the designated authority may require, to enable it to assess the progress/ performance of the work / service under the Contract.
- l. At any time during the course of the Contract, the designated authority shall also have the right to conduct, either itself or through another agency as it may deem fit, an audit to monitor the performance by MSI of its obligations/ functions in accordance with the standards committed to or required by the designated authority and MSI undertakes to cooperate with and provide to the designated authority / any other agency appointed by the designated authority, all documents and other details as may be required by them for this purpose. Such audit shall not include Bidder's books of accounts. Any deviations or contravention, identified as a result of such audit/assessment, would need to be rectified by the MSI failing which the designated authority may, without prejudice to any other rights that it may have issue a notice of default. Cost of acquisition of deliverables by the MSI and other Sub-Contractors is out of the purview of audit/inspections.
- m. Without prejudice to the foregoing, the MSI shall allow access to the designated authority or its nominated agencies to all information which is in the possession or control of the MSI and which relates to the provision of the Services/Deliverables as set out in the Audit, Access and Reporting Schedule and which is reasonably required by the designated authority to comply with the terms of the Audit, Access and Reporting provision set out in this Contract.
- n. Knowledge of Network Operations Center (NOC), Server Room, Command Control and Communication Center, and areas of city kiosk centers if any
- o. MSI shall be granted access to the command and control center of other IT projects. for inspection by the designated authority before commencement of installation of integrated command and

control center. The plan shall be drawn mutually at a later stage.

- p. MSI shall be deemed to have knowledge of the cloud Data Centers, Server Room, Command and Control Center, its surroundings and information available in connection therewith and to have satisfied itself the form and nature thereof including, the data contained in the Bidding Documents, the physical and climatic conditions, the quantities and nature of the works and materials necessary for the completion of the works, the means of access, etc. and in general to have obtained itself all necessary information of all risks, contingencies and circumstances affecting his obligations and responsibilities therewith under the Contract and his ability to perform it. However, if during pre-installation survey / during delivery or installation, MSI detects physical conditions and/or obstructions affecting the work, MSI shall take all measures to overcome them.

3.4.11 PROJECT PLAN

- a. Within 15 calendar days of Effective Date of the contract/ Issuance of Lol, MSI shall submit to the designated authority for its approval a detailed Project Plan with details of the project showing the sequence, procedure and method in which it proposes to carry out the works. The Plan so submitted by MSI shall conform to the requirements and timelines specified in the Contract. The designated authority and MSI shall discuss and agree upon the work procedures to be followed for effective execution of the works, which MSI intends to deploy and shall be clearly specified. The Project Plan shall include but not limited to project organization, communication structure, proposed staffing, roles and responsibilities, processes and tool sets to be used for quality assurance, security and confidentiality practices in accordance with industry best practices, project plan and delivery schedule in accordance with the Contract. Approval by the designated authority's Representative of the Project Plan shall not relieve MSI of any of his duties or responsibilities under the Contract.
- b. If MSI's work plans necessitate a disruption/ shutdown in designated authority's operation, the plan shall be mutually discussed and developed so as to keep such disruption/shutdown to the barest unavoidable minimum. Any time and cost arising due to failure of MSI to develop/adhere such a work plan shall be to his account.

3.4.12 COMPLIANCE WITH APPLICABLE LAW

- a. MSI's Team shall comply with the provision of all laws including labor laws, rules, regulations and notifications issued there under from time to time. All safety and labor laws enforced by statutory agencies and by the designated authority shall be applicable in the performance of the Contract and Bidder's Team shall abide by these laws. The MSI shall take all measures necessary or proper to protect the personnel, work and facilities and shall observe all reasonable safety rules and instructions.
- b. Access to the Data centers of other IT systems and its Server Room shall be strictly restricted. No access to any person except the essential members of MSI's Team who are authorized by the designated authority and are genuinely required for execution of work or for carrying out management/ maintenance shall be allowed entry. Even if allowed, access shall be restricted to the pertaining equipment of the designated authority only. MSI shall maintain a log of all activities carried out by each of its team personnel.
- c. All such access should be logged in a loss free manner for permanent record with unique biometric identification of the staff to avoid misrepresentations or mistakes
- d. Each Party to the Contract accepts that its individual conduct shall (to the extent applicable to its business like the MSI as an Information Technology service provider) at all times comply with all laws, rules and regulations of government and other bodies having jurisdiction over the area in which the Services are undertaken provided that changes in such laws, rules and regulations which result in a change to the Services shall be dealt with in accordance with the Change Management and Control set out in the RFP.
- e. MSI shall take all measures necessary or proper to protect the personnel, work and facilities and shall observe all reasonable safety rules and instructions. MSI's Team shall adhere to all security requirement/ regulations of the designated authority during the execution of the work. Designated authority's employee also shall comply with safety procedures/ policy.
- f. MSI shall report as soon as possible any evidence, which may indicate or is likely to lead to an

abnormal or dangerous situation and shall take all necessary emergency control steps to avoid such abnormal situations.

3.4.13 STATUTORY REQUIREMENTS

- a. During the tenure of the Contract the MSI shall comply with all Applicable Laws and shall obtain and maintain all statutory and other approvals required for the performance of the Services under the Contract and nothing shall be done by MSI or his team including Consortium in contravention of any law, act and/ or rules/regulations, there under or any amendment thereof governing inter-alia customs, stowaways, foreign exchange etc. and shall keep designated authority indemnified in this regard.

3.4.14 REPRESENTATIONS AND WARRANTIES

i) Representations and warranties of the MSI

The MSI hereby represents and warrants as of the date hereof, which representations and warranties shall remain in force during the Term and extension thereto, the following:

- (i) it is duly organized and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Contract and other agreement and to carry out the transactions contemplated hereby;
- (ii) it is a competent provider of a variety of Information Technology and business process management services. It has taken all necessary corporate and other actions under laws applicable to its business to authorize the execution and delivery of this Contract and to validly exercise its rights and perform its obligations under this Contract;
- (iii) That all conditions precedent under the Contract have been satisfied;
- (iv) That the selected MSI along with its consortium members have the power and the authority that would be required to enter into this Contract and the requisite experience,

the technical know-how and the financial wherewithal required to successfully execute the terms of this Contract and to provide services sought by the designated authority under this Contract;

- (v) That the MSI and its team has the professional skills, personnel, infrastructure and resources/ authorizations that are necessary for providing all such services as are necessary to fulfil the scope of work stipulated in the tender and this Contract;
- (vi) That the MSI shall ensure that all assets/ components including but not limited to equipment, software, licenses, processes, documents, etc. installed, developed, procured, deployed and created during the term of this Contract are duly maintained and suitably updated, upgraded, replaced with regard to contemporary requirements;
- (vii) The MSI/ MSI's team shall use such assets of the designated authority, as the designated authority may permit for the sole purpose of execution of its obligations under the terms of the Bid, Tender or this Contract. The MSI shall however, have no claim to any right, title, lien or other interest in such property, and any possession of property for any duration whatsoever shall not create any right in equity or otherwise, merely by fact of such use or possession during or after the term thereof;
- (viii) it has the financial standing and capacity to undertake the Project and obligations in accordance with the terms of this Contract;
- (ix) in providing the Services, it shall spare no effort to prevent any disruption to designated authority 's normal business operations;
- (x) this Contract has been duly executed by it and constitutes a legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Contract shall be legally valid, binding and enforceable against it in accordance with the terms hereof;
- (xi) the information furnished in the Proposal is to the best of its knowledge and belief, true and accurate in all respects as at the date of this Contract;
- (xii) the execution, delivery and performance of this Contract shall not conflict with, result in

- the breach of, constitute a default by any of the terms of its Memorandum and Articles of Association or any Applicable Laws or any covenant, contract, Contract, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (xiii) there are no material actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Contract or which individually or in the aggregate may result in any material impairment of its ability to perform any of its material obligations under this Contract;
- (xiv) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any adverse effect on its ability to perform its obligations under this Contract and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Contract;
- (xv) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have an Adverse Effect on its ability to perform its obligations under this Contract;
- (xvi) no representation or warranty by it contained herein or in any other document furnished by it to the designated authority or its nominated agencies in relation to the any consents contains or shall contain any untrue or misleading statement of material fact or omits or shall omit to state a material fact necessary to make such representation or warranty not misleading;
- (xvii) no sums, in cash or kind, have been paid or shall be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for entering into this Contract or for influencing or attempting to influence any officer or employee of the designated authority or its nominated agencies in connection therewith;
- (xviii) That the MSI shall procure all the necessary permissions and adequate approvals and

licenses for use of various software and any copyrighted process/product for use of the copyright/process/products that the MSI has proposed to supply under this Contract free from all claims, titles, interests and liens thereon;

- (xix) That the sub-contractor if applicable, proposed and/or deployed by the MSI meets the technical and financial qualifications prescribed in the RFP; and
- (xx) That the representations made by the MSI in its Proposal and in this Contract are and shall continue to remain true and fulfil all the requirements as are necessary for executing the obligations and responsibilities as laid down in the Contract and the RFP and unless the designated authority specifies to the contrary, the MSI shall be bound by all the terms of the Contract;
- (xxi) That the MSI certifies that all registrations, recordings, filings and notarizations of the Contract and all payments of any tax or duty, including but not limited to stamp duty, registration charges or similar amounts which are required to be effected or made by the MSI which is necessary to ensure the legality, validity, enforceability or admissibility in evidence of the Contract have been made;
- (xxii) That the MSI confirms that there has not and shall not occur any execution, amendment or modification of this contract without the prior written consent of the designated authority;
- (xxiii) That the MSI owns or has good, legal or beneficial title, or other interest in, to the property, assets and revenues of the MSI on which it grants or purports to grant or create any interest pursuant to-the Contract, in each case free and clear-of any- encumbrance and further confirms that such Interests created or expressed to be created are valid and enforceable;
- (xxiv) That the MSI-owns, has license to use or otherwise has the right to use, free of any pending or threatened liens or other security or other interests all Intellectual Property Rights, which are required or desirable for the project. In case of any infringement, designated authority is not responsible. Action will be taken as per the clauses defined in this RFP.

(xxv) That the MSI shall provide adequate and appropriate support and participation, on a continuing basis, in tuning/ upgrading all supplied hardware and software to meet the requirements of the applications;

ii) Representations and warranties of the designated authority

The designated authority represents and warrants to the MSI that:

- i. it has full power and authority to execute, deliver and perform its obligations under this Contract and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Contract, exercise its rights and perform its obligations, under this Contract and carry out the transactions contemplated hereby;
- ii. it has taken all necessary actions under Applicable Laws to authorize the execution, delivery and performance of this Contract and to validly exercise its rights and perform its obligations under this Contract;
- iii. it has the financial standing and capacity to perform its obligations under the Contract;
- iv. this Contract has been duly executed by it and constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof and its obligations under this Contract shall be legally valid, binding and enforceable against it in accordance with the terms thereof;
- v. the execution, delivery and performance of this Contract shall not conflict with, result in the breach of, constitute a default under any of the Applicable Laws or any covenant, contract, Contract, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- vi. it has complied with Applicable Laws in all material respects.

3.4.15 OBLIGATIONS OF THE DESIGNATED AUTHORITY

- a. The obligations of the designated authority described in this clause is in addition to, and not in derogation of, the obligations mentioned in the RFP are to be read harmoniously. Without prejudice to any other undertakings or obligations of the designated authority

under the Contract or the RFP, the designated authority shall perform the following:

- b. The designated authority or his/her nominated representative shall act as the nodal point for implementation of the contract and for issuing necessary instructions, approvals, commissioning, Acceptance Certificate(s), payments etc. to MSI.
- c. The designated authority shall ensure that timely approval is provided to MSI as and when required, which may include approval of project plans, implementation methodology, design documents, specifications, or any other document necessary in fulfillment of the contract.
- d. The designated authority's Representative shall interface with MSI, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract. Designated authority shall provide adequate cooperation in providing details, coordinating and obtaining of approvals from various governmental agencies, in cases, where the intervention of the designated authority is proper and necessary.
- e. The designated authority may provide on Bidder's request, particulars/ information/ or documentation that may be required by MSI for proper planning and execution of work and for providing Goods and Services covered under the contract and for which MSI may have to coordinate with respective vendors.
- f. The designated authority shall provide to MSI only sitting space and basic infrastructure not including, stationery and other consumables at the designated authority's office locations.
- g. The designated authority reserves the right to procure the hardware including devices on quarterly basis in first year based on actual deployment and AMC shall be applicable whenever the devices are procured and deployed till end of the contract.
- h. **Site Not Ready:** The designated authority hereby agrees to make the project sites ready as per the agreed specifications, within the agreed timelines. The designated authority agrees that MSI shall not be in any manner liable for any delay arising out of designated authority's failure to make the site ready within the stipulated period.

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3.4.16 PAYMENTS

Payments to MSI will be done as per “**Clause 3.3 PAYMENT SCHEDULE**”

1. The following steps will be followed:
 - 1.1 MSI will create separate invoice of ICCCC work and submit as per **Clause 3.3 Payment Schedule**.
 - 1.2 MSI will submit invoice to CSML along with monthly progress report and proof of the work delivered
 - 1.3 The SPV or its authorized personnel will approve / reject the invoice based on the performance of the MSI
 - 1.4 CSML or its authorized personal will review the submitted invoices and reports
 - 1.5 After all approvals, claims will be processed and payment will be made to MSI

3.4.17 OWNERSHIP AND INTELLECTUAL PROPERTY RIGHTS

- a. The designated authority shall have a right in perpetuity to use all newly created Intellectual Property Rights which have been developed solely during execution of the Contract, including but not limited to all processes, products, specifications, reports and other documents which have been newly created and developed by MSI solely during the performance of Services and for the purposes of inter-alia use or sub-license of such Services under the Contract. MSI undertakes to disclose all such Intellectual Property Rights arising in performance of the Services to the designated authority, execute all such agreements/documents and obtain all permits and approvals that may be necessary in regard to the Intellectual Property Rights of the designated authority.
- b. If designated authority desires, MSI shall be obliged to ensure that all approvals, registrations, licenses, permits and rights etc. which are inter-alia necessary for use of the

Goods Deliverables, Services supplied / installed by MSI/Consortium/MSI's Sub- Contractors under the Contract shall be acquired in the name of the designated authority and MSI shall have the non-exclusive, limited right to use such licenses till the Term on behalf of the designated authority solely for the purpose of execution of any of its obligations under the terms of the Contract. However, subsequent to the Term of this Contract, such approvals, registrations, licenses, permits and rights etc. shall endure to the exclusive benefit of the designated authority.

- c. Pre-existing work: All intellectual property rights existing prior to the Effective Date of the Contract shall belong to the Party that owned such rights immediately prior to the Effective Date. Subject to the foregoing, the designated authority will also have rights to use and copy all intellectual property rights, process, specifications, reports and other document, drawings, manuals provided or used by the MSI as part of the Scope of Works under the Contract for the purpose of the Contract on non-exclusive, non-transferable, perpetual, royalty-free license to use basis.
- d. Third Party Products: If license agreements are necessary or appropriate between the MSI and third parties for purposes of enabling / enforcing/implementing the provisions hereinabove, the MSI shall enter into such agreements at its own sole cost, expense and risk and all such licenses etc. shall be bought in name of the designated authority unless otherwise directed in writing by the designated authority.
- e. MSI shall not copy, reproduce, translate, adapt, vary, modify, disassemble, decompile or reverse engineer or otherwise deal with or cause to reduce the value of the Materials except as expressly authorized by the designated authority in writing

3.4.18 TAXES

- a. MSI shall bear all personnel taxes levied or imposed on its personnel, or any other member of MSI's Team, etc. on account of payment received under the Contract. MSI shall bear all corporate taxes, levied or imposed on MSI on account of payments received by it from the

designated authority for the work done under the Contract. The MSI shall bear all taxes and duties etc. levied or imposed on the MSI under the Contract including but not limited to Customs duty, Excise duty and all Income Tax levied under Indian Income Tax Act – 1961 or any amendment thereof up to the date for submission of final price bid, i.e., on account of payments received by him from the designated authority for work done under the Contract. The MSI shall also be responsible for having his Sub-Contractors if allowed / applicable under its Sub-Contract(s) to pay all applicable taxes on account of payment received by the Sub-Contractors from the MSI for works done under the Sub-contracts in relation to this Agreement and the designated authority will in no case bear any responsibility for such payment of taxes.

- b.** MSI agrees that he shall comply with the Indian Income Tax Act in force from time to time and pay Indian Income Tax, as may be imposed/ levied on them by the Indian Income Tax Authorities, for the payments received by them for the works under the Contract
- c.** MSIs shall fully familiarize themselves about the applicable domestic taxes (such as value added or sales tax, service tax, income taxes, duties, fees, levies, etc.) on amounts payable by the designated authority under the Agreement.
- d.** Should MSI fail to submit returns/pay taxes in times as stipulated under applicable Indian/State Tax Laws and consequently any interest or penalty is imposed by the concerned authority, MSI shall pay the same. MSI shall indemnify the designated authority against any and all liabilities or claims arising out of this Contract for such taxes including interest and penalty by any such Tax Authority may assess or levy against the designated authority.
- e.** Payment agreed to be made by the designated authority to the MSI in accordance with the Proposal.
- f.** Supplies of materials from abroad are exempted from levy of Sales Tax/VAT on works/works Contract tax (Central or state). However, the Sales Tax/VAT on works (central or state) if levied on supplies made from indigenous vendors for the works shall be borne by MSI within the Contract Price. Service Tax/ Terminal Sales Tax/ Works Contract Tax, etc., if any applicable, shall be payable extra, at actuals by the designated authority in accordance with

the conditions of the Contract and upon submission of proof of payment of such taxes.

- g. The designated authority shall if so required by Applicable Laws in force, at the time of payment, deduct income tax payable by MSI at the rates in force, from the amount due to MSI and pay to the concerned tax authority directly.
- h. Should the MSI and/or other Consortium members fail to submit returns/pay taxes in times as stipulated under the Indian Income Tax Act and consequently any interest or penalty is imposed by the Indian Income Tax authority, the MSI and/or other Consortium members, as the case may be shall pay the same. MSI and/or other Consortium members shall jointly and severally indemnify the designated authority against any and all liabilities or claims arising out of this Agreement for such taxes including interest and penalty any such Tax Authority may assess or levy against the designated authority /MSI and/or other Consortium members.

3.4.19 INDEMNITY

General Indemnity:

Subject to Succeeding para below, the MSI (the "Indemnifying Party") undertakes to indemnify the designated authority and its nominated agencies (the "Indemnified Party") from and against all losses, claims, damages, compensation etc. on account of bodily injury, death or damage to tangible personal property arising in favour of any person, corporation or other entity (including the Indemnified Party) attributable to the Indemnifying Party's negligence, willful default, lack of **due care or breach of terms of this Agreement**.

IPR Indemnity:

If the Indemnified Party promptly notifies the Indemnifying Party in writing of a third party claim against the Indemnified Party that any Goods / Deliverables/ Services provided by the Indemnifying Party infringes a copyright, trade secret, patent or other intellectual property rights of any third party, the Indemnifying Party will defend such claim at its expense and will pay any costs or damages

that may be finally awarded against the Indemnified Party. The Indemnifying Party will not indemnify the Indemnified Party, however, if the claim of infringement is caused by (a) The Indemnified Party's misuse or modification of the Deliverables; (b) The Indemnified Party's failure to use corrections or enhancements made available by the Indemnifying Party; (c) The Indemnified Party's use of the Deliverables in combination with any product or information not owned or developed or supplied by the Indemnifying Party. If any of the Deliverables is or likely to be held as infringing, the Indemnifying Party shall at its expense and option either (i) procure the right for the Indemnified Party to continue using it, (ii) replace it with a non-infringing equivalent, (iii) modify it to make it non-infringing.

Conditions for Indemnity:

Without prejudice to the rights of the designated authority in respect of indemnification for any claim:

- i. The designated authority shall notify the MSI upon receipt of any notice of claim setting out in reasonable particulars, the details of such notice of claim;
- ii. Immediately upon receipt of notification of any claim from the designated authority, the MSI within a period of 5 days from date of receipt of such notice from the designated authority, notify the designated authority whether the MSI wish to assume the defense in relation to such claim (including settlement or resolution thereof). Thereafter, the MSI shall be entitled in consultation with the designated authority, and only to the extent such action does not in any manner compromise, prejudice or adversely affect the interests of the designated authority, to take such action as mutually agreed upon by MSI and the designated authority to avoid, dispute, deny, resist, appeal, compromise or consent such claim, within a period of 30 days from the date of receipt of such claim notification;
- iii. Notwithstanding anything contained herein, the MSI and the designated authority agree and covenant that a notice by the designated authority to the MSI in relation to the claim as aforesaid shall amount to express acceptance and consent by the MSI to indemnify the designated authority for all losses in relation to such claim. Upon notice by the MSI, the designated authority shall reasonably co-operate with the MSI at the sole costs of the MSI, only to the extent the same does not in any manner compromise, prejudice or adversely affect the rights of the designated

authority. The designated authority shall have the right, at its option, to participate in the defense of such claim;

If the MSI fails to take any action as per the above clause within the time period as specified therein, the designated authority shall have the right, in its absolute discretion, to take such action as it may deem necessary to avoid, dispute, deny, resist, appeal, compromise or contest or settle any claim (including without limitation, making claims or counterclaims against third parties). If the MSI does not assume control of the defense of such claims (as mentioned above), the entire defense, negotiation or settlement of such claim by the designated authority shall be deemed to have been consented to by, and shall be binding upon, MSI as fully as though the MSI alone had assumed the defence thereof and a judgement had been entered into by the MSI, for such claim in respect of the settlement or judgement.

3.4.20 WARRANTY

- a. The warranties and remedies provided in this Clause are in addition to, and not in derogation of, the warranties provided in the RFP and the two are to be read harmoniously.
- b. A comprehensive warranty applicable on goods/solutions supplied under the Contract by the respective OEMs and the warranties shall be passed on to the designated authority. The MSI shall be responsible for making any and all claims under the warranty on behalf of the designated authority. Generally the warranty for goods and solutions shall be for a period of **five years** from the date of installation and commissioning of the respective hardware and solution. If the warranty period provided by the OEM is for more than two (2), then the same warranty period shall be passed on to the designated authority.
- c. Technical Support for Software applications shall be provided by the respective OEMs for the period of contract. The Technical Support should include all upgrades, updates and patches to the respective Software applications.
- d. The MSI warrants that the Goods supplied under the Contract are new, non- refurbished, unused and recently manufactured; shall not be nearing End of sale / End of support; and shall be supported

by the MSI and respective OEM along with service and spares support to ensure its efficient and effective operation for the entire duration of the contract.

- e. The MSI warrants that the Goods supplied under the Contract shall be of the highest grade and quality and consisted with the established and generally accepted standards for materials of this type. The goods shall be in full conformity with the specifications and shall operate properly and safely. All recent design improvements in goods, unless provided otherwise in the Contract, shall also be made available.
- f. The MSI further warrants that the Goods supplied under the Contract shall be free from all encumbrances and defects/faults arising from design, material, manufacture or workmanship (except insofar as the design or material is required by the designated authority 's Specifications) or from any act or omission of the MSI, that may develop under normal use of the supplied Goods in the conditions prevailing at the respective Datacenter/ Server Room Sites.
- g. Warranty for Services – The MSI warrants that all services under the Contract will be performed with promptness and diligence and will be executed in a workmanlike and professional manner, in accordance with the practices and high professional standards used in well-managed operations performing services similar to the services under the Contract. The MSI represents that it shall use adequate numbers of qualified individuals with suitable training, education, experience and skill to perform the Services hereunder.
- h. The designated authority shall promptly notify the MSI in writing of any claims arising under this warranty.
- i. Upon receipt of such notice, the MSI shall, with all reasonable speed, repair or replace the defective goods or replace such goods with similar goods free from defect at MSI's own cost and risk. Any goods repaired or replaced by the MSI shall be delivered at the designated authority's premises without costs to the designated authority. Notwithstanding the foregoing, these are not the sole and exclusive remedies available to the designated authority in case of breach of any warranty and are also not the sole and exclusive obligations on the MSI in case of breach of any warranty.
- j. If the MSI, having been notified, fails to remedy the defect(s) within a reasonable period, the designated authority may proceed to take such remedial action as may be necessary, at the MSI's

risk and expense and without prejudice to any other rights which the designated authority may have against the MSI under the Contract.

- k. Any OEM specific warranty terms that do not conform to conditions under this Contract shall not be acceptable.
- l. The representations, warranties and covenants provided by the MSI under the Contract will not be affected by designated authority's modification of any portion of the software so long as the MSI can discharge its obligations despite such modifications, or following their removal by the designated authority
- m. Notwithstanding anything contained in the Contract, unless the designated authority has otherwise agreed in writing, the designated authority reserves the right to reject Goods which do not conform to the specifications provided in the RFP.

3.4.21 TERM AND EXTENSION OF THE CONTRACT

- a) The Contract period shall come into effect on.....i.e. from the date of signing of contract or Issuance of Lol, whichever is earlier((hereinafter the "Effective Date"), and shall remain valid for **60 Months** from the date of Go Live of the system ("Term")
- b) If the delay occurs due to any Force Majeure event, a reasonable extension of time shall be granted by the designated authority.
- c) The designated authority shall reserve the sole right to grant any extension to the Term abovementioned and shall notify in writing to MSI, at least 3 (three) months before the expiration of the Term hereof, whether it shall grant MSI an extension of the Term. The decision to grant or refuse the extension shall be at the designated authority's discretion and such extension of the contract, if any, shall be as per terms agreed mutually between the designated authority and MSI.
- d) Where the designated authority is of the view that no further extension of the Term be granted to MSI, the designated authority shall notify MSI of its decision at least 3 (three) months prior to the expiry of the Term. Upon receipt of such notice, MSI shall continue to perform all its obligations hereunder, until such reasonable time beyond the Term of the Contract within which, the designated authority shall either appoint an alternative agency/MSI or create its own infrastructure

to operate such Services as are provided under this Contract.

3.4.22 DISPUTE RESOLUTION

- a) In case, a dispute is referred to arbitration, the arbitration shall be under the **Indian Arbitration and Conciliation Act, 1996** and any statutory modification or re- enactment thereof.
- b) If during the subsistence of this Contract or thereafter, any dispute between the Parties hereto arising out of or in connection with the validity, interpretation, implementation, material breach or any alleged material breach of any provision of this Contract or regarding any question, including as to whether the termination of this Contract by one Party hereto has been legitimate, the Parties hereto shall endeavor to settle such dispute amicably and/or by Conciliation to be governed by the Arbitration and Conciliation Act, 1996 or as may be agreed to between the Parties. The attempt to bring about an amicable settlement is considered to have failed as soon as one of the Parties hereto, after reasonable attempts; which attempt shall continue for not less than thirty (30) days, gives thirty (30) day notice to refer the dispute to arbitration to the other Party in writing.
- c) The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996.
- d) The Arbitration proceedings shall be held in **Kochi, Kerala, India**.
- e) The Arbitration proceeding shall be governed by the substantive laws of India.
- f) The proceedings of Arbitration shall be in Malayalam/English language.
- g) Except as otherwise provided elsewhere in the contract if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, at any time in connection with construction, meaning, operation, effect, interpretation or out of the contract or breach thereof the same shall be referred to a Tribunal of three (3) Arbitrators, constituted as per the terms of and under the (Indian) Arbitration and Conciliation Act, 1996. MD of CSML will be the Arbitrator in this case, along with the arbitrators nominated by each party.
- h) In case, a party fails to appoint an arbitrator within 30 days from the receipt of the request to do so by the other party or the two Arbitrators so appointed fail to agree on the appointment of third Arbitrator within 30 days from the date of their appointment upon request of a party, the Chief

Justice of the Kerala High Court or any person or institution designated by him shall appoint the Arbitrator/Presiding Arbitrator upon request of one of the parties.

- i) Any letter, notice or other communications dispatched to MSI relating to either arbitration proceeding or otherwise whether through the post or through a representative on the address last notified to the designated authority by MSI shall be deemed to have been received by MSI although returned with the remarks, refused 'undelivered' where about not known or words to that effect or for any other reasons whatsoever
- j) If the Arbitrator so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the designated authority to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same; otherwise, he shall proceed de novo.
- k) It is a term of the contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter.
- l) It is also a term of the contract that neither party to the contract shall be entitled for any interest on the amount of the award.
- m) The Arbitrator shall give reasoned award and the same shall be final, conclusive and binding on the parties.
- n) The fees of the arbitrator, costs and other expenses incidental to the arbitration proceedings shall be borne equally by the parties.

3.4.23 CONFLICT OF INTEREST

MSI shall disclose to the designated authority in writing, all actual and potential conflicts of interest that exist, arise or may arise (either for MSI or MSI's Team) in the course of performing the Services as soon as practical after it becomes aware of that conflict.

3.4.24 TRADEMARKS, PUBLICITY

Neither Party may use the trademarks of the other Party without the prior written consent of the other Party except that the MSI may, upon completion, use the Project as a reference for credential purpose. Except as required by law or the rules and regulations of each stock exchange upon which the securities of one of the Parties is listed, neither Party shall publish or permit to be published either alone or in conjunction with any other person any press release, information, article, photograph, illustration or any other material of whatever kind relating to this Agreement, the SLA or the business of the Parties without prior reference to and approval in writing from the other Party, such approval not to be unreasonably withheld or delayed provided however that the MSI may include the designated authority or its client lists for reference to third parties subject to the prior written consent of the designated authority not to be unreasonably withheld or delayed. Such approval shall apply to each specific case and relate only to that case.

3.4.25 FORCE MAJEURE

A. Definition of Force Majeure

The MSI or the designated authority, as the case may be, shall be entitled to suspend or excuse performance of its respective obligations under the Contract to the extent that such performance is impeded by an event of force majeure ('Force Majeure').

B. Force Majeure Events

A Force Majeure event means any event or circumstance or a combination of events and circumstances referred to in this Clause, which:

- i. is beyond the reasonable control of the affected Party;
- ii. such Party could not have prevented or reasonably overcome with the exercise of reasonable skill and care;
- iii. does not result from the negligence of such Party or the failure of such Party to perform its obligations under the Contract;
- iv. is of an incapacitating nature and prevents or causes a delay or impediment in performance; and

v. may be classified as all or any of the following events:

- a) act of God like earthquake, flood, inundation, landslide, storm, tempest, hurricane, cyclone, lightning, thunder or volcanic eruption that directly and adversely affect the performance of services by the MSI under the Contract;
- b) radioactive contamination or ionizing radiation or biological contamination (except as may be attributable to the MSI's use of radiation or radioactivity or biologically contaminating material) that directly and adversely affect the performance of services by the MSI under the Contract;
- c) industry wide strikes, lockouts, boycotts, labour disruptions or any other industrial disturbances, as the case may be, not arising on account of the acts or omissions of the MSI and which directly and adversely affect the timely implementation and continued operation of the Project; or
- d) an act of war (whether declared or undeclared), hostilities, invasion, armed conflict or act of foreign enemy, blockade, embargo, prolonged riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage, for a continuous period exceeding thirty(30) days that directly and adversely affect the performance of services by the MSI under the Contract.

For the avoidance of doubt, it is expressly clarified that the failure on the part of the MSI under the Contract or the SLA to implement any disaster contingency planning and back- up and other data safeguards in accordance with the terms of the Contract or the SLA against natural disaster, fire, sabotage or other similar occurrence shall not be deemed to be a Force Majeure event. For the avoidance of doubt, it is further clarified that any negligence in performance of Services which directly causes any breach of security like hacking shall not be considered as arising due to forces of nature and shall not qualify under the definition of "Force Majeure". The MSI will be solely responsible to complete the risk assessment and ensure implementation of adequate security hygiene, best practices, processes and technology to prevent any breach of security and any resulting liability therefrom (wherever applicable).

C. Notification procedure for Force Majeure

- i) The affected Party shall notify the other Party of a Force Majeure event within seven (7) days of occurrence of such event. If the other Party disputes the claim for relief under Force Majeure it shall give the claiming Party written notice of such dispute within thirty (30) days of such notice. Such dispute shall be dealt with in accordance with the dispute resolution mechanism in the Agreement.
- ii) Upon cessation of the situation which led the Party claiming Force Majeure, the claiming Party shall within seven (7) days thereof notify the other Party in writing of the cessation and the Parties shall as soon as practicable thereafter continue performance of all obligations under the Contract.

D. Allocation of costs arising out of Force Majeure

- i) Upon the occurrence of any Force Majeure event prior to the Effective Date, the Parties shall bear their respective costs and no Party shall be required to pay to the other Party any costs thereof.
- ii) Upon occurrence of a Force Majeure event after the Effective Date, the costs incurred and attributable to such event and directly relating to the Project ('Force Majeure Costs') shall be allocated and paid as follows:
 - Upon occurrence of an event mentioned in **clause 3.4.25 B (i), (ii), (iii) and (iv)**, the Parties shall bear their respective Force Majeure Costs and neither Party shall be required to pay to the other Party any costs thereof.
 - Save and except as expressly provided in this Clause, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, costs, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure event or exercise of any right pursuant hereof.

E. Consultation and duty to mitigate

Except as otherwise provided in this Clause, the affected Party shall, at its own cost, take all steps reasonably required to remedy and mitigate the effects of the Force Majeure event and restore its ability to perform its obligations under the Contract as soon as reasonably practicable. The Parties shall consult with each other

to determine the reasonable measures to be implemented to minimize the losses of each Party resulting from the Force Majeure event. The affected Party shall keep the other Party informed of its efforts to remedy the effect of the Force Majeure event and shall make reasonable efforts to mitigate such event on a continuous basis and shall provide written notice of the resumption of performance hereunder.

3.4.26 DELIVERY

- a) MSI shall bear the cost for packing, transport, insurance, storage and delivery of all the goods for **“Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi”**
- b) The Goods and manpower supplied under the Contract shall conform to the standards mentioned in the RFP, and, when no applicable standard is mentioned, to the authoritative standards; such standard shall be approved by the designated authority.
- c) MSI shall procure the hardware and software after approvals from the authority.

3.4.27 INSURANCE

- a) The Goods supplied under this Contract shall be comprehensively insured by MSI at his own cost, against any loss or damage, for the entire period of the contract. MSI shall submit to the designated authority, documentary evidence issued by the insurance company, indicating that such insurance has been taken.
- b) MSI shall bear all the statutory levies like customs, insurance, freight, etc. applicable on the goods and also the charges like transportation charges, octroi, etc. that may be applicable till the goods are delivered at the respective sites of installation shall also be borne by MSI.
- c) MSI shall take out and maintain at its own cost, on terms and conditions approved by the designated authority, insurance against the risks, and for the coverages, as specified below;
 - a. at the designated authority’s request, shall provide evidence to the designated authority showing that such insurance has been taken out and maintained and that the current

premiums therefor have been paid.

- b. Employer's liability and workers' compensation insurance in respect of the Personnel of the Company, in accordance with the relevant provisions of the Applicable Law, as well as, with respect to such Personnel, any such life, health, accident, travel or other insurance as may be appropriate

3.4.28 TRANSFER OF OWNERSHIP

- a) MSI must transfer all titles to the assets and goods procured for the purpose of the project to the designated authority at the time of Acceptance of System. This includes all licenses, titles, certificates, hardware, devices, equipment's etc. related to the system designed, developed, installed and maintained by MSI. Ownership of Goods that are part of this Agreement shall not pass to the designated authority unless and until the Goods is accepted in accordance with the conditions of the Contract and to the entire satisfaction of the designated authority and an acceptance notification is provided by the designated authority for to the MSI. MSI is expected to transfer IPR and ownership right of only those solutions which would be customized by MSI for the use of designated authority. For any pre-existing work, MSI and the designated authority shall be held jointly responsible and its use in any other project by MSI shall be decided on mutual consent.
- b) Forthwith upon expiry or earlier termination of the Contract and at any other time on demand by the designated authority, MSI shall deliver to the designated authority all Documents provided by or originating from the designated authority and all Documents produced by or from or for MSI in the course of performing the Services, unless otherwise directed in writing by the designated authority at no additional cost. MSI shall not, without the prior written consent of the designated authority store, copy, distribute or retain any such Documents.
- c) The MSI shall execute such documents as may be required by the designated authority for documenting the transfer of title and ownership of Goods. Upon transfer of ownership of the Goods to the designated authority, the MSI shall treat such Goods as Assets as detailed above in this Agreement.

3.4.29 EXIT MANAGEMENT PLAN

- a)** An Exit Management plan shall be furnished by MSI in writing to the designated authority within 90 days from the date of signing the Contract, which shall deal with at least the following aspects of exit management in relation to the contract as a whole and in relation to the Project Implementation, and Service Level monitoring.
- i) A detailed program of the transfer process that could be used in conjunction with a Replacement Service Provider including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;
 - ii) Plans for provision of contingent support to Project and Replacement Service Provider for a reasonable period after transfer.
 - iii) Exit Management plan in case of normal termination of Contract period
 - iv) Exit Management plan in case of any eventuality due to which Project is terminated before the contract period.
 - v) Exit Management plan in case of termination of MSI
 - vi) Exit Management Plan shall be presented by the MSI to and approved by the designated authority or its nominated agencies
- b)** Exit Management plan at the minimum adhere to the following:
- i) Three (3) months of the support to Replacement Service Provider post termination of the Contract
 - ii) Complete handover of the Planning documents, bill of materials, functional requirements specification, technical specifications of all equipment, change requests if any, reports, documents and other relevant items to the Replacement Service Provider/ Designated Authority
 - iii) Certificate of Acceptance from authorized representative of Replacement Service Provider issued to MSI on successful completion of handover and knowledge transfer

- c) In the event of termination or expiry of the contract, Project Implementation, or Service Level monitoring, both Bidder and the designated authority shall comply with the Exit Management Plan.
- d) During the exit management period, MSI shall use its best efforts to deliver the services.

3.4.30 PERFORMANCE SECURITY

- a) MSI shall furnish Performance Security to the designated authority at the time as indicated in the RFP which shall be equal to 10% of the Contract Value and shall be in the form of a Bank Guarantee from a Scheduled Bank in the Pro-forma given in [Annexure 8](#) of this RFP within 15 days after issuance of letter of intent (LOI) or Letter of Award (LoA) which would be valid up to a period of two months after the contract period.
- b) In the event of the MSI being unable to service the Contract for reasons attributable to the MSI, its Consortium members or any subcontractors, or any team members, the designated authority would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of the designated authority under the Agreement in the matter, the proceeds of the PBG shall be payable to the Contract as compensation for any loss resulting from the failure of MSI, its Consortium members or any subcontractors (if allowed / applicable), or any team members to perform/comply its obligations under the contract. The designated authority shall notify the MSI in writing of the exercise of its right to receive such compensation within 30 days, indicating the contractual obligation(s) for which the MSI is in default.
- c) The designated authority shall also be entitled to make recoveries from the MSI's bills, PBG, or from any other amount due to him, an equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction or misstatement.
- d) In case the Project is delayed beyond the Timelines as mentioned in RFP due to reasons attributable to MSI, its Consortium members or any subcontractors, or any team members, the PBG (any one or both, if not returned) shall be accordingly extended by the MSI till completion of Scope of Work as mentioned in RFP.

3.4.31 LIQUIDATED DAMAGES

- a) If MSI fails to supply, install or maintain any or all of the goods as per the contract, within the time period(s) specified in the RFP and the Service Levels provided in the Contract, the designated authority without prejudice to its other rights and remedies under the Contract, deduct from the Contract price, as liquidated damages, a sum equivalent to **0.02 % per week or part thereof of Contract Value for a milestone/quarter**. In case the MSI is not solely liable for the breach of the Timelines or the Service Levels, amount of liquidated damages shall be deducted on proportionate / pro rata basis depending upon the MSI's extent of fault in such breach of the Timelines or the Service Levels. The designated authority shall have the right to determine such extent of fault and liquidated damages in consultation with the MSI and any other party it deems appropriate.
- b) The deduction shall not in any case exceed **10 % of the contract value**. If the liquidated damages cross the cap on liquidated damages as mentioned above, the designated authority shall have the right to terminate the Agreement for default and consequences for such termination as provided in this Agreement shall be applicable.
- c) The designated authority may without prejudice to its right to effect recovery by any other method, deduct the amount of liquidated damages from any money belonging to MSI in its hands (which includes the designated authority's right to claim such amount against MSI's Bank Guarantee) or which may become due to MSI. Any such recovery or liquidated damages shall not in any way relieve MSI from any of its obligations to complete the Work or from any other obligations and liabilities under the Contract.
- d) Delay not attributable to MSI shall be considered for exclusion for the purpose of computing liquidated damages.
- e) Payment of liquidated damages shall not be the sole and exclusive remedies available to the designated authority and the MSI shall not be relieved from any obligations by virtue of payment of such liquidated damages. Each of the Parties shall ensure that the range of the Services/Deliverables under the SLA shall not be varied, reduced or increased except with the prior written agreement between the designated authority and the MSI in accordance with the provisions of Change Control set out in the Contract.

3.4.32 LIMITATION OF LIABILITY:

Limitation of Bidder's Liability towards the designated authority:

- a)** Neither Party shall be liable to the other Party for any indirect or consequential loss or damage (including loss of revenue and profits) arising out of or relating to the Contract.
- b)** The liability of the MSI (whether in contract, tort, negligence, strict liability in tort, by statute or otherwise) for any claim in any manner related to the Contract, including the work, deliverables or Goods and Services covered by the Agreement, shall be the payment of direct damages only which shall in no event in the aggregate exceed the Contract Value
- c)** Notwithstanding anything contained in the foregoing, the liability cap and exclusion for the MSI given under this Clause shall not be applicable to the breach of indemnification obligations, confidential obligations and breach committed by MSI to the safety and security measures as provided in the Contract.

3.4.33 OWNERSHIP AND RETENTION OF DOCUMENTS

- a)** The designated authority shall own the Documents, prepared by or for MSI arising out of or in connection with the Contract.
- b)** Forthwith upon expiry or earlier termination of this Contract and at any other time on demand by the designated authority, MSI shall deliver to the designated authority all documents provided by or originating from the designated authority and all documents produced by or for MSI in the course of performing the Services, unless otherwise directed in writing by the designated authority at no additional cost. MSI shall not, without the prior written consent of the **CSML** store, copy, distribute or retain any such documents.

3.4.34 INFORMATION SECURITY

- a)** MSI shall not carry any written/printed document, layout diagrams, CD, hard disk, storage tapes, other storage devices or any other goods /material proprietary to the designated authority into / out of any location without written permission from the designated authority. The designated authority. The MSI’s personnel shall follow the designated authority’s Information Security policy. The MSI acknowledges that the designated authority’s business data and other designated authority proprietary information or materials, whether developed by the designated authority or being used by the designated authority pursuant to a license agreement with a third party (the foregoing collectively referred to herein as “proprietary information”) are confidential and proprietary to the designated authority; and the MSI agrees to use reasonable care to safeguard the proprietary information and to prevent the unauthorized use or disclosure thereof, which care shall not be less than that used by the MSI to protect its own proprietary information.
- b)** MSI shall not destroy any unwanted documents, defective tapes/media present at any location on their own. All such documents, tapes/media shall be handed over to the designated authority.
- c)** All documentation and media at any location shall be properly identified, labeled and numbered by MSI. MSI shall keep track of all such items and provide a summary report of these items to the designated authority whenever asked for.
- d)** Access to designated authority’s data and systems, Internet facility by MSI at any location shall be in accordance with the written permission by the designated authority. The designated authority shall allow MSI to use facility in a limited manner subject to availability. It is the responsibility of MSI to prepare and equip himself in order to meet the requirements.
- e)** MSI must acknowledge that designated authority’s business data and other designated authority proprietary information or materials, whether developed by the designated authority or being used by the designated authority pursuant to a license agreement with a third party (the foregoing collectively referred to herein as “proprietary information”) are confidential and proprietary to designated authority; and MSI along with its team agrees to use reasonable care to safeguard the proprietary information and to prevent the unauthorized use or disclosure thereof, which care shall not be less than that used by MSI to protect its own proprietary information. MSI recognizes that the goodwill of designated authority depends, among other things, upon MSI keeping such

proprietary information confidential and that unauthorized disclosure of the same by MSI or its team could damage the goodwill of designated authority, and that by reason of MSI's duties hereunder. MSI may come into possession of such proprietary information, even though MSI does not take any direct part in or furnish the services performed for the creation of said proprietary information and shall limit access thereto to employees with a need to such access to perform the services required by this agreement. MSI shall use such information only for the purpose of performing the said services.

- f) MSI shall, upon termination of this agreement for any reason, or upon demand by designated authority, whichever is earliest, return any and all information provided to MSI by designated authority, including any copies or reproductions, both hardcopy and electronic.
- g) By virtue of the Contract, MSI team may have access to personal information of the designated authority and/or a third party. The designated authority has the sole ownership of and the right to use, all such data in perpetuity including any data or other information pertaining to the citizens that may be in the possession of MSI team in the course of performing the Services under the Contract

3.4.35 RECORDS OF CONTRACT DOCUMENTS

- a) MSI shall at all-time make and keep sufficient copies of the process manuals, operating procedures, specifications, Contract documents and any other documentation for him to fulfil his duties under the Contract.
- b) MSI shall keep on the Site at least three copies of each and every specification and Contract Document, in excess of his own requirement and those copies shall be available at all times for use by the designated authority's Representative and by any other person authorized by the designated authority's Representative.

3.4.36 SECURITY AND SAFETY

- a) The MSI shall comply with the technical requirements of the relevant security, safety and other requirements specified in the Information Technology Act or any other Applicable Law, IT Security Manual of the designated authority and the directions issued from time to time by the designated authority and follow the industry standards related to the security and safety, in so far as it applies to the provision of the Services.
- b) The Parties shall use reasonable endeavors to report forthwith in writing to each other all identified attempts (whether successful or not) by unauthorized persons (including unauthorized persons who are employees of any Party) either to gain access to or interfere with the designated authority as the case may be or any of their nominees data, facilities or the Confidential Information.
- c) MSI shall upon reasonable request by the designated authority, or its nominee(s) participate in regular meetings when safety and information technology security matters are reviewed.
- d) As per the provisions of the Contract, the MSI shall promptly report in writing to the designated authority or its nominated agencies, any act or omission which they are aware that could have an adverse effect on the proper conduct of safety and Information Technology security at the facilities of the designated authority as the case may be

3.4.37 CONFIDENTIALITY

- a) The designated authority may allow the MSI to utilize highly Confidential Information including confidential public records and the MSI shall maintain the highest level of secrecy, confidentiality and privacy with regard to such Confidential Information. The MSI shall use its best efforts to protect the confidentiality, integrity and proprietary of the Confidential Information. No member of MSI's Team shall, without prior written consent from the designated authority, make any use of any Confidential and Proprietary Information given by the designated authority, except for purposes of performing the Contract. Each member of MSI's Team shall keep all the Confidential and Proprietary Information, provided by the- designated authority to them or their respective employees as confidential.
- b) Additionally, the MSI shall keep confidential all the details and information with regard to the

Project, including systems, facilities, operations, management and maintenance of the systems/facilities. The MSI shall use the information only to execute the Project.

- c)** The designated authority shall retain all rights to prevent, stop and if required take the necessary punitive action against the MSI regarding any forbidden disclosure. The designated authority reserves the right to adopt legal proceedings, civil or criminal, against the MSI in relation to a dispute arising out of breach of obligation by the MSI under this clause.
- d)** The MSI shall execute a corporate non-disclosure agreement with designated authority in the format provided by the **CSML** and shall ensure that all its employees, agents and Sub-Contractors execute individual non-disclosure agreements, which have been duly approved by the designated authority with respect to this Project.
- e)** The MSI may only disclose the Confidential Information in the following circumstances:
 - i) with the prior written consent of the designated authority;
 - ii) to a member of the MSI's Team ("Authorized Person") provided the Authorized Person needs to know the Confidential Information for accomplishment of the Services and the Authorized Person has executed a confidentiality agreement with the designated authority prior to receiving such information (SI and every other member of MSI's Team shall ensure that such Authorized Person to whom such information is disclosed are bound by the similar confidentiality obligations as applicable to each member of MSI's Team. Disclosure to any such Authorized Person shall be made in confidence on need to know basis i.e., so far as may be necessary for such Authorized Person for the purposes of-performance of the obligations of the Contract); and
 - iii) if and to the extent that the MSI is compelled legally to disclose the Confidential Information.
- f)** When the MSI is aware of any steps being taken or considered to compel legally the MSI or an Authorized Person to disclose the Confidential Information, it shall:
 - i. to the extent legally permitted, defer and limit the disclosure with a view to preserving the confidentiality of the Confidential Information as much as possible;

- II. promptly notify the designated authority; and
 - III. do anything reasonably required by the designated authority to oppose or restrict that disclosure.
- g)** The MSI shall notify the designated authority promptly if it is aware of any disclosure of the Confidential Information otherwise than as permitted by the Contract or with the authority of the designated authority.
- h)** Any Confidential Information disclosed by MSI shall be treated as Confidential Information by the designated authority on the same terms and conditions above as applicable to the Confidential Information of the designated authority.
- i)** All documentation and media at the respective Datacenter Sites shall be properly identified, labelled and numbered by the MSI. MSI shall keep track of all such items and provide a summary report of these items to the designated authority on a monthly basis.
- j)** The obligations of confidentiality under the Contract shall remain in force for the Term of the Contract and shall survive for a period of three (3) years after expiry of the Term or earlier termination.
- k)** Obligations under this clause shall not apply to any information which is:
- (a) Previously known to the MSI at the time of disclosure without obligation of confidentiality,
 - (b) Independently developed by MSI and not derived from the Confidential Information supplied by the MSI or the participation of individuals who have had access to Confidential Information,
 - (c) disclosed to MSI by a third party without an obligation of confidentiality
 - (d) In or subsequently comes into the public domain (other than as a result of a breach of the Contract); or
 - (e) required to be disclosed by the MSI by law, regulation, court order or other legal process, provided, where legally permissible, MSI provides written notice to the designated authority prior to such disclosure and provide reasonable assistance to the designated authority in

retaining the confidentiality of such information.

3.4.38 EVENTS OF DEFAULT BY MSI

- a) The failure on the part of MSI to perform any of its obligations or comply with any of the terms of the Contract shall constitute an Event of Default on the part of MSI. The events of default are but not limited to:
- i. MSI/ Bidder's Team has failed to perform the obligations under the Contract failed to execute the Scope of Work or provide Services under the Contract, or
 - ii. MSI/ Bidder's Team has failed to confirm / adhere to any of the key performance indicators as laid down in the RFP and in the Contract. The above mentioned failure on the part of MSI may be in terms of failure to adhere to performance, quality, timelines, specifications, requirements or any other criteria as defined by the designated authority;
 - iii. MSI has failed to remedy a defect or failure to perform its obligations in accordance with the specifications issued by the designated authority, despite being served with a default notice which laid down the specific deviance on the part of MSI/ MSI's Team to comply with any stipulations or standards as laid down by the designated authority; or
 - iv. MSI/ MSI's Team has failed to adhere to any amended direction, instruction, modification or clarification as issued by the designated authority during the Term of this Contract and which the designated authority deems proper and necessary for the execution of the Scope of Work under this Contract
 - v. MSI/ MSI's Team has failed to demonstrate or sustain any representation or warranty made by it in this Contract, with respect to any of the terms of its Bid, the RFP and this Contract
 - vi. There is a proceeding for bankruptcy, insolvency, winding up or there is an appointment of receiver, liquidator, assignee, or similar official against or in relation to MSI.
 - vii. MSI/ Bidder's Team has failed to comply with or is in breach or contravention of any

Applicable Laws.

- viii. Undue delay in achieving the agreed timelines for delivering the services under the Contract.
 - ix. Quality of Deliverables and services consistently not being to the satisfaction of the designated authority;
- b)** Where there has been an occurrence of such defaults inter alia as stated above, the designated authority shall issue a notice of default to SI, setting out specific defaults / deviances / omissions / non-compliances / non-performances and providing a notice of thirty (30) days to enable such defaulting party to remedy the default committed.
- c)** Where despite the issuance of a default notice to MSI by the designated authority, SI fails to remedy the default to the satisfaction of the designated authority, the designated authority may, where it deems fit, issue to the defaulting party another default notice or proceed to contract termination
- d) Consequences for Events of Default**

Where an Event of Default subsists or remains uncured, the designated authority shall be entitled to:

- i) Impose any such obligations and conditions and issue any clarifications as may be necessary to, inter alia, ensure smooth continuation of the Services and the project which the MSI shall be obliged to comply with, which may include unilateral re-determination of the consideration payable to the MSI under the Contract. The MSI shall in addition take all available steps to minimize loss resulting from such event of default.
- ii) Suspend all payments to the MSI under the Agreement by written notice of suspension to the MSI provided that such notice of suspension shall (a) specify the nature of failure; and (b) request the MSI to remedy such failure within a specified period from the date of receipt of such notice of suspension by the SI
- iii) Where the designated authority deems it necessary, it shall have the right to require replacement of any of the Sub-Contractors (If allowed / applicable) with another suitable sub-

contractor. The Sub- Contractor/ MSI shall in such case terminate forthwith all their agreements/contracts, other arrangements with such Sub-Contractor and find out the suitable replacement for such outgoing subcontractor with another Sub-Contractor (If allowed / applicable) to the satisfaction of the designated authority, who shall execute such contracts with the designated authority as the designated authority may require. Failure on the part of the MSI to find a suitable replacement and/or terminate all agreements/contracts with such member, shall amount to a breach of the terms hereof and the designated authority in addition to all other rights, have the right to claim damages and recover from the MSI all losses/ or other damages that may have resulted from such failure.

- iv) Terminate the Contract in full or in part.
- v) Retain such amounts from the payment due and payable by the designated authority to the MSI as may be required to offset any losses caused to the designated authority as a result of such event of default and the MSI shall compensate the designated authority for any such loss, damages or other costs, incurred by the designated authority in this regard. Nothing herein shall effect the continued obligation of the subcontractor (If allowed / applicable) / other members of its Team to perform all their obligations and responsibilities under the Contract in an identical manner as were being performed before the occurrence of the default.
- vi) Invoke the Performance Bank Guarantee and other Guarantees furnished hereunder, enforce indemnity provisions, recover such other costs/losses and other amounts from the MSI which may have resulted from such default and pursue such other rights and/or remedies that may be available to the designated authority under law.

3.4.39 TERMINATION

- a) The designated authority may, terminate this Contract in whole or in part by giving MSI a prior and written notice indicating its intention to terminate the Contract under the following circumstances:

- i) Where the designated authority is of the opinion that there has been such Event of Default on the part of MSI / MSI's Team which would make it proper and necessary to terminate the Contract and may include failure on the part of MSI to respect any of its commitments with regard to any part of its obligations under its Bid, the RFP or under the Contract.
 - ii) Where it comes to the designated authority's attention that MSI (or MSI's Team) is in a position of actual conflict of interest with the interests of the designated authority, in relation to any of terms of MSI's Bid, the RFP or this Contract.
 - iii) Where MSI's ability to survive as an independent corporate entity is threatened or is lost owing to any reason whatsoever, including inter-alia the filing of any bankruptcy proceedings against SI, any failure by MSI to pay any of its dues to its creditors, the institution of any winding up proceedings against MSI or the happening of any such events that are adverse to the commercial viability of MSI. In the event of the happening of any events of the above nature, the designated authority shall reserve the right to take any steps as are necessary, to ensure the effective transition of the sites pilot site to a successor agency, and to ensure business continuity
 - iv) The designated authority may terminate the Contract Agreement due to reason specified in [clause 3.4.38](#);
 - v) The designated authority may terminate the Agreement if it comes to knowledge of the designated authority that the MSI or any of the MSI's personnel or the MSI's Sub-Contractors(If allowed / applicable) or such Sub-contractor's personnel have been involved in any fraudulent or corrupt practices or any other practice of similar nature.
- b) Termination for Insolvency:** The designated authority may at any time terminate the Contract by giving written notice to SI, without compensation to SI, if MSI becomes bankrupt or otherwise insolvent, provided that such termination shall not prejudice or affect any right of action or remedy which has accrued or shall accrue thereafter to the designated authority.
- c)** MSI may, subject to approval by the designated authority, terminate this Contract before the expiry of the Term by giving the designated authority a prior and written notice at least 3

months in advance indicating its intention to terminate the Contract.

3.4.40 CONSEQUENCE OF TERMINATION

1. In the event of termination of the Contract due to any cause whatsoever, whether consequent to the stipulated Term of the Contract or otherwise the designated authority shall be entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the project which MSI shall be obliged to comply with and take all available steps to minimize loss resulting from that termination/breach, and further allow and provide all such assistance to the designated authority and/or the successor agency/ service provider, as may be required, to take over the obligations of MSI in relation to the execution/continued execution of the requirements of the Contract.
2. Where the termination of the Contract is prior to its stipulated Term on account of a Default on the part of MSI or due to the fact that the survival of MSI as an independent corporate entity is threatened/has ceased, or for any other reason, whatsoever, the designated authority, through unilateral re-determination of the consideration payable to MSI, shall pay MSI for that part of the Services which have been authorized by the designated authority and satisfactorily performed by MSI up to the date of termination. Without prejudice to any other rights, the designated authority may retain such amounts from the payment due and payable by the designated authority to MSI as may be required to offset any losses caused to the designated authority as a result of any act/omissions of MSI. In case of any loss or damage due to default on the part of MSI in performing any of its obligations with regard to executing the Schedule of Requirements under the contract, MSI shall compensate the designated authority for any such loss, damages or other costs, incurred by the designated authority. Additionally, members of its team shall perform all its obligations and responsibilities under the Contract in an identical manner as were being performed before the collapse of MSI as described above in order to execute an effective transition and to maintain business continuity. All third parties shall continue to perform all/any functions as

stipulated by the designated authority and as may be proper and necessary to execute the Schedule of Requirements under the Contract in terms of MSI's Bid, the Bid Document and the Contract

3. Nothing herein shall restrict the right of the designated authority to invoke the Bank Guarantee and other Guarantees furnished hereunder and pursue such other rights and/or remedies that may be available to the designated authority under law.
4. The termination hereof shall not affect any accrued right or liability of either Party nor affect the operation of the provisions of the Contract that are expressly or by implication intended to come into or continue in force on or after such termination.
5. Any and all payments under this clause shall be payable only after the MSI has complied with and completed the transition and exit management as per the Exit Management Plan to the satisfaction of the designated authority. In case of expiry of the Agreement, the last due payment shall be payable to the MSI after the MSI has complied with and completed the transition and exit management as per the Exit Management Plan to the satisfaction of the designated authority.

3.4.41 CHANGE CONTROL NOTE (CCN)

- a) This applies to and describes the procedure to be followed in the event of any proposed change to contract, site Implementation, and Service levels. Such change shall include, but shall not be limited to, changes in the scope of services provided by MSI and changes to the terms of payment.
- b) Change requests in respect of the contract, the site implementation, or the Service levels shall emanate from the Parties' representative who shall be responsible for obtaining approval for the change and who shall act as its sponsor throughout the Change Control Process and shall complete **Part A of the CCN (Annexure 11 of the RFP)**. CCNs shall be presented to the other Party's representative who shall acknowledge receipt by signature of the authorized representative of Authority.

- c) MSI and the Authority while preparing the CCN, shall consider the change in the context of whether the change is beyond the scope of Services including ancillary and concomitant services required. The CCN shall be applicable for the items which are beyond the stated/implied scope of work as per the RFP document.
- d) MSI shall assess the CCN and complete **Part B of the CCN. In completing Part B of the CCN(Annexure 11 of the RFP).** MSI/Lead Bidder shall provide as a minimum:
- a description of the change;
 - a list of deliverables required for implementing the change;
 - a timetable for implementation;
 - an estimate of any proposed change; or any relevant acceptance criteria;
 - an assessment of the value of the proposed change;
 - Material evidence to prove that the proposed change is not already covered within the scope of the RFP, Agreement and Service Levels.
- e) Prior to submission of the completed CCN to the authority, MSI shall undertake its own internal review of the proposal and obtain all necessary internal approvals. As a part of this internal review process, MSI shall consider the materiality of the proposed change in the context of the Agreement, the sites, Service levels affected by the change and the total effect that may arise from implementation of the change.
- f) Each Party shall be responsible for its own costs incurred in the quotation, preparation of CCNs and in the completion of its obligations described in this process provided MSI meets the obligations as set in the CCN. In the event MSI is unable to meet the obligations as defined in the CCN then the cost of getting it done by third party shall be borne by MSI. Change requests and CCNs shall be reported monthly to each Party's representative who shall prioritize and review progress.
- g) Authority after approving change request will consider it for consideration of the payment

in next payment cycle.

3.4.42 QUOTATION

- a)** MSI shall assess the CCN and **complete Part B of the CCN ([Annexure 11 of the RFP](#))**. In completing Part B of the CCN SI/Lead Bidder shall provide as a minimum a description of the change;
- a list of deliverables required for implementing the change; a timetable for implementation;
 - an estimate of any proposed change; any relevant acceptance criteria;
 - an assessment of the value of the proposed change;
 - Material evidence to prove that the proposed change is not already covered within the scope of the RFP, Agreement and Service Levels.
- b)** Cost for the change request in CCN will be included in the subsequent invoice of the next month.
- c)** Prior to submission of the completed CCN to the designated City SPV authority or its nominated agencies, MSI shall undertake its own internal review of the proposal and obtain all necessary internal approvals. As a part of this internal review process, MSI shall consider the materiality of the proposed change in the context of the Agreement, the sites, Service Levels affected by the change and the total effect that may arise from implementation of the change.
- d)** Each Party shall be responsible for its own costs incurred in the quotation, preparation of CCNs and in the completion of its obligations described in this process provided MSI meets the obligations as set in the CCN. In the event MSI is unable to meet the obligations as defined in the CCN then the cost of getting it done by third party shall be borne by MSI. Change requests and CCNs shall be reported monthly to each Party's representative who shall prioritize and review progress.

SERVICE LEVELS

3.4.43 PURPOSE

- a) The purpose is to define the levels of service provided by MSI to the designated authority for the duration of the contract. The benefits of this are:
- b) Start a process that applies to the designated authority and MSI attention to some aspect of performance, only when that aspect drops below the threshold defined by the designated authority
- c) Help the designated authority control the levels and performance of MSI's services
- d) The Service Levels are between the CSML and MSI.

3.4.44 SERVICE LEVEL AGREEMENTS & TARGETS

- a) This section is agreed to by the designated authority and MSI as the key performance indicator for the project. This may be reviewed and revised according to the procedures detailed in [Clause 3.4.41 3.4.42 and 3.4.51 for SLA Change Control](#).
- b) The following section reflects the measurements to be used to track and report system's performance on a regular basis. The targets shown in the following tables are for the period of contact.
- c) The procedures in [Clause 3.4.46](#) shall be used if there is a dispute between the designated authority and MSI on what the permanent targets should be.

3.4.45 GENERAL PRINCIPLES OF SERVICE LEVEL AGREEMENTS

The Service Level agreements have been logically segregated in the following categories:

- a) **Liquidated Damages:** The liquidated damages shall come into effect once the notification of Award has been issued by the designated authority. It would be mainly applicable on the implementation phase of the project.

- b) **Service Level Agreement:** SLA would be applicable during the implementation and during operations and maintenance phase of the project. The penalties shall be applicable on Operations & Maintenance cost of the project calculated quarterly

3.4.46 SERVICE LEVELS AGREEMENT (SLA) AND MONITORING:

- a) Service Level Agreement (SLA) shall become the part of contract between the designated authority and the Successful bidder. SLA defines the terms of the successful Bidder's responsibility in ensuring the timely delivery of the deliverables and the correctness of the same based on the agreed Performance Indicators as detailed in this section.
- b) The successful bidder must comply with Service Levels requirements to ensure adherence to project timelines, quality and availability of services, throughout the period of this contract i.e. **during implementation phase and for a period of five (5) years (O & M period)**. The successful bidder must supply appropriate software/hardware/ automated tools which can centrally collect performance data from the underline monitoring systems across all applications to measure and report the performance of SLA & penalty calculations. This tool should be platform agnostic.
- c) The Service Level parameters shall be monitored on a periodic basis, as per the individual parameter requirements. MSI shall be responsible for providing appropriate web based online SLA measurement and monitoring tools for the same. MSI shall be expected to take immediate corrective action for any breach in SLA. In case issues are not rectified to the complete satisfaction of the designated authority, within a reasonable period of time defined in this RFP, then the CSML shall have the right to take appropriate penalizing actions, or termination of the contract.
- d) For purposes of the SLA, the definitions and terms as specified in the document along with the following terms shall have the meanings set forth below:
 - i) **"Total Time"** - Total number of hours in the quarter (or the concerned period) being considered for evaluation of SLA performance.

- ii) **"Uptime"** – Time period for which the specified services/ outcomes are available in the period being considered for evaluation of SLA. Formulae for calculation of Uptime: $\text{Uptime}(\%) = \{1 - [(\text{Downtime}) / (\text{Total time} - \text{scheduled maintenance time})]\} * 100$
- iii) **"Downtime"**- Time period for which the specified services/ components/ outcomes are not available in the concerned period, being considered for evaluation of SLA, which would exclude downtime owing to Force Majeure & Reasons beyond control of the successful bidder.
- iv) **"Scheduled Maintenance Time"** - Time period for which the specified services/ components with specified technical and service standards are not available due to scheduled maintenance activity. The successful bidder is required to take at least 10 days prior approval from the designated authority for any such activity. The scheduled maintenance should be carried out during non-peak hours (like post mid-night, and should not be for more than 4 hours. Such planned downtime would be granted max 4 times a year.
- v) **"Incident"** - Any event / abnormalities in the service being rendered, that may lead to disruption in normal operations and services to the end user
- vi) **"Response Time"** - Time elapsed from the moment an incident is reported in the Helpdesk over phone or by any applicable mode of communication, to the time when a resource is assigned for the resolution of the same.
- vii) **"Resolution Time"** - Time elapsed from the moment incident is reported to Helpdesk either in person or automatically through system, to the time by which the incident is resolved completely and services as promised are restored.

3.4.47 PENALTIES :

- a) **A maximum level of performance penalties is established and described in the section**

- b) Performance Penalty for not meeting a measurement parameter for any two months in consecutive quarters shall result in twice the penalty percentage of that respective measurement parameter in the quarter for all the three months**
- c) Maximum Penalty applicable for any quarter shall not exceed 10% of the applicable fees for the respective month.**
- d) Three consecutive quarterly deductions of 10 % of the applicable fee on account of any reasons shall be deemed to be an event of default and termination.**
- e) The payment to the agency shall be on monthly basis and the penalty shall also be calculated on monthly basis as per the SLAs stated in the RFP.**

3.4.48 MEASUREMENT OF SLA

The SLA metrics provided specifies performance parameters as baseline performance, lower performance and breach. All SLA calculations will be done on quarterly basis. The SLA also specifies the liquidated damages for lower performance and breach conditions.

Payment to the MSI is linked to the compliance with the SLA metrics. The matrix specifies three levels of performance, namely,

- a)** The MSI will get 100% of the Contracted value if all the baseline performance metrics are compiled and the cumulative credit points are 100.
- b)** The MSI will get lesser payment in case of the lower performance. (For e.g. if SLA point score is 80 then the MSI will get 20% less on the monthly payment – The formula calculating the deductions is $-(100 - \text{SLA Point Score})\%$)
- c)** If the performance of the Agency in respect of any parameter falls below the prescribed lower performance limit, debit points are imposed for the breach.

The credit (+) points earned during the quarter will be considered for computing penalty. The monthly payment shall be made after deducting the liquidated damages as mentioned above.

The aforementioned SLA parameters shall be measured as per the individual SLA parameter requirements and measurement methods, through appropriate SLA Measurement tools to be provided by the MSI and approved and audited by the designated authority or its appointed Consultant for accuracy and reliability.

CSML shall also have the right to conduct, either itself or through any other agency as it may deem fit, an audit / revision of the SLA parameters. The SLAs defined, shall be reviewed by the designated authority on an annual basis after consulting the SI, Project Management Consultants and other experts. All the changes would be made by the designated authority after consultation with the MSI and might include some corrections to reduce undue relaxation in Service levels or some corrections to avoid unrealistic imposition of liquidated damages, which are noticed after project has gone live.

Total liquidated damages to be levied on the MSI shall be capped at 10% of the total contract value. However, the designated authority would have right to invoke termination of the contract in case the overall liquidated damages equals 10% of total contract value. Liquidated damages to be levied during Post Implementation period shall be capped at 10% of the OPEX value. The designated authority would also have right to invoke termination of contract in case cumulative debit point (breach points) are above 30 in 2 consecutive quarters.

(i) SLA During Implementation Stage

	Definition	Timely delivery of deliverables would comprise entire bill of material and the application systems, and as per successful UAT of the same.
	Service Level Requirement	All the deliverables defined in the contract has to be submitted On-time on the date as mentioned in the contract with no delay.

Measurement of Service Level Parameter	To be measured in Number of weeks of delay from the timelines mentioned in the section “Project Timelines”
Penalty for non-achievement of SLA Requirement	Any delay in the delivery of the project deliverables (solely attributable to vendor) would attract a liquidated damage per week of 0.2% of the Total CAPEX of Request Order value per week for first 8 weeks and 0.3% per week for every subsequent week. If the liquidated damage reaches 10% of the total contract value, Authority may invoke termination clause. Liquidated damage will be computed on Total Capex value of contract/Request order value of the particular phase

(ii) Post Implementation SLA

Sl no.	Performance Area	Metric	Points	Metric	Points	Metric	Points
1	Overall application(s) Availability of COTS integrated Platform and other applications	99%	20	>= 96.5 % to <99%	10	< 96.5 %	0
2	Reports Generation Response Time (Alerts/MIS/Logs etc.)	Simple query - <5secs Medium Complexity query - <30 secs	5	Simple Complexity Query=5.01-10 secs Medium complexity Query-30.01-60 secs	2.5	Simple Complexity Query=>10 secs Medium complexity Query=>60 secs	0

Sl no.	Performance Area	Metric	Points	Metric	Points	Metric	Points
		High Complexity query - < 1min		High Complexity query =<60.1 sec-2 min		High Complexity query =-2 min	
3	Maximum time for successful settings modification of field devices	<4 secs	5	4.01-6.0 secs	2.5	>6 secs	0

(i) GENERAL INSTRUCTIONS RELATED TO SLAs MENTIONED ABOVE

- a) Theft cases by default would not be considered as “beyond the control of Bidder”. However, certain cases, based on circumstances & certain locations, the designated authority /End user department may agree to qualify as “beyond the control of Bidder”.
- b) Power shut down would not be considered as “beyond the control of Bidder”.
- c) Damages due to Road Accident / Mishap shall be considered as “beyond the control of Bidder”.
- d) Deliberate damage to field devices: camera, Pole etc. would not be considered as “beyond the control of Bidder”
- e) Bidder is also required to note that in case of SLAs not being made applicable for cases considered as “beyond the control of bidders”, Bidder would still need to replace the component (if it is not functional as per SLA) within the SLA defined for Resolution. of Critical Level / Medium Level / Low level issues. In case bidder doesn’t adhere to the Issue Resolution SLA timelines, the original SLA shall be made applicable.

3.4.49 REPORTING PROCEDURES

- a) SI representative shall prepare and distribute Service level performance reports in a mutually agreed format by the 5th working day of subsequent month. The reports shall include “actual versus target” Service Level Performance, a variance analysis and discussion of appropriate issues or significant events. Performance reports shall be submitted to Authority along with monthly invoice.
- b) Also, MSI may be required to get the Service Level performance report audited by a third-party Auditor appointed by the designated authority.

3.4.50 ISSUE MANAGEMENT PROCEDURES

(i) General

This process provides an appropriate management structure for the orderly consideration and resolution of business and operational issues in the event that quick consensus is not reached between the designated authority and Bidder

Implementing such a process at the beginning of the outsourcing engagement significantly improves the probability of successful issue resolution. It is expected that this pre-defined process shall only be used on an exception basis if issues are not resolved at lower management levels.

(ii) Issue Management Process

- a) Either the designated authority or MSI may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.
- b) Any unresolved issues/disputes concerning the Project/Contract between the Parties shall first be referred in writing to the Project Manager for his consideration and resolution. If the Project Manager is unable to resolve any issue/dispute within 5 days of reference to them, the Project Manager shall refer the matter to the Program Management Committee. If the Program Management Committee is unable to resolve the issues/disputes referred to them within 15 days the unresolved issue/dispute shall be referred to Steering Committee / high powered committee/Project Implementation Committee for resolution. The Steering Committee within 30

days of reference to them shall try to resolve the issue/dispute.

- c) If the Steering Committee fails to resolve a dispute as per the above clause, the same shall be referred to arbitration. The arbitration proceedings shall be carried out as per the Arbitration procedures mentioned in Clause 18 of this section of RFP.

3.4.51 SERVICE LEVEL CHANGE CONTROL

(i) General

It is acknowledged that this Service levels may change as the designated authority's business needs will evolve over the course of the contract period. As such, this document also defines the following management procedures:

- a) A process for negotiating changes to the Service Levels
- b) An issue management process for documenting and resolving particularly difficult issues.
- c) The designated authority and Bidder management escalation process to be used in the event that an issue is not being resolved in a timely manner by the lowest possible level of management.
- d) Any changes to the levels of service provided during the term of this Agreement shall be requested, documented and negotiated in good faith by both parties. Either party can request a change.

(ii) Service Level Change Process:

The parties may amend Service Level by mutual agreement in accordance. Changes can be proposed by either party. Unresolved issues shall also be addressed. MSI's representative shall maintain and distribute current copies of the Service Level document as directed by the designated authority. Additional copies of the current Service Levels shall be available at all times to authorized parties.

(iii) Version Control / Release Management:

All negotiated changes shall require changing the version control number. As appropriate, minor changes may be accumulated for periodic release or for release when a critical threshold of change has occurred

4. Special Conditions of Contract (SCC)

4.Special Conditions of Contract (SCC)

4.1 SCOPE OF WORK

Scope of work includes, supply, install, testing, trial run and commissioning and carry out defect liability period (DLP) including Operation and Maintenance for 3 years (including associated purchases and services) including support during defects liability period and guarantee period of the equipment of the description, specifications and drawings, and in the quantities set forth in the contract on the date or dates specified therein.

Name of work under this tender are **“Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi”** as listed out in the Bill of Quantities and technical specifications.

The items of supply have to satisfy the technical specifications mentioned for each item.

1. The material shall be supplied and installed by the contractor at Kochi as per the details indicated in Scope of work / Technical Specifications.

2. The price quoted by the tenderer includes all cost like transportation, loading, unloading fixing, Installation, testing, trial run and commissioning at the premises / site mentioned in this tender including operation and maintenance for 5 years as detailed in bill of quantities and technical specifications.
3. CSML reserves the right to blacklist a bidder for a suitable period in case of failure to honor their bid without sufficient ground.
4. No sub-contracting is permissible.
5. Samples Upon request from CSML of the Items may be shown to CSML, and got approved before effecting supplies.
6. CSML reserve the right to reject any or all the Tenders in full or part without assigning any reasons and the decision of CSML shall be final and is binding on all Concerned. No appeal against the decision of the CSML shall be entertained.

The incidental services to be provided are as under. The costs shall be included in the contract price:

- (i) On-site assembly, installation, erection and commissioning of the supplied equipment.
- (ii) Furnishing of system design and efficiency characteristics required for development and/or maintenance of the supplied Goods
- (iii) Furnishing of three sets of detailed operations and maintenance manual for each appropriate unit of the supplied goods and equipment.
- (iv) Furnishing the tools required for assembly and/or maintenance of the supplied equipments.

On-site training of minimum 20 No's of personnel designated by Employer, in the installation, operation maintenance and repair of established system. Training shall be provided for 3 month prior to completion of O & M contract period

4.2 WORK PROGRAM

Within 7 days of the acceptance of the tender (receipt of letter of acceptance) the Supplier shall submit to the Purchaser for his approval 3 copies of a detailed programme in the form of a bar chart showing the all activities of manufacture, supply and delivery of the **various components of IC4**.

Details to be shown in the programme shall include such items as preparation and submission of drawings, placing of works orders (Suppliers own sub-supplier's), tests at place of manufacture, deliveries to Site. The programme shall be updated from time to time throughout the Contract period as required by the Purchaser, on the basis of revisions approved by the Purchaser following discussions with the Supplier. The programme shall be consistent with the delivery schedule specified in this bid.

4.3 PROGRESS REPORT

The Supplier /MSI shall submit during the first week of each month a progress report in such form that actual progress to the end of the preceding month may be compared with the approved programme.

4.4 WARRANTY / GUARANTEE AND REPLACEMENT:

The MSI /contractor shall warranty that everything to be furnished under this contract shall be free from defects and faults in. design, materials, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for goods of the type ordered and in full conformity with the contract specifications and samples, if any and shall if operable, operate properly. This warranty shall commence from the date of issue of acceptance certificate of the delivery. It shall be **Five year Year** from the date of issue of acceptance certificate of the product. The contractor's liability in respect of any complaints/defect and/or claims shall be limited to the furnished and installation of replacement parts free of any charge to the extent that such replacement are attributable to or arise from faulty workmanship of materials or design in the manufacture of the equipment, or wear and tear during normal use, provided that the defects are brought to the notice of the contractor within the warranty period. The warranty herein contained shall not apply any material which shall have been repaired or altered

by the CSML or on his behalf if anyway without the consent of the contractor so as to affect its strength, performance of reliability or to any defect to any part due to misuse, negligence or accident. All replacement and repairs at the CSML shall call upon the contractor to deliver or perform under this warranty shall be delivered and performed by the contractor promptly and satisfactorily. If the contractor desires, the replaced products can be taken over by them for disposal as they deem fit within period of one month from the date of replacement. At the expiry of this period, no claim whatsoever shall be on the CSML. The decision of the CSML in regard to contractor's liability and the amount, if any, payable under this warranty shall be final and conclusive.

All the **Components of ICCCC including connected accessories** shall be guaranteed for satisfactory usage, free of defects for a continuous period of **5 (Five) years** from the date of receipt of product in good condition at site.

Any defects noticed during this period shall be rectified / replaced free of cost at the concerned location within 1 (one) week from the date of receipt of intimation of defect/failure from the said location.

A written guarantee, guaranteeing the CSML against defects in the materials supplied, either in materials or workmanship should be furnished for a period of **5 (Five) years for Components of ICCCC including connected accessories** from the date of receipt of materials at site in good condition.

Any defects or failure occurring within the guarantee period due to faulty design, poor workmanship and bad quality of raw materials used shall be rectified within a week / replaced on free of cost within two (2) weeks on receipt of intimation from authority on such defects or failures. If they are not rectified or replaced within this period, the contractor shall pay the liquidated damages as per the liquidated damages clause in the contract for the delay from the date of receipt of intimation for the defects or failures. A Guarantee certificate in the above form shall be submitted along with the initial bill of the supplied items. Any expenditure incurred in the transportation of various **Components of ICCCC including connected accessories** for rectification or replacement will be to the suppliers account.

4.5 SUPPLY OF MATERIALS AND SPECIFICATIONS:

All the materials to be supplied and used for execution of work /assignment shall be to the technical specification mentioned in the contract. Supply of all the ordered **Components of ICCCC including connected accessories** shall be completed within the time schedule specified in the purchase order/ LOA/ Contract agreement. The entire quantity of the quality of various **Components of ICCCC including connected accessories** shall be delivered and installed (if required) at the designated locations in Kochi in good condition. The Transit / Freight Charges, Insurance, all the Taxes including GST, Loading and Unloading charges and all other incidental charges for the supply and delivery of the ordered goods in good condition to the designated locations shall be borne by the Contractor at his own risk and cost. In case of the Contractor from the states other than Kerala, it shall be their responsibility to get necessary interstate permit for the delivery of the ordered goods in time. The working models should be commissioned in the presence of receiving officials.

4.6 INSPECTIONS & TESTING AT MANUFACTURERS PREMISES

Contractor should enable CSML to inspect the materials being supplied by him before they are supplied /delivered upon request from CSML. Where ever standards mentioned as ISI, the same means as BIS (Bureau of Indian Standards) as applicable for such material/ work.

After ensuring that all equipments are ready for inspection, the Purchaser / Employer shall be informed for Inspection and Testing of the equipments. The successful supplier shall arrange to supply one set of complete packages at the manufacturing site in conformity to specifications for ensuring the quality for the entire supply. The Purchaser / a committee comprising of officials from the concerned department / purchaser appointed inspection agency will inspect and certify the quality of specified Equipment as per relevant latest Indian/International Standards and mutually agreed quality assurance plan. The Supplier shall be responsible to obtain permission and provide all facilities to carry out such testing as required and obtain all required permission for successful inspection and testing.

A mutually agreed quality assurance plan will be developed which provides for inspection and certification by the inspection agency at specified times during/after the manufacture, fabrication and assembly of such items.

Inspecting authorities shall certify each of the supply for adherence to the specified standards which is mandatory for payment.

The Supplier shall at his own or manufacturers cost at manufacturers premises provide the necessary gauges/instruments, supply and prepare for all tests and supply all lab our and apparatus for testing which may be necessary for carrying out the tests as required for the equipment specified.

The Purchaser reserves the right to reject any Equipment for lack of independent testing. A certificate shall be produced by the Supplier at time of carrying out every test showing the readings obtained, all calculations and full details of the calibration certification referred to. No item required to be tested shall be forwarded to the delivery site, until its test certificate has been approved in writing by the Purchaser. Six copies of the works test / inspection certificates shall be submitted.

If the workmanship found defective or performance is not as per specified conditions, the Supplier shall take immediate steps to rectify the deficiency to the required standards and offered for re-testing.

4.7 INSURANCE:

The delivery of the **Components of ICCCC including connected accessories** in fully packed and labeled condition as per the statutory norms and the specifications given in the Tender Document to the designated destinations on time shall be the responsibility of the Contractor. The transit loss/theft/pilferage/damage of the goods under any circumstances shall be the liability of the Contractor. Insurance and transit insurance of the goods shall be the liability of the Contractor.

4.8 PACKING AND LABELING:

The packing shall conform to relevant packing standards. The contractor should however, ensure that the materials reach their destination without damage/loss during transit by Rail or Road and subsequent storage. Each item shall be packed in a box of appropriate size to avoid damage/breakage. Appropriate

quantity of item shall be packed in a corrugated box with sufficient buffer to avoid any damage during transit. Each corrugated box shall be labeled and the label shall contain the following: NOT FOR SALE, Handle with care, **“Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi”** by the CSML, Contractor’s company code No., Quantity, Serial Number, Date, Month and Year of manufacturing.

4.9 DESIGN

Offered equipment shall be of reputed make and proven design. The Supplier shall design the equipment to the Purchaser’s requirement and in accordance with the requirement detailed below. The design shall be in accordance with the best modern practice and shall facilitate inspection, cleaning and lubrication and repair to ensure satisfactory operation under all service conditions. The equipment or any part thereof may be of the Supplier’s standard design provided that such design is generally in accordance with the specification. The Suppliers design calculations, if called for, shall be submitted to the Purchaser. Approval by the Purchaser of the Supplier’s design or drawings shall not relieve the Supplier of any of his obligations or liabilities under this contract.

4.10 DRAWINGS - GENERAL

All drawings provided by the Supplier shall be of size A1 within a border of 810 mm x 560 mm in the form of black lines in a white background and shall show the following particulars in addition to the Supplier’s Name, Date, Scale, Number and Title:

CSML

Contract No:

4.11 PRELIMINARY DRAWINGS

The Supplier shall submit 3 (THREE) prints of preliminary drawings showing the layout and dimension of the Equipments / proposed components of ICCCC, and all other necessary details to the Purchaser.

4.12 DETAILED DRAWINGS

The Supplier shall submit to the Purchaser 3 (THREE) prints of all working drawings and such general and detailed drawings as the Purchaser may require from time to time. These shall include details of Equipments / proposed components of ICCCC etc. These drawings (together with any of the said Preliminary Drawings which may be necessary), having been corrected or amended as necessary to the Purchaser's approval, shall become the Approved Drawings to be used for manufacturing of the Equipment. Any other drawing as required by the Purchaser shall be submitted by the Supplier.

Unless specific instructions are given by the Purchaser in writing, no drawings other than Approved Drawings shall be used for the manufacture of the Equipment.

4.13 RECORD DRAWINGS

Drawings shall show whole of the Equipments / proposed components of ICCCC as assembled. Further these shall also show all major sub-assemblies.

4.14 INSTRUCTION MANUALS

The MSI shall provide 3 bounded sets of approved Instruction Manuals. All descriptive leaflets, instruction sheets, charts, lists, pamphlets and other documents that are used in compiling each manual shall be contained in one or more binders designed to prevent loss of contents. Each bounded copy shall be titled with the name of the Purchaser, the name of the Equipment, the Contract number, the name of the MSI and with information to identify the subject matter and shall include a detailed index to all literature contained therein. The instruction Manuals shall be approved in draft form initially by the Purchaser. The Instruction Manuals shall comprise both operating instructions and maintenance instructions.

A separate section of the manuals shall be devoted to each type of equipment. It shall contain a detailed description of its construction and operation and shall include all relevant pamphlets and lists of parts with procedure for ordering spares. The detailed sections of the manual, if necessary, shall contain further maintenance instructions and fault location and diagnosis charts. The manuals shall be printed on

A4 size sheets and bound in twin lock binders. Reduced size of Record Drawings shall be included in the Manuals.

The operating instruction shall include the following:

- a) Step by step direction on setting the equipment to work listing all adjustments and setting necessary for the correct functioning of the equipment.
- b) Instructions on monitoring of equipment performance and sample log sheets for each item of equipment, to be completed by operators on a routine basis.
- c) “Do’s and Don’ts” in equipment operations, operators’ attention shall be drawn to all operations considered to be dangerous to operators of likely to cause damage to the equipment.

The maintenance instructions shall include the following:

- a) Checking; testing and replacement procedures to be carried out on all mechanical and electrical items on a daily, weekly and monthly basis or at longer intervals to ensure trouble free operation.
- b) Fault locations and remedy charts to facilitate tracing the cause of malfunction or breakdown and correcting faults.
- c) Complete list of recommended lubricants lubrication charts.
- d) A ‘spares schedule’ which shall consist of a complete list of itemized spares for all equipment with ordering references and part numbers.
- e) Full instruction to cover the complete dismantling and re-assembly of all items of the equipment supplied.
- f) Part-list and drawings or exploded diagrams for each item of equipment.

4.15 WARRANTY

The Supplier shall ensure for the **Various Components of ICCCC including connected accessories**, a warranty of minimum 5 years from the date of acceptance of the equipment by the purchaser.

The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the contract. If for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall at its discretion either:

- (a) make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC; During warranty, the supplier shall carry out the calibration of various components of **Various Components of ICCCC including connected accessories** without extra cost once in 6 months.

OR

- (b) Pay liquidated damages to the Purchaser with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be Rs.1000/day.

In the event of any correction of defects or replacement of defective material during the warranty period, the warranty for the corrected/replaced material shall be extended to a further period of 12 months.

For purposes of the Warranty, the place(s) of final destination(s) shall be: Kochi Municipal Corporation area as specified in Schedule of Requirements.

4.16 GUARANTEE

The Supplier's guarantee both in respect of performance; output and efficiency shall be binding under the Contract. The fulfillment of these guarantees will be verified during the Tests on Supplier's premises in India.

If during operation, the functional performance output of any piece of equipment or component thereof does not prove to be of the specified capacity/rating, the Supplier shall replace the unit of component with another of at least the same performance and quality at no cost to the Purchaser.

4.17 SPARE PARTS

The Supplier shall procure at his own cost, required spare parts to be included in operation and maintenance costs for satisfactory maintenance of equipment for **Various Components of ICCCC including connected**

accessories without scope for penalty as per applicable clauses for Breakdown of **Various Components of ICCCC including connected accessories**

In the event of breakdown and delay for more than the period specified, due to the replacement or repairs of spares, penalty will be levied on the Supplier as specified and approved.

4.18 TOOLS

A complete set of necessary standard and special tools shall be supplied by the Supplier to enable assembly or dismantling to be carried out on any part of the equipments supplied, whether of an electrical, mechanical or other nature, during the life of the equipment and shall be listed by the Suppliers in the General schedule.

The tools supplied shall include general and any other special tools which may be required during the life of equipment.

4.19 SAFETY

Suppliers shall be solely responsible for safety of men, materials and equipments during the performance of all operation and maintenance Works. Supplier shall take satisfactory precautions to protect the surrounding environment and appurtenances from damage that might be inflicted upon them by the use of equipment. Any damage inflicted upon at operation site or other public or private property as a result of the Supplier's equipment / goods operations, regardless of the method used and regardless of any other circumstance which may contribute to the damage, shall be repaired by the Supplier at his sole expense without any obligation to authority.

Supplier shall not enter into any segment where hazardous conditions may exist until such time as the source of those conditions is identified and eliminated by Suppliers and/or Purchaser. Supplier shall perform all work in accordance with the latest confined space entry regulations. The Supplier shall comply with all the precautions as required for the safety of the workmen.as far as they are applicable to the contract.

When worker are employed for operations, the supplier shall ensure to provide warning signals or boards to prevent accident.

4.20 SUBMITTALS

Submittals shall be made by the Suppliers in accordance with the procedures set forth by the In-charge Engineer, and as described below.

1. The Supplier shall submit monthly work report as required by the Engineer In-charge.
2. The Suppliers shall submit O & M plan for preview and acceptance by the Purchaser prior to performing operation and maintenance work. The MSI may change his O & M plan only by written notice to the Purchaser.
 - a. The Suppliers shall insure that all permits related to their scope of work have been obtained, and the Suppliers shall comply with all requirements of those permits. The Suppliers shall show evidence that all required permits have been obtained by submitting a copy of all such permits to the Owner.
 - b. Copies of records of all disposals of activities carried out including handling operations in accordance Legal Relations and Responsibility to the Public.

4.21 INCOME / CORPORATE TAXES IN INDIA:

- (a) The Supplier shall be liable to pay all corporate taxes and income tax that shall be levied according to the laws and regulations applicable from time to time in India and the price bid by the supplier shall include all such taxes in the contract price.
- (b) Wherever the laws and regulations require deduction of such taxes at the source of payment, the Purchaser shall effect such deductions from the payment due to the supplier. The remittance of amounts so deducted and issuance of certificate for such deductions shall be made by the Purchaser as per the laws and regulations in force. Nothing in the Contract shall relieve the Supplier from his responsibility to pay any tax that may be levied in India on income and profits made by the Supplier in respect of this contract.
- (c) The Supplier's staff, personnel and labour will be liable to pay personal income taxes in India in respect of such of their salaries and wages as are chargeable under the laws and regulations for the

time being in force, and the Supplier shall perform such duties in regard to such deductions thereof as may be imposed on him by such laws and regulations.

Annexures

Annexure 1 - Guidelines for Pre-Qualification proposal (part of Technical proposal)

Annexure 1.1 - Check-list for the documents to be included in the Pre-Qualification Proposal

Sl. No.	List of Documents	File Name	Submitted (Y / N)	Description
1.	Furnish Proof of RFP / Tender Fee submitted			Reference No: Date
2.	Furnish Proof of EMD submitted			Reference No: Date
3.	Furnish Consortium Agreement (if Applicable) submitted As per format provided at Annexure 1.5			Reference No: Date
4.	Furnish Bid Covering Letter As per format provided at Annexure 2.2			Reference No: Date of Letter:
5.	Furnish Bidders' Particulars As per format provided at Annexure 1.2			Name of Bidder(s):
6.	Furnish Power of Attorney (PoA) in favour of Authorized signatory As per format provided at Annexure 6			Date of PoA: Name of Authorized Person:

Sl. No.	List of Documents	File Name	Submitted (Y / N)	Description
7.	<p>To fulfill requirement of “Sl. No. PQ1” Clause 1.3.13 Pre-Qualification Eligibility Criteria of Section 1 Instructions to Bidders / Applicants</p> <p>Furnish Copy of Certificate of Incorporation / Registration under Companies Act, 1956/2013 or corresponding Act in abroad. Copy of Registration Certificates</p> <ul style="list-style-type: none"> For Global Players , Equivalent certificate in the country of incorporation <p>Copy of purchase orders showing at least 5 years of operations OR Certified true copy of relevant extracts of balance sheet and profit loss statements for last 5 year demonstrating bidder have been in operation for at least 5 years as on date of submission of the bid</p>			<p>Registration Number:</p> <p>Date of Incorporation:</p>
8.	<p>To fulfill requirement of “Sl. No. PQ2” Clause 1.3.13 Pre-Qualification Eligibility Criteria of Section 1 Instructions to Bidders / Applicants</p> <p>Furnish Copy of Certificates from the Statutory Auditor for the last 3 (Three) financial years 2014-15, 2015-16 and 2016-17, in order to fulfill eligibility criteria indicated in “Sl. No. PQ2” of</p>			<p>Year-wise details of turnover, balance sheet, financial statement, , certified by Chartered Accountant / Company Secretary</p>

Sl. No.	List of Documents	File Name	Submitted (Y / N)	Description
	<p>Clause 1.3.13 and 1.3.14 of Section 1 Instructions to Bidders / Applicants</p> <p>Financial capability details to be filled as per the format given as Annexure 1.4</p>			
9.	<p>To fulfill requirement of “Sl. No. PQ3” Clause 1.3.13 Pre-Qualification Eligibility Criteria of Section 1 Instructions to Bidders / Applicants</p> <p>Furnish Copy of Work Order / Purchase order, Copy of agreement, Copy of client acceptance letter, Copy of Goods Receipt endorsed by client, Copy of completion certificate in order to fulfill eligibility criteria indicated in “Sl. No. PQ3” of Clause 1.3.14 of Section 1 Instructions to Bidders / Applicants</p> <p>Project citation details be provided as per the format given as Annexure 1.3</p>			<p>Issuing By:</p> <p>Issuing Date:</p>
10.	<p>To fulfill requirement of “Sl. No. PQ4” Clause 1.3.13 Pre-Qualification Eligibility Criteria of Section 1 Instructions to Bidders / Applicants</p> <p>Furnish Declaration for not blacklisted by Central / State Government/ PSU entity in India or similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any</p>			<p>Reference No:</p> <p>Date of Letter:</p>

Sl. No.	List of Documents	File Name	Submitted (Y / N)	Description
	<p>other unethical business practices as on date of submission of the proposal in order to fulfill eligibility criteria indicated in “Sl. No. PQ4” of Clause 1.3.14 of Section 1 Instructions to Bidders / Applicants</p> <p>Undertaking by the authorized signatory as per the format given as Annexure 4</p>			
11.	<p>To fulfill requirement of “Sl. No. PQ5” Clause 1.3.13 Pre-Qualification Eligibility Criteria of Section 1 Instructions to Bidders / Applicants</p> <p>Furnish Valid copy of the ISO 9001:2015 and ISO 27001:2013. Also, the Lead bidder (System Integrator) should be CMM level 5I/ISO 9001:2015 certified in order to fulfill eligibility criteria indicated in “Sl. No. PQ5” of Clause 1.3.14 of Section 1 Instructions to Bidders / Applicants</p> <p>Valid Copy (ies) of certificates as substantial evidence to be submitted as proof.</p>			<p>Issuing By:</p> <p>Issuing Date:</p> <p>Validity Date:</p>

Sl. No.	List of Documents	File Name	Submitted (Y / N)	Description
12.	<p>Furnish Valid Copy (ies) of PAN Card and GSTIN Registration certificates in order to fulfill following eligibility criteria</p> <p>Sole Bidder (Manufacturer / Authorized dealer) or Lead Member and all member of its consortium should have GSTIN Registration Certificate and also PAN Card.</p>			<p>Issuing By:</p> <p>Issuing Date:</p>
13.	<p>Sole Bidder or Lead Member and all member of its consortium should furnish Undertaking as per the format given as Annexure 1.6</p> <p>Undertaking required declaring that, “shall abide by all the conditions set forth and also undertake to take back the rejected defective Goods at our risk & cost replaces the same within the stipulated time”.</p>			<p>Reference No:</p> <p>Date of Letter:</p>
14.	<p>Sole Bidder or Lead Member and all member of its consortium should furnish Undertaking as per the format given as Annexure 1.7</p> <p>Undertaking required declaring that, “work will be carried out as per the delivery schedule indicated in the RFP”</p>			<p>Reference No:</p> <p>Date of Letter:</p>

Sl. No.	List of Documents	File Name	Submitted (Y / N)	Description
15.	<p>To fulfill requirement of Clause 1.2.7 Total Responsibility of Section 1 Instructions to Bidders / Applicants</p> <p>The bidder needs to furnish “Total responsibility Certificate” as per the format provided in order to fulfill eligibility criteria indicated in Clause 1.2.7 Total Responsibility of Section 1 Instructions to Bidders / Applicants</p> <p>furnish in the format given as Annexure 1.8</p>			<p>Reference No:</p> <p>Date of Letter:</p>

Annexure 1.2 - Format to share Bidder's and Bidding Firms Particulars

The Table below provides the format in which general information about the bidder must be furnished.

Sl. No	Information	Details
1.	Name of Bidding firm:	
2.	Address and contact details of Bidding firm:	
3.	Firm Registration Number and Year of Registration, Certificate of Incorporation	
4.	Web Site Address	
5.	Status of Company (Public Ltd., Pvt. Ltd., etc.)	
6.	Company's GSTIN	
7.	Company's Permanent Account Number (PAN)	
8.	Company's Revenue for the last 3 years (Year wise)	
9.	Name, Designation and Address of the contact person to whom all references shall be made regarding this RFP:	
10.	Telephone number of contact person:	
11.	Mobile number of contact person:	
12.	Fax number of contact person:	
13.	E-mail address of contact person:	
14.	Bank Credentials	
15.	Main Business of the Bidding firm:	

Please submit the relevant proofs for all the details mentioned above along with your Bid response

Authorized Signatory

Name

Seal

Annexure 1.3 - Format to Project Citation

Self-Certification for project execution experience to be furnished comprising of following details / format in Bidding Entity's letter head.

This is to certify that <Name of Bidding entity> has been awarded with the following projects as detailed below:

Sl. No	Item	Details	Attachment Ref. Number
1	Name of the Project		
2	Date of Work Order		
3	Client Details (Name, Designation,, Contact details and complete address)		
4	Scope of Work		
5	Contract Value in (INR)		
6	Current status of the project (Completed /Ongoing / Withheld)		
7	Activities / scope of work completed by Bidding entity as on bid submission date		
8	Value of work completed for which payment received		
9	Start Date and Completion Date		
10	% of physical progress and % of financial progress as on bid submission date		

Note: The Bidder is required to use above formats for all the projects referenced by the bidder for the Pre-Qualification criteria and technical bid evaluation.

Annexure 1.4 - Financial Capability of the Applicant /Bidder

(Supporting documents to be attached)

Sl. No.	Audited Balance sheet for following Financial Years	Turnover details of Bidder (in INR Lakh.)	Net worth details of Bidder (in INR Lakh.)
1	2014-15		
2	2015-16		
3	2016-17		

Annexure 1.5 - Consortium Agreement

DRAFT MEMORANDUM OF UNDERSTANDING EXECUTED BY MEMBERS OF THE CONSORTIUM

[On Non-judicial stamp paper duly attested by notary public]

This Memorandum of Understanding (MoU) entered into this day of [Date] [Month] 2018 at [Place] among _____ (hereinafter referred to as "_____") and having office at [Address], India, as Party of the First Part and _____ (hereinafter referred to as "_____") and having office at [Address], as Party of the Second Part and _____ (hereinafter referred to as "_____") and having office at [Address], as Party of the Third Part.

The parties are individually referred to as Party and collectively as Parties.

WHEREAS CSML, has issued a Request for Proposal dated [Date] (RFP) from the Applicants interested in **RFP for "Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi" under Smart City Mission**:

AND WHEREAS the Parties have had discussions for formation of a Consortium for bidding for the said Project and have reached an understanding on the following points with respect to the Parties' rights and obligations towards each other and their working relationship.

AS MUTUAL UNDERSTANDING OF THE PARTIES, IT IS HEREBY AGREED AND

DECLARED AS FOLLOWS:

- i. The purpose of this Agreement is to define the principles of collaboration among the Parties to:
 - a. Submit a response jointly to Bid for the **"RFP "Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi" under Smart City Mission** as a Consortium.
 - b. Sign Contract in case of award.
 - c. Provide and perform the supplies and services which would be ordered by the Authority pursuant to the Contract.
- ii. This Agreement shall not be construed as establishing or giving effect to any legal entity such as, but not limited to, a company, a partnership, etc. It shall relate solely towards the Authority for **"RFP for "Selection of Master System Integrator for Establishment of Integrated Command, Control and**

Communication Centre (IC4) in Kochi” under Smart City Mission for and related execution works to be performed pursuant to the Contract and shall not extend to any other activities.

iii. The Parties shall be jointly and severally responsible and bound towards the Authority for the performance of the works in accordance with the terms and conditions of the RFP document, and Contract.

iv. ----- (Name of Party) shall act as Lead Member of the Consortium. As such, it shall act as the coordinator of the Party’s combined activities and shall carry out the following functions:

- a. To ensure the technical, commercial and administrative co-ordination of the work package
- b. To lead the contract negotiations of the work package with the Authority.
- c. The Lead Member is authorized to receive instructions and incur liabilities for and on behalf of all Parties.
- d. In case of an award, act as channel of communication between the Authority and the Parties to execute the Contract

v. That the Parties shall carry out all responsibilities as Developer in terms of the Project Agreement.

vi. That the broad roles and the responsibilities of each Party at each stage of the Bidding shall be as below:

Party A: _____

Party B: _____

Party C: _____

vii. That the broad roles and the responsibilities of each Party at each stage of the project execution shall be as below:

Party A: _____

Party B: _____

Party C: _____

viii. That the Parties affirm that they shall implement the Project in good faith and shall take all necessary steps to see the Project through expeditiously.

ix. That this MoU shall be governed in accordance with the laws of India and courts in Kerala shall have exclusive jurisdiction to adjudicate disputes arising from the terms herein.

In witness whereof the Parties affirm that the information provided is accurate and true and have caused this MoU duly executed on the date and year above mentioned.

(Party of the first part) (Party of the second part) (Party of the third part)

Witness:

i. _____

ii. _____

Annexure 1.6 – DECLARATION FORM

(To be submitted on the Letterhead of the responding firm)

DECLARATION FORM

Date: dd/mm/yyyy

To

Managing Director

Cochin

Smart Mission Limited (CSML)

10th Floor, Revenue Tower, Park Avenue, Kochi - 682 011, India.

Sub : Request for Proposal for **““Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi” under Smart City Mission”**

RFP Reference No: XX

Dear Sir,

I / Wehaving the registered office atdeclare that I / We have carefully read all the terms and conditions of Tender floated by the CSML for the above work strictly conforming to the specification as given in the Tender Document and I / We shall abide by all the conditions set forth therein. I / We also undertake to take back the rejected defective Goods at our risk & cost and replace the same within the stipulated time.

Signature of the Tenderer

With Seal

Annexure 1.7 – UNDERTAKING ON DELIVERY SCHEDULE

(To be submitted on the Letterhead of the responding firm)

UNDERTAKING

Sub : Request for Proposal for “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under Smart City Mission”

RFP Reference No: XX

Dear Sir,

It is certified that I / Wehave offered to carry out the work of “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under Smart City Mission” as per the delivery schedule indicated in the RFP

Signature of the Tenderer
With Seal

Annexure 1.8 – TOTAL RESPONSIBILITY CERTIFICATE

(To be submitted on the Letterhead of the responding firm)

TOTAL RESPONSIBILITY CERTIFICATE

Date: dd/mm/yyyy

Sub : Request for Proposal for “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under Smart City Mission

RFP Reference No: XX

Dear Sir,

This is to certify that we undertake the total responsibility for the defect free operation of the proposed solutions as per the requirement of the RFP for “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” for the duration mentioned in RFP.

(Authorized Signatory)

Signature:

Name:

Designation:

Address

Annexure 2. – Guidelines for Technical Proposal

Annexure 2.1 - Check-list for the documents to be included in the Technical Proposal

Sl. No.	List of Documents	Name of File Name	Submitted (Y / N)	Description
1.	Furnish Bid Covering Letter As per format provided at Annexure 2.2			Reference No: Date of Letter:
2.	Furnish Credential Summary As per format provided at Annexure 2.3.1			
3.	To fulfill requirement of Clause 1.3.14 Section A Technical Evaluation Criteria of Section 1 Instructions to Bidders / Applicants Furnish Copy of Certificates from the Statutory Auditor for the last 3 (Three) financial years 2014-15, 2015-16 and 2016-17, in order to fulfill eligibility criteria indicated in “ Clause 1.3.14 Section A ” under Section 1 Instructions to Bidders / Applicants Financial capability details to be filled as per the format given as Annexure 1.4			Certificate from the Statutory Auditor / Chartered Accountant. The said certificates also need to be counter signed by Company Secretary / authorized signatory of the bidder.
4.	To fulfill requirement of Clause 1.3.14 Section A Sl No. 2, 3 and 4- Technical Evaluation			Customer Name: Work Order/ Purchase order / agreement / client acceptance letter / completion certificate Number and Date

Sl. No.	List of Documents	Name of File Name	Submitted (Y / N)	Description
	<p>Criteria of Section 1 Instructions to Bidders / Applicants.</p> <p>Project Citations and Self-certifications, as applicable</p> <p>As per format provided at Annexure 2.3.2</p> <p>Furnish Copy of Work Order / Purchase order, Copy of agreement, Copy of client acceptance letter, Copy of Goods Receipt endorsed by client, Copy of completion certificate to support that the Sole Bidder or Lead Member or any member of its consortium fulfills eligibility criteria detailed in Section 1.3.13 and Section 1.3.14 pertaining to experience of similar works</p> <p>Project citation details be provided as per the format given as Annexure 1.3</p>			<p>Project Value:</p> <p>Completion Date:</p>
5.	<p>Detailed proposed solution</p> <p>As per format provided at Annexure 2.3.3 and as detailed in Clause 1.3.14 Section B</p>			
6.	<p>Resources Planning, Key Personnel, Project Governance, Exit Management and Transition Management as detailed in Clause 1.3.14 Section C for following:</p> <p>(I) Project Governance Framework at City Level</p> <p>(II) Exit Management</p> <p>(III) Transition Management</p> <p>(IV) Key personnel</p>			

Sl. No.	List of Documents	Name of File Name	Submitted (Y / N)	Description
7.	Project plan and manpower plan As per format provided at Annexure 2.3.3 (ii) and (iii) and Annexure 2.3.4 as detailed in Clause 1.3.14 Section C			
8.	Proposed CVs As per format provided at Annexure 2.3.4 and 2.3.5 as detailed in Clause 1.3.14 Section C			
9.	Command Center Application OEM and CSP Credentials as detailed in Clause 1.3.14 Section D			
10.	Demo and Presentation to be provided on the date of intimation as detailed in Clause 1.3.14 Section E			
11.	Compliance to Requirement (Technical / Functional Specifications) As per format provided at Annexure 2.3.6			
12.	Manufacturers'/Producers' Authorization Form (one for each OEM) As per format provided at Annexure 2.3.7			OEM Name: Date:
13.	The Sole Bidder or Lead Member or any member of its consortium should have Service facility for the Goods to be supplied under this RFP			Reference No: Date of Letter:

Sl. No.	List of Documents	Name of File Name	Submitted (Y / N)	Description
	Substantial documentary evidence to be submitted as proof. Also, Undertaking required stating the same.			
14.	Anti-Collusion certificate As per format provided at Annexure 2.3.8 Declaring that bidder have not acted in concert or in collusion with any other Bidder or other person(s) and also not done any act, deed or thing, which is or could be regarded as anti-competitive. Bidders further confirm that they have not offered nor will offer any illegal gratification in cash or kind to any person or organization in connection with the instant bid.			
15.	Non-disclosure agreement As per format provided at Annexure 10			

Annexure 2.2 - Technical Bid Cover Letter

(To be submitted on the Letterhead of the responding firm)

Date: dd/mm/yyyy

To

Managing Director

Cochin

Smart Mission Limited (CSML)

10th Floor, Revenue Tower, Park Avenue, Kochi - 682 011, India.

Sub : Request for Proposal for “Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi” under Smart City Mission

RFP Reference No: XX

Dear Sir,

With reference to your RFP for “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under **Smart City Mission**, we hereby submit our Prequalification, Technical Bid and Commercial Bid for the same.

I(in case of single bidder) or We,<<name of the undersigned Bidder and consortium members>>, having read and examined in detail all the bidding documents in respect of “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under **Smart City Mission**, do hereby propose to provide our services as specified in the bid submitted by us.

Having examined the RFP, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to provide the professional services as required and outlined in the RFP.

We attach hereto the technical response as required by the RFP, which constitutes our proposal. We undertake, if our proposal is accepted, to adhere to the implementation plan (Project schedule) for providing Professional Services in “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under **Smart City Mission** put forward in RFP or such adjusted plan as may subsequently be mutually agreed between us and CSML or its appointed representatives.

We hereby declare that:

- a. We hereby acknowledge and unconditionally accept that the Authority can at its absolute discretion apply whatever criteria it deems appropriate, not just limiting to those criteria set out in the RFP and related documents, in short listing of bidder for providing services.
- b. We have submitted EMD of INR [] in the form of [.....] and Tender fee of INR [] online through e-Tendering Portal (www.etenders.kerala.gov.in),
- c. We hereby declare that all information and details furnished by us in the Bid are true and correct, and all documents accompanying such application are true copies of their respective originals.
- d. We agree to abide by our offer for a period of 120 days from the date of opening of Technical bid prescribed by **Authority** and that we shall remain bound by a communication of acceptance within that time.
- e. We have carefully read and understood the terms and conditions of the RFP and the conditions of the contract applicable to the RFP. We do hereby undertake to provision as per these terms and conditions.
- f. In the event of acceptance of our bid, we do hereby undertake:
 - i. To supply the products and commence services as stipulated in the RFP document
 - ii. To undertake the project services for entire contract period from the date of signing of the contract as mentioned in the RFP document.

- iii. We affirm that the prices quoted are inclusive of design, development, delivery, installation, commissioning, providing facility management O & M and handholding support, and inclusive of all out of pocket expenses, taxes, levies discounts etc.
- g. We do hereby undertake, that, until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and notification of award of contract, shall constitute a binding contract between us.
- h. We understand that the **Authority** may cancel the bidding process at any time and that **Authority** is not bound to accept any bid that it may receive without incurring any liability towards the bidder.
- i. We fully understand and agree to comply that on verification, if any of the information provided in our bid is found to be misleading the selection process, we are liable to be dismissed from the selection process or termination of the contract during the project, if selected to do so

If our proposal is accepted, we will obtain a Performance Bank Guarantee in the prescribed format, issued by a Scheduled Commercial Bank in India, for a sum of equivalent to 10% of the contract value for the due performance of the contract.

We agree for unconditional acceptance of all the terms and conditions set out in the RFP document and also agree to abide by this tender response for a period of 180 days from the date of submission of Bid and it shall remain binding upon us with full force and virtue, until within this period a formal contract is prepared and executed, this tender response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and CSML. We declare that all the services shall be performed strictly in accordance with the RFP documents.

We confirm that the information contained in this proposal or any part thereof, including its exhibits, schedules, and other documents and instruments delivered or to be delivered to CSML is true, accurate, verifiable, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead CSML as to any material fact.

We agree that you are not bound to accept any tender response you may receive. We also agree that you reserve the right in absolute sense to reject all or any of the products/ services specified in the tender response.

It is hereby confirmed that I/We are entitled to act on behalf of our company/ corporation/ firm/ organization and empowered to sign this document as well as such other documents, which may be required in this connection.

We hereby declare that our bid is made in good faith, without collusion or fraud and the information contained in the bid is true and correct to the best of our knowledge and belief.

We understand that our bid is binding on us and that you are not bound to accept a Bid you receive. This bid is valid for 180 days after opening of technical bid. We shall extend the validity of the bid if required by Purchaser.

We hereby submit our Bid for **“Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi”** under Smart City Mission

1. *Strike off whichever is not applicable
2. We enclose a Online payment details Ref No.....dated.....for Rs.----- (-----), towards Earnest Money /Bid Security drawn in favour of Managing Director, CSML, (should be drawn on any Scheduled Commercial bank).This is enclosed in a separate cover.
3. We have downloaded/not downloaded the bid document from the e-tender website and have enclosed/already paid a Online payment details/ any other instrument No.....datedfor Rs -----(-----).
4. We have enclosed bids as per stipulated procedure and have not disclosed the price bid in other than the financial bid packet.
5. We agree to abide by all the conditions mentioned in the RFP (all the pages of which have been signed by us in token of acceptance of the terms mentioned therein).
6. DECLARATION: We have gone through carefully and understood the contents of this RFP Document and the information furnished by us is true to the best of our knowledge and belief and

nothing has been concealed there from.

7. In case of any clarifications please contact _____ email at

Date:

(Signature)

(Name)

(In the capacity of)

[Seal / Stamp of bidder]

Witness Signature:

Witness Name:

Witness Address:

Annexure 2.3.1 - Credential Summary

The Bidder is required to submit the details in the following format

Sl. No.	Name of Project	Name of Client	*Client Type	Project / Contract Value (in INR)	**Project Components	*** Documentary Evidence provided (Yes / No)	**** Project Status (Completed / Ongoing / Withheld)
1							
2							
3							
4							
5							
6							
7							
8							
9							

Sl. No.	Name of Project	Name of Client	*Client Type	Project / Contract Value (in INR)	**Project Components	*** Documentary Evidence provided (Yes / No)	**** Project Status (Completed / Ongoing / Withheld)
10							
11							
12							

NOTE:

***Client type –**

- Indicate whether the client is **Government or PSU or Private**

****Project Components –**

- Indicate the major project components like **setting up of NOC, Wide Area Network, city/ public Wi-Fi, application development for security surveillance, command and control center, Maintenance, Hardware procurement and deployment, DC setup and maintenance, Facility management services, provisioning manpower, IT support and maintenance**

*****Documentary evidence provided –**

- Indicate the documentary evidence provided with the detailed project credential like **work order / purchase order / completion certificate / letter of appointment**

******Project Status –**

- **Completed (date of project completion) or Ongoing (project start date)**

Annexure 2.3.2 - Bidder's Experience - Client Citations

Prime Bidder / Consortium member is requested to furnish the credentials in the following format for both Pre-qualification and Technical criterion. All credentials should be followed by relevant documentary proof.

General Information

- (a) Name of the project
- (b) Client for which the project was executed
- (c) Name and contact details of the client

Project Details

- (d) Description of the project
- (e) Scope of services
- (f) Technologies used
- (g) Relevance to the current project
- (h) Outcomes of the project

Other Details

- (i) Total cost of the project
- (j) Total cost of the services provided by the respondent

- (k) Duration of the project (no. of months, start date, completion date, current status)

Other Relevant Information

- (l) Letter from the client to indicate the successful completion of the projects (if any)
- (m) Copy of Work Order/Agreement

N.B - If the project is ongoing, bidder must clearly specify which of the stages/phases/milestones are completed and which are ongoing and at what stage of completion and produce a self-certificate as per the format provided in [Annexure 1.3](#)

Annexure 2.3.3 - Bidder's Overview of Proposed Solution

i. Structure of Proposed Solution

Bidders are required to provide a detailed approach & methodology to execute the entire project. Bidders are advised to comply with the below provided headers / Approach components while detailing out their solution.

Sl. No.	Particulars
I	Understanding of requirement and Implementation approach
(1)	- Understanding of requirements
(2)	- Work Plan & its adequacy
II	Robustness and quality
(1)	- End to end integrated solution proposed
(2)	- Hardware deployment and integration approach encompassing all solutions
(3)	- Timelines and modalities for implementation in a time bound manner
(4)	- Project implementation approach / strategy and operations and plan including comprehensiveness of fallback strategy and planning during rollout
(5)	- Any other area relevant to the scope of work and other requirements of the Project
III	Assessment of Manpower deployment, Training and Handholding plan
(1)	- Deployment strategy of Manpower
(2)	- Contingency management
(3)	- Mobilization of existing resources and additional resources as required
(4)	- Training and handholding strategy (must include training of Operators before Go-Live and during implementation phase)

ii. Project Plan

A **Detailed Project Plan** covering break-up of each phase into the key activities, along with the start and end dates must be provided for the stipulated period of completion as per format given below.

<u>Activity-wise Timelines</u>									
Sl. No.	Item of Activity	Month wise Program							
		Month-1	Month-2	Month-3	Month-4	Month-5	Month-6	Month-7	Month-8and so on
	Project Plan								
1	Activity 1								
1.1	Sub-Activity 1								
1.2	Sub-Activity 2								
2	Activity 2								
2.1	Sub-Activity 1								
2.2	Sub-Activity 2								
3								
3.1								
3.2								

Note: The above activity chart is for the purpose of illustration only. Bidders are requested to provide detailed activity & phase wise timelines for executing the project with details of deliverables & milestones as per their bid.

iii. Manpower Plan

(i) Month-wise Manpower (On-site) from Start date to Till Go-Live (Implementation Phase)

A **Detailed Manpower Plan** covering break-up for each month must be provided for the stipulated period of completion as per format given below.

Month-wise Manpower (On-site) from Start date to Till Go-Live (Implementation Phase)									
Sl. No.	Manpower	Month wise Program							
		Month-1	Month-2	Month-3	Month-4	Month-5	Month-6	Month-7	Month-8and so on
1.	Program Manager								
2.	Cloud DC / DR Expert								
3.	Citizen Service / Municipal Domain expert								
4.	GIS expert								
5.	Solution Architect								
6.	Project Manager-Software								
7.	Project Manager-Infrastructure								
8.	Database Architect								
9.	Security Expert								
10.	Command and Control Centre management Expert								
11.	Mobile App development Expert								

(ii) Manpower After Go-Live during Operation And Maintenance period of 5 years

A **Detailed Manpower Plan** must be provided for the stipulated period of O & M for the following requirement.

Month-wise Manpower After Go-Live during Operation And Maintenance period of 5 years

Sl. No.	Manpower	During the entire O & M period of 5 years	
		Minimum Quantity	Required Minimum deployment
1.	Program Manager	1	100%
2.	Cloud DC / DR Expert	1	100%
3.	Citizen Service / Municipal Domain expert	1	100%
4.	GIS expert	1	Onsite support to project team on need basis
5.	Solution Architect	1	Onsite support to project team on need basis
6.	Project Manager-Software	1	100%
7.	Project Manager-Infrastructure	1	100%
8.	Database Architect /DBA	1	100%
9.	Security Expert	1	Onsite support to project team on need basis
10.	Command and Control Centre management Expert	1	100%
11.	Help Desk Manager	1	100%
12.	Help Desk Executives (24*7 – 1 in each shift)	3	100%
13.	Command Center Operators (24*7 – 10 in each shift)	20	100%

Annexure 2.3.4 - Details of Resources proposed

Summary of Resources proposed

Sl. No.	Name of Staff	Proposed Role	Qualification	Certification	Experience	Areas of Expertise	Position assigned	Deployment Time committed for the assignment
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Annexure 2.3.5 - Curriculum Vitae (CV) of Team Members

1	Proposed Position				
2	Name of Firm				
3	Name of Expert				
4	Date of Birth		Citizenship:		
5	Education				
6	Membership in Professional Associations (Professional Certifications)				
7	Countries Of Work Experience				
Language Skills (mark Excellent/Good/Average)		Language	Read	Write	Speak
		English			
		Hindi			
		<Add Language>			
8	Employment Records				
From:		To:			
Employer					
Position Held					
From:		To:			
Employer					
Position Held					
From:		To:			
Employer					
Position Held					

9	Work Undertaken That Best Illustrates Capability To Handle The Tasks Assigned	
<i>Project Name</i>		
<i>Year</i>		
<i>Location</i>		
<i>Client</i>		
<i>Main project Features</i>		
<i>Position Held</i>		
<i>Activities performed</i>		
Expert's contact information: e-mail: phone:		
<p>Certification: I, the undersigned, certify that to the best of my knowledge and belief that</p> <ul style="list-style-type: none"> • This CV correctly describes my qualifications and my experience • I was not part of the team who wrote the Scope of Work for this RFP. • I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged. 		
Name of Expert	Signature	Date

Annexure 2.3.6 - Compliance to Requirement (Technical / Functional Specifications)

*The bidder should provide compliance to the requirement specifications (both technical and functional) specified in the **Annexure 12 TO 17 AND Annexure 19** of this RFP. Compliance against each requirement line item should be provided.*

Annexure 2.3.7 - Format for OEM Authorization

(This form has to be provided by the OEMs of the products proposed)

Date :

To,

Managing Director

Cochin Smart

Mission Limited (CSML)

10th Floor, Revenue Tower, Park Avenue, Kochi - 682 011, India.

RFP Ref: <-->

Dear Sir,

We _____, (name and address of the manufacturer) who are established and reputed manufacturers of _____ having factories at _____ (addresses of manufacturing / development locations) do hereby authorize M/s _____ (name and address of the bidder) to bid, negotiate and conclude the contract with you against the above mentioned tender for the above equipment manufactured / developed by us.

We herewith certify that the above mentioned equipment / products are not end of the life and we hereby undertake to support these equipment for the duration of minimum Five years from the date of start of O & M period..

Yours faithfully,

(Name)

(Name of Producers)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person competent and having the power of attorney to bind the manufacturer. The Bidder in its Bid should include it.

Annexure 2.3.8 - Anti-Collusion Certificate

[Certificate should be provided by Lead Bidder and on letter head]

Anti-Collusion Certificate

We hereby certify and confirm that in the preparation and submission of our Bid for **“Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi” under Smart City Mission** against the RFP issued by Purchaser / Employer, We have not acted in concert or in collusion with any other Bidder or other person(s) and also not done any act, deed or thing, which is or could be regarded as anti-competitive. We further confirm that we have not offered nor will offer any illegal gratification in cash or kind to any person or organization in connection with the instant bid.

(Signature of the Lead Bidder)

Printed Name Designation

Seal:

Date:

Place:

Business Address:

Annexure 3 – Guidelines for Financial Proposal

Annexure 3.1 - Financial Proposal Format & Instructions

To be submitted on e-Tendering Portal only (i.e. www.etenders.kerala.gov.in)

Bill of Quantities (BOQ)is uploaded separately as Microsoft excel file.

Instructions:

- a) Bill of Quantities (BOQ) can be downloaded free of cost from the e- Government Procurement (e-GP) Website www.etenders.kerala.gov.in. All bid documents are to be submitted online only and in the designated manner on the e-GP website. Tenders/ bids shall be accepted only through online mode on the e-GP website and no manual submission of the same shall be entertained except for the documents specifically indicated ie Technical proposal and Prequalification documents along with EMD.
- b) The Bidder shall submit their bid online only through the e-GP web site of Kerala(www.etenders.kerela.gov.in) as per the procedure laid down for e-submission as detailed in the web site. For e tenders, the bidders shall download the tender documents including the Bill of Quantity (BOQ) file from the e tendering portal <http://www.etenders.kerala.gov.in>. The Bidder shall fill up the documents. and submit the same online using their Digital Signature Certificate. On successful submission of bids, a system receipt can be generated downloaded by the bidder for future reference. Copies of all certificates and documents shall be uploaded while submitting the tender online. Submission of Price proposal in hard copy would result in disqualification and rejection of bid
- c) CSML does not guarantee the quantity for the particular line items given above. The actual quantity for the given items may be more or less. The payment shall be made based on unit cost quoted for the particular item on actual work/item is undertaken / supplied.

- d) All items provided should be under Insurance. The Insurance should be for entire duration of the Project for 5 Years and comprehensive covering damages for Theft, Fire, Natural Calamities, Riots and Terrorists activities etc.
- e) Bidder should provide all prices as per the prescribed format under BOQ.
- f) All the prices are to be entered in Indian Rupees ONLY
- g) CSML reserves the right to ask the Bidder to submit proof of payment against any of the taxes, duties, levies indicated.
- h) CSML shall take into account all Taxes, Duties & Levies for the purpose of evaluation
- i) The Bidder needs to account for all Out of Pocket expenses, no additional payment shall be made by CSML whatsoever.
- j) Bidder should refer the RFP document for details on the technical requirements of the system and the benchmark specifications for the items mentioned in the financial formats.
- k) Any component/fixtures/ancillary/adjunct to the specified item shall be deemed to have been included in the unit rates quoted above.

Annexure 4 - Format for Declaration by the bidder for not being Blacklisted / Debarred

(To be submitted on the Letterhead of the Bidder)

(To be provided by Lead bidder and all members of Consortium in separate letters)

Date: dd/mm/yyyy

To

**Managing Director,
Cochin Smart Mission Limited (CSML)
10th Floor, Revenue Tower, Park Avenue,
Kochi - 682 011, India.**

Subject: Declaration for not being debarred / black-listed by Central / any State Government department in India as on the date of submission of the bid

RFP Reference No: XX

Dear Sir,

I, authorized representative of _____, hereby solemnly confirm that the Company _____ is not debarred / black-listed by any Central/State Government/ PSU entity in India or similar agencies globally for unsatisfactory past performance, corrupt, fraudulent or any other unethical business practices or for any other reason as on last date of submission of the Bid. In the event of any deviation from the factual information/ declaration, CSML reserves the right to reject the Bid or terminate the Contract without any compensation to the Company.

Thanking you,

Yours faithfully,

Signature of Authorized Signatory (with official seal)

Date :

Name :

Designation :

Address :

Telephone & Fax :

E-mail address :

Annexure 5 - Format of sending pre-bid queries

RFP Reference No: XX

Bidder's Request For Clarification				
Name and complete official address of Organization submitting query / request for clarification			Telephone, Fax and E-mail of the organization Tel: Fax: Email:	
Sr. No.	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/ Clarification required
1				
2				
3				
4				
5				

Signature:

Name of the Authorized signatory:

Company seal:

Date and Stamped

Note: Bidder(s) are requested to send the queries in PDF with Sign and Company Seal and also in MS Word / Excel for making consolidation process easy.

Annexure 6 - Power of Attorney

[To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the company who is issuing the power of attorney]

Know by all men by these presents, We _____ (Name of the Bidder and address of their registered office) do hereby constitute, appoint and authorize Mr. / Ms _____ (name and residential address of Power of attorney holder) who is presently employed with us and holding the position of _____ as our true and lawful attorney (hereinafter referred to as the “Authorized Representative”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Proposal for the “**RFP for “Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi” under Smart City Mission** Including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre bid and other conferences and providing information/responses to CSML, representing us in all matters before CSML, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with CSML in all matters in connection with or relating to or arising out of our Proposal for the said Project and/or upon award thereof to us till the entering into of the Agreement with CSML.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THISDAY OF, 20**

For _____

Name:

Designation:

Date:

Time:

Seal:

Business Address:

Witness:

1. 2. Notarized Accepted

Signature of the Applicant

(Signature, name, designation and address)

RFP for “Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi” under Smart City Mission

Accepted,

_____ (Signature)

(Name, Title and Address of the Attorney)

Note:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
- The Power of Attorney shall be provided on Rs.200/- stamp paper and above

- The Power of Attorney should be supported by a duly authorized resolution of the Board of Directors of the Bidder authorizing the person who is issuing this power of attorney on behalf of the Bidder.

CERTIFICATE AS TO AUTHORISED SIGNATORIES

I _____, the Company Secretary of _____, certify that _____ who signed the above Bid is authorized to do so and bind the company by authority of its board/ governing body.

Date:

Signature:

(Company Seal) (Name)

Lead Member has to submit the Power of Attorney in favour of Authorized signatory in below given format in case of Consortium.

[To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the company who is issuing the power of attorney]

POWER OF ATTORNEY FOR LEAD MEMBER BY

CONSORTIUM MEMBER

Whereas CSML has invited Bids from interested companies for “RFP for “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under Smart City Mission ("Project").

Whereas, -----, and (collectively the "Consortium") being members of the Consortium are interested in offering for the services in accordance with the terms and conditions of the Request for Proposal document (RFP) and other connected documents in respect of the Project, and;

Whereas, it is necessary under the RFP document for the members of the Consortium to designate one of them as the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium's Bid for the Project.

Whereas, we have decided that M/sshall be Lead Member of this Consortium.

NOW THEREFORE KNOW ALL MEN BY THESE PRESENTS

We, ----- having our registered office at....., (hereinafter referred to as the "Member") do hereby designate, nominate, constitute, appoint and authorize -----
----- having its registered office at, being one of the members of the Consortium, as the Lead Member and true and lawful attorney of the Consortium (hereinafter referred to as the "Attorney"). We hereby irrevocably authorise the Attorney (with power to

sub-delegate) to conduct all business for and on behalf the Consortium and any one of us during the Bid process and, in the event the Consortium is awarded the Contract, during the execution of the project, and in this regard, to do on our behalf and on behalf of the Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the selection of the Consortium, including but not limited to signing and submission of all Applications, Proposals and other Documents and writings, participate in pre-proposal and other conferences, respond to queries, submit information/ documents, sign and execute contracts and undertakings consequent to acceptance of Bid of the Consortium and generally to represent the Consortium in all its dealings with the CSML and/or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the Consortium's Bid for the above Project and/or upon award thereof till the Contract Agreement is entered into with the CSML.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us/Consortium.

IN WITNESS WHEREOF WE THE MEMBER ABOVE NAMED HAVE

EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF

.....20

For

(Name & Title)

Witnesses:

- 1.
2.

(To be executed by each Member of the Consortium)

Note:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
- Also, wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder :

Annexure 7 – Format for Bank Guarantee for Earnest Money Deposit

(To be stamped in accordance with Stamp Act)

To

**Managing Director
Limited (CSML)
10th Floor, Revenue Tower, Park Avenue, Kochi - 682 011, India.**

Cochin Smart Mission

Dear Sir,

BANK GUARANTEE for Earnest Money Deposit – For <Project Name>

Whereas <<Name of the bidder>> (hereinafter called 'the System Integrator') has submitted the bid for Submission of RFP <<RFP Number>> dated <<Date>> for **Request for Proposal for “Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi”** (hereinafter called "the Bid") to CSML, Kochi.

KNOW ALL MEN by these presents that we _____ (Name of Bank) of India, having our registered office at _____ (hereinafter called "the Bank ") are bound unto Cochin Smart Mission Limited (CSML) (hereinafter called "the Employer") in sum of Rs. _____ for which payment well and truly to be made to the said Employer, the Service Provider binds himself, his successors and assigns by these presents. Sealed with the Common Seal of the said Bank this <<Date>>.

WHEREAS _____ (Name of Tenderer) (hereinafter called "the Tenderer") has submitted his tender dated _____ for _____ (hereinafter called "the Tender".)

WHEREAS the Tenderer is required to furnish a Service Provider Guarantee for the sum of Rs. _____ (Amount in figures and words) as Tender Guarantee against the Tenderer's offer as aforesaid.

AND WHEREAS _____ (Name of Service Provider) have, at the request of the Tenderer, agreed to give this guarantee as hereinafter contained.

We further agree as follows:

(i) That the Employer may without affecting this guarantee grant time or other indulgence to or negotiate further with the Tenderer in regard to the conditions contained in the said tender and thereby modify these conditions or add thereto any further conditions as may be mutually agreed upon between the Employer and the Tenderer.

(ii) That the guarantee herein before contained shall not be affected by any change in constitution of our Service Provider or in the constitution of the Tenderer.

(iii) That this guarantee commences from the date hereof and shall remain in force till:

a. The Tenderer, in case his tender is accepted by the Employer, executes a formal agreement after furnishing the Performance Security on a scheduled commercial Service Provider based in India.

b. Sixty days after the date of validity or the extended date of validity of the Tender, as the case maybe;

Whichever is earlier.

(iv) That the expression "the Tenderer" and the "the Service Provider" herein used shall, unless such an interpretation is repugnant to the subject or context, include their respective successors and assigns.

THE CONDITIONS of this obligation are:

- (i). if the Tenderer withdraws his Tender during the period of Tender validity specified in the Form of Tender, or
- (ii). if the Tenderer refuses to accept the corrections of errors in his Tender, or
- (iii). if the Tenderer having been notified of the acceptance of his Tender by the Employer during the period of tender validity:
 - a). fails or refuses to furnish the Performance Security and/or
 - b). fails or refuses to enter into a Contract within the time limit specified in "Letter of Acceptance" or
- (iv). For any other reason as mentioned in the bid document
- (v). If there is any misrepresentation of data or details in RFP submitted.

We undertake to pay to the Employer the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of any one or more of the conditions (i), (ii), (iii)a or (iii)b or (iv) mentioned above, specifying the occurred condition or conditions.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN:

Our liability under this Bank Guarantee shall not exceed Rs. <<Amount in figures>> (Rupees <<Amount in words>> only)

This Bank Guarantee shall be valid up to <<insert date>>)

It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for payment under this Bank Guarantee on or before <<insert date>>) failing which our liability under the guarantee will automatically cease.

Signature of

Authorized Official

Of the Service Provider: _____

Dated :

Place:

Annexure 8 – Format for Irrevocable Unconditional Performance Bank Guarantee

For Contract Performance Bank Guarantee

Ref : < --- >

Date: _____

Bank Guarantee No.: _____

To

Managing Director

Cochin Smart

Mission Limited (CSML)

10th Floor, Revenue Tower, Park Avenue, Kochi - 682 011, India.

Dear Sir,

PERFORMANCE BANK GUARANTEE – For <Project Name>

WHEREAS

M/s. (name of Bidder), a company registered under the Companies Act, 1956, having its registered and corporate office at (address of the Bidder), (hereinafter referred to as “our constituent”, which expression, unless excluded or repugnant to the context or meaning thereof, includes its successors and assigns), agreed to enter into a Contract dated (Hereinafter, referred to as “Contract”) with you for **“Request for Proposal for “Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi” under Smart City Mission”** in the said Contract.

We are aware of the fact that as per the terms of the Contract, M/s. (name of Bidder) is required to furnish an unconditional and irrevocable Bank Guarantee in your favour for an amount of 10% of the Total Contract Value, and guarantee the due performance by our constituent as per the Contract and do hereby agree and undertake to pay any and all amount due and payable under this bank guarantee, as security against breach/default of the said Contract by our Constituent.

In consideration of the fact that our constituent is our valued customer and the fact that he has entered into the said Contract with you, we, (name and address of the bank), have agreed to issue this Performance Bank Guarantee.

Therefore, we (name and address of the bank) hereby unconditionally and irrevocably guarantee you as under:

In the event of our constituent committing any breach / default of the said Contract, and which has not been rectified by him, we hereby agree to pay you forthwith on demand such sum/s not exceeding the sum of 8% of the Total Contract Value i.e.,.....<in words> without any demur.

Notwithstanding anything to the contrary, as contained in the said Contract, we agree that your decision as to whether our constituent has made any such default(s) / breach(es), as aforesaid and the amount or amounts to which you are entitled by reasons thereof, subject to the terms and conditions of the said Contract, will be binding on us and we shall not be entitled to ask you to establish your claim or claims under this Performance Bank Guarantee, but will pay the same forthwith on your demand without any protest or demur.

This Performance Bank Guarantee shall continue and hold good till 180 days after completion of the Contract Period, subject to the terms and conditions in the said Contract.

We bind ourselves to pay the above said amount at any point of time commencing from the date of the said Contract until 6 months after the completion of Contract Period.

We further agree that the termination of the said Agreement, for reasons solely attributable to our constituent, virtually empowers you to demand for the payment of the above said amount under this guarantee and we would honor the same without demur.

We hereby expressly waive all our rights: Requiring to pursue legal remedies against CSML; and For notice of acceptance hereof any action taken or omitted in reliance hereon, of any defaults under the Contract and any resentment, demand, protest or any notice of any kind.

We the Guarantor, as primary obligor and not merely Surety or Guarantor of collection, do hereby irrevocably and unconditionally give our guarantee and undertake to pay any amount you may claim (by one or more claims) up to but not exceeding the amount mentioned aforesaid during the period from and including the date of issue of this guarantee through the period.

We specifically confirm that no proof of any amount due to you under the Contract is required to be provided to us in connection with any demand by you for payment under this guarantee other than your written demand.

Any notice by way of demand or otherwise hereunder may be sent by special courier, telex, fax, registered post or other electronic media to our address, as aforesaid and if sent by post, it shall be deemed to have been given to us after the expiry of 48 hours when the same has been posted. If it is necessary to extend this guarantee on account of any reason whatsoever, we undertake to extend the period of this guarantee on the request of our constituent under intimation to you.

This Performance Bank Guarantee shall not be affected by any change in the constitution of our constituent nor shall it be affected by any change in our constitution or by any amalgamation or absorption thereof or therewith or reconstruction or winding up, but will ensure to the benefit of you and be available to and be enforceable by you during the period from and including the date of issue of this guarantee through the period.

Notwithstanding anything contained hereinabove, our liability under this Performance Guarantee is restricted to 10% of the Contract Value, and shall continue to exist, subject to the terms and conditions contained herein, unless a written claim is lodged on us on or before the aforesaid date of expiry of this guarantee.

We hereby confirm that we have the power/s to issue this Guarantee in your favour under the Memorandum and Articles of Association / Constitution of our bank and the undersigned is / are the recipient of authority by express delegation of power/s and has / have full power/s to execute this guarantee under the Power of Attorney issued by the bank in your favour.

We further agree that the exercise of any of your rights against our constituent to enforce or forbear to enforce or any other indulgence or facility, extended to our constituent to carry out the contractual obligations as per the said Contract, would not release our liability under this guarantee and that your right against us shall remain in full force and effect, notwithstanding any arrangement that may be entered into between you and our constituent, during the entire currency of this guarantee.

Notwithstanding anything contained herein:

Our liability under this Performance Bank Guarantee shall not exceed 10% of the Total Contract Value. This Performance Bank Guarantee shall be valid only from the date of signing of Contract to 60 days beyond Defects Liability period (DLP) / Warranty period / guarantee period of 36 months post O & M, whichever is later and

We are liable to pay the guaranteed amount or part thereof under this Performance Bank Guarantee only and only if we receive a written claim or demand on or before 180 days after the completion of Contract Period.

Any payment made hereunder shall be free and clear of and without deduction for or on account of taxes, levies, imports, charges, duties, fees, deductions or withholding of any nature imposts.

This Performance Bank Guarantee must be returned to the bank upon its expiry. If the bank does not receive the Performance Bank Guarantee within the above-mentioned period, subject to the terms and conditions contained herein, it shall be deemed to be automatically cancelled.

This guarantee shall be governed by and construed in accordance with the Indian Laws and we hereby submit to the exclusive jurisdiction of courts of Justice in India for the purpose of any suit or action or other proceedings arising out of this guarantee or the subject matter hereof brought by you may not be enforced in or by such court.

Dated this day 20XX.

Yours faithfully,

For and on behalf of the Bank,

(Signature)

Designation

(Address of the Bank)

Note:

This guarantee will attract stamp duty as a security bond.

A duly certified copy of the requisite authority conferred on the official/s to execute the guarantee on behalf of the bank should be annexed to this guarantee for verification and retention thereof as documentary evidence in the matter.

Annexure 9 – FORMAT FOR CONTRACT AGREEMENT

THIS Agreement made thedate of.....2018, between.....
(Hereinafter.....referred to as the “MSI”) of the one part and..... (hereinafter called the “CSML”) of the other part.

WHEREAS MSI has the required professional skills, personnel and technical resources, has agreed to provide the Services on the terms and conditions set forth in this Contract and is about to perform services as specified in this RFP for “**Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi**” under Smart City Mission. (hereinafter called “works”) mentioned, enumerated or referred to in certain Contract conditions, specification, scope of work, other sections of the RFP, covering letter and schedule of prices which, for the purpose of identification, have been signed by..... on behalf of theSI and..... (the CSML) on behalf of the CSML and all of which are deemed to form part of the Contract as though separately set out herein and are included in the expression “Contract” whenever herein used.

NOW, THEREFORE, IT IS HEREBY AGREED between the parties as follows:

- a. The CSML has accepted the tender of MSI for the provision and execution of the said works for the sum of.....upon the terms laid out in this RFP.
- b. SI hereby agrees to provide Services to CSML, conforming to the specified Service Levels and conditions mentioned
- c. The following documents attached hereto shall be deemed to form an integral part of this Agreement:

Complete Request for Proposal (RFP) Document	<i>RFP and corrigendum and addendum, if any</i>
Break-up of cost components	<i>Lead Bidder's Commercial bid</i>
The CSML's Letter of Intent dated <<>>	<i>To be issued later by the CSML</i>
SI's Letter of acceptance dated <<>>	<i>To be issued later by the SI</i>
Bid submitted by MSI as per file No. <<>>	

d. The mutual rights and obligations of the "CSML" and MSI shall be as set forth in the Agreement, in particular:

- (i) SI shall carry out and complete the Services in accordance with the provisions of the Agreement; and
- (ii) the "CSML" shall make payments to MSI in accordance with the provisions of the Agreement.

NOW THESE PRESENTS WITNESS and the parties hereto hereby agree and declare as follows, that is to say, in consideration of the payments to be made to MSI by the CSML as hereinafter mentioned, MSI shall deliver the services for the said works and shall do and perform all other works and things in the Contract mentioned or described or which are implied there from or there in respectively or may be reasonably necessary for the completion of the said works within and at the times and in the manner and subject to the terms, conditions and stipulations mentioned in the said Contract.

AND in consideration of services and milestones, the **CSML** shall pay to **MSI** the said sum ofor such other sums as may become payable to **MSI** under the provisions of this Contract, such payments to be made at such time and in such manner as is provided by the Contract.

IN WITNESS WHEREOF the parties hereto have signed this deed hereunder on the dates respectively mentioned against the signature of each.

Signed		Signed	
Name	: _____	Name	: _____
Designation	: _____	Designation	: _____
Date	:	Date	:
Place	:	Place	:

in the presence of :		in the presence of :	
Signed		Signed	
Name	: _____	Name	: _____
Designation	: _____	Designation	: _____
Date	:	Date	:

Place : Place :

Annexure 10 – Non-Disclosure Agreement

WHEREAS, we the undersigned Bidder, _____, having our principal place of business or registered office at _____, are desirous of bidding for RFP No. <<>> dated <<DD-MM-YYYY>> **“Selection of Master System Integrator for Establishment of Integrated Command, Control and Communication Centre (IC4) in Kochi” under Smart City Mission** (hereinafter called the said 'RFP') to the **“[CSML]”**, hereinafter referred to as 'Purchaser'

and,

WHEREAS, the Bidder is aware and confirms that the Purchaser's business or operations, information, application or software, hardware, business data, architecture schematics, designs, storage media and other information or documents made available by the Purchaser in the RFP documents during the bidding process and thereafter, or otherwise (confidential information for short) is privileged and strictly confidential and or proprietary to the Purchaser,

NOW THEREFORE, in consideration of disclosure of confidential information, and in order to ensure the Purchaser's grant to the Bidder of specific access to Purchaser's confidential information, property, information systems, network, databases and other data, the Bidder agrees to all of the following conditions.

It is hereby agreed as under:

1. The confidential information to be disclosed by the Purchaser under this Agreement (“Confidential Information”) shall include without limitation, any and all information in written, representational, electronic, verbal or other form relating directly or indirectly to processes, methodologies, algorithms, risk matrices, thresholds, parameters, reports, deliverables, work products, specifications, architecture, project information, security or zoning strategies & policies, related computer programs, systems, trend analysis, risk plans, strategies and information communicated or obtained through

meetings, documents, correspondence or inspection of tangible items, facilities or inspection at any site to which access is permitted by the Purchaser.

2. Confidential Information does not include information which:
 - (a) the Bidder knew or had in its possession, prior to disclosure, without limitation on its confidentiality;
 - (b) information in the public domain as a matter of law;
 - (c) is obtained by the Bidder from a third party without any obligation of confidentiality;
 - (d) the Bidder is required to disclose by order of a competent court or regulatory authority;
 - (e) is released from confidentiality with the written consent of the Purchaser.

The Bidder shall have the burden of proving herein above are applicable to the information in the possession of the Bidder.

3. The Bidder agrees to hold in trust any Confidential Information received by the Bidder, as part of the Tendering process or otherwise, and the Bidder shall maintain strict confidentiality in respect of such Confidential Information, and in no event a degree of confidentiality less than the Bidder uses to protect its own confidential and proprietary information. The Bidder also agrees:
 - (a) to maintain and use the Confidential Information only for the purposes of bidding for this RFP and thereafter only as expressly permitted herein;
 - (b) to only make copies as specifically authorized by the prior written consent of the Purchaser and with the same confidential or proprietary notices as may be printed or displayed on the original;
 - (c) to restrict access and disclosure of Confidential Information to their employees, agents, consortium members and representatives strictly on a "need to know" basis, to maintain confidentiality of the Confidential Information disclosed to them in accordance with this clause; and

- (d) to treat Confidential Information as confidential unless and until Purchaser expressly notifies the Bidder of release of its obligations in relation to the said Confidential Information.
4. Notwithstanding the foregoing, the Bidder acknowledges that the nature of activities to be performed as part of the Tendering process or thereafter may require the Bidder's personnel to be present on premises of the Purchaser or may require the Bidder's personnel to have access to software, hardware, computer networks, databases, documents and storage media of the Purchaser while on or off premises of the Purchaser. It is understood that it would be impractical for the Purchaser to monitor all information made available to the Bidder's personnel under such circumstances and to provide notice to the Bidder of the confidentiality of all such information.

Therefore, the Bidder shall disclose or allow access to the Confidential Information only to those personnel of the Bidder who need to know it for the proper performance of their duties in relation to this project, and then only to the extent reasonably necessary. The Bidder will take appropriate steps to ensure that all personnel to whom access to the Confidential Information is given are aware of the Bidder's confidentiality obligation. Further, the Bidder shall procure that all personnel of the Bidder are bound by confidentiality obligation in relation to all proprietary and Confidential Information received by them which is no less onerous than the confidentiality obligation under this agreement.

5. The Bidder shall establish and maintain appropriate security measures to provide for the safe custody of the Confidential Information and to prevent unauthorized access to it.
6. The Bidder agrees that upon termination or expiry of this Agreement or at any time during its currency, at the request of the Purchaser, the Bidder shall promptly deliver to the Purchaser the Confidential Information and copies thereof in its possession or under its direct or indirect control, and shall destroy all memoranda, notes and other writings prepared by the Bidder or its Affiliates or directors, officers, employees or advisors based on the Confidential Information and promptly certify such destruction.

7. Confidential Information shall at all times remain the sole and exclusive property of the Purchaser. Upon completion of the Tendering process and or termination of the contract or at any time during its currency, at the request of the Purchaser, the Bidder shall promptly deliver to the Purchaser the Confidential Information and copies thereof in its possession or under its direct or indirect control, and shall destroy all memoranda, notes and other writings prepared by the Bidder or its Affiliates or directors, officers, employees or advisors based on the Confidential Information within a period of sixty days from the date of receipt of notice, or destroyed, if incapable of return. The destruction shall be witnessed and so recorded, in writing, by an authorized representative of the Purchaser. Without prejudice to the above the Bidder shall promptly certify to the Purchaser, due and complete destruction and return. Nothing contained herein shall in any manner impair rights of the Purchaser in respect of the Confidential Information.

8. In the event that the Bidder hereto becomes legally compelled to disclose any Confidential Information, the Bidder shall give sufficient notice and render best effort assistance to the Purchaser to enable the Purchaser to prevent or minimize to the extent possible, such disclosure. Bidder shall not disclose to a third party any Confidential Information or the contents of this RFP without the prior written consent of the Purchaser. The obligations of this Clause shall be satisfied by handling Confidential Information with the same degree of care, which the Bidder applies to its own similar Confidential Information but in no event less than reasonable care.

For and on behalf of:

(BIDDER)

Authorised Signatory:

Name:

Designation:

Office Seal:

Place:

Date :

Annexure 11 –CHANGE CONTROL NOTE

Change Control Note	CCN Number
Part A: Initiation	
Title:	
Organisation:	
Sponsor:	
Date of Initiation:	
Details of Proposed Change	
(To include reason for the change and appropriate details / specifications. Identify any attachments as A1, A2, and A3 etc.)	
Authorized by CSML	Date:
Name:	
Signature:	
Received by the Bidder	Date:
Name:	
Signature:	
Change Control Note	CCN Number
Part B: Evaluation	
(Identify any attachments as B1, B2, and B3 etc.)	
Changes to Services, payment terms, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.	

Brief Description of Solution:	

<p>_____</p> <p>—</p> <p>Impact:</p> <p>_____</p> <p>—</p> <p>Deliverables:</p> <p>_____</p> <p>—</p> <p>Timetable:</p> <p>_____</p> <p>—</p> <p>Charges for Implementation:</p> <p>_____</p> <p>—</p>	
including a schedule of payments)	
Other Relevant Information: (including value-added and acceptance criteria)	
Authorized by the Bidder	Date:
Name:	
Signature:	
Change Control Note	CCN Number :
Part C : Authority to Proceed	
Implementation of this CCN as submitted in Part A, in accordance with Part B is: (tick as appropriate)	

Approved Rejected Requires Further Information (as follows, or as Attachment 1 etc.)	
For CSML and its nominated Agencies	For SI
Signature	Signature
Name	Name
Title	Title
Date	Date

Annexure 12 – Additional Functional Requirements and Integration Scope

Proposed ICT based systems of Kochi Smart City and integration scope

Kochi Smart Citizen (App)

Kochi Citizen is a mobile application. It is an integrated platform enabling and promoting —Collaborative Participatory Governance, Centralized Citizen Service Delivery, Live City Feeds, Citizen Grievance Redressal, etc. The goal of the platform is to make citizen engagement an integral part of policy planning and implementation.

Following are the key features of Kochi Smart Citizen:

- Citizen Collaboration platform
- Citizen Services (G2C & B2C)
- Smart city dashboard
- Grievance Redressal
- Integration with external apps (Kochi 1 of Metro, eHealth, other private and public apps)

Kochi Municipal Corporations (KMC) Call Centre

Kochi Municipal Corporations call centre is a public grievances redressal system related to municipal services. All the issues /complaints related to municipal services are addressed by Municipal Corporations call centre. Citizen of Kochi city residing in Kochi municipal area can call the call centre and register their complaints. In future Municipal Corporations call centre will also be used as one of the channels for taking request for dynamic market place.

Kochi Smart Map (GIS)

Smart Map is a web-GIS portal developing as part of Kochi Smart City Project, a web-based application addresses issues affecting urban areas, through GIS based plans adopting smart city concept. GIS provides an effective and efficient way to handle infrastructure and asset related data and its associated attribute information from multiple sources for better decision support, improved governance and to deliver better citizen services. It aims to facilitate the citizens of Kochi with various services. The portal allows the public to easily discover and search for geospatial and textual data, through modules like know your ward. It enables users to view multiple data layers on a map and perform various functions for data analysis like search and query. The advanced search and query tools enables users to search for specified features like Landmarks, Heritage sites, Museum etc., based on the map layers.

- Minimum 50 layered GIS cutting across departments.
- Citizen portal - Map visualization module, Query module, and location-based information module, education, health services, public feedback, transport, cultural and community events.
- Property and other taxes.
- Heritage

Municipal Corporations Municipal Services

These are pan city citizen services, and they are also hosted on Kochi plus mobile application, these services include:

- Property Tax;
- Birth Registration;

- Death Registration;
- Marriage Registration; etc.

There are some more services of various Municipal Corporations departments such as Assessment and Collection (Property Tax, Shops and establishment)

Transit Management System

Following are the key features of TMS system.

- All buses (900 No.s) equipped with GPS based Automatic Vehicle Location System (AVLS) connected with proposed IC4.
- IPTs / Autorickshaws (15000) to be fitted with GPS by the respective Auto Unions. Once, fitted with GPS to be connected with proposed IC4 for efficient operation
- Real time tracking and monitoring of Bus Operations.
- 16 Ft X 6 Ft Video Wall comprising of 08 Nos. of High Resolution LED Panels at Control room.
- Bus Stops are connected with Command Center reflecting Expected Time of Arrival (ETA) on Passenger Information System (PIS)

Solid Waste Management Services (Vehicle Tracking System)

Principally Solid Waste Management refers to control of generation, storage, collection, transport or transfer, processing and disposal of solid waste materials in a way that best addresses the range of public health, conservation, economics, aesthetic, engineering and other environmental considerations. Under this project all the vehicles involved in collection of solid waste are being tracked. Following are the key attributes of this project:

- Installation of GPS devices on all the vehicles, RFID Tags, RFID Readers.
- GPS Based Application software (Vehicle Tracking System) integrated with GPS, RFID devices
- GPS/GPRS System, RFID, fuel sensors for all vehicles. Minimum number of vehicles is 300.
- Provision for alerts to the Central Command centre on Scheduled Missed Trips, over speeding vehicles, unauthorized stoppage and /or non-stoppage of the vehicles at designated bins & route deviation by vehicles etc.

Solar Roof Top

India is endowed with vast solar energy potential. From an energy security perspective, solar is the most secure of all sources, since it is abundantly available. Theoretically, a small fraction of the total incident solar energy (if captured effectively) can meet the entire country's power requirements. It is also clear that given the large proportion of poor and energy un-served population in the country, every effort needs to be made to exploit the relatively abundant sources of energy available to the country. While, today, domestic coal based power generation is the cheapest electricity source, future scenarios suggest that this could well change.

It is proposed to install 1 MW of solar power from 31 Government buildings and connected to the Grid. The broad aim of this project is to develop and deploy new and renewable energy for supplementing the energy requirements of the city. Remote monitoring systems of all the solar roof top installed on Govt. buildings will be monitored through IC4. This will result in better planning and running the operations from energy management perspective.

Smart Parking

The objective of Smart Parking is to better manage the parking areas of the city and provide seamless information to users of parking slots. Smart Parking is a pan city initiative for all the parking areas which falls under purview of Municipal Corporations and managed by Municipal Corporations. Under this minimum 20 parking areas will be managed. Minimum 7000 two wheelers and 1500 four wheelers parking slots will be managed under smart parking project. There will be a sensor based smart parking solution, one sensor for each parking slot which will help in better manage and knowing the status of parking slot and subsequently provide parking availability status to end users.

Public Bike Sharing

Public bike sharing system is a service in which bikes will be made available to the citizens of Kochi city on shared basis. Public bike sharing project will allow citizens to borrow a bike from one point and return it at another point. Following are the main features of public bike sharing system:

- There will be 45 Stations in ABD area, 1500 smart Bicycles across the city with onboard GPS
- Fare Collection device on each smart bicycle – using NFC, Smart Card and Pin Code
- The central control system collects data from each station for efficient planning and operation of the system.
- This data is used to make decisions on redistribution of cycles around stations during the hours of operations.

Smart Pole and Smart LED lighting

The smart Pole or intelligent pole project envisage installation of 800 poles across the city. Each smart pole will be equipped with multiple utilities like CCTV cameras, Wi-Fi services, Smart LED Lights. Following are the key features of this project:

- Converting 5100 traditional street lights to LED based intelligent lights
- 800 Smart poles with capability to accommodate multi operator telecom Base Stations for 2G/3G/LTE to reduce mobile call drops
 - 800 Surveillance cameras inbuilt into smart poles
 - Interactive Digital Signage for traffic & business - 800
 - 48 core, 490 km of citywide Optical Fiber Cable network to enable connected communities
 - O&M of services for 15 years

Solid Waste Management Services (IoT based Smart Bin)

Principally Solid Waste Management refers to control of generation, storage, collection, transport or transfer, processing and disposal of solid waste materials in a way that best addresses the range of public health, conservation, economics, aesthetic, engineering and other environmental considerations. Under this project all the vehicles involved in collection of solid waste are being tracked. Following are the key attributes of this project:

- To bring transparency and become an organized entity, the city of Kochi is already equipped with GPS in Garbage carrying vehicles.
- The purpose of this tender is to further streamline and organize the Solid Waste Management System in Kochi.
- Municipal Corporation of Kochi is responsible for collecting Solid Waste from various wards in the City in its own vehicles.
- This project aims at transforming all the Waste/Garbage Bins into Smart Bins to enable automated communication and improve efficiency of Garbage collection with least latency time once the Bin is filled.
- To enable this it is envisaged to deploy RFID and IoT based solution for two-way communication and organize the process of waste collection and transfers the system completely into a citizen friendly smart Bin clearance system.

Water Management System

Kerala Water Authority manages the water supply system of the city, and under water management system of the city it is planned to use supervisory control and data acquisition system. Under this project approximately 3 lakh edge devices would be connected through data acquisitions system in whole city.

- **Advantages of SCADA System:**

The entire water supply and distribution system shall be upgraded to control from the remote station. SCADA system will enable the authority to monitor the system on real time basis and will also help the authority to see the functioning of individual plant as well as to change / correct the working set points at the plant locations.

The SCADA shall transfer the water distribution network data in real time to the Water Supply Information Management System (WIMS) to enable real time analysis of the distribution system.

- **Following are the features of WIMS**

- Installation of measuring devices spread over the city for automatic data transfer, at a central location having network facility with main server of the administrative system of the utility.
- The main role of WIMS will be to gather, analyze and present data from various software packages and will provide a data connectivity link that will enable the operations engineers to make informed decisions on improving the operating efficiently of the network.
- Use of the software will enable authorities to make informed decisions on operating strategies, to improve the level of service and equability of supplies in all the areas.
- A tool to compare billing information with actual flow in each zone.
- Reliable information to improve the capacity and operating strategy of the network to distribute the available supplies. The basis or planning future capacity strengthening and modeling towards 24-hour continuity of supplies.

Integration with Utilities (KSEB) and Smart Grid

IC4 will be required to integrate with control rooms / systems of the Kerala State Electricity Board (KSEB) listed services of the Area Based development (ABD). These services are planned for the near future. IC4 will be required to get all kinds of feeds from all the sensors / edge devices installed for these services in the field. IC4 will be required to monitor these services in real-time and manage the operations of these services. All the information received from the application will also go into the Analytical layer which will help city in better planning and running of operations. This information will also help in predictive analysis.

Smart Grid

Smart Grid shall facilitate efficient and reliable end-to-end intelligent two-way delivery system from source to sink through integration of renewable energy sources, smart transmission and distribution. In this way Smart Grid technology shall bring efficiency and sustainability in meeting the growing electricity demand with reliability and best of the quality.

Smart Grid shall also enable real time monitoring and control of power system as well as help in reduction of AT&C losses, demand response and demand side management, power quality management, outage management, smart home energy system etc.

Smart Grid shall act as a backbone infrastructure to enable new business models like electric vehicles, smart communities apart from more resilient and efficient energy system and tariff structures etc.

Smart Education

Education services in Indore shall have an improved infrastructure and service delivery mechanism through ICT intervention. This will enable city to create safer and modern facilities for students and teachers. Global experts and teachers will be able connect with students using internet interventions for sharing their knowledge and experience. This system of education will also be used to provide education to remote places where teachers cannot be recruited. This will play a vital role in improving the overall literacy rate of the society and will allow education to reach to all section of society curtailing the obstacles that our society faces today.

The following ICT initiatives have been envisaged to make education interactive and effective;

Smart Interactive Education: Smart classroom with Wi-Fi based internet connectivity will help to conduct collaborative learning programs using video conferencing, which will allow students from different schools to have access to the teachings of different schools/teachers who are awarded with better performance assessment. Also, similar collaboration with national and international level good schools will also be conducted, to provide students with an exposure to world class education. This will also allow students to interact with students from various schools across the globe, to share knowledge among them and take career-oriented counselling from various professionals and seniors. Such schools will be able to arrange online trainings for students on subjects wherein they themselves don't have a permanent faculty for the said subjects/topic. Also, the online library shall be provided to students with facilities of e-books and online notes sharing which will make the teaching experience more interactive and fun for all.

Integrating with e-Health program of Kerala: Smart Health

In India Only 31% of the population uses Government medical facilities. Even the lowest socio-economic strata are forced to use private & charitable facilities with inadequate Govt. health Infrastructure for proactive disease mitigation. It is utmost important to revive and plan measures to upgrade existing health infrastructure by integrating dispensaries and health posts for preventive and curative care. The Purpose of Smart Health are as follows:

- Delivery of quality health services
- Ensure availability, accessibility and affordability of services to all categories of people
- Fulfil demands of the patients to their satisfaction
- Improve health indicators by setting targets and fixing time limit for the same.
- The following ICT initiatives are envisaged to initiate a Smart Health component
- Reforms in medical record keeping in line with ICD guidelines. Computerization of hospital records.
- CCTV at important patient care area
- Health card linked to Aadhar Cards
- Health Applications for follow up reminder, medicine reminder, location of nearest ASHA/ANM/ PHC/ CHC, etc.
- Call Centre at City level to track and monitoring patient health post visit to health center to ensure continuum of care
- Hospital Information Management System with medical, administrative, ERP, EMR and integrated with PACS, Lab equipment at DH/ CHC/ PHC
- MIS/ KPI monitoring system to provide visibility of performance of resources and effectiveness of the programs
- Trend analysis and future disease analysis. Implementing Planning measures to cater to future healthcare needs of the city
- Smart 3/4G or Wi-Fi connected buttons shall be installed to raise one press alerts identifying location as well as type of incidents such as: Code Blue, Code Red: Distress, these buttons shall provide a proactive security approach for Hospital Staff and Patient in distress.

Intelligent Traffic Management System (ITMS)

Traffic police of Kerala Police department at present issues spot challans and court challans manually in the form of hand written hard copy format for violations of various traffic rules in force in Kochi. The data of prosecution for traffic violations with various combinations for report generation and monitoring is fed manually and maintained in various formats for the purpose of traffic management.

21 junctions are proposed to be developed with Adaptive Traffic Control System and vehicle actuated controllers. All the traffic signal will be intelligently managed and shall be connected to the IC4.

With Intelligent Traffic Management System, Kerala Police intends to procure the RLVD and e-Challan system under this Project for management of traffic violations in near real time, data maintenance, generation of prosecution reports and to prosecute repeat violators for appropriate punishment as provided in Motor Vehicle Act. The purpose of this project is to ensure that all traffic violations are recorded in real time and stolen vehicles are tracked and legally prosecuted accordingly.

Above given timeline for the projects in Kochi is tentative, it may vary at the time of actual implementation.

Following are the few important IT systems of the city and their features. CSML envisages integrating these IT systems with IC4 of smart city Kochi.

Sl. No	List of Services	Brief of Scope for Integration
1	Integration of Smart Parking	<p>IC4 will be required to receive feeds on the status of parking across the cities which are managed by the Smart Parking command centre (feeds received from all the edge devices of the Parking Solution).</p> <p>These feeds will provide information of available, non-available parking slots, functional and non - functional parking slots. IC4 will also be required get video feeds from the parking areas on real-time basis.</p> <p>These video feeds will also help monitor assets of Kochi Municipal corporations.</p> <p>All the information received will also be required to be mapped on the GIS map.</p> <p>All the information received from the smart parking command centre will also go into the Analytical layer which will help city in better planning and running of operations. IC4 should also be able to trigger the commands / alerts (if required) to the respective command centre. This initiative is under Municipal Corporations</p>

Sl. No	List of Services	Brief of Scope for Integration
2	Integration of Public Bike Sharing	<p>IC4 will be required to integrate with the KMRL Public Bike Sharing solution, which is a PAN City initiative.</p> <p>IC4 will be required to receive feeds on the status of utilization of public bike sharing docks across the city. These feeds will provide information of available, on-available cycles in slots, functional and non - functional PBS stations.</p> <p>IC4 will also be required get video feeds from the PBS stations on real-time basis.</p> <p>IC4 will also be required to get information regarding the position of the cycles deployed under the PBS project. All the information received will also be required to be mapped on the GIS map.</p> <p>All the information received from the PBS command center will also go into the Analytical layer which will help city in better planning and running of operations.</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective command center.</p>
3	Integration of Smart Pole & Smart Lighting	<p>IC4 will be required to get information on the status of working of the installed LED lights, as well as other sensors and other cameras.</p> <p>IC4 will also get real-time video feed from the installed Smart Poles.</p>

Sl. No	List of Services	Brief of Scope for Integration
		<p>All the information received will also be required to be mapped on the GIS map.</p> <p>All the information received from the Smart Pole will also go into the Analytical layer which will help city in better planning and running of operations.</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective command centre.</p>
4	<p>Integration of Solid Waste Management Services (Tracking of solid waste vehicles)</p>	<p>IC4 will be required to integrate with the control room of Solid Waste Vehicle tracking project (Pan City Initiative) to receive feeds on the location of the solid waste vehicles. IC4 will also get other information which is received in the control room like fuel utilization of Vehicles.</p> <p>All the information received will also be required to be mapped on the GIS map.</p> <p>All the information received from the command centre will also go into the Analytical layer which will help city in better planning and running of operations.</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective command centre. This initiative is managed respective Municipal Corporations.</p>
5	<p>Integration of ITMS (Police)</p>	<p>IC4 will be required to integrate with Command Center of Traffic Management System, to receive real-time feeds of the camera installed by them.</p>

Sl. No	List of Services	Brief of Scope for Integration
		<p>These video feeds will not be saved, but will be utilized in Analytical layer to help administration monitor its assets and do a better urban planning.</p> <p>IC4 will also be required to send video feeds received from Smart Parking, Smart Pole, PBS in real-time basis to the command center of Traffic (if required).</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective command center.</p>
6	<p>Integration of MCs, Call Centre & Municipal Services (Web Portal and Mobile Applications)</p>	<p>ICCC will be required to integrate its helpdesk and system with Municipal Corporations call center, in case if there is some information or notification is to be sent to Municipal Corporations call center for doing some action in the field regarding Municipal Corporation work.</p> <p>All the information received from the command center will also go into the Analytical layer which will help city in better planning and running of operations.</p> <p>ICCC will be required to integrate with the backend system of Kochi Municipal Corporation services which is SAP based system to monitor the performance of the application. Along with this ICCC should be able to show the utilization by citizens of various sections of any mobile application in the form of a Dashboard.</p> <p>ICCC should be able to integrate with the existing ICT systems and edge / end / mobile devices of various Municipal</p>

Sl. No	List of Services	Brief of Scope for Integration
		<p>Corporations departments such as Garden, General Administration Department, Water Supply, Sewerage, Assessment and Collection (Property Tax, Shops and establishment), Fire (Fire Brigade Section), Transport of Heavy Vehicles and Maintenance (Workshop), Audit and License Issue to receive and send information.</p> <p>ICCC should be able to map the data received from various Municipal Corporations departments on its GIS Platform.</p> <p>ICCC will be required to send Municipal Corporations field agents alerts and notifications for any emergency / incidents / disaster in the city for doing required action. ICCC system should also be able to get acknowledgement from the receivers.</p>
7	<p>Integration with Smart MAP (GIS)</p>	<p>IC4 will be required to use the GIS platform developed by SPVs of respective smart city.</p> <p>There will be a requirement for enhancing the existing platform and using it in the IC4 for doing all the necessary actions. Along with this IC4 should be able to show the utilization by citizens of various sections of Kochi Citizen application in the form of a Dashboard.</p> <p>All the information received from the application will also go into the Analytical layer which will help city in better planning and running of operations.</p>

Sl. No	List of Services	Brief of Scope for Integration
8	Integration with Mobile App	<p>IC4 will be required to integrate with the backend system of Kochi Citizen to monitor the performance of the application. Along with this IC4 should be able to show the utilization by citizens of various sections of Kochi Citizen application in the form of a Dashboard.</p> <p>All the information received from the application will also go into the Analytical layer which will help city in better planning and running of operations.</p>
9	Integration with Transit Management System	<p>These feeds will be sensor-based feeds on location of public transport vehicles, bus station information operations, etc.</p> <p>All the information received from the command centre will also go into the Analytical layer which will help city in better planning and running of operations.</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective command centre</p>
10	Integration with CCTV Surveillance	<p>IC4 will be required to integrate with Command Centre of CCTV System, to receive real-time feeds of the camera installed by them.</p> <p>These video feeds will not be saved, but will be utilized in Analytical layer to help administration monitor its assets and do a better urban planning.</p>

Sl. No	List of Services	Brief of Scope for Integration
		<p>IC4 will also be required to send video feeds received from Smart Parking, Smart Pole, PBS in real-time basis to the command centre of Police (if required).</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective command centre.</p>
11	Integration with Water Management System	<p>IC4 will be required to integrate Water Management System control room to get all kinds of sensor and edge devices feeds.</p> <p>IC4 should be able to map this information on the GIS layer and help authority monitor the water management of the city.</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective command centre.</p> <p>All the information received from the application will also go into the Analytical layer which will help city in better planning and running of operations.</p>
12	Integration with Area Based Development (ABD) Services: i) Utilities, ii) Lighting, iii) Metering, iv) Surveillance	<p>IC4 will be required to integrate with control rooms / systems all the listed services of the Area Based development (ABD).</p> <p>These services are planned for the near future. IC4 will be required to get all kinds of feeds from all the sensors / edge devices installed for these services in the field.</p> <p>IC4 will be required to monitor these services in real-time and manage the operations of these services.</p>

Sl. No	List of Services	Brief of Scope for Integration
		<p>All the information received from the application will also go into the Analytical layer which will help city in better planning and running of operations.</p> <p>This information will also help in predictive analysis.</p>
13	<p>Integration with Solar Roof Top Project</p>	<p>IC4 will be required to integrate the energy management system of solar roof top project to get all kinds of sensor and edge devices feeds.</p> <p>IC4 should be able to map this information on the GIS layer and help authority monitor the energy management system of the city.</p> <p>IC4 should also be able to trigger the commands / alerts (if required) to the respective stakeholders</p> <p>All the information received from the application will also go into the Analytical layer which will help city in better planning and running of operations.</p>

Annexure 13 IC4 Compliance Matrix

IC4 Application specifications	
System Architecture, Integration Modules and Scalability	The core operator system interface will be an open platform IC4 application system that is structured around a series of software modules that can act independently or together in a uniformed manner to deliver all the requirements to the Smart Security Control Room.
	The open platform IC4 application system shall be an efficient, scalable, easy to use, video command and control management system. The system shall seamlessly integrate with multiple manufacturers' analogue equipment & digital IP equipment to enable a fully featured operator software platform.
	The open platform IC4 application system shall have a Client/Server infrastructure and will utilize three screen operator layouts. The operator software must be a 'thick-client' application which gets installed on operator terminal, works in sync with Server application and allows robust integrated interface for operators.
	The open platform IC4 application system shall be developed utilizing the latest architecture.
	The requirement for the open platform IC4 application system is a key component of the control room delivery and will provide the centralized modular, unified and intuitive user system.
	The IC4 shall be a readymade off the shelf platform available on a SaaS model. The functions of the IC4 shall be demonstrated through used cases described below to the evaluation committee.
	The system will be truly hardware agnostic and non-proprietary to products such as, access control, IP camera/encoders, video management system (VMS) and NVR storage and others.
	The IC4 software solution should have provision for open data platform. The intent for creation of open data platform is to share the data with general public which is useful for citizen. The open data platform should be able to share the APIs for development of useful application for public in general. Open data platform should be implemented as the implementation guidelines issue by Govt. of India and it should adhere to the open data policy of Govt. of India.

	<p>The IC4 system should provide integration with third party devices using the manufacturers Software Development Kit (SDK) to ensure that all available functionality is available and supported for the devices.</p>
	<p>Incident Management, KPI and Reporting functionality should be integral to the core security management application and not a separate installable software entity</p>
	<p>The IC4 management system and its associated integral incident management should not have any limitations regarding system users or administrators/managers</p>
	<p>The IC4 software manufacturer should demonstrate that a technology partnership is in place with any sub-system manufacturer(s) where integration is required to ensure end to end compatibility and support of the complete solution</p>
	<p>The IC4 software manufacturer should provide details regarding the development resource available to ensure that all development is performed in-house and not 'outsourced' for future risk mitigation</p>
	<p>The IC4 software solution manufacturer should provide details regarding the amount of technical engineering/support resource available including geographic coverage to ensure adequate technical support coverage is available</p>
	<p>The IC4 system shall provide the ability to add Video Clips to an active incident where the camera was not automatically selected as part of an incident</p>
	<p>The IC4 system shall provide the ability to burn video footage directly from an active incident record</p>
	<p>The IC4 management system shall provide the ability to seamless connect to Access control systems, Alarm management and Intruder detection systems (inbuilt into core system software).</p>
	<p>The IC4 management system shall provide the ability to seamless connect to Asset management and tracking systems (inbuilt into core system software)</p>
	<p>The IC4 system shall provide the ability to seamless connect to Building management system (BMS) integration to connected systems such as energy, lighting, lifts, HVAC to enable the connectivity, evaluation and reporting and provide a live system dash board</p>
	<p>The IC4 management system shall provide the ability to seamless connect to an Energy management system integration to enable the connectivity, evaluation and reporting on rooms, building floors, whole building and multiple buildings and provide a live system dash board (inbuilt into core system software)</p>

	TheIC4management system shall provide the ability to seamless connect to Fire management systems
	TheIC4management system shall provide the ability to seamless connect to GPS and 3G and above live device tracking systems including interfaces to Open Street and Bing (inbuilt into core system software)
	TheIC4management system shall provide the ability to seamless connect to Intercom and VoIP systems
	TheIC4 system shall provide the ability to seamless connect to Incident management system including full auditing along with performance indicators and in-house check reporting and provide a live system dash board
	<i>o Full incident management functions detailed below</i>
	TheIC4 system shall provide the ability to seamless connect to Key management systems (inbuilt into core system software)
	<i>o Full key management functions detailed below</i>
	TheIC4management system shall provide the ability to seamless connect to repeat offender system including boundary shown on map (inbuilt into core system software)
	<i>o Full repeat functions detailed below</i>
	TheIC4management system shall provide the ability to seamless connect to RFiD systems
	TheIC4management system shall provide the ability to seamless connect to Traffic management systems
	TheIC4management system shall provide the ability to seamless connect to Vehicle tracking systems
	<i>o Full vehicle functions detailed below</i>
	TheIC4management system shall provide the ability to seamless connect to Visitor management systems (inbuilt into core system software)
The open platform IC4 system Client Application control screen will contain the following functionality; all functionality shall be offered in a modular format:	
Events Panel	A fixed area (configurable on setup) that displays all event driven information such as, but not limited to, alarm inputs, access control notifications and hardware failures.

Mapping and Navigation Panel	A mapping area panel depicting either and/or multiple sources such as GIS, CAD, jpeg or bitmap images and web based maps such as Google Maps. The maps support multi-layer drill down functionality with hyperlinks for intuitive navigation across the maps. The mapping function will support zoom functions either by clicking a selected area or via arrows.
	Map icons shall include, but not be limited to, the selection of cameras, doors, registers, alarm points, bollards, barriers etc.
Camera Selection Panel	Camera selection can be presented in numerous formats from Zone/Scheme to Area/Street; via camera number, camera name or by selection on the map. Camera selection can be limited in the User Profile list.
Incident Panel	A list of live and recently recorded incidents shall be available for instant selection by operators.
Join Incident	Placed on the open platform integrated security application system is the ability to join a live incident that another operator has created and is involved in. By joining the incident all footage and actions are tagged onto the same incident.
Monitor Layout Panel	Available at all times is the current configuration of the operator's screens, these can be changed to suit each operator and tied to their profile.
Functional Icons	A fixed area shall be allocated for the selection of commonly used icons, these can include, but not limited to, bollards, barriers and doors. The System Administrator shall be able to assign functions and devices.
Within the Operator Client Application there will be a series of menu functions covering:	
Maintenance/Fault Logging	The ability to log a fault or maintenance visit, with warnings presented to the operators via an Organizer screen. Reports are created to show faulty items of equipment, time taken to fix etc. Automatic emails are generated and distributed to predefined lists.
Full Incident Management	View, Add, Edit and Deletion of Incident provided via correct Access Rights. Logging of information on Incident Category, Call Source, Activity Type, Description, Actions Taken, People Involved, Responses (such as Police, Fire or Ambulance), Tasks, Daily Log Entry, Mapping Hot Spot, Result and Media/Cameras Used.
	Report generation for all aspects of the form shall be provided.
Video Replay/Retrieval	Replay and review of footage shall be allowed from any workstation, given the correct privileges. Regardless of manufacturer the replay will be done in the same format enabling downloads from all encoding and DVR solutions above.

Media Management and Tracking	The burning of disks and replication of media shall be tracked and noted within the system to provide a full audit trail.
Visitor Log	Logging of visitors within the control room can be done with the capture of digital signatures.
Mapping Hot Spot Analysis	Cluster mapping analysis shall be provided to allow the graphical representation of hotspots over a custom data set. Information overlay onto the mapping system shall include, but not be limited to, incident data, camera data and person data.
Repeat Offender	A full repeat offender database shall be included in the client application to provide easy access and identifying of known offenders. Data to include description, pictures, incident details, vehicles and associates.
Contact Directory	Phone book including contact to companies, people and key holders.
Macros and Tours	Patrols of cameras, video wall layouts and other macro defined operations shall be catered for.
Setup and System Settings	Data and user parameters are accessed and set within the System Administrator Section. Areas include, but not limited to, password setup, user profile, system lookups, camera patrol setup and hardware setup.
Full Camera/Recording Equipment Details	Camera setup will allow the selection via the client control screen, denote make, manufacturer, fault history and connection. Recording devices shall share common fields such as make, connectivity, frame rate recording and location.
Spot Monitor and Display Wall Control	The monitor wall shall be controlled via the monitor wall panel. This shall enable the selection of pre-programmed display layouts; also allowing the selection of cameras to the wall via the operator desk.
	The selection of screen layouts shall be available with automated camera routing to provide desired camera images, mapping and data display scenarios.
User Creation/Profile and Priority Levels	Creation of users will include profile, username, password and priority level.
Priority Levels	Priority Levels will be set to equipment notifications, alarm inputs and user levels. The level range will go from 1 to 1,000 with 1 being the high level. Levels are set to:
	Alarm (fire, intruder, access control etc) inputs

	Operator levels
	Macros
Joystick Controller	Selections of joystick controllers are provided. All are ergonomically designed for comfort and ease of operation; highly rugged, accommodate left and right handed users, contact less, industrial grade, variable speed pan and tilt control.
Audit/Database Searching	Full auditing provided to cover all aspects of the Data Protection Act 1998 along with performance indicators and in-house check reporting.
Incident Reporting	The system shall include extensive search and report options covering all facets of the system; user generated reports shall also be included.
	The system shall trigger an incident report via an operator action, this is usually activated by the operator selecting an incident button either; on-screen, via a keyboard button or via a joystick button. When the incident button is triggered, the system starts to record the operator's actions; the system automatically starts an incident report and completes which cameras have been used, the location on the camera and sub categories' this into zone/scheme/area/street and time of incident.
	The open platform integrated security application system shall allow two or more operators to work on the same incident, at the same time. A second operator simply has to click the 'Join Incident' button on their screen to prompt the system to start recording their camera movements.
	When the incident button is triggered the footage is automatically recorded and tagged the system presents to the operator pre and post event CCTV footage for all of the encoding and DVR manufacturers listed below. This footage is then attached to the incident form and can be replayed at a touch of a button.
	The open platform integrated security application system shall decode multiple video channels from many sources, and display these on video walls or spot monitors. They also allow instant playback access to archived video, and this can be replayed alongside live video feeds.
	The system shall have graphically enriched reports that can be scheduled to run automatically and emailed out to recipients. Plus advanced search and reporting tools, which allows the client to build their own reports. Additionally the open platform integrated security application system provider shall also provide assistance and a custom report writing service.
	Reports can be scheduled to run automatically and emailed out to recipients.

Incident Reporting Key System Features	Incident management
	– User definable categories
	– Automatically generate SMS alerts for important categories
	Operator activity capture and analysis
	– Includes automated camera patrol tracking
	Repeat offender profiling
	– Advanced search facilities
To support future system growth and expansion the system must as minimum support the following additional functions.	
Alarm Handling	The open platform integrated security application shall enable connectivity to intruder alarms, PIR detectors, void property systems, analytics engines, building management systems, climate control technology, asset tracking systems, lone worker panic alarms, automated traffic bollards, help points and access control systems.
	The system shall integrate CCTV monitoring functions to allow visual verification to reduce false alarm scenarios.
	The open platform integrated security application system shall pre-prioritise alarms, according to different criteria. Also, the alarm stack is presented to the operator in an easy-to-understand format, clearly and efficiently, as part of the integrated solution.
	The open platform integrated security application system shall include a response planning section and a comprehensive opening / closing schedule. On accepting an alarm, the system presents to the operator pre and post event CCTV footage for all of the encoding and DVR manufacturers together with streams from the appropriately located group of cameras associated with the alarm.
Asset tracking including high value items, personnel and vehicles	The open platform integrated security application system shall have an option for a dispatch and guard tour option to show the “last known position” of mobile resources in real time on a map.
	3G and GPS device can be integrated into the system. A typical scenario would be: an Operator starts to record an incident or receives an alarm activation, they can instantly look to a map that will show the last known position of the mobile device, which are displayed as different icons for people and vehicles.

	<p>The operator can then double click on the most appropriate icon this will then show that devices record. If it is a mobile device for a vehicle it will show the vehicle details and contact number, if it is for a person it will show their picture and contact details.</p> <p>The operator shall then have the option to communicate direct, via a head set or radio dialed automatically from the system. Once communication is made and decisions have been finalized the operator shall the facility to confirm all instructions in a text message.</p> <p>The open platform integrated security application system shall allow the operator to drag and drop the icon onto the incident location, this will log that a mobile device has been sent to the incident and recorded on the incident form. All displays and preferences are user definable so map scaling, layout and communication methods are already setup for when the operator logs onto their shift.</p> <p>The system shall as a minimum enable connectivity to all major GPS devices.</p> <p>The open platform integrated security application system mapping system shall an integrate to Open Street, Bing or utilise jpeg / bitmaps / PDFs / CADs.</p>
<p>C&C OEM Criteria</p>	<ol style="list-style-type: none"> 1. IC4 OEM must have Indian technical support team with a registered office setup in India for last 3 or more years. In case the C&C OEM headquarters are outside India then it must have a subsidiary setup in India for 3 or more years. 2. IC4 OEM must be prepared for reasonable customisation (UI or Integration related) as per customer requirements as long as it is under the support agreement. 3. IC4 OEM must not be same as any of the sub-systems involved in the project be it software or hardware. This is to make sure IC4 OEM is absolutely agnostic to any third party system and is not biased towards its own company products. 4. IC4 Software licenses must not be based on count of edge devices. Should support unlimited number of edge devices as long as they are integrated. This is to prove that the IC4 is scalable for future expansion without being dependent on additional cost / license per edge device. 5. IC4 software must be a 'thick Client' - Server architecture. Completely Web based systems are not valid or suited for such an integrated and robust B2B application.

Annexure 14: Project Management Service Features

Feature	Description
User Interface	Increase productivity with the <u>Ribbon</u> , a tab interface to quickly find and use Project features and controls. Personalize the ribbon by adding and/or removing actions on the tabs and creating personal galleries
Contextual Guidance	Quickly learn about features with hover-over command Tool Tips, Status bar messages and context-sensitive on line help.
Online Help	Go online to find expanded Help, step-by-step guides and video training.
Tell Me	Instead of searching in Project or in the online help resources, Tell Me, will look for whatever solution you need.
<u>Zoom In/Out</u> Quickly	Zoom controls on the Status bar allow you to quickly change the timeline perspective of your project schedules.
Backstage™	Quickly access tools, templates and program options for Project using the new Microsoft® Office Backstage™ view.
Save File to <u>SharePoint</u>	Collaborate on your Project file with your colleagues by saving it to your Microsoft® SharePoint® site.
Create Projects from SharePoint Task List	Convert your current SharePoint® tasks lists into a <u>Project schedule</u> .
Synchronize with SharePoint	Publish your project schedule to a SharePoint® task list, receive task updates from your resources and the two are automatically synchronized.
Add-ins	Microsoft Project Add-ins are now easier than ever to integrate with your Project. Microsoft partner applications can be downloaded in the same efficient manner as templates from the Office store.
New Themes	Change your project theme to which ever theme you prefer: colorful, dark gray, and white
<i>Project Planning</i>	
<u>Project Templates</u>	Initiate project plans using <u>best practice</u> templates with pre-defined schedule and generic <u>resource assignments</u> .

Custom Fields	Capture and standardize project metadata using <u>custom fields</u> .
Enhanced Copy/Paste	Collaborate on schedule development by copying/pasting schedule details between applications with outline levels and formatting maintained.
Automatic <u>Scheduling</u>	Use the powerful scheduling engine to plan, manage and track projects.
User-Controlled Scheduling	Puts you in <u>control</u> of the schedule with greater flexibility to specify <u>task durations</u> and start/finish dates.
Top Down Summary <u>Tasks</u>	Support top-down and rolling wave planning to capture expected dates – later compare summary information with bottom-up schedule details.
Placeholder Text in Project Fields	Enter text notes in Date or <u>Duration</u> fields and change later when details are known
<u>Active / Inactive</u> Tasks	Perform what-if analysis and review impacts on <u>schedule</u> and <u>resources</u> by making tasks active/ inactive.
Multiple Level Undo	Perform what-if analysis and fully understand the impact of changes by reversing and re-applying an entire set of operations, including views, data and options changes.
Top Level Budget <u>Planning</u>	Define overall project or program <u>budget</u> to allocate funds and track costs, work and materials against the time-phased plan.
Manage Non-working Time	Accurately reflect when resources are available for project work by capturing vacations, exceptions and other calendar details.
<u>Calendar</u> Wizard	Use the Calendar wizard to simplify the process of setting up resource and task calendars for your project.
<u>Gantt Chart</u> , Calendar and Task Sheet Views	Use a variety of views to manage and review project data effectively
Network Diagram View	Group tasks and display graphical indicators in a Network Diagram view
<u>Timeline</u> View	See your entire schedule or review specific dates and deadlines using the completely new and visually enhanced Timeline view.
Multiple Timeline View	See more than one visually enhanced timeline view to help visualize different phases of your project plan. You can set both start and end dates for each timeline from this view.

<u>Deadlines</u>	Set due dates for tracking and <u>reporting</u> without creating <u>constraints</u> on tasks
<u>Formulas</u> and Graphical Indicators	Effectively communicate status and track project metadata by assigning formulas, pick lists and graphical indicators to custom fields.
Group and Sort Project Data	Combine and organize project information in a variety of ways using custom or default grouping and sorting.
<u>Filtering</u>	Quickly filter data for any column header with custom and default filtering options.
Auto-Complete	Enter project details with Excel-like ease using an auto-complete pop-up display of previously used values.
Dynamically Add Columns	Add columns by entering data in the cells without first selecting the data type.
Text Wrap	Row height is adjusted automatically to display full contents of a cell.
Background Cell <u>Highlighting</u>	Highlight important dates, costs or tasks by changing the background color of select cells in a table portion of the view.
Expanded Color Palette and <u>Formatting</u>	Use the extended color palette and rich graphical formatting options to emphasize important details and personalize project schedule details.
<u>Baseline</u> Rollup	Control how baseline data is rolled up to summary tasks for up-to-date tracking of projects.
<u>Master Projects</u>	Create programs with more than one <u>sub-project</u> for program-level management, <u>tracking</u> and <u>reporting</u> .
Cross-project <u>Critical Path</u>	Calculate critical path across all projects in a master project to determine the overall critical path for the program.
Publish Projects to <u>Project Server</u>	With Project Server 2010, gain control across all types of work, improve project selection and strategic alignment, maximize <u>resource utilization</u> and visualize performance through powerful <u>dashboards</u> .*
<i>Resource Planning and Management</i>	
<u>Resource Engagements</u>	Request a resource in project and your resource manager can accept or deny your request. If accepted, your resource will lock to ensure availability.
Resource Views	A designated space for resource managers to look at and accept or deny all resource requests.

<u>Work, Generic and Material Resources</u>	Define and assign named work (person or equipment) resources, generic (skill-based, for example, DBA) resources, or consumable material resources such as lumber or concrete.
<u>Cost Resources</u>	Support accounting system integration and definition of multiple time-phased fixed costs on each task.
Team Resources	Associate enterprise resources with a team to show team allocation, assignment and status and to allow resources within the team to assign themselves to team tasks.*
<u>Team Planner</u>	Visually drag and drop resources in an interactive resource view to simplify complex resource scenarios.
<u>Resource Sheet and Usage Views</u>	Use variety of views to change resource information and review work and allocation details.
<u>Resource Leveling</u>	Recognize and correct resource overload scenarios using various resource leveling techniques.
Resource Substitution	Easily locate qualified resources to substitute for scarce or unavailable resources.

Annexure 15: Technical Specifications of City Command and Control Room

Below given Technical Specification provided under are indicative for Command and Control Room (CCR). Bidder is required to carefully examine the requirements and may propose technical specification / design as per their solution to meet the objective of RFP.

MSI needs do its due diligence and finalize Bill of Material (BoM) at the time of implementation. This finalized BoM should be submitted by MSI to Authority for approval. This approved BoM will become the base document for future payments to MSI.

MSI will be required to do the installation as per the approved BoM.

MSI will be required to submit design documents (as defined in earlier sections of the RFP) to Authority for approval based on the approved BoM.

1) Civil Work, Safety Instrumentation and Furniture (at CCR)

The entire control room environment has to be designed as per ISO 11064 (International Norms to Design the Control Center). It should be state-of-art and the design should conform to provisions under ISO 14001 and OHSAS 18001, HFE and ISO 9241, covering various aspects of Command Center (wall paneling/partition & ceiling). It should also follow all the disabled friendly design as per the MoUHA norms and guidelines.

SAFETY: It must be safe and the designing components should not PROVOKE FIRE. So, ASTM E84 (Standard Test Method for Surface Burning Characteristics of Building Materials) certified materials to be used for wall cladding, flooring, paneling, partitions and ceilings. Safety of User & control room equipment safety is a high concern area therefore ceiling, paneling, partition and desk must be seismically tested and qualified. The test must be carried out by authorized government agency.

The test must be carried out by authorized government agency and certificate to be submitted.

a. False Ceiling

"The ceiling used must be ASTM E84 **class A** certified for surface spread of flame and smoke generation and ROHS certified (Restriction of Hazardous Substance like Nickle, Cadmium etc.). Zero / minimum maintenance is the basic requirement, thus wood, painted Gypsum, Fabric etc. are not acceptable. Designer Acoustic Metal False Ceiling: Factory made acoustic modular metal false ceiling of powder coated panels. Panels shall be designed to achieve shape and design as per the design consultant. The ceiling shall be designed to enhance visual feel, with provision for easy installation and maintenance, integrated lighting and scope for integration of building services like HVAC and fire detection/ fighting system.

Design:

- The ceiling panels shall be made up of powder coated metal panels to achieve strength. These planks shall be bend through CNC & laser Cut to achieve perfect accuracy.
- Structure shall be made from heavy duty powder coated modular steel frame (minimum sheet thickness 1 to 1.6mm). It shall be securely grouted from roof with help of anchor fastener and GI self-threaded rods. It shall be formed with the help of slotted rolled sections (stiffener) with help of M6 cage nut and bolts.
- Light fitting & AC Diffuser can be defined as per the LUX requirement.
- Surface Finish:
 - For Panels: Powder coated GI sheet. (sheet thickness: 0.6mm with powder coating:)
 - For Structure: Powder coated sheet. (sheet thickness: 1.0mm to 1.6mm with powder coating)
- The metal sheet shall have possibility of being formed mechanically per the specific needs of the project. The powder coating shall be able to undergo stretching up to 100% and therefor follow (adhere to) bend with the steel in all its deformation.
- In some parts of the control room; fire rated acoustical fleece to be pasted on the perforated

metal ceiling planks to achieve better acoustic levels. Metal modular false ceiling is having Sound absorption coefficient (NRC) value 0.80 per IS:8225- 1987, ISO: 354-1985 and ASTM 423-90.

- **Material Testing/Certification:**
- Powder coating
 - Adhesion test: EN ISO 2409 (2 mm)
 - Impact resistance test: ASTM D 2794 (5/9' ball)
 - flexibility test: EN ISO 1519
 - Salt spray test: 600 hrs.
 - Resistance to humid atmosphere test: DIN 50017.

b. ILLUMINATION

- A detailed Lux level report to be submitted considering ISO 11064:6 (norms for Environmental requirements for control centers).
- Design factors must consider influences such as comfort, health, safety, efficiency and effectiveness of all people through architectural design, control room lighting and lighting therapy.
- Illumination levels on the work surface where paperwork is undertaken should be maintained at a level of 200lx to 750 lx with an upper limit of 500lx where VDUs are used; this can be a combination of ambient and task lighting.
- Diming should be provided with a lower limit of maintained 200lx on the work surface at all times.
- For working areas where mainly paperwork is undertaken an illumination level of 500 lx should

be maintained.

c. Furniture and Fixture

- PHYSICAL STRUCTURE:
 - Ergonomically designed desk to ensure 24x7 desking solution with sufficient knee space (min 450mm) and foot space (min 600 mm).
- WORKING SURFACE
 - The Console Top / working surface should be made of minimum 25 mm thick MDF with High Pressure Laminate finish. The laminate shall be fire retardant, Insulated, Water Proof, Scratch resistant and high hardness. The Table Top should be able to mount three 27 Inches Display monitors for each work station.
 - Working surfaces must be NEMA LD3 Norms with moulded ergonomic Urethane waterfall edge with minimum 50-60mm thickness for operator's wrist comfort.
- CONSOLE DESIGN
 - Consoles must be of modular design, facilitating future equipment retrofits and full reconfigurations without requiring any major modification to the structure or exterior elements
- EQUIPMENT MOUNTING
 - The workstation shall be able to house computer equipment's, Ethernet Points, Power Distribution Unit.
- FRAME MATERIAL

- Made of heavy duty Aluminum. The Extrusions shall be duly powder coated with 40+ micron over all surfaces. Console should be Seismic Zone- 4 tested.
 - CERTIFICATES & SUBMITALS
 - BIFMA X5.5, FSC Certified manufacturer, OHSAS 18001, RoHS on console (from UL/Intertek), Greenguard Certified.
 - Consoles to be qualified for Seismic Zone 4 (or better).
 - Test certification for ASTM E84 from UL; for the surface burning characteristics of products and materials. Test must refer the actual assembled components for wood-core panels including core, laminates, edging.
 - Raw-material supplier data alone is not acceptable.
 - PROVEN TRACK RECORD
 - The desk manufacturer or supplier Should have supplied Minimum One desk with BIFMA X5.5 (all parameters) certified desk having scratch resistant table top with Moulded PU nosing to any one Government/PSU (through system integrator or end user) in past three years.
 - For desk, agency to produce minimum one installation with similar specifications.
- d. Partitions (wherever required as per approved drawing)**
- Partitions must be modular in nature.
 - Straight Metal framing
 - All the properties and material of construction shall be like straight Metal paneling but the partition shall have metal tiles on either side of the frame.
 - Curvilinear Metal Partition:-

- All the properties and material of construction shall be like Metal paneling/partition but the front tiles shall be having perfect curve to meet the aesthetical requirement of the Control room and shall allow easy installation of the LVS/Screens on it.
- SAFETY
 - From fire and safety point of view; the metal partitions must be ASTM E84 class A certified for surface spread of flame and smoke generation and ROHS Certified (Restriction of Hazardous Substance like Nickel, Cadmium etc.)
- GLASS PARTITION
 - Full glass wall partitions will be made of 12mm Toughened laminated glass with frame-less structure. The glass partition shall be supported by 200- 600mm high Modular metal partition (having the same finish as that of wall cladding) from the floor. Proper structure shall be made to ensure the fixing of glass from RCC slab above false ceiling and flooring.
 - Straight and vertical structural members shall not be visible. Safety film shall be applied on the glass to avoid shattering. Glass shall be fitted on anodized extrusion with tool less technology and having a provision for replacing glass with perforated sheet/acoustic tile by removing the glass.
- NOTE: - The nature of installation should be replaceable, expandable and flexible to cater the future expansion/technical up-gradation.
- Air Flow
 - Design to ensure proper flow and throw of air in the control room. This requirement is mandatory to create perfect temperature and enough air movement to stay awake and comfortable. Design must comply ISO 11064:6.
- All desired certificates to be obtained from UL or Intertek or any Indian Government owned

Research / Testing Institute

e. Flooring:

Removable raised/false access flooring with system and its components of approved make for different plenum height with possible height adjustment up to 50 mm, comprising of modular load bearing floor panels supported on G.I. rectangular stinger frame work and G.I. Pedestal etc.

- Providing at required spacing to form modular framework, pedestals made out of GI tube of thickness minimum 2 mm and 25 mm outer diameter, fully welded on to the G.I. Base plate of size 100mm x 100mm x 3mm at the bottom of the pedestal tube, G.I. pedestal head of size 75mmx75mmx3.5 mm welded with GI fully threaded stud 16mm outer diameter with two GI Check nuts screwed on the stud for level adjustment up to 50mm, locking and stabilizing the pedestal head in position at the required level. The pedestals shall be fixed to the subfloor (base) through base plate using epoxy-based adhesive of approved make or the machine screw with raw plug.
- Stringer system in all steel construction hot dipped galvanized of rectangular size 570x20x30x0.80mm thick having holes at both ends for securing the stringers on to the pedestal head using fully threaded screws ensuring maximum lateral stability in all directions, the grid formed by the pedestal and stringer assembly shall receive the floor panel, this system shall provide adequate solid, rigid support for access floor panel, the system shall provide a minimum clear uninterrupted clearance between the bottom of the floor for electrical conduits and wiring etc.
- Providing and fixing Access Floor panel of 600x600x32 mm medium grade Filled Steel Anti-Static High-Pressure Lamination of 800H grade (FS800H). Access Floor panel shall be steel welded construction with an enclosed bottom pan with uniform pattern of 64 hemispherical cones. The top and bottom plates of Steel Gauges: top 0.6 mm and bottom 0.7 mm fused spot welded together (minimum 64 welds in each dome and 20 welds along each flange). The panel should be Corro resist epoxy coated for lifetime rust protection

and cavity formed by the top and bottom plate is filled with Pyrogrip non-combustible Portland cementitious core mixed with lightweight foaming compound. The access floor shall be factory finished with Anti-static High Pressure laminate with Non Warp technology upto 1mm thickness for superior adhesion and Surface flatness within 0.75mm. The panel is to withstand a Concentrated Load of 363 kgs applied on area 25mm x 25mm without collapse in the centre of the panel which is placed on four steel blocks. The panel will withstand and Uniformly Distributed Load (UDL) minimum 1250 kg/sqm and an impact load of 50kg.

f. Painting

- WALL PANELING

- Panel should comprise of hexagonal perforations for making the cladding and partitions acoustically sound. Min 20% panels shall be perforated or as required in the control room to achieve the desired acoustic levels. .
- Materials having adverse impact on the environment and nature shall not be accepted. Zero / minimum maintenance is the basic requirement, thus wood, painted Gypsum, etc are not acceptable.

- Material Specification for Paneling

- Factory made removable type self inter lockable metal panels of Preformed textured Hot dip galvanized strips and sheets of low carbon steel coated on one side with rigid polyvinylchloride (PVC) film and on the other side a coating based on cross linkable polyester resins (sheet thickness 0.6mm & PVC Coating 0.15mm). Make shall comprise of specially designed combination of perforated and non-perforated panels through CNC laser Cutting, bending & punching. Panel shall be of 0.75mm thick galvanized metal of approved color. Panels shall be designed to achieve shape and design as per the design consultant. Panels shall be fixed using hook fitting on structure. Overall system thickness for paneling shall be 70mm to 85mm and for partition shall be 85mm to 110mm.

- As per design panel shall comprise of hexagonal perforation for making paneling and partitions acoustically sound. Acoustic grade fire retardant fabric (min 1.5mm thick) will be fixed at some parts of the control room.
 - Panel shall be design in such a manner that it takes care of undulation of civil walls and gives perfect flat surface finish and compile easy service & maintenance procedure.
- DESIGN
 - The cladding panels shall be made up of combination of two sheets locked and riveted together and polystyrene shall be used as infill to achieve strength and acoustics. The front tile (PVC pre-coated metal sheet) shall be perforated/ non- perforated as per the design requirement and the back tile (Powder coated 0.6mm GI sheet) shall be designed in such a manner that it fits on the back portion of the front tile. Once the tiles are fitted together then these will be manually riveted. These tiles shall be bend through CNC, machine punched & laser Cut to achieve perfect accuracy.
 - Structure Shall be made from heavy duty powder coated modular steel frame (minimum sheet thickness 1 to 1.6mm) and shall allow uninterrupted flow of wires/cable/tubes of max. dia. 25mm.
 - Structure Shall be securely grouted from wall, roof and floor. It shall be made up of 1-1.6mm thick vertical Slotted rolled C sections (Upright) and horizontal rolled 'C' connectors. Grid of desired dimension shall be formed by Vertical and horizontal sections having 50mm pitch.
 - Surface Finish:
 - For Panels:
 - Front Panel: PVC pre-coated GI sheet (sheet thickness: 0.6mm and PVC coating: 0.15mm)

- Back Cover: Powder coated GI sheet. (sheet thickness: 0.6mm with powder coating:)
- For Structure:
 - Powder coated sheet. (sheet thickness: 1.0mm to 1.6mm with powder coating)
 - The metal sheet shall have possibility of being formed mechanically per the specific needs of the project.
 - Panel shall provide better thermal, electrical insulation as compared to normal GI panels. It shall be non-reflective/glare free and be eligible for food contact.
- Material Selection:
 - Available Width- 300mm to 1200mm (in multiples of 150mm).
 - Available Height- 150mm to 750mm (in multiples of 150mm).
 - Thickness- 10mm to 15mm for perforated tiles with acoustic fleece without back cover
 - 25mm to 30mm for non-perforated tiles with back covers
 - PVC pre-coated sheet:
 - Fire rating and Low flame spread: EN ISO 11925-2, EN 13823 and ASTM E-84
 - Food grade: EU10/2011
 - Core material (compressed polystyrene): Acoustic test: 9301/ ISO: 140/ASTM 413, ASTM C 578.
- Powder coating
 - Adhesion test: EN ISO 2409 (2 mm)

- Impact resistance test: ASTM D 2794 (5/9' ball)
- Flexibility test: EN ISO 1519
- Salt spray test: 600 hrs.
- Resistance to humid atmosphere test: DIN 50017.
- ACOUSTICS
 - The ambient noise level in the control room must not exceed 45 dB(A) during the length of the working day also it should not be less than 30dB.
 - The auditory alarms Alarm signals should be at least 10 dB(A) over the background noise of the control room in order to be audible; and less than 15 dB higher than the background to avoid startling staff and affecting speech communication (ISO 7731:1986).
 - Sound transmission class (STC) value of 35dB for Wall Paneling & Partition (according to IS: 9901 (Part III) – 1981, DIN 52210 Part IV- 1984, ISO:140(PartIII) -1995.
 - Metal modular perforated plank false ceiling have Sound absorption coefficient (NRC) value 0.60 per IS:8225-1987.
 - Acoustic flooring (shall reduce impact sound by 14dB (ISO 717-2)). It shall be twin layer linoleum built up from 2 mm acoustic and a 2 mm Corkment backing. Flooring shall be decorative type of approved shade, pattern, texture and design and of approved manufacturer. Dimensions shall be as per the final approved design and site requirement.
- EXECUTION
 - ACP, wood & laminate, gypsum, fabric shall be deemed unacceptable for vertical cladding and ceiling surfaces.

- Vendor to demonstrate one portion at wall paneling & ceiling at their premises before dismantling & shipping to site. In short, a FAT (Factory acceptance test) to be carried out at vendors works for ceiling & paneling.
- At site, any type of cutting, chipping, Gluing, screwing etc. shall not be acceptable.
- All desired certificates to be obtained from UL or Intertek or any Indian Government owned Research / Testing Institute
- General Requirement for CCR Manufacturer
 - Certificate for ISO 9001-2015 quality certification and proof of quality system implementation in Manufacturing processes for at least 5 years.
 - To prove supplier's seriousness in the business; Printed Catalogues to be furnished.
 - Ergonomic compliance report for Command and control room layout as per international ISO ergonomic norms to be submitted along with the bid.
 - The bidder to produce following documents from the Command and control room interior Manufacturer or supplier along with the bid: -
 - Minimum 5 installations of Command control rooms/ NOC areas with appreciation letters for the turnkey scope including but not limited to ceiling, flooring, illumination and wall cladding from reputed companies to be submitted along with the bid. These packages should have been executed on or before Bid release date.
 - Copy of Test certification for ASTM E84 (from UL) for the surface burning characteristics of wall paneling tiles and ceiling tiles to be submitted along with the bid. This is mandatory requirement from Fire safety point of view.
 - Raw-material supplier data alone is not acceptable.

g. Steel Conduit

- All sections of conduit and relevant boxes shall be properly cleaned and glued using appropriate epoxy resin glue and the proper connecting pieces, like conduit fittings such as Mild Steel and should be so installed that they can remain accessible for existing cable or the installing of the additional cables.
- No conduit less than 20mm external diameter shall be used. Conduit runs shall be so arranged that the cables connected to separate main circuits shall be enclosed in separate conduits, and that all lead and return wire of each circuit shall be run to the same circuit.
- All conduits shall be smooth in bore, true in size and all ends where conduits are cut shall be carefully made true and all sharp edges trimmed. All joints between lengths of conduit or between conduit and fittings boxes shall be pushed firmly together and glued properly.
- All electrical wiring should be done as per CPWD specifications.
- The chase in the wall required in the recessed conduit system shall be neatly made and shall be of angle dimensions to permit the conduit to be fixed in the manner desired. Conduit in chase shall be hold by steel hooks of approved design of 60cm center the chases shall be filled up neatly after erection of conduit and brought to the original finish of the wall with cement concrete mixture 1:3:6 using 6mm thick stone aggregate and course sand.

h. Wiring

- PVC insulated copper conductor cable shall be used for sub circuit runs from the distribution boards to the points and shall be pulled into conduits. They shall be stranded copper conductors with thermoplastic insulation of 650 / 1100 volts grade. Color code for wiring shall be followed.
- Looping system of wiring shall be used, wires shall not be jointed. No reduction of strands is permitted at terminations.
- Wherever wiring is run through trunking or raceways, the wires emerging from individual distributions shall be bunched together with cable straps at required regular intervals.

Identification ferrules indication the circuit and D.B. numbers shall be used for sub main, sub circuit wiring the ferrules shall be provided at both end of each sub main and sub-circuit.

- Where, single phase circuits are supplied from a three phase and a neutral distribution board, no conduit shall contain wiring fed from more than one phase in any one room in the premises, where all or part of the electrical load consists of lights, fans and/or other single phase current consuming devices, all shall be connected to the same phase of the supply.
- Circuits fed from distinct sources of supply or from different distribution boards or M.C.B.s shall not be bunched in one conduit. In large areas and other situations where the load is divided between two or three phases, no two single-phase switches connected to difference phase shall be mounted within two meters of each other.
- All splicing shall be done by means of terminal blocks or connectors and no twisting connection between conductors shall be allowed.
- Metal clad sockets shall be of die cast non-corroding zinc alloy and deeply recessed contact tubes. Visible scraping type earth terminal shall be provided. Socket shall have push on protective cap.
- All power sockets shall be piano type with associate's switch of same capacity. Switch and socket shall be enclosed in a M. S. sheet steel enclosure with the operating knob projecting. Entire assembly shall be suitable for wall mounting with Bakelite be connected on the live wire and neutrals of each circuit shall be continuous everywhere having no fuse or switch installed in the line excepting at the main panels and boards. Each power plug shall be connected to each separate and individual circuit unless specified otherwise. The power wiring shall be kept separate and distinct from lighting and fan wiring. Switch and socket for light and power shall be separate units and not combined one.
- Balancing of circuits in three phases installed shall be arranged before installation is taken up. Unless otherwise specified not more than ten light points shall be grouped on one circuit and the load per circuit shall not exceed 1000 watts.

i. Earthing

- All electrical components are to be earthen by connecting two earth tapes from the frame of the component ring and will be connected via several earth electrodes. The cable arm will be earthen through the cable glands. Earthing shall be in conformity with provision of rules 32, 61, 62, 67 & 68 of Indian Electricity rules 1956 and as per IS-3043. The entire applicable IT infrastructure in the Control Rooms shall be earthed.
- Earthing should be done for the entire power system and provisioning should be there to earth UPS systems, Power distribution units, and AC units etc. so as to avoid a ground differential. State shall provide the necessary space required to prepare the earthing pits.
- All metallic objects on the premises that are likely to be energized by electric currents should be effectively grounded.
- The connection to the earth or the electrode system should have sufficient low resistance in the range of 0 to 25 ohm to ensure prompt operation of respective protective devices in event of a ground fault, to provide the required safety from an electric shock to personnel & protect the equipment from voltage gradients which are likely to damage the equipment.
- Recommended levels for equipment grounding conductors should have very low impedance level less than 0.25 ohm.
- In case of a UPS and Transformer equipment, the Earth resistance shall be automatically measured on an online basis at a pre-configured interval and corrective action should be initiated based on the observation. The automatic Earthing measurements should be available on the UPS panel itself
- There should be enough space between data and power cabling and there should not be any cross wiring of the two, in order to avoid any interference, or corruption of data.
- The earth connections shall be properly made.

- A complete copper mesh earthing grid needs to be installed for the server farm area, every rack need to be connected to this earthing grid. A separate earthing pit needs to be in place for this copper mesh.
- Provide separate earthing pits for servers, UPS & generators as per the standards.
- Expectation is to have maintenance free chemical earthing.

j. Cable Work

- Cable ducts should be of such dimension that the cables laid in it do not touch one another. If found necessary, the cable shall be fixed with clamps on the walls of the duct. Cables shall be laid on the walls/on the trays as required using suitable clamping/ fixing arrangement as required. Cables shall be neatly arranged on the trays in such manner that a criss-crossing is avoided and final take off to switch gear is easily facilitated.
- All cables will be identified close to their termination point by cable number as per circuit schedule. Cable numbers will be punched on 2mm thick aluminum strips and securely fastened to the. In case of control cables all covers shall be identified by their wire numbers by means of PVC ferrules. For trip circuit identification additional red ferrules are to be used only in the switch gear / control panels, cables shall be supported so as to prevent appreciable sagging. In general distance between supports shall not be greater than 600mm for horizontal run and 750mm for vertical run.
- Each section of the rising mains shall be provided with suitable wall straps so that same the can be mounted on the wall.
- Whenever the rising mains pass through the floor they shall be provided with a built-in fire proof barrier so that this barrier restricts the spread of fire through the rising mains from one section to the other adjacent section.
- Neoprene rubber gaskets shall be provided between the covers and channel to satisfy the operating conditions imposed by temperature weathering, durability etc.

- Necessary earthing arrangement shall be made alongside the rising mains enclosure by Mean of a GI strip of adequate size bolted to each section and shall be earthed at both ends. The rising mains enclosure shall be bolted type.
- The space between data and power cabling should be as per standards and there should not be any criss-cross wiring of the two, in order to avoid any interference, or corruption of data.

k. Fire Detection and alarm System

- Fire can have disastrous consequences and affect operations of a Control Room. It is required that there is early-detection of fire for effective functioning of the Control Room.

i. System Description

- The Fire alarm system shall be an automatic 1 ton (e.g. 8) zone single loop addressable fire detection and alarm system, utilizing conventional detection and alarm sounders.
- Detection shall be by means of automatic heat and smoke detectors located throughout the Control Room (ceiling, false floor and other appropriate areas where fire can take place) with break glass units on escape routes and exits.

ii. Control and Indicating Component

- The control panel shall be a microprocessor based single loop addressable unit, designed and manufactured to the requirements of EN54 Part 2 for the control and indicating component and EN54 Part 4 for the internal power supply.
- All controls of the system shall be via the control panel only.
- The system status shall be made available via panel mounted LEDs and a backlit 8 line x 40-character alphanumeric liquid crystal display.
- All system controls and programming will be accessed via an alphanumeric keypad.

The control panel will incorporate form fill menu driven fields for data entry and retrieval.

- The system will include a detection verification feature. The user shall have the option to action a time response to a fire condition. This time shall be programmable up to 10 minutes to allow for investigation of the fire condition before activating alarm outputs. The operation of a manual call point shall override any verify command.

iii. Manual Controls

- Start sounders
- Silence sounders
- Reset system
- Cancel fault buzzer
- Display test
- Delay sounder operation
- Verify fire condition
- Disable loop

iv. Smoke detectors:

Smoke detectors shall be of the optical or ionisation type. Devices shall be compatible with the CIE conforming to the requirements of EN54 Part 7 and be LPCB approved. The detectors shall have twin LEDs to indicate the device has operated and shall fit a common addressable base.

v. Heat detectors

- Heat detectors shall be of the fixed temperature (58° C) or rate of temperature rise type with a fixed temperature operating point.
- Devices shall be compatible with the CIE conforming to the requirements of EN54 Part 5 and be LPCB approved.
- The detectors shall have a single LED to indicate the device has operated and shall fit a common addressable base.

vi. Addressable detector bases

- All bases shall be compatible with the type of detector heads fitted and the control system component used. Each base shall comprise all necessary electronics including a short circuit isolator.
- The device shall be automatically addressed by the CIE on power up of the loop without the need of the insertion of a pre-programmed EPROM or setting of DIL switches.
- Detector bases shall fit onto an industry standard conduit box.

vii. Audible Alarms

- Electronic sounders shall be coloured red with adjustable sound outputs and at least 3 sound signals. The sounders should be suitable for operation with a 24V DC supply providing a sound output of at least 100dBA at 1 meter and 75 dBA min, for a bell head or sounder base type device. The sounder frequency shall be in the range of 500Hz to 1000Hz.

viii. Commissioning

- The fire detection and alarm system will be programmable and configurable via an

alpha numeric keypad on the control panel.

ix. High Sensitivity Smoke Detection System

- General – The HSSD system shall provide an early warning of fire in its incipient stage, analyse the risk and provide alarm and actions appropriate to the risk. The system shall include, but not be limited to, a Display Control Panel, Detector Assembly and the properly designed sampling pipe network. The system component shall be supplied by the manufacturer or by its authorized distributor.

x. Regulatory Requirements

- National Electrical Code (NEC)
- Factory Mutual
- Local Authority having Jurisdiction

I. Water leak detection System

- Water leak detection System should be designed to protect the Air-conditioned premises and to alert the personnel about the leak in the AC systems. The system should be capable of interfacing to Water leak detection sensors, condensation sensors & I/O modules.
- Events should be clearly reported on LCD/LED display with full English language description of the nature of the fault in the panel. The successful bidder should make detailed working drawings and coordinate them with other agencies at site. Water Leak Detection systems should be integrated with BAS.

i. EQUIPMENT

The Water leak detection system should comprise of Tape Sensors, Water Leak detection modules, Condensation detectors, I/O modules and sounders all connected to a Control Panel.

ii. CONTROL PANEL

- The control panel should be computerized 4/8/12 zone multiplex controller with a facility to add on dialer and speech processor. The system should be programmed, armed or disarmed through a control key pad. The control key pad should have a 16 character LCD display for viewing various events. The code to arm or disarm the system should be changed only by entering a master code.
- The system should have 4/8/12 zones and all the detectors should be connected through a 2 core cable. Each area of the premises should be divided into specific zones such that any zone should be isolated by the user if required.
- The entire system should be backed up by a maintenance free rechargeable battery to take care of system's power requirements whenever power fails.
- The system should be totally tamper proof and should activate an alarm if the control panel is opened, the sensors tampered with or if the system cables are cut even in the disarmed state.
- The system should log 500 events and optionally printer should be connected for generating reports.
- The Detectors, I/O Modules, Remote Keypads and other Devices should be connected to a system on a single 2/4/6 Core Cable Bus to avoid individual cabling of zones.
- The system should have a Buffer memory of minimum 250 events and log each event with exact date and time.
- The controller should have a Serial Port for connecting to a computer.
- The controller should work on 220/240V AC power supply and it should also have a built in battery backup.

- The memory inside the controller should be backed up by a lithium battery. The controller should work effectively over a temperature range of -10 Deg. C to + 55 Deg. C. and 0 to 90% of Humidity.

iii. WATER LEAK DETECTION SENSOR

Water Leak Detection sensors should be able to mount in DIN rails, inside AHU's, power distribution units or other equipment where localized leak detection is required. The detectors should be resistant to oxidation and erosion. The detector should have relay output for connection to the controller. LED alarm indication should also be provided. The detectors should operate in AC or DC supply.

iv. TAPE SENSORS

Tape sensors are used to detect water leaks usually under floors. Tape sensors for use with water leak detectors should be covered with plastic netting to prevent short circuits when used in metal trays or conduits and enables the tape to be folded at right angles to allow easy routing.

v. HOOTER / SOUNDER

The hooter / sounder should give audible alarm when any sensor operates. It should be complete with electronic oscillations, magnetic coil (sound coil) and accessories ready for mounting (fixing). The sound output from the Hooter should not be less than 85 decibels at the source point.

m. Access Control System

The Access Control System shall be deployed with the objective of allowing entry and exit to and from the premises to authorized personnel only. The system deployed shall be based on Biometric Technology. An access control system consisting of a central PC, intelligent controllers, power supplies and all associated accessories is required to make a fully operational on-line access control system. Access control shall be provided for doors. These doors shall be provided with electric locks and shall

operate on fail-safe principle. The lock shall remain unlocked in the event of a fire alarm or in the event of a power failure. The fire alarm supplier shall make potential free contacts available for releasing the locks in a fire condition especially for staircase and main doors. Entry to the restricted area shall be by showing a proximity card near the reader and exit shall be using a push button installed in the secure area. The system shall monitor the status of the doors through magnetic reed contacts. The system should be designed and implemented to provide following functionality:

- Controlled Entries to defined access points
- Controlled exits from defined access points
- Controlled entries and exits for visitors
- Configurable system for user defined access policy for each access point
- Record, report and archive each and every activity (permission granted and / or rejected) for each access point.
- User defined reporting and log formats
- Fail safe operation in case of no-power condition and abnormal condition such as fire, theft, intrusion, loss of access control, etc.
- Day, Date, Time and duration-based access rights should be user configurable for each access point and for each user.
- One user can have different policy / access rights for different access points.

n. Rodent Repellent system:

The entry of Rodents and other unwanted pests shall be controlled using non- chemical, non-toxic devices. Ultrasonic pest repellents shall be provided in the false flooring and ceiling to repel the pests without killing them. However periodic pest control using

Chemical spray can be done once in 3 months as a contingency measure to effectively fight the pest menace.

- Configuration : Master console with necessary transducer
- Operating Frequency : Above 20 KHz (Variable)
- Sound Output : 50 dB to 110 dB (at 1 meter)
- Power output : 800 mW per transducer
- Power consumption : 15 W approximately
- Power Supply : 230 V AC 50 Hz
- Mounting : Wall / Table Mounting

o. Instruction about Civil Work

- a. Building design must be in accordance with international standards.
- b. MSI has to provide the Building Design Parameters which are essential for building

State of the Art Building of CCR

- i. Layout Design
- ii. Cabling
- c. Layout
 - i. Type of cable (Fire resistant etc.)
- d. Ducting

- e. MSI should define the standard of on building construction.
- f. It is expected that design of CCR Interior of the building is demonstrated through 3D video.
- g. MSI should recommend the international standards and suggest what specific requirement of building design are required for building a state of the art Integrated Command and Control Center.
- h. Building design must be futuristic, using 3D modelling, which can be refined and revise the final view of the actual CCR.
- i. MSI will be required to get approval on engineering drawings of CCR from CSML.
- j. During the review of design documents, CSML may suggest some changes or provide feedback on design parameters. MSI will be required to incorporate such inputs.
- k. CSML may authorize any third party do to review of design documents.

I. Online Uninterrupted Power Supply (UPS) System

Supply, install, test and commissioning of two numbers of true online, double conversion, high efficiency, and high-power factor Uninterruptible Power Systems (UPS) rated at 2 x 20 KVA with battery backup support for 60 minutes on full load. The backup batteries should be supplied with the necessary arrangements to mount externally. The UPS shall be connected in LBS (Load bus Synchronization Mode) and should have the capability to add 20KVA Modules which can go up to 80Kva on each side i.e. 4X 20KVA and 4X20 KVA in LBS Mode. Every 2Modules of 20KVA can have a Common Battery Bank. Load to get power feed from two independents 2 x 20 KVA UPS systems to ensure redundancy. For single Power Source ACOS to be considered. Each UPS Input shall have TVSS (Transient Voltage Surge Suppressor) as per the rating desired for each Location. TVSS and UPS shall be from same OEM.

Specification / features of each UPS system are as follows:

- Widest input range. -
- Double conversion and IGBT technology. -
- Full IGBT Rectifier / Battery charger -
- IGBT based Inverter -
- Batteries to support 60minutes combined full load backup.
- Facility for remote viewing
- Easy to expand in a cost-effective way 20 KVA UPS

Other Technical Specification:

OUTPUT PARAMETERS	
Capacity	20kVA/18kW (0-30deg C) / 16.2kW (30-35 degC) / 14.4kW (35-40 deg C)
Power Factor	0.9 at 30Deg C
Configuration	3- ph, 3-wire,N +PE / 1 phase, L-N +PE
Voltage Regulation	(+/- 1%)
Voltage THD	<=2% - Linear load <=5% - Nonlinear load
Frequency	50/ 60Hz
Frequency Regulation (synchronized with bypass)	(+/- 2 Hz)

OUTPUT PARAMETERS	
Slew Rate	0.2Hz/s
Crest Factor	3:1 max.
Recovery time	60 millisecond
Over load capacity	< 105%- continuous; 105-125% - <5min; 125-150%-<1min >150%- < 200ms (after overload shifted to bypass)
AC-AC Efficiency	>93% up to 94%
Transfer time - Mains to battery	0 millisecond
Transfer time - Inverter to bypass - Synchronization mode	1 millisecond
Parallel Redundancy	N+N
INPUT PARAMETERS	
Configuration	3- ph, 3-wire,N +PE
Nominal Voltage	380/400/415V
Input Voltage range	3 Phase 228Vac-478Vac
Frequency	50/60 Hz
Frequency range- Hz	40 to 70 Hzat full load
Power Factor	>0.99 at full load
BYPASS	

OUTPUT PARAMETERS	
Voltage Range	+15% -20%
Frequency	50/ 60Hz
Frequency Range	+/-20%
BATTERY PARAMETERS	
Type	SMF

m. DG Set

Sl. No	Item	Minimum Specifications
1	General Specifications	<ul style="list-style-type: none"> Auto Starting DG Set mounted on a common base frame with AVM (Anti-Vibration) pads, residential silencer with exhaust piping, complete conforming to ISO 8528 specifications and CPCB certified for emissions. KVA rating as per the requirement to provide the supply for ICC
2	Engine	Radiator cooled, multi cylinder, 1500 RPM diesel engine, with electronic/manual governor and electrical starting arrangement complete with battery, conforming to BS 5514/ ISO 3046/ IS 10002
3	Fuel	High Speed Diesel (HSD)

Sl. No	Item	Minimum Specifications
5	Alternator	Self-exciting, self-regulating type alternator rated at 0.8 PF or better, 415 Volts, 3 Phase, 4 wires, 50 cycles/sec, 1500 RPM, conforming to IS 4722/ BS 5000, Windings of 100% Copper, class H insulation, Protection as per IP 23.
6	AMF (Auto Main Failure) Panel	<p>AMF Panel fitted inside the enclosure, with the following: It should have the following meters/indicators</p> <ul style="list-style-type: none"> • Incoming and outgoing voltage • Current in all phases • Frequency • KVA and power factor • Time indication for hours/minutes of operation • Fuel Level in fuel tank, low fuel indication • Emergency Stop button • Auto/Manual/Test selector switch • MCCB/Circuit breaker for short-circuit and overload protection • Control Fuses • Earth Terminal • Any other switch, instrument, relay etc. essential for Automatic

Sl. No	Item	Minimum Specifications
		functioning of DG set with AMF panel
7	Acoustic Enclosure	<ul style="list-style-type: none"> The DG set shall be provided with acoustic enclosure / canopy to reduce the sound level and to house the entire DG set (Engine & Alternator set) assembly outside (open-air). The enclosure must be weather resistant powder coated, with insulation designed to meet latest MOEF/CPCB norms for DG sets, capable to withstand climate. The enclosure must have ventilation system, doors for easy access for maintenance, and secure locking arrangement
8	Fuel Tank Capacity	It should be sufficient and suitable for containing fuel for minimum 12 hours continuous operation, Complete with level indicator, fuel inlet and outlet, air vent, drain plug, inlet arrangement for direct filling and set of fuel hoses for inlet and return.

I. Internet Router

Sl. No.	Minimum Specifications
1.	Chassis should have a minimum 16 x 1 SFP or more ports populated with Multi- mode 1G SR transceivers from day 1. In addition, it must have an additional 4 x 10G SFP+ ports populated with Multimode 10G SR transceivers.
2.	There should not be any single point of failure in the Router. All the main components like Supervisor / CPU module, management module, power supplies and fans etc should be in redundant configuration. It should have distributed forwarding and there should not be any performance degradation in case of any switching/routing engine failure.
3.	It must have minimum two or more vacant interface payload slots (after populating all the required above interfaces).
4.	Must have minimum of 40 Gbps or more per interface slot throughput with all the above asked redundancy.
5	All the interfaces / line-cards should be non-blocking and wire-speed for 64 bytes of packet size and have distributed forwarding architecture.
6	Must have minimum 1M IPv4 Routes, 200K IPv6 Routes, 32K IPv6 Multicast routes, 1M MAC Address and 4K active VLAN's.
7	Chassis must support 40G and 100G interface line cards from day 1
8	Must have minimum IPv6 Static routes, OSPFv3, PIM Sparse / Dense mode (SM /DM), Policy-based routing (PBR), Virtual routing and forwarding (VRF), BGP, BFD, MPLS and Netflow/Jflow/Sflow.
9	It is preferred that Router & transceiver should be from same OEM.

m. Integrated Building management system

1. The MSI shall supply, install and commission BAS, Access control and Physical security system for CCR building office. MSI has to also provide all necessary hardware and all operating and applications software necessary to perform the control sequences of operation as called for in this specification
2. The MSI shall Supply, install and commission a complete Building Automation System (BAS) including all necessary hardware and all operating and applications software necessary to perform the control sequences of operation as called for in this specification. At a minimum, provide controls for the following:
 - I. Air handling units
 - II. Return air fans
 - III. Exhaust and supply fans
 - IV. Chilled water system including pumps, chillers, and cooling towers
 - V. Boilers including hot water pumps
 - VI. Computer room air handling units
 - VII. Refrigerant leak detection system
 - VIII. Smoke evacuation sequence of AHUs and return fans including smoke control dampers and fire command override panel.
 - IX. Finned tube radiation control
 - X. Variable volume and constant volume box control including interlocks with finned tube radiation.

- XI. Cabinet unit heater controls
- XII. Monitoring points for packaged equipment such as emergency generators,
- XIII. Power wiring to DDC devices, smoke control dampers and BAS panels except as otherwise specified.

i. Access Control System

- Access Controller Ethernet Based
 - The Access Controller's should be designed for both critical government & private sector security applications.
 - Below input & output modules should be onboard with the Controllers.
 - Universal Inputs: 12
 - Reader Inputs: 8
 - Tamper Input: 1
 - Digital Lock Output: 4
 - The Access Controller's should be designed to support both entry & egress readers while supplying +5 or +12 VDC to each reader.
 - The controller should support the data transfer rates upto 100 Mbps and should have IPSec/IKE encryption and authentication. Encryption (up to 192-bit) and authentication may be enabled for communication to and from workstations and controllers. Controller should utilize Internet Protocol Security (IPSec) and Internet Key Exchange (IKE) for its encryption to assure tamperproof communications over the Ethernet.
 - The Controller should be perfect for large systems. A controller servicing up to 8 areas can hold 480,000 personnel records. With such a large local storage capacity, access

decisions can be made swiftly without waiting for validation by a remote server.

- Controller should have inbuilt 32 MB of flash memory and 128 MB of DDR SDRAM. The flash memory is used to preserve 12 MB of application and run- time data. The dynamic RAM is partitioned for dedicated functions: a full 12 MB for applications, 48 MB for personnel records and 8 MB for the operating system. The unused memory should be available for future enhancements. Personnel record data should be preserved using onboard batteries that can hold the data for at least 7 days without the use of an external UPS. If the controller has its application stored in flash and power loss lasts longer than what the battery can supply for RAM, the controller will send a message to Cyber Station and request that the personnel records automatically be reloaded when the power returns.
- The reader inputs should be powered by a dedicated processor allowing the controllers to support current and future devices for advanced applications. The hardware should be ready to support 256-bit encrypted data messages from the reader.
- It is important for controller to be able to contain potential threats when they are detected. The Controller should respond to Area Lockdown commands set from Access control software providing a quick method of sealing off areas. A simple click of a graphic or an automatic program response is all that is needed to disable card readers and exit requests in any given area. First responder personnel can still gain access to the area if their record is marked with “executive privilege”.
- The Controller should be able to adapt access rights to a change in condition or “threat” levels. Each personnel record should be assigned a clearance level for each area to which they have access. When the condition is more severe than the person’s clearance level then access is automatically denied. The Condition Level may be set manually through workstation or automatically through a program. A program can even be used to monitor national threat levels and adjust Condition Levels accordingly.
- Each controller should support the use of two expansion modules plus an Display unit.

The expansion module is used for expanding the controller for special or access to doors. Modules can also be used to provide a cost effective entry reader only solution.

- The Access controller should support up to 32 Inifinet nodes. The RS-485 programmable port can be set to support a wired or wireless Inifinet field bus.
- The Controllers should be ready to support a wide range of card formats. Ideal for retrofits, The Controller lets you preserve existing cards by accepting standard formats (Weigand, ABA, HID Corporate-1000, CardKey) as well as custom formats (Custom Weigand, Custom ABA). The Controller should support formats up to 260-bits making the controllers ready for government installations that must meet HSPD-12 and FIPS 201 standards.
- SNMP (Simple Network Messaging Protocol) messages may be sent to network monitoring software to inform IT managers as to the health and presence of the access controller on the corporate network. The Access Controller should also support the SNMP alarming option.

Parameters	Specifications
Controller	Microprocessor Based with 8 Readers 12 Inputs, 4 DO ,10/100 bT
Memory	DDR SDRAM: 128 MB Flash: 32 MB
Power	24 VAC, 50/60 Hz 12-28 VDC auto-sensing, 50/60 Hz
Power Consumption	90 VA (AC) 50 W (DC)
Real time Clock	Battery backed by an Internal Battery
Operation Environment	0-50 * C

Parameters	Specifications
	10-90% RH (Non-Condensing)
Enclosure	UL open class, flammability rating of UL94-5V, IP 10
Mounting	Walls mount using fasteners.
Internal Battery	NiMH, 3.6 VDC, 800 mAh
Battery Backup	Minimum 7 days DDR SDRAM and real-time clock
Ethernet LAN Interface	10/100 Ethernet; ethernet cable with RJ-45 connector.
Serial Common Interface	One RS-485 programmable port, software configurable for Infinet, wireless adapter, RoamIO2 or third-party system.
Input Voltage Range	0-5.115 volts DC
Input Impedance	10K ohm to 5.120V or 5M ohm with pull-up resistor disabled
Input Resolution	5.0 mV
Input Accuracy	±15mV (±0.56°C from -23°C to +66°C or ±1°F from -10°F to +150°F)
Alarm Inputs	12
Card Reader/Keypad Inputs	8, Each input can be connected to a card reader, dedicated keypad, or reader/keypad combination.
Card Reader Type	Wiegand, ABA, or CardKey (jumper selectable)
Max Number of Bits/Card	Up to 260 bits/card
Card Reader Power	+5 VDC @ 120 mA or +12 VDC @ 180 mA (jumper selectable)

Parameters	Specifications
Door Outputs	4 Nos. Form C relays with a manual override switch
Output Rating	24 VAC/30 VDC @ 3 A
Overrides	3-position manual override switch on each output for manual control of relay. LED override status indicator.
Status Indicator LEDs	CPU Active, Transmit & Receive Data, Status of Ethernet activity & link etc.
Dip Switches	Universal inputs, 10 K ohm pull-up disable/enable
Listing & Certifications	FCC, ICES, CE, C-Tick, WEEE, UL/CUL, UL.

- **Input/output Expansion Module:** Up to two I/O modules and an xP-Display may be connected to a controller.

Parameters	Specifications
Operating Environment	32°–120°F (0–49°C), 10–95% RH (non-condensing)
Communications Interface	Through built-in Expansion Port on controller
Status Indicator LEDs	CPU Module is Active
Switches	RESET
Listing	CE,UL & FCC

- i. **Smart card / Biometric finger print reader**

Parameters	Specifications
Read Range	Card Up to 4" (10.2 cm) Key/Tag Up to 1.25" (3.2 cm)
Mounting	Mounting plate attaches to US/EU/ Asian back box, 52-60 mm Screw hole spacing (vertical or horizontal). LCD/Keypad reader Housing latches onto mounting plate; fingerprint module secured to reader with a screw.
Power Supply	9-12 VDC, Linear supply
Operating Temperature	32° F to 113° F (0° C to 45° C)
Operating Humidity	5% to 95% relative humidity non-condensing
Transmit Frequency	13.56 Mhz
Cable Distance	Wiegand/Clock-and-Data Interface: 500 ft (150 m) (22AWG), RS232: 50 ft (15 m), RS485: 4000 ft (1220 m), USB: 16 ft (4m), UART: 1 ft (0.30 m).
Card Compatibility	iCLASS 15693 & 14443B - read-only on 16k bit (2k Byte), 32k bit (4k Byte); HID Application iCLASS 15693 & 14443B - read/write (RWKLB575 only) on 16k bit (2k Byte), 32k bit (4kByte); Application Space
Certifications	UL,CE,FCC, C-Tick.
Housing Material	UL94 Polycarbonate
Resolution	500 dpi, 256-bit gray scale, 18 x 22 mm sensor area

Parameters	Specifications
Timing	Card read < 0.5 sec Fingerprint capture < 2 sec, typical 1 sec Verification of captured finger < 1 sec
False Accept / Reject Rate	FAR < 0.01%, FRR < 0.01%

ii. Electromagnetic Lock (LED with Lamp Indicator)

Parameters	Specifications
Magnet Size	250 x 42 x 26 mm
Armature Size	180 x 38 x 11 mm
Holding Force	Up to 600 lbs
Current Drain	480 mA+/- 10% / 12 VDC
Temperature	(-10 to 55) * C (14 to 131) * F
Weight	2.0 Kg

iii. Fixed Dome Cameras for Indoor Surveillance

Sl. No.	Parameter	Minimum Specifications
1.	Video Compression	H.264
2.	Video Resolution	1920x1080
3.	Frame rate	25 fps in all resolutions
4.	Image Sensor	1/4" / 1/3" Progressive Scan CMOS
5.	Lens Type	Varifocal, C/CS Mount, IR Correction
6.	Lens	Fixed IRIS 2.8-10mm, F1.7, 10x digital zoom
7.	Minimum Illumination	0.9 lux
8.	Image settings	Compression, colour, brightness, sharpness, contrast, white balance, exposure control, backlight compensation, rotation
9.	Protocol	HTTP, HTTPS, FTP, SMTP, RTSP, RTP, TCP, UDP, RTCP, DHCP, UPnP, QoS, IPV4, IPV6
10.	Security	Password Protection, IP Address filtering, User Access Log
11.	Operating conditions	0 to 50°C
12.	Casing	Tamper Resistant casing for Indoor Environment

2) Multi-Function Laser Printer

Sl.No.	Parameter	Minimum Specifications
1.	Technology	Laser
2.	Monthly duty cycle/RMPV (pages)	200,000/5K-20K
3.	Print speed – simplex (A4)	Up to 41 ppm
4.	Scan speed – Black/Color simplex	Up to 50/30 ipm
5.	Scan speed – Black/Color duplex	Up to 19/14 ipm
6.	Scan-to destinations	Email, Network folder, USB
7.	Processor (MHz)	600
8.	Memory (MB)	1,024
9.	Hard disk drive (HDD)/Capacity (GB)	Yes/240
10.	Connectivity	2 Hi-Speed USB 2.0; 1 Gigabit Ethernet 10/100/1000T network
11.	Print resolution – Max/Best print quality (dpi)	Up to 1200x1200
12.	Input capacity – Std/Max (sheets)	600/4,600
13.	Output size – Min/ Max (mm)	76.2 x127/312x469.9
14.	Automatic duplex	Yes

Sl.No.	Parameter	Minimum Specifications
15.	Energy Efficiency	BEE or Energy Star certified
16.	Control panel display	20 m touchscreen

3) Laser Printer

Sl. No	Parameter	Minimum Specifications
1.	Print speed black (normal, A4)	Up to 25 ppm
2.	Print quality black (best):	Up to 1200 x 1200 dpi
3.	Print technology:	Monochrome Laser
4.	Duty cycle (monthly, A4)	Up to 15,000 pages
5.	Recommended monthly page volume	250 to 2000
6.	Standard memory:	Minimum 128 MB
7.	Processor speed:	Minimum 700 MHz
8.	Paper handling standard/input	Up to 250-sheet input tray
9.	Paper handling standard/output	Up to 150-sheet output bin
10.	Media sizes supported	A4, A5, A6, B5, postcard

Sl. No	Parameter	Minimum Specifications
11.	Media types supported	Paper, transparencies, postcards, envelop labels
12.	Standard connectivity	Hi-Speed USB 2.0 port with USB data cable Ethernet with RJ45 connectivity
13.	Duplex printing	Automatic (standard)
14.	Compatible operating systems	Microsoft Windows 7 Professional(64bit), Windows 8 Pro (64 bit), Windows 8.1, Windows Server 2008 R2, Server 2012 R2, MAC OS 9.0, MAC OS X, Linux
15.	Power requirements:	Input voltage 220 to 240 VAC (+/- 10%), 50 Hz (-2 Hz);
16.	Power consumption during printing	Less than 500W
17.	Energy Efficiency	BEE or Energy Star certified
18.	Front operating Panel	Graphical LCD display

4) Video Wall

The minimal specifications of video wall cubes are as below -

- Configuration: Video Wall Cubes of min 50" DIAGONAL Cube & controller
- The OEM should be an established multinational in the field of video walls and should have installations around the world: ISO 9001: 2015 certified, CE, Leader in Gartner Magic Quadrant.
- Native Resolution: Full HD (1920x 1080)
- Light Source Type: Laser light source
- Brightness of Projection engine: Minimum 2200 lumens
- Video Wall Controller:
 - Operating system should be windows 7 or higher, 64 bit
 - Architecture Should support cloud-based solutions.
 - Operating System: Linux Preferred
 - RAM: 8 GB or higher
 - HDD: 500 GB or higher
 - RAID: RAID should be provided
 - Power Supply: Dual Redundant Power Supply
 - 8 DP/ DVI or higher outputs to the cube
 - 6 DVI or higher Input, Dual LAN
 - Capable to display image from UNIX, LINUX system

- Software should be provided to manage video wall content

5) Workstations (Desktop Computer)

Sl. No.	Parameter	Minimum Specifications
1.	Processor	Latest generation 64bit X86 Quad core processor(3Ghz) or better
2.	Chipset	Latest series 64bit Chipset
3.	Motherboard	OEM Motherboard
4.	RAM	Minimum 8 GB DDR3 Memory @ 1600 Mhz. Slots should be free for future upgrade
5.	Graphics card	Minimum Graphics card with 2 GB video memory (non-shared)
6.	HDD	2 TB SATA-3 Hard drive @7200 rpm
7.	Media Drive	NO CD / DVD Drive
8.	Network interface	10/100/1000 Mbps autosensing on board integrated RJ-45 Ethernet port.
9.	Audio	Line/Mic IN, Line-out/Spr Out (3.5 mm)
10.	Ports	Minimum 6 USB ports (out of that 2 in front)
11.	Keyboard	104 keys minimum OEM keyboard
12.	Mouse	2 button optical scroll mouse (USB)
13.	Monitor	Min. 22" (or 21.5") TFT LED monitor, Minimum 1920 x1080 resolution, 5 ms or better response time, TCO 05 (or higher) certified For Command Control Centers: 2 LED Monitors attached to the same workstation (multi monitor)
14.	Certification	Energy star 5.0/BEE star certified
15.	Operating System	64-bit pre-loaded OS with recovery media stick
16.	Security	BIOS controlled electro-mechanical internal chassis lock for the system.

Sl. No.	Parameter	Minimum Specifications
17.	Antivirus feature	Advanced antivirus, antispyware, desktop firewall, intrusion prevention (comprising of a single, deployable agent) which can be managed by cloud-based solutions. (Support, updates, patches and errata for the entire contract/project period)
18.	Power supply	SMPS; Power supply should be 90% efficient with EPEAT Gold certification for the system.

6) IP PABX System

Sl. No.	Description	Parameter
1.	Technology	PCM-TDM, IP, Non-blocking
2.	Interface	Should support all telecom interfaces in Indian Telecom Service provider offerings
3.	Type of Interface	ISDN interface for digital, basic interface for Analog lines
4.	No. of line - ISDN PRI lines & Analog / Digital Extensions	1 PRI from BSNL, 32 Extensions (IP / Analog / Digital)
5.	Type of Extension Support	Analog, Digital and IP
6.	Expansion of Extensions	Multiples of 8 / 16
7.	Run Distance	Not less than 800 mtrs. on 0.5mm dia. Cable
8.	Max. Loop resistance for analog trunk lines Extensions	2500 ohms including telephone
9.	Requirement at the time of supply	01 ISDN PRI, 24 Analog Ports & 8 Digital extension ports. Expected to handle at least 30 external lines.
10.	Contact center expansion available (Max. capacity)	It must support at least 16 Call center Agents

Sl. No.	Description	Parameter
11.	Max. loop resistance for analog trunk lines	1200 ohms at -48 Volts DC
12.	Other	ISDN supplementary services for Digital phone Support for digital trunk lines Working on 230v AC mains and DC voltage Support for ACD call center with CTI and advanced call routing
13.	Design of EPABX System	Modular with universal slots, wall mountable
14.	Conferencing	5 party conferencing to be provided (to be configurable dynamically)
15.	Digital /IP Extension telephone instrument with programmable one touch keys	It shall be provided as per system requirement

7) Other Facilities for CCR Employees

This Control Centre will also have the following facilities for the staffs and officers for better indoor environment quality:

- Locker Room facilities for Staff and Officers
- Recreation Spaces with games
- Canteen and Dining Spaces
- Conference Room / Meeting Room
- Lecture Room / Training Room

8) Common guidelines regarding compliance of systems/equipment

- 1) The specifications mentioned for various IT / Non-IT components are indicative requirements and should be treated for benchmarking purpose only. MSIs are required to undertake their own requirement analysis and may propose higher specifications that are better suited to the requirements.
- 2) Any manufacturer and product name mentioned in the Tender should not be treated as a recommendation of the manufacturer / product.
- 3) All IT Components should support IPv4 and IPv6
- 4) All IT/Electronics components shall be in compliance to the IEC/ISI/BSI standards as applicable
- 5) All systems shall be designed to ensure accessibility to the disabled hence all the components related to IT, electronics and/or digital technology should be in accordance to the latest version of WCAG and the European Standards - EN 301 549 or an equivalent standard as approved
- 6) MSI should adhere with the open standard oneM2M wherever applicable during solution design and implementation
- 7) The specifications provided in this RFP are indicative and carry guiding rule. The MSI is free to offer products and solutions which meet requirements of the RFP focussing on the outcome, future scalability, security, reliability and adherence to specified SLA under this RFP, in line with applicable standards & best practices adopted in the industry. The MSI is encouraged to design an Optimised solution which is technically superior, innovative, proven, better in terms of functionality and is cost effective. Any specified parameters mentioned in the scope/technical requirement in the RFP may be considered if it is required for meeting current & future requirements during the contract period. Necessary justification should be given in Technical solution accordingly. The MSI is fully responsible for the specified outcome to be achieved.
- 8) Technical Bid should be accompanied by OEM's product brochure / datasheet. Bidders should provide complete make, model, for all equipment/software quoted, in the Technical Bid.

- 9) Bidders should ensure warranty and support for all equipment from OEMs during the contract period. All the back-to-back service agreements should be submitted along with the Technical Bid.
- 10) All equipment, parts should be original and new.
- 11) Critical core components of the system should not have any requirements to have proprietary platforms and should conform to open standards.
- 12) For custom made modules, industry standards and norms should be adhered to for coding during application development to make debugging and maintenance easier. Object oriented programming methodology must be followed to facilitate sharing, componentizing and multiple-use of standard code. Before hosting the application, it shall be subjected to application security audit (by any of the CERTIN empaneled vendors) to ensure that the application is free from any vulnerability; and approved by the CSML.
- 13) The indicative architecture of the system is given in Scope of work. The Successful Bidder must provide the architecture of the solution it is proposing.
- 14) MSI is required to ensure that there is no choking point / bottleneck anywhere in the system (end-to-end) and enforce performance and adherence to SLAs. SLA reports must be submitted as specified in the Bid without fail.
- 15) All the hardware and software supplied should be from the reputed Original Equipment Manufacturers (OEMs). CSML/or any other authorized agency as nominated by the Authority reserves the right to ask replacement of any hardware / software if it is not from a reputed brand and conforms to all the requirements specified in the RFP documents.
- 16) Master System Integrator shall place orders on various OEMs directly and not through any sub-contractor / partner.
- 17) All licenses should be in the name of the Cochin Smart Mission Limited (CSML).

Annexure 16: Geospatial Server Software Compliance Matrix

1. GIS Server: Geospatial Smart Dashboard requirements		
SI No	Minimum Requirements	Compliant (Yes / No)
1	Should have Dashboards for each user about 10	
2	The dashboard geo-visualization should be based on the GIS features and must be interactive. i.e., the charts and the maps should be interactive.	
3	The dashboards should also geo-visualize for the incidents occurred over a time period within the given geography.	
4	The geo-visualization within dashboards should cluster the incidents to reduce the clutter on the map.	
5	Clustering should have the number of incidents clustered as the label. And clicking on the cluster should explode the cluster to smaller clusters till the individual incidents are visible.	
6	The user should have the ability to specify the cluster radius.	
7	The incident dashboards should also provide heat maps. And means of specifying radius for generating heat maps.	
8	The incident dashboards should have ability to show the incidents over given time period and provide means to dynamically geo-visualize time-slicing.	
2. Customization and Development of web based spatial decision support system (SDSS)		
1	Inception Report & feasibility Report as per requirement of the project	
2	Administrative user functionalities (User login with Password) & Data Security	
3	SRS and SDD for the Web based Spatial decision support System based on the functionalities required as per Project	
4	Spatial Query Builder as required for Project	

5	Report Generation: Spatial based reports as per the query (Spatial and Nonspatial)	
6	Geospatial web portal Dashboard as per the requirement for seamless display Of ERP and Geodatabase with Base maps and satellite imagery (hybrid)	
7	Integrating external systems if any like ERP data from e-Governance	
8	Standard web based GIS tools - append, edit, online editing, zoom, pan, layers selection (on & Off) ,Zoom to the layer all GIS editing tools, Analysis and graphs and any other functionality for spatial planning and analysis etc.,	
9	Periodic updation of Satellite Imagery as per availability	
10	Functional requirements customization and development as per the requirement finalised at the time of SLA for project	
3. GIS Server: General Requirement		
1.	The proposed solution should create a base for creating a parent data infrastructure for geo-spatial data dissemination through the web.	
2.	The system should support, host and deliver information on the service-oriented architecture, and should allow interoperability such that different client systems can request data in native application.	
3.	The application should allow users to view the data with different symbology styles like differentiating feature records based on attributes or types, dynamic label generation with conflict detection, and translucency of all raster data and area colour fill.	
4.	The system should allow the users to perform advanced spatial analysis like geocoding, routing, buffering and attribute based analysis.	
5.	System should support server-side geocaching for feature classes which are not frequently updated	
6.	The system should be able to consume real-time enterprise published spatial data. It should be able to consume the third-party published OGC web-services.	

7.	There should be an option to create footprint (Both extent based and Precise) automatically for the datasets. This feature allows end-user to view the extents of any data in a spatial map without actually downloading or selecting it.	
8.	Should have the concept of automatic crawling and metadata harvesting in the COTS package itself, an administrator should be able to actually serve data (or a set of data) without worrying about the new or changed data. Crawlers can efficiently judge and serve the latest data. And hence this 'automated service management' increases the efficiency and productivity by reducing the time required to manage it. The system must do the following tasks automatically:	
	a. Metadata harvesting and cataloguing from raster datasets	
	b. Footprint generation	
	c. Thumbnail generation	
	d. Image Pyramid generation	
9.	Support for Coordinate Transformation and user definable datum. An administrator should be able to create and add custom coordinate system, and should support all EPSG codes, also The proposed solution should support coordinate transformation on the fly via OGC Coordinate transformation CT 1.0.	
10.	The proposed solution should support following RDBMS's for cataloguing:	
	a. Postgres 9.0 onwards	
	b. SQL server 2008 onwards	
	c. Oracle 10G R2 onwards	
11.	The proposed solution should be completely comprehensive in supporting multiple protocols. The proposed solution should have ECWP\JPIP along with the OGC Web Services like WMS, WFS, WCS, WFS-T, and WMTS and all in one package.	
12.	Supported operating system for the server should be Microsoft Windows Server 2008 \ 2012 64-bit.	
13.	The solution should run and support Windows server 64 bit architectures, Should run in a true 64 bit mode on a 64 bit OS i.e. the application server must run on 64 bit mode.	

14.	It should be Configurable to a mail server for email notifications	
15.	The proposed solution should support for GML at the client as well as at the server side.	
16.	In addition to the OGC Web Services, the system also should support SLD: the OGC styling language to portray maps from WMS, WFS and WCS services.	
17.	The proposed solution should offer updating feature and vector data through Transactional WFS (WFS-T) interface.	
18.	There should be a complete installer of the server which must perform all major configuration tasks automatically like:	
	a. There should be a provision of automatic Database configuration while installing the server	
	b. Automatic port configuration of the application server while installation	
	c. Automatic deployment of deployable into application server while installation (no post installation configuration required into application server)	
19.	Should support following functions for data management:	
	a. Remote management of data: an admin must be able to manage all raster and vector data from anywhere in the network without having the dependency of any other desktop COTS software.	
	b. Hierarchical data management: The server should support automatic handling of Hierarchical data management, wherein the data and metadata must be clubbed accordingly	
	c. Security management with access security over data and role based geospatial security over same datasets without altering the datasets	
	d. Pyramid management (Server Side) for Rasters	
	e. Footprint management	
	f. Thumbnail management	
	g. Geospatial Raster Data Crawlers	
	h. Job Management and scheduling system	

	i. ISO Metadata Editor and harvester	
	j. Service cataloguing	
20.	To ensure maximum data interoperability, all vector and attribute must be stored natively in industry standard RDBMS. The proposed solution should have the capability to consume and serve data directly from supported RDBMS without any bridge or middleware.	
21.	Should be able to catalog geotagged images captured using various types of mobile devices such as mobile phones, tablets and UAVs.	
22.	Should be able to integrate with the existing e-gov portal / ERP Integration	
4. GIS Server: Processing		
1	The proposed solution should consume data directly from the spatial RDBMS without any bridge or middleware directly from native tables.	
2	The proposed solution should have “On-The-Fly Projection”.	
3	The proposed solution should perform complex raster processes like DRA, Re projection on the fly, Contrast enhancement both on server side on the fly.	
4	Should have “On-The-Fly Re projection”.	
5	Should support advanced image processing options such as band list ordering, kernels, look up tables, hill shading, band algebra/formulas and transforms to accommodate the variety of new sensors	
5. GIS Server: Data Upload \ Download \ Sharing		
1	Apart from this, the proposed solution should have data download functionality for image \ Raster extraction and delivery. Data served via WCS can be used to accomplish this task. This system allows the administrator to configure download options through HTTP or FTP. Metadata information can be clubbed together with the data and end-user can download the contents in a zipped file.	

2	While downloading raster datasets, user must be able to specify the following:	
	a. Interpolation technique	
	b. Data format	
	c. Spatial resolution	
	d. bands	
3	There must be a support for multiple Coverage data and output formats like NITF, compresses GeoTIFF, JPEG2000, DTED, ECW, etc.	
4	In addition to this, there should be an additional support for KML and GeoRSS output formats for most of our services.	
6. GIS Server: Catalogue & Metadata		
1	The cataloguing must be based on OGC standard CS-W and an ebRIM profile.	
2	System should be able to catalog and manage large point cloud files and stream over the internet into end-user applications.	
3	The proposed solution should have a “full” ISO 19115/19119/19139 support for resource and service metadata management and encoding. An administrator can edit and update the metadata information.	
4	The solution should catalog geospatial information by harvesting metadata and persist it in a central, searchable catalog. Simple harvesting from SAN with thousands of imagery with footprints & thumbnails should take approximately less than 30 seconds per raster dataset (Excluding pyramid generation ‘if required’).	
5	The proposed solution should support Batch Metadata Editing over an ISO 19115 Metadata Schema.	
6		

	<p>The proposed solution should provide a synchronized lookup functionality for automatically uploading and cataloguing of raster datasets from a remote machine, very much like a Drop Box. The administrator should be able to configure multiple drop boxes between remote machines (Over a network) and the server, wherein the server should look up to these incoming folders, and as soon as any raster dataset is dropped in the lookup folders, it should automatically be uploaded to the preconfigured location on the server and once uploaded, the same should also be catalogued along with all metadata harvesting facilities. Once configured the drop box should not require any manual intervention apart from dropping raster files on the incoming folders.</p>	
7. GIS Server: Data Portrayal and delivery over Web Client		
1.	<p>The Web client must be able to interactively add following data services on the fly on the client side by defining and maintaining data sources:</p> <ul style="list-style-type: none"> a. Bing Maps, Google Maps and Open Street Map b. 3D Map Tiles and 3D Objects c. GeoRSS d. OGC CSW, WMS, WFS, WFS-G, WCTS, WMTS and Open LS 	
2.	<p>The Web client must support scale based printing interface wherein the user must be able to specify the following parameters:</p> <p>Page size (A3, A4), Orientation, Scale and DPI Settings</p>	
3.	<p>The system must stream high volumes of data over an Enhanced Compressed Wavelet Protocol</p>	
4.	<p>The proposed solution should perform complex raster processes like DRA, Reprojection on the fly, Contrast enhancement both on server side as well as on client side on the fly on a browser.</p>	
5.	<p>The system should support clipping and/or downloading of raster and vector data by authorized users. Should support downloading of datasets including raster, vector, terrain, LAS, and business data (documents, movies, any electronic content)</p>	

6.	A web-based administration console should provide the means for creating and configuring all aspects of server side engines, web services, and web applications in one place.	
7.	The system should support online editing of feature data (geometry and attributes) through the advanced spatial controls. System should allow the user to create and edit vector data.	
8.	The system should enable users of the standard gazetteer service to query by place name using OGC WFS-G.	
9.	System should allow searches based on Data and metadata as well as geographic locations such as cities, region and point of interests.	
10.	System should have capability to retrieve information from the catalog services.	
11.	It should have capability to perform attribute or spatial queries on data from selected sources.	
12.	The proposed solution should perform interactive Symbology over OGC compliant SLD on server side.	
13.	The web Client should have a scale bands configuration on the client side, wherein a client should be able to define different scales and also define what all layers must be visible on what scale configurations.	
14.	An administrator can define or generate the feature model to serve the vector data as an OGC WFS. Irrespective of the data format, coverage data can be served as an OGC WCS.	
15.	Over a thousand Coordinate Transforms and user definable datum is supported. An administrator can create and add custom coordinate system to this system, for this The proposed solution should support all EPSG codes.	
16.	The web client should have a 3D rendering option, which should switch the map view in 2D-3D toggle, based on already registered 3D maptiles and 3D Objects, it should render the whole mapview in 3D mode.	
8. GIS Server: System requirements		
1	The system should support the following:	

2	The system should run on Windows system with support of Windows Server 2008 R2 Standard / Enterprise edition and Windows Server 2012 Standard / Enterprise edition.	
3	The system should have a true 64 bit support.	
4	The system should be cloud compatible.	
5	The system should be scalable on IT standards. It should allow and support the extension of functionalities and capabilities through hardware or software-based clustering. This is to allow and support the highest up-time and availability with stability.	
6	The system should support hosting the application over secured channel like SSL.	
7	The system should support integration of existing user management and authentication mechanism like Active Directory, LDAP, JAAS, etc.	
8	The system must have perpetual license and should not depend on the cores of the physical servers or hardware.	
9	In case of future upgrade of hardware with increasing no of cores, or any other hardware upgrade should not force any additional GIS Server software purchases. Any increase in processing should not have any additional cost on the GIS Server Software and existing GIS server licenses should cater to the upgraded hardware.	
10	The system should support connecting and reading directly from different industry-popular databases like Oracle, PostGRES, and Microsoft [®] SQL Server (without any middleware).	
11	The administrator should be able to monitor the performance and quality of the application.	
12	The administrator should be able to manage the application from a single location wherein the administrator can configure:	
	a. Web-services	
	b. Server parameters	
	c. Logging configuration	
	d. Cache configuration	
	e. Visual folder configuration	

13	For better performance and efficient map display, the system should have to facility to enable caching of data on client-side as well as on server-side for features which are not frequently updated.	
9. GIS Server: Data management and dissemination requirements		
1	The data management and data dissemination components should support the following:	
2	The system should be able to read different data formats (stored in file systems or database) directly (in its original state) without any external or proprietary connectors or translation.	
3	The system should be able to read popular raster formats like IMG, GeoTIFF, ECW, and JPEG 2000. Vector stored as SHP, GML, KML, DGN, DWG, and ESRI File Geodatabase (FGDB) should be supported along with those stored in database of Oracle, PostGIS, and Microsoft® SQL Server.	
4	The system should be able to support industry-standard data types, industry-standard data formats, unlimited file size or database size, unlimited number of files or tables, and unlimited number of users.	
5	The system should support, host and deliver information on the service-oriented architecture, and should allow interoperability such that different client systems can request data in native application, without the need to change the data format, its location and/or its transmission protocol.	
6	The system should allow different levels of business logics to be embedded to allow different application requesting for the same set of information in different way; as per the needs and requests.	
7	The system should be able to support automatic cataloguing of raster and vector data through the concept of automatic service management, wherein the raster and vector data should be catalogued through the concept of crawling. The crawling should also support scheduling of cataloguing process. Cataloguing should also support non-spatial enterprise data.	
8	System should support automatic cataloguing of the datasets stored in the central database. It should have a separate option to "Crawl Database".	

9	The system should be able to catalog the data directly and should publish the data in open standards (as OGC web services), so that the clients can request for same via such open interfaces and open protocols.	
10	The system should be able to access, publish, and consume the raster datasets, vector datasets, point-cloud data, and non-spatial data like videos, documents, pictures, and any electronic content.	
11	The system should support different open interfaces and web-services as OGC WMS, OGC WMTS, OGC WFS, OGC WFS-T, OGC CS-W, OGC WMC, KML, GeoRSS, SLD and GML.	
12	The system should enable users of the standard gazetteer service to query by place name using OGC WFS-G.	
13	The Web Map Service (WMS) should be 1.1.1 and 1.3.0 Compliant.	
14	The Web Feature Service (WFS) should be 1.1.0 Compliant.	
15	The system must have the facility to publish the map / analysis results directly over the web.	
16	The system should be able to catalog the third-party published web-services.	
17	The system should allow the catalog to publish the catalogued information through REST interface so that other systems can also discover these published services. The interface should be RESTful and the application should be able to consume the catalog in JSON, TXT, HTML and GeoRSS formats.	
18	The system should allow administrators to manage the published web-services so that they can apply necessary security, restrictions and expose the relevant interfaces.	
19	The system should automatically harvest the metadata and should be able to translate metadata definition of spatial data to ISO 19115 standard.	
20	The system should support interoperability wherein the same data can be accessed by different systems through OGC web-services. The client application should be able to consume these web-services for their application needs on any system; be it web browsers, desktop systems or mobile devices.	
21	The system should support integrating externally stored non-spatial information like MIS data.	

22	System should allow the user to discover and view LAS-formatted point cloud data without downloading the dataset on Desktop, Mobile & Web Browsers.	
23	System should be capable of adding geospatial context to Computer Aided Drafting (CAD) files.	
24	System should allow the users to easily discover and retrieve Computer Aided Drafting (CAD) data using keyword and spatial searches.	
10. GIS Server: Web-services and web-portal requirements		
1	The system should be able to support industry-standard data types, industry-standard data formats, unlimited file size or database size, unlimited number of files or tables, and unlimited number of users.	
2	The application should allow the web-services to be extended such that it can be requested and consumed by different levels of users, different types of users, different departments and by different applications with ease.	
3	The application should have standard and modern map navigation tools of pan and zoom.	
4	The application should support loading base-maps to the viewer that can be hosted by Google Maps, Bing Maps, Virtual Maps, and Open Street Maps.	
5	The system should be able to generate a map from one or more feature data sources (OGC WMS, WFS).	
6	The system should support hierarchical legends and watermarks.	
7	The application should allow the users to perform attribute query & spatial query	
8	The application should allow users to choose the output format in JPEG, PNG or SVG for feature services.	
9	The application should allow users to views the data with different symbology styles like differentiating feature records based on attributes or types, dynamic label generation with conflict detection, and translucency of all raster data and area colour fill.	
10	The application should support client requests to print the spatial data with attributes over any sized page (ranging from A0 to A4).	

11	The system should support clipping and/or downloading of raster and vector data by authorised users. The supported raster format should be ECW, JPEG2000, IMG, and TIFF. The supported vector should be SHP, GML, and KML.	
12	The system should also allow clipping and downloading of point cloud data in LAS format.	
13	The system should support streaming of large raster data through ECWP and JPIP.	
14	The system-hosted web-based application should have the facility to render the different spatial data (raster, vector, maps, terrain, and point cloud) in the web-browser.	
15	The application should have the facility wherein the user can opt to view in 2D or 3D environment.	
16	The application should allow users to apply advanced filter functions like Less than, Greater than, Equals along with spatial operations like bounding box, intersection, within, and disjoint.	
17	The application should support localisation for the user interface and for the data (where the data has localised information).	
18	System should have ability to simulate buildings and other 3D features for quick measurement and investigation.	
19	Should be able to create form-based, task specific workflows for the browser that primarily support attributive data but also may contain a spatial component.	
11. GIS Server: Security		
1	Fine grained security system. The proposed solution should secure data depending on the following parameters:	
	a. Spatial extent (for restricted areas)	
	b. Depending on a scale	
	c. Depending on the data and type of user.	
	d. Depending on resolution (Globally i.e. Irrespective of any users or datasets)	
An administrator can set permissions and restrictions. Feature like 'polygon masking' that hides the restricted or sensitive information from the end-users is mandatory. An administrator should be able to configure spatial masking security, and re-sampling resolution.		

2	With fine grained security the solution should actually serve same data for different kind of users for different purposes. Data provisioning should also be included.	
3	The proposed solution supports authentication compatible to many IT standard technologies like Active Directory, LDAP, Database, CAS, JAAS, etc.	
4	A user logged in from a particular department will have access to the base maps along with the admin layers designated to that respective department only.	

Annexure 17: Smart Intervention for SWM Projects Kochi Smart City

SL. No.	Name of Proposed Project	Proposed Smart Intervention
1	Supply & O&M of Portable Waste Compactor for SWM Storage and Transportation	<ul style="list-style-type: none"> The portable compactors shall be linked with a GPS system and an RFID Tag, which shall track movement of vehicle and also keep record of details related to number of trips made, fuel consumption incurred. When the waste container is filled, it shall automatically intimate driver of prime mover, with hook loader, which shall save time and ease co-ordination for fast action on waste transportation. The Portable Compactors shall also be fitted with inbuilt system related to Vehicle maintenance scheduling, which shall ensure that vehicle is up and running at the time of requirement. The details of Portable Compactor stations shall be aligned with Swachhta App or any similar ABD area app, which shall share information related to services status of Portable Compactor system.
2	Supply & O&M of Mechanical Road Sweepers	<ul style="list-style-type: none"> The Mechanical sweepers shall be linked with a GPS system and an RFID Tag, which shall track movement of vehicle and also keep record of details related to number of trips made, fuel consumption incurred and roads cleaned by vehicles. When the mechanical sweeper is deployed on a particular road, it shall automatically send a message to the Command Control Centre, which shall ensure that the deployment of machines is done as per schedule, which shall save time and ease co-ordination for fast action on road sweeping jobs. The Mechanical sweepers shall also be fitted with inbuilt system related to Vehicle maintenance scheduling, which shall ensure that vehicle is up and running at the time of requirement.

SL. No.	Name of Proposed Project	Proposed Smart Intervention
		<ul style="list-style-type: none"> The details of Mechanical sweepers deployment schedule shall be aligned with Swachhta App or any similar ABD area app, which shall share information related to services status of Mechanical sweepers system. The detail of Supervisor responsible for Mechanical sweeping operations shall also be provided to citizens through Swachhta App any local ABD App, which shall be developed and deployed.
3	<p>Smart House to House Collection of SWM using E-Tricycles</p>	<ul style="list-style-type: none"> The E-Tricycles shall be linked with a GPS system and an RFID Tag, which shall track movement of vehicle and also keep record of details related to number of trips made. , fuel consumption incurred and roads cleaned by vehicles. When the E-Tricycles is deployed on a particular road, it shall automatically send a message to the Command Control Centre, which shall ensure that the deployment of E-Tricycles is done as per schedule, which shall save time and ease co-ordination for fast action on road sweeping jobs. The E-Tricycles shall also be fitted with inbuilt system related to maintenance scheduling, which shall ensure that E-Tricycles is up and running at the time of requirement. The details of E-Tricycles deployment schedule shall be aligned with Swachhta App or any similar ABD area app, which shall share information related to services status of Mechanical sweepers system. The Sanitation staff shall be provided with a small mobile phone, which shall scan the waste loaded bins from households and record number of houses covered by him as per his deployment plan. The detail of Supervisor and sanitation staff responsible for E-Tricycles shall also be provided to citizens through Swachhta App or any local ABD App, which shall be developed and deployed.

SL. No.	Name of Proposed Project	Proposed Smart Intervention
4	Septage Management	<ul style="list-style-type: none"> • The details of authorized Septage Collection & transportation vendors shall be provided to the citizens Swachhta App any local ABD App, which shall be developed and deployed. • The Citizens through use of App shall be able to call the service provider. • The payment shall be fixed for Septage Collection and transportation, which shall be made through online payment portals like PayTM , NEFT or UPI based mechanisms and the citizen shall receive an OTP for service delivery use. • The service charge shall include cost of septage collection and transportation as well as treatment cost of same, which shall be payable to Kochi Corporation. • When the payment is made by the citizen, the payment in both heads shall be made automatically. • Once the payment is made and confirmed, the staff of the Kochi Corporation shall send the details to the concerned vendor with vendor vehicle and staff details. • The vendor staff along with vehicle shall reach the citizen house, the citizen shall share the OTP and the vendor shall lift the septage and transport it to STP located at Wellington Island.

Annexure 18: Technical Manpower Required For Operation and Maintenance

S No	Position	Minimum Qualification	Relevant Experience	Brief profile of Work
1	Program Manager	<ul style="list-style-type: none"> Education: MBA/MCA/M. Tech & B. Tech/B.E. (IT/Computer Science) from a recognized educational institution Should preferably have PMP or Prince2 certification 	<ul style="list-style-type: none"> Experience: Minimum 10 years in IT sector Should have more than 5 years of experience of handling such large projects as a project manager International Work experience in implementation of Citizen centric service/ Municipal Domain ICT project Should preferably have e-Governance project experience 	<p>Responsible for overall management and administration of project components during design and implementation phase</p> <p>Responsible to ensure implementation of project within stipulated timelines</p> <p>Any other work assigned by the competent Authority</p>
2	Solution Architect	<p>Education: MCA/M. Tech/B. Tech/B.E. from a recognized educational institution</p> <p>Preference will be given to the experts with CCNP certifications</p>	<ul style="list-style-type: none"> Experience: Minimum 5 years in IT sector. Should have experience of more than 3 years as a Solution Architecture in large projects of similar nature Should preferably have e-Governance project experience 	<p>Responsible for integration of all the Smart solutions into the IOT platform, Functional Layers of Iol Over view, Development of GIS based citizen Portal and public cloud solution that provides publishing, storing, and streaming services</p> <p>Any other work assigned by the competent Authority</p>

3	Database Administrator	B.Tech/MCA from a recognized educational institution	<ul style="list-style-type: none"> • Minimum 5 years of experience in Database management and Administration • Should have experience as server and storage expert for minimum 2 projects • Should preferably have e-Governance project experience 	<p>Responsible for GIS Spatial Data Base Engine, applications hosted on cloud and geospatial data management and facilitates storing and managing spatial data.</p> <p>Relational database support for GIS data management</p> <p>Any other work assigned by the competent Authority</p>
4	Network Administrator	B.Tech / M.Tech/MBA/MCA from a recognized educational institution Certification in CCNA	<ul style="list-style-type: none"> • Minimum 5 years of experience in large and complex IT/ ITES/ telecom projects • Should have experience in designing the Network and Security structure for minimum 2 projects • Should preferably have e-Governance project experience 	<p>Responsible for ensuring necessity integration of proposed solutions with all applications and technologies and efficient functioning.</p> <p>Any other work assigned by the competent Authority</p>
5	GIS expert	B.Tech / Masters in Geology/ MCA / Masters in Remote Sensing	<ul style="list-style-type: none"> • Minimum 5 years of GIS Solution Implementation experience. • Should have experience in designing & 	<p>Development and Management of separate collection of geographic data files and make the data available to other applications.</p>

			<p>implementation of GIS mapping for minimum 2 projects</p> <ul style="list-style-type: none"> • Should preferably have e-Governance project experience 	Any other work assigned by the competent Authority
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Annexure 19: Standards and Specifications of National Common Mobility Card



Ministry of Urban Development Smart Cities Mission

Advisory No. 9

8th June, 2017

Sub: Standards and Specifications of National Common Mobility Card

The National Urban Transport Policy under the Ministry of Urban Development envisages a single fare media over all systems of public transport for Interoperable Fare Management System (IFMS). This single fare media will bring a seamless travel connectivity across different modes of transport and different operations across different cities in India. The main features of the proposed system are:

- Interoperable Common Mobility Card across modes of transport and cities
 - Convenience and seamless experience for commuter
 - Economics of scale to bring down costs compared to solo efforts of Public Transport Organizations.
2. The IFMS supports for fare payment on Buses, Metro, Monorail, and Ferry etc. for various public transport organizations across the country. The IFMS shall be designed to be accepted in
- All kinds of Public Transport like railways, light rail, taxi, auto etc.
 - Para-transit and non-transit services (Parking, Toll, Taxis, Autorickshaws, etc)
 - Other merchant payment like utility bills, taxes, etc.
3. To facilitate roll out of IFMS, Ministry of Urban Development constituted a committee to develop standards and specifications for National Common Mobility Card (NCMC). The report of the committee recommending standards and specifications of the NCMC is available on the link given below.
- <http://moud.gov.in/upload/uploadfiles/files/CommitteeReportofNCMC03.pdf>
4. All the Smart Cities are advised to follow the standards and specifications recommended by the committee in the above report for implementation of proposals for roll out of Smart Mobility Cards in the respective cities.

CONCEPT NOTE ON NCMC IMPLEMENTATION

ABSTRACT

This document covers overview of National Common Mobility Card (NCMC) and the Standard Operating Procedure for NCMC implementation by Transit Operators (e.g. Bus, Metro), Para-Transit (Toll, Parking etc.) and Smart Cities.

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1 Purpose of the Document

This document provides an overview of the National Common Mobility Card (NCMC) specification, its key features and benefits to involved stakeholders. It also covers the Standard Operating Procedure (SOP) for NCMC implementation by various authorities including Transit Operators (Bus, Metro), Toll, Parking and Smart Cities.

2 Introduction to National Common Mobility Card (NCMC)

Ministry of Urban Development (MoUD) has come out with a **National Common Mobility Card (NCMC)** model to enable seamless travel by different metros and other transport systems across the country besides retail shopping and purchases. A committee was formed with representatives of National Informatics Centre (NIC), Centre for Development of Advance Computing (C-DAC), Bureau of Indian Standards (BIS), National Payment Corporation of India (NPCI) and the Ministry of Finance. After extensive study of various models being followed across the world, the Committee recommended the EMV Open Loop Card with stored value based model and the same was approved. This card meets travel needs based on stored value of money and can be used for travelling by any means of transport and also enables account based retail applications. Accordingly, this card does away with the need of carrying separate cards for banking and transit requirements.

With a vision to create One Card for all Payments system, NPCI is working with Ministry of Urban Development (MoUD), Government of India for implementation of National Common Mobility Card Program (NCMC). This specification is dual interface (contact & contactless) EMV card based specification and is interoperable based on open standards. This is aimed at low value payments for various segments e.g. Transit, Smart cities, Toll, Parking and other low value merchant payments in addition to the normal day to day retail payments. These specifications would be capable of supporting not only payment products but also transit applications like passes & government applications such as social security, driving license, Id/access card etc. This will have increased customers convenience as it would allow customers to use the same card for variety of needs.

In future these cards will be available in various other form factors including wearables.

2.1 Key Features of NCMC:

Key Functionalities/Particulars	NCMC Proposition
Payment Model	<ul style="list-style-type: none"> Card based payment model
Transaction Type	<ul style="list-style-type: none"> Supports online (contact & contactless) & off-line (contactless) transactions
Stored Value	<ul style="list-style-type: none"> Provision to store balance on card for offline payments
Provision for multiple service areas	<ul style="list-style-type: none"> Multiple service areas (optional to use with mutual concurrence) to support acquirer/operator specific programs e.g. Passes / Season Tickets / Smart City Specific application / Loyalty points etc.
Card usage	<ul style="list-style-type: none"> Same card to be used at ATMs, Merchant establishments & online (e-commerce) payments in addition to other areas of contactless payments viz., transit, toll, parking & other small value merchant payments
Card issuance	<ul style="list-style-type: none"> Can be issued by any member authorized by RBI On the platform of Debit/Prepaid/Credit Cards

Topping up the stored value	<ul style="list-style-type: none"> Provision of Topping up the stored value through any mode of payment viz., Online using card, Internet Banking, IVR, ATM, Cash at customer service point, auto top-up etc. at the option of the issuing entity
Offline Transaction Risk	<ul style="list-style-type: none"> Since the offline transaction is permitted against stored value on card, there is minimal risk of any loss to the bank or merchant
Security	<ul style="list-style-type: none"> Underlying technology i.e. EMV is best available globally
Cost of providing contactless card to the customer	<ul style="list-style-type: none"> RBI has mandated that effective Feb 01, 2016, all cards issued by banks in India would be EMV. Therefore, cost of providing contactless card to the customer will be only marginal as against steep increase in territories where mag-stripe ecosystem exists
Synergy with existing technology	<ul style="list-style-type: none"> NCMC specifications can co-exist with the existing technology being used by acquirer/operator and migration to common standards may be achieved gradually to suit the convenience.

3 Advantages of NCMC Open Loop Smart Card over Closed Loop Variant

S. No.	Concern	Open Loop Smart Card	Closed Loop Smart Card
1	Customer Friendly	Customer can use the same card for Metro and Bus travel in all the City and States within the country.	Customer need to buy different cards for different public transport Systems.
2.	Convenience	Customers will use their bank issued NCMC card for fare payment rather than waiting in a queue for card/token/ticket issuance.	Customer may require to stand in queue for card issuance, Top up etc.
3.	Loyalty Points	Consumer may benefit from loyalty/reward points from partner banks, as provided in case of Debit and Credit cards.	No such provision. Any such loyalty and discount is a cost to the Public Transport Operators.
4.	Minimum Infrastructure	Public Transport Operators can minimize their cost involved in maintenance of infrastructure and manpower for card issuance, Top up, card replacement and refunds, as open loop cards can be issued by multiple partner banks.	Each Public Transport Operators need to bear the significant expense for maintenance of infrastructure and manpower for card issuance, Top up, card replacement and refunds.
5.	Negotiating Power	As open loop acceptance devices are based on open interoperable standards, there are multiple vendors available for payment acceptance devices, which provide an opportunity for cost and service negotiation.	Closed loop cards may be of proprietary standards, leading to vendor lock in for subsequent purchase and renewals of acceptance devices.
6.	No vendor lock in	Open standards based payment acceptance devices provides the freedom for subsequent purchase and renewals of devices.	Proprietary standards may lead to vendor lock in for subsequent purchase and renewals of acceptance devices.

Concept Note on NCMC Implementation

7.	Ease of Implementation	Well standardized payment acceptance devices and availability of multiple vendors provides ease of implementation. Payments related scope of work to be taken care by partner bank and hence PTOs may focus on their key activities.	PTOs need to evaluate multiple proprietary specifications leading to difficulty in implementation.
8.	Fast Deployment	Due to similar implementation process, best practices and reference implementation guidelines, there will be standardized procurement practices, and RFPs. This considerably expedites the deployment of digital payments in Public Transport Operators.	Each deployment will have specific requirements and considerable expertise is required by each Public Transport Operators for selection of appropriate solution.
9.	Retail acceptance	NCMC open loop card offers acceptance at all the existing retail PoS devices.	Closed loop cards can only be accepted within their operating environments.

4 Value Proposition of NCMC

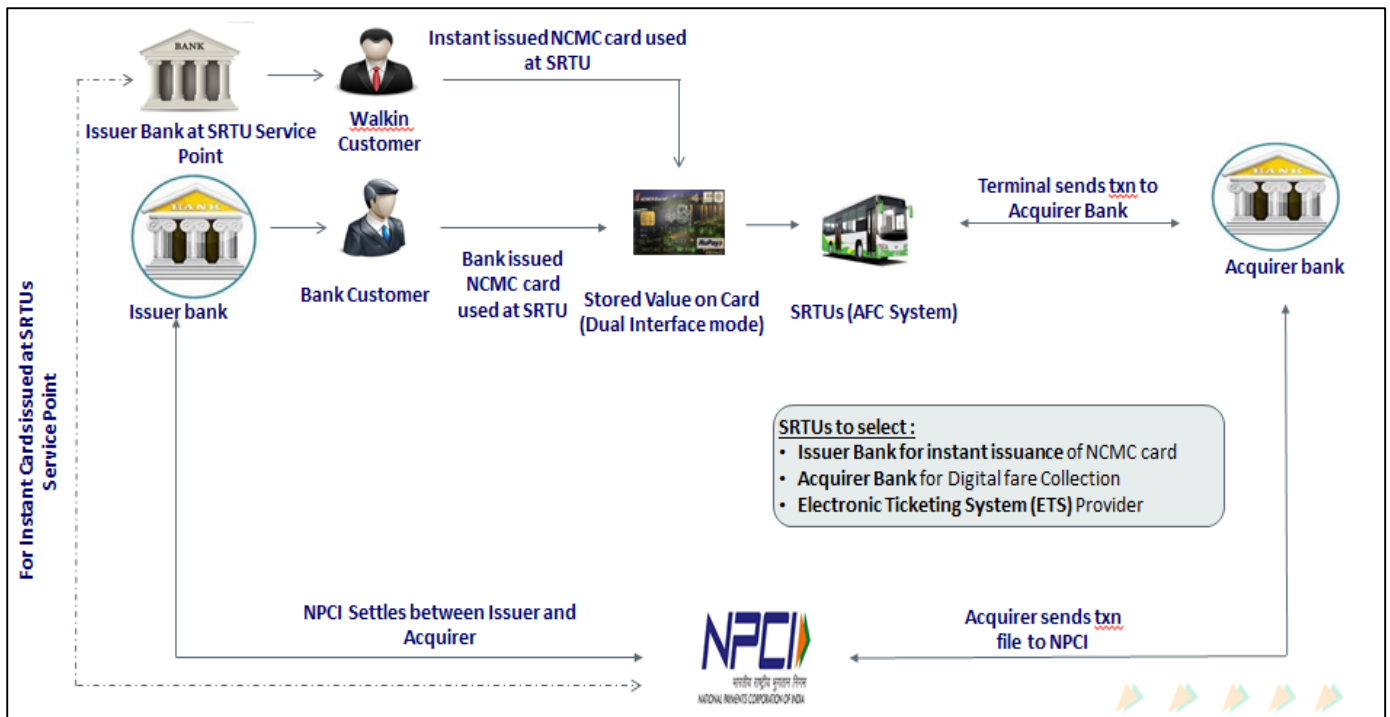
Customers	Acquirer/Operators	Banks
<ul style="list-style-type: none"> One card for all small & large payments across various categories; No need to carry multiple cards for different usage Super quick with contactless transactions enabled on the card Digital trail for all transactions No need to stand in a queue Auto Top-up facility; need not to worry for recharge Secured with EMV Technology; Gold standard of card payments 	<ul style="list-style-type: none"> Unified cards to support offline and online transaction modes; contactless ability Common standards for standardized operating cost Fast deployment of digital payments due to standardized implementation process Savings on card lifecycle management cost Reduced operating cost on account of lower cash handling, infrastructure & manpower cost Business intelligence with rich data insights aimed at business optimization and ROI based communication May run proprietary loyalty and VAS schemes with high convenience and customer satisfaction No vendor lock in due to open loop standard platform. 	<ul style="list-style-type: none"> Customer loyalty & stickiness Additional revenue opportunities with large customer base Savings on cost of servicing customers and cash handling Increased usability of bank issued cards due to transit related use case Improved brand image to offer value added products/services Rich data insights with valuable customer data for data analytics

5 NCMC Implementation Model

5.1 Sample NCMC Implementation Model (Bus Transport)

The NCMC implementation is aimed at providing a Vendor and Bank agnostic digital fare collection platform wherein the customers may use NCMC cards (Debit/Credit/Prepaid Card) issued by any Bank for digital fare payments. This will help the customers to get associated with any bank as per their choice rather than being restricted to a single bank. The acceptance of NCMC cards issued by multiple banks will further help to get the higher digital penetration for fare collection.

A sample implementation model for State Road Transport Undertakings (SRTUs) – Bus Operators has been shown below for the reference purpose. The same concept will get extended across other segments including Metro, Toll, Parking and Smart Cities with modification as per their existing fare collection system.



5.2 Required Activities for NCMC Implementation

The NCMC implementation will involve following key activities:-

S.No.	Activity	Description
1	AFC Deployment/Upgrade	<ul style="list-style-type: none"> • Upgrade of existing ETIMs with EMV devices certified as per NCMC specification <ul style="list-style-type: none"> ○ Level 1 (Hardware) to be certified as per EMVCo ○ Level 2 Kernel (Software) to be certified as per NCMC specs ○ Level 3 (Payment Application) to be certified as per NCMC specs • Complete back-office deployment to support Automatic fare Collection System

Concept Note on NCMC Implementation



2	Selection of Issuer Bank for instant Issuance of NCMC Cards at Service Delivery Points (if required)	<ul style="list-style-type: none"> • Responsible for issuance of NCMC Cards as per defined NCMC specification • Multi-Banks Acceptance Model wherein customers may use NCMC cards issued by any certified bank • The customers may get the NCMC cards from the bank of their own choice by visiting the respective branches or offices • To facilitate the card issuance at Operator/Authority service points e.g. bus stops, depots etc., PTO need to select an Issuer Bank for instant issuance of NCMC cards
3	Selection of Acquirer Bank for acquiring of digital transactions done using NCMC Cards	<ul style="list-style-type: none"> • Responsible for acquiring of digital fare collection transactions done using NCMC cards issued by any certified Bank • Acquirer Bank may be single or multiple as decided by Operator
4	Commercial Aspects	<ul style="list-style-type: none"> • Commercial Model to ensure the vendor/bank agnostic solution and Multi-Banks acceptance scenario wherein the customers should be able to use NCMC cards issued by any Bank including the local or small banks. • As far as possible, the transaction charges should not be passed on to customer so that there is no resistance to digital adoption.

5.3 Roles and Responsibilities of Key Stakeholders

The roles & responsibility of key stakeholders will be inclusive of but not limited to the following. It may vary as per the scope of work finalized by the Authority.

Stakeholders	Roles and Responsibilities
Issuer Bank	<p><u>Issuer Bank issuing the NCMC enabled Debit Cards from their Branches</u></p> <ul style="list-style-type: none"> • Issuance and end to end lifecycle management of NCMC cards as a part of day to day normal banking activities for the Issuer Bank • Shall provide various payment channels for the Card Top-up as per customer convenience • Undertake transaction settlement and reconciliation with Acquirer Bank & Payment Schemes <hr/> <p><u>Instant Issuer Bank issuing the NCMC Cards from PTO Service Delivery Points (if required)</u></p> <ul style="list-style-type: none"> • Applicable only for cases wherein the Operators want to provide the NCMC cards instant issuance facility at Operator Service Delivery Points • Procurement, personalization, instant issuance of Contactless cards based on NCMC specification as per RBI guidelines • Shall provide various payment channels for the Card Top-up as per customer convenience • Provide necessary EMV PCI-DSS compliant hardware for instant issuance related applications as per requirements • Certifications & Compliances as per NCMC specification • Provide helpdesk to customers for addressing any grievance or providing support in card usage • Maintain entire life cycle management of NCMC cards issued by FI, card applications, payment scheme, card account management and card transactions • Marketing, Loyalty, Fraud and Risk Management • Admin console for Authority to access MIS reports etc. • Provide an e-payment gateway and portal, Mobile Applications and SMS facilities for self-service and card top-up • Undertake transaction settlement and reconciliation with Acquirer Bank & Payment Schemes • Field training, hardware maintenance and consumables
Acquirer Bank	<ul style="list-style-type: none"> • Acquiring the digital fare collection transactions done using NCMC cards issued by any certified Bank • Shall provide various payment channels for the Card Top-up on the web/mobile interface provided by the Authority/its vendor • Provide EMV as well as PCI-DSS compliant hardware for acquiring related applications as per NCMC specifications

Concept Note on NCMC Implementation



	<ul style="list-style-type: none"> • Certifications & Compliances as per NCMC specification • Provide risk, fraud and dispute/chargeback capabilities • Provide NCMC Card dedicated support to Issuer Bank with reference to transaction dispute, refunds, chargeback and merchant account management as per RBI requirements • Provide Admin Console for Operators • Manage email/SMS for citizens and merchants • Undertake transaction settlement and reconciliation with Operators
Transport Operators	<ul style="list-style-type: none"> • Provide manpower to all its Service Points • Provide domain services and respective IT applications like ITMS, AFCS/ETIMs in collaboration with AFC vendor • Ensure necessary infrastructure development and reliable network connectivity to connect with FI ecosystem • Provide sufficient space at each depot and central control center for setting up the required infrastructure
AFC Provider	<ul style="list-style-type: none"> • Supply and deployment of Electronic Ticketing System (ETS) to roll-out the NCMC solution • Provide ETIMs/validators on bus terminals, city bus, BRTS, etc. • Provide technical maintenance and support of the ETIM application software and hardware system over the contract period • Maintain the sufficient spare parts (of Handheld and other hardware parts) at depot (or any other location specified by the Authority) for maintenance of ETM and meeting the SLA • Provide NCMC Certified payment application for collection and settlement of fare against cash and NCMC card • Provision of all the consumable items like SIM, Monthly Charges of connectivity, paper roll (for paper tickets) • Backend hardware and hosting infrastructure for hosting the ETM backend • Web-Portal for various MIS and settlement report
NPCI	<ul style="list-style-type: none"> • Certification of Issuer and Acquirer Banks in line with NCMC Specification • Certification of cards & terminal vendors as per NCMC specification • Assistance to operators in conceptualization, roll-out and implementation of NCMC solution • Settlement of inter-bank transactions • Pricing for inter-bank transactions

6 Standard Operating Procedure for NCMC implementation

The NCMC implementation processes have been enumerated below for the reference purpose. This process can be followed by any Operator in transit/para transit (toll, parking etc.) and smart cities for implementation.

S. No.	Steps	Description	Reference Documents
1	Familiarization with NCMC	<ul style="list-style-type: none"> Understand the key aspects of NCMC implementation including:- <ul style="list-style-type: none"> Product overview Key features of the product Pre-requisites for NCMC implementation 	Concept Note on NCMC Implementation
2	Gap Analysis	<ul style="list-style-type: none"> Analysis of the existing fare collection/payment options in view of NCMC implementation:- <ul style="list-style-type: none"> To understand the readiness of the existing system To identify upgrade areas and related activities 	
3	NCMC Implementation Model	<ul style="list-style-type: none"> Finalize the NCMC implementation model in consultation based on business requirements covering following key points:- <ul style="list-style-type: none"> Provision of instant issuance, if required Multi-banks acceptance wherein customers may use the NCMC card issued by any certified Bank 	Concept Note on NCMC Implementation
4	Defines Roles and Responsibilities	<ul style="list-style-type: none"> Define the roles and responsibilities of key stakeholders based on finalized NCMC implementation model:- <ul style="list-style-type: none"> System Integrator/AFC System Provider Acquirer Bank Issuer Bank for instant issuance purpose, if any 	Concept Note on NCMC Implementation
5	Finalisation of Business Model	<ul style="list-style-type: none"> Finalize the business model for NCMC implementation (Capex & Opex) covering following key points:- <ul style="list-style-type: none"> No vendor lock-in because of business model Acceptance of NCMC Cards issued by any Bank 	
6	Engagement and Selection of Vendors	<ul style="list-style-type: none"> Engagement with existing System Integrator/AFC/Terminal vendor for NCMC implementation 	Sample RFPs

		<ul style="list-style-type: none"> • Selection of System Integrator/AFC/Terminal vendor in case the existing vendor is not willing for NCMC implementation 	
7	Engagements and Selection of Acquirer Bank and Instant Issuer Bank	<ul style="list-style-type: none"> • Multi-banks acceptance as the key requirement wherein customers may use NCMC cards issued by any Bank • Selection of Acquirer Bank for acquiring of digital transactions done using NCMC cards • Selection of Instant Issuer Bank for instant issuance of NCMC cards, if required • Instant Issuance activities may be assigned to the Partner Acquirer Bank, as decided by Operator/Authority 	Sample RFPs

7 Certifications & Compliances

The table below provides an overview of the certifications required for an Acquirer and Issuer Bank. These certifications will be done as per the latest specifications prevalent during the implementation.

7.1 Issuer Bank Certification Requirements

S. No.	Product/ System	Role in payment eco-system	Certification Type	Followed Guidelines
1	Card	Issuance	Physical Card	EMVCo
2			NCMC Application	NCMC
3			White Plastic Certification	NCMC
4	Issuer Host	Transaction processing by Issuer Bank	Issuer Host Certification	NCMC
5	Central Clearing House Certification (CCH)	Clearing and settlement	CCH Certification	NCMC

7.2 Acquirer Bank Certification Requirements

S.No	Product/ System	Role in payment eco-system	Certification Type	Followed Guidelines
1	Acquirer Host	Transaction processing by acquirer	Acquirer Host Certification	NCMC
2	Central Clearing House Certification (CCH)	Clearing and settlement	CCH Certification	NCMC

7.3 ETIM Certification Requirements

S. No.	Product/ System	Role in payment eco-system	Certification Type	Followed Guidelines
1	Terminal	Acceptance	Hardware Level requirement (L1)	EMVCo
			Terminal Kernel- (Contact L2)	EMVCo
			Terminal Kernel- (Contactless L2)	NCMC
			Terminal Application (L3)	NCMC



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दिनांक / Dated..04.04.2018.....

Sub.: Enabling Open Loop Digital Payment Systems in Public Transport

Sir/Madam,

Government of India is making efforts for promoting a less cash economy and to provide the facility of seamless digital payment to all citizens of India in a convenient manner.

2. Public transport including State Road Transport Undertakings (SRTUs) and Metros has a huge potential to upscale the digital payments due to their massive consumer base. Successful adoption of digital payment in this sector is crucial for overall adoption of digital payment throughout the country. Hence, it is necessary to provide a simple, convenient, fast and easily accessible payment solution to the customer.

3. Open loop contactless card based on Near Field Communication (NFC) is an ideal solution to expedite adoption of digital payment in Public Transport. This provides a significant opportunity to all the Public Transport Operators (PTOs) to enable digital payment acceptance infrastructure in an economic manner.

4. The advantages of open loop smart card are as follows:

- i. As open loop acceptance devices are based on open interoperable standards, there are multiple vendors available for payment acceptance devices, which provide an opportunity for cost and service negotiation.
- ii. Public Transport Operators can minimize their cost involved in maintenance of infrastructure and manpower for card issuance, Top up, card replacement and refunds, as open loop cards can be issued by multiple partner banks.
- iii. These cards can also be issued in form of prepaid cards, which will provide confidence to the customers for wider adoption of digital payments, due to inherent capping of risk in prepaid cards.



- iv. It can be interoperable across modes of transport and Cities. It is convenient and provides seamless experience for commuters.
- v. Open loop cards provide the opportunity for customers to get reward points from partner banks, as provided in case of Debit and Credit cards.
5. Digital payment in public transport has clear economic advantages due to minimization of operational cost and elimination of the cash handling charges. This will further ensure accurate and timely reconciliation and will enable operational efficiencies, due to analytics made possible by data unlocked by digital payment.
6. It may be noted that National Payment Corporation of India (NPCI) has already conducted successful launch of open loop National Common Mobility Card (NPMC) card (Concept Note attached as Annexure B). Please contact Mr. Nalin Bansal, Vice President and Head - RuPay Contactless, NPCI (Ph: 9810603372 email: rupay.contactless@npci.org.in, nalin.bansal@npci.org.in) for any further clarifications.
7. In view of above, all the Public Transport Operators are requested to adopt open loop NPMC cards. Advantages of open loop smart card (Annexure A) and Concept Note on NPMC implementation (Annexure B) has been enclosed for reference.

With regards,

Yours faithfully,


(Gopalakrishnan S.)^{f/4}

Encl.: As above

To:

1. Administrative head of SRTUs of all States/UTs
2. Administrative head of all Metro Rail Systems
3. The Secretary, Ministry of Road Transport and Highways
4. Chief Secretaries of all States/UTs

Copy To:

1. The Secretary, Ministry of Housing and Urban Affairs
2. The Chairman, Railway Board
3. CEO, NPCI
4. Mr. Nalin Bansal, Vice President and Head - RuPay Contactless, NPCI