# REQUEST FOR PROPOSAL FOR IMPLEMENTION OF ROADSIDE SMART PARKING SYSTEM



TENDER NO :JSCL/438/ADM/26.

JABALPUR SMART CITY LIMITED (JSCL)

MADHYA PRADESH

# **DISCLAIMER**

The information contained in this Request for Proposal document (the "RFP") or subsequently provided to Applicant(s), whether verbally or in documentary or any other form, by or on behalf of the Department or any of its employees or advisors, is provided to Applicant(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor invitation by the Department to the prospective Applicants or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their application for qualification and thus selection pursuant to this RFP (the "Application"). This RFP includes statements, which reflect various assumptions and assessments arrived at by the Department in relation to the work/s. Such assumptions, assessments and statements do not purport to contain all the information that each Applicant may require. This RFP may not be appropriate for all persons, and it is not possible for the Department, its employees or advisors to consider the objectives, financial situation and needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP may not be complete, accurate, adequate or correct. Each Applicant should therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this document and obtain independent advice from appropriate sources.

Information provided in this RFP to the Applicant(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Department accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

JSCL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Applicant or Bidder, under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way with selection of Applicants for participation in the Bidding Process.

CONTENTS	
Important Dates & Information	4
Purpose	5
Invitation for Proposal	5

Instructions to Bidders	6
Validity of Proposal	6
Right to Accept or Reject any Proposal	6
Fraud & Corruption	6
Clarifications & Amendments of RFP	8
Earnest Money Deposit (EMD)	8
Preparation of Proposal	8
Submission of Proposal	9
Evaluation of Proposals	10
Pre-qualification Evaluation	10
Evaluation of Technical Proposal	10
Method of Selection / Bid Parameter	12
Evaluation of Commercial Proposal	12
Payment Terms & Milestones	13
scope of work	13
Smart Parking - Technical Specifications	Error! Bookmark not defined.
Intellectual Property Rights	22
Annexures	22
Covering letter	22
Bidder's Organization &Consortium Details	23
Details of Similar Assignments	23
Commercial Bid Format	24
Smart Parking - Technical Specifications	25
Project Time Line	28

# IMPORTANT DATES & INFORMATION

S. No	Key Information	Details						
Assignm	ent Details							
1.	Assignment Name	RFP for Roadside Smart Parking System						
2.	Client	JSCL (Jabalpur Smart City Limited)						
3.	Location	Jabalpur						
Bid Subn	nission & Evaluation							
4.	Bid Submission	Bids shall be submitted online as following-						
		Document 1: Pre-Qualification Bid						
		Document 2: Technical Bid						
		Document 3: Financial Bid						
5.	Document 1: Pre-Qualification	Form-1P: Covering Letter						
	Bid	Form-2P: Pre-Qualification Form						
		Form-3P: Bidders organization and consortium details						
6.	Document 2: Technical Bid	Form-4T: Technical Form						
		Form-5T: Details of similar assignments						
7.	Document 3: Financial Bid	Form-6F: Covering letter- Financial proposal						
		Form-7F: Commercial bid format						
		Form-8F: Power of Attorney						
8.	Bid Evaluation	Bid Evaluation shall comprise the evaluation of						
		Technical & Price Bids. Price bids of only those Bidders shall be						
		opened, who qualify the Technical Bid Criteria.						
9.	Method of Selection / Bid	The evaluation of proposals shall be on the principle of Quality						
	Parameter	Cum Cost Based Selection (QCBS) based on the final weighted						
		score.						
		<ul> <li>Only the Bidders matching the pre-qualification criteria will be</li> </ul>						
		selected for further evaluation.						
		<ul> <li>The technical proposal shall be evaluated according to under</li> </ul>						
		mentioned "Technical Proposal Evaluation Criteria". Each						
		responsive Proposal will be given a technical score (St).						
		Technical weightage (Tw) will be 70%.						
		The proposal, from the technically qualified proposals, with						
		the lowest cost (Fm) shall be given financial score (Sf) of 100						
		points. The financial scores of other proposals shall be						
		computed as follows: Sf = 100 x Fm/F Where F= amount of						
		Financial Proposal Financial weightage (Fw) 30%.						
		<ul> <li>Combined Quality and Cost Evaluation - The total score shall</li> </ul>						
		·						
		be obtained by weighting the combined quality/technical and						
		cost scores and adding them, as follows: S = St x Tw + Sf x Fw						
		Where S = total score The assignment shall be awarded to the						
		bidder scoring the highest final weighted score as decided by						

		selection committee.
10.	Bid Security	As per NIT
11.	Validity for Bid Security	120 days from the bid submission
12.	Bid Security/EMD in favor of	Executive Director, Jabalpur Smart City Limited (JSCL)
13.	Performance Security	Draft for a value equivalent to 05% of the contract values to JSCL.
		The Performance Security shall be submitted on or before signing
		of Agreement.
14.	Signing of Agreement	Signing of Agreement is within 30 days from the issue of Letter of
		Award (LoA). The pre-conditions for signing of the Agreement is
		the submission of Performance Security.
15.	Joint Venture/Consortium	Consortium is allowed
Tender Da	ites	
16.	RFP release date	As per NIT
17.	Pre-bid Meeting	
18.	Last date to purchase bid	
	document	
19.	Online bid submission date of	
	Technical & Financial Bids	
20.	Technical Bid Opening	
21.	Technical Presentation	
22.	Financial Bid Opening	
23.	Bid Validity Period	

## **PURPOSE**

Department is on lookout for an established ICT based parking Management bidder who will partner with the Organization to manage and support the implementation of Smart Parking Solution in Jabalpur Smart City. The solution should comprise of Hardware and Software both and it should work seamlessly in the centers even if the internet connectivity is intermittent. The successful bidder will be expected to provide the maintenance of developed parking slots and complete solution therein for the 2 years after successful implementation. Support period may be extended on mutual consent.

## INVITATION FOR PROPOSAL

- JSCL, with a view to develop a composite smart parking zone, has floated this RFP
- Tender can be downloaded through <a href="www.mpeproc.gov.in">www.mpeproc.gov.in</a> and <a href="www.jscljabalpur.org">www.jscljabalpur.org</a> and can be purchased from the website <a href="www.mpeproc.gov.in">www.mpeproc.gov.in</a> (Under the section Jabalpur Smart City).

• The bids comprising mandatory compliance along with technical bids and price bids shall be submitted in two separate envelopes, placed in an outer envelope along with bid security.

## **INSTRUCTIONS TO BIDDERS**

#### VALIDITY OF PROPOSAL

The following will be considered for the validity of the proposals deemed submitted:

- Proposals shall remain valid for a period of 120 days from the date of opening of Proposal.
- Department reserves the right to reject a proposal valid for a shorter period as nonresponsive.
- In exceptional circumstances Department may solicit the Bidder's consent to an extension of the period of validity. The request and the response thereto shall be made in writing.
- Extension of validity period by the Bidder should be unconditional. A Bidder may refuse the request without forfeiting the Earnest Money Deposit (EMD). A Bidder granting the request will not be permitted to modify its Proposal.

## RIGHT TO ACCEPT OR REJECT ANY PROPOSAL

Department reserves the right to annul the RFP process, or to accept or reject any or all the Proposals in whole or part at any time( before or after signing of contract ) without assigning any reasons and without incurring any liability to the affected Bidder(s) or any obligation to inform the affected Bidder(s) of the grounds for such decision.

#### FRAUD & CORRUPTION

It is required that the bidder submitting Proposal and Agency selected through this RFP must observe the highest standards of ethics during the process of selection and during the performance and execution of Contract.

For this purpose, definitions of the terms are set forth as follows:

- "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of Department or its personnel in Contract executions.
- "Fraudulent practice" means a misrepresentation of facts, in order to influence a selection process
  or the execution of a Contract, and includes collusive practice among Bidder (prior to or after
  Proposal submission) designed to establish Proposal prices at artificially high or non-competitive
  levels and to deprive Department of the benefits of free and open competition.
- "Unfair trade practice" means supply of services different from what is ordered on, or change in the Scope of Work.
- "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the selection process or execution of Contract.

Department will reject a proposal for award, if it determines that the Bidder recommended for award, has been determined to be having been engaged in corrupt, fraudulent or unfair trade practices.

#### Clarifications & Amendments of RFP

- During the process of evaluation of Proposals, Department may, at its discretion, ask bidder for clarifications on their proposal. The bidder is required to respond within the prescribed time-frame.
- Department may for any reason, modify the RFP from time to time. The amendment(s) to the RFP would be clearly spelt out and the bidder may be asked to amend their proposal due to such amendments.

## EARNEST MONEY DEPOSIT (EMD)

- The Bidder shall furnish an Earnest Money Deposit (EMD) amounting as per mentioned in NIT.
- The EMD shall be in Indian Rupees and shall be in the form of Bankers Cheque or Demand Draft from any of the Nationalized / Scheduled Bank in favor of "Executive Director of Jabalpur Smart City Limited" payable at Jabalpur.
- The earnest money of unsuccessful Bidders / Consortium of Bidders shall be refunded on request by the Bidder (On company letter head) after final award of Contract.
- The EMD lying with Department in respect of other Bid / RFP / Expression of Interest awaiting approval or rejected or on account of Contracts being completed will not be adjusted towards EMD for this RFP. The EMD may however, be taken into consideration in case RFP are re-invited.
- EMD of the successful Bidder will be released after the Bidder signs the final agreement and furnishes the Performance Bank Guarantee (PBG).
- The Earnest Money will be forfeited on account of one or more of the following reasons:
- Bidder withdraws the Proposal during the validity period specified in RFP
- Bidder does not respond to requests for clarification of its Proposal
- Bidder fails to provide required information during the evaluation process or is found to be nonresponsive
- In case of a successful Bidder, the said Bidder fails to sign the Agreement in time; or furnish Performance Bank Guarantee.

## PREPARATION OF PROPOSAL

The Bidder must comply with the following instructions during preparation of Proposals:

- The Bidder is expected to carefully examine all the instructions, guidelines, terms and condition and formats of the RFP. Failure to furnish all the necessary information as required by the RFP or submission of a proposal not substantially responsive to all the requirements of the RFP shall be at Bidder's own risk and may be liable for rejection.
- The Proposal and all associated correspondence shall be written in English and shall conform to prescribed formats. Any interlineations, erasures or over writings shall be valid only if they are initialed by the authorized person signing the Proposal.

- The Proposal shall be in indelible ink and shall be signed by the Bidder or duly authorized person(s) to bind the Bidder to the Contract. The letter of authorization shall be indicated by written power of attorney and shall accompany the Proposal.
- In addition to the identification, the envelopes containing the Proposals shall mention the name and address of the Bidder to enable the Proposal to be returned in case it is declared late pursuant, and for matching purposes.
- Proposals received by facsimile shall be treated as defective, invalid and rejected. Only detailed proposals complete in all respect and in the forms indicated shall be treated as valid.
- No Bidder is allowed to modify, substitute, or withdraw the Proposal after its submission.

#### SUBMISSION OF PROPOSAL

Bidders shall submit their Proposals at the office address on or before the last date and time for receipt of proposals mentioned in Data Sheet.

- Proposals shall be submitted in three parts. Each part should be separately bound with no loose sheets. Each page of all parts should be page numbered and in conformance to the eligibility qualifications should be clearly indicated using an index page. The proposals should not contain any irrelevant or superfluous documents.
- Every page of the documents submitted by the Bidder must be duly signed by the authorized signatory of the Firm / Company along with the Agency's seal.

The three parts of the Proposal should be as per following:

Part 1: Pre-qualification Proposal - The envelope containing Pre-Qualification Proposal shall be sealed and superscripted "Pre-Qualification Proposal". Following list of documents shall be submitted as part of Pre-Qualification Proposal:

## **Covering Letter**

- o RFP Document Fee (if applicable): In case the RFP Document has been procured from Department office; please include copy of Receipt and the DD submitted.
- o Earnest Money Deposit
- Documents required as per Pre-qualification Evaluation

Part 2: Technical Proposal - The envelope containing Technical Proposal shall be sealed and superscripted "Technical Proposal". Form-4T to Form-5T shall be submitted as part of the Technical Proposal.

## **EVALUATION OF PROPOSALS**

The Bid will be opened as per the schedule mentioned in the Data Sheet. Authorized representatives of the Bidders / Consortium of Bidders may be present during the Bid Opening if desired. Department may constitute Evaluation Committee to evaluate the Proposal submitted by Bidders / Consortium of Bidders for a detailed scrutiny. Subject to terms mentioned in the RFP, a three-stage process, as explained below, will be adopted for evaluation of Proposals submitted by the specified date and time.

## PRE-QUALIFICATION EVALUATION

The Bidder should meet the eligibility criteria as defined under:

S. No.	Criteria	Documentary Evidence
1.	The Firm / Agency should be a registered entity with minimum 3 years of existence.	<ul> <li>Certificate of Incorporation /         Registration</li> <li>PAN Card</li> <li>Service Tax Registration         Certificate</li> </ul>
2.	Bidder having Quality Certification Appropriate ISO 9001:2008	Copy of the certificate
3.	In last 5 years, Firm / Agency must have three similar ongoing projects for smart/computerized parking management in Government of India or for any company registered In India Under Companies act 1956/2013.	Work Order / Client Completion Certificate
4.	The firm/agency must have a minimum fifty experienced professional	Self-Certification
5.	In last 5 years, Firm / Agency (Any member of the Consortium) must have completed / in progress Government projects related to IT implementation in Government sector	Work Order / Client Completion Certificate
6.	The Firm should not have been black listed by Central or any of the State Governments and UTs in India& PSUs.	Self-Certification
7.	The Firm/Agency / consortium member should have average annual turnover of INR 10 Crores during the last three financial years	Audited Balance Sheets and Profit & Loss Statements for the last three financial years

## **EVALUATION OF TECHNICAL PROPOSAL**

- Technical Proposals would be evaluated only for those Bidders, who qualify the Pre-Qualification Evaluation.
- The Technical Evaluation shall be based on the parameters and weightages as mentioned in the Table below

NOTE: The Technical Proposal must not include any financial information failing which the Proposal will be rejected.

S. No.	Parameters	Maximum weightage
1.	Bidder / Consortium member having Quality Certification Appropriate ISO 9001:2008	5
2.	Bidder / Consortium member having average annual turnover of Rs. 10 Crore or above during last three financial years as on Bid publication date. Rs. 10 Cr. to Rs. 12 Cr. – 5 Mark Rs. 12 Cr. To Rs. 14 Cr. – 10 Marks Above Rs. 15 Cr. – 15 Marks	15
3.	In last 3 years, Firm / Agency / consortium member must have three ongoing project of smart/computerized parking management in India. At least 2 projects should be with parking capacity of 700 car parks or above  3 projects – 20 2 projects - 10 1 project – 5	20
4.	Implementation and operation of Mobile Application for smart parking;  1 Application Project – 5marks Less than 1 – 0 marks	05
5.	Implementation and execution of Central command centre for parking with full functionalities in one location;  1 Project – 5marks  2 or More projects -10 marks	10

6.	<ul> <li>Approach &amp; Methodology including but not limited to the following:</li> <li>Mapping of Approach &amp; Methodology as per the Scope of Work requirements</li> <li>Proposed Business Model (Cost effective &amp;Viable)</li> <li>Proposed updated technology with less human intervention</li> </ul>	25
7.	Technical Presentation – 10 marks  POC – 10 marks  (Only for proposals meeting the pre-qualification criteria)	20

• Evaluation Committee may, at its discretion, call for additional information from the Bidder. Such information has to be supplied within the set-out time-frame, otherwise the Evaluation Committee shall make its own reasonable assumptions at the total risk and cost of the bidder the Proposal is liable to be rejected.

Seeking clarifications cannot be treated as acceptance of the proposal.

- For verification of information submitted by the bidder, the Committee may visit Bidder's offices at its own cost. The Bidder shall provide all the necessary documents, samples and reference information as desired by the Committee. The Bidder shall also assist the Committee in getting relevant information from the Bidder references, if desired.
- For calculating the Technical Score (TS) the individual scores, as per respective weightages specified above, will be summed up. In order to qualify technically, a Proposal must secure minimum TS of 70.
- Only technically qualified Proposals shall be considered for Commercial Opening.

## METHOD OF SELECTION / BID PARAMETER

The evaluation of proposals shall be on the principle of Quality Cum Cost Based Selection (QCBS) based on the final weighted score. Only the Bidders matching the pre-qualification criteria will be selected for further evaluation. The technical proposal shall be evaluated based on technical evaluation as mentioned under "Technical Proposal Evaluation Criteria". Each responsive Proposal will be given a technical score (St). Technical weightage (Tw) will be 70%.

The proposal with the lowest cost (Fm) shall be given financial score (Sf) of 100 points. The financial scores of other proposals shall be computed as follows:  $Sf = 100 \times Fm/F$  Where F= amount of Financial Proposal Financial weightage (Fw) 30%.

Combined Quality and Cost Evaluation - The total score shall be obtained by weighting the combined quality/technical and cost scores and adding them, as follows:  $S = St \times Tw + Sf \times Fw$  Where S = total score the assignment shall be awarded to the bidder scoring the highest final weighted score as decided by selection committee.

## **EVALUATION OF COMMERCIAL PROPOSAL**

Financial proposals of only those firms who are technically qualified shall be opened publicly on the date & time specified the Data sheet, in the presence of the Firm's representatives who choose to attend. The name of the Firm, their technical score (if required) and their financial proposal shall be read out aloud.

Department will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount, or between word and figures the former will prevail.

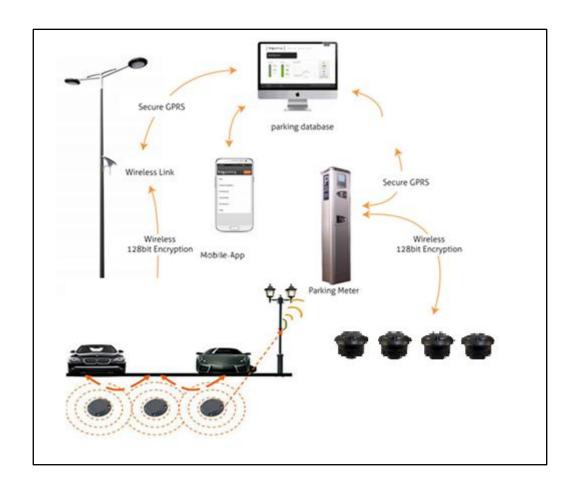
After opening of financial proposals, appropriate selection method shall be applied to determine the Firm who will be declared winner and be eligible for award of the contract. The methods of selections are described in the Data Sheet. This selected consultant will then be invited for negotiations, if considered necessary.

## **PAYMENT TERMS & MILESTONES**

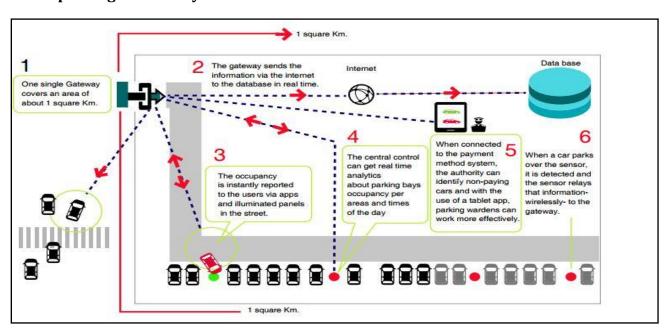
Particulars	Description	Completion Milestone	Payment Milestone (% of total Project Cost)
SRS Document	Preparation of detail SRS document	T0 + 2 Weeks	10%
Hardware	Hardware supply	T0 + 4 Weeks	100% of hardware cost
Supply, Configuration and Installation of the Software.	Customization of the COTS Solution Supply, install and implement the software.	T0 + 8 Weeks	20%
User Acceptance Testing	Test Cases Reports (Unit Test, Integration Test, System, Test), UAT Testing Reports	T0 + 10 Weeks	20%
Training	Product and Process training. Key users to train for the processes and admin controls	T0 + 11 Weeks	10%
Go-live	Go-Live Certificate	T0 + 12 Weeks	20%
Successful Live Run and Completion Certificate	Successful Live Run and Completion Certificate	T0 + 24 Weeks	20%

## SCOPE OF WORK

Conceptual Diagram - On-street Side Smart Parking



# **Smart parking Flow Analysis:**



## SMART PARKING KEY COMPONENTS SHOULD BE INCLUSIVE OF THE FOLLOWING

- Parking Managements System
  - On street Parking:
    - Single space detection system
    - Parking Meters
- Parking Guidance System
  - On street Parking- Variable Message Signs (VMS)
- Web Portal and Mobile app for consumers
  - o Parking Identification, Pre booking, payment and navigation
- Enforcement application
  - Parking enforcement and notifications
- Control and command centre
  - o Data management, analytics and Business Intelligence on real time basis
  - Monitoring of real time transactions, parking availability, pre booking, season parking and parking enforcement
  - Management of Equipment status and alarms on real time basis
  - Dash boards and reports

## **Smart Parking Solution for Jabalpur (JSCL):**

JSCL identified On Street parking location within their jurisdiction which holds about 200 cars where the smart parking shall be implements and operation for the period of one year. The deliverable are detailed as below,

## **Detailed Project Scope of work:**

Proposed Smart Parking Solution involves Design, Development, Implementation, Operation and Maintenance of Smart Parking system for On Street parking spaces (four wheelers and two wheelers) the project should include the following things:

- a. To provide single space identification magnetic cum IR sensors/ magnetic sum optical sensor at each of the parking slot for every on street with parking meters at each bay of the parking lots for Cars.
- b. All sensors, devices and equipment should have the capability to communicate back and forth with the central control center for information and feedback through a RF/ Wi-Fi/ GPS/ any combination of them enabled system.
- c. Parking solution is expected to enable parking slot occupants to pay parking feeonly through J-Card or (pre-paid / money value card) for collecting parking fee.
- d. To provide and install necessary hardware and software for parking management and guidance system.
- e. To provide and install necessary LED based Digital displays for providing total/occupied/ unoccupied parking lots.
- f. Setup and maintenance of Central Command and Control Centre including Data Centre with appropriate hardware and software for viewing, analyzing, storing and retrieval of the data and monitoring and managing of Smart Parking is completely responsibility of System Integrator. Connected to JCTSL Server in real time.

- g. Citizen App for parking services which will enable citizens to find the parking availability on real time, pre book the parking slot, navigate and pay for parking using e-wallets.
- h. Mobile app should also allow citizens to top up J card (Smart card used for payments).
- i. System Integrator will also develop an Enforcement feature in above said app which provides the alerts and status of unauthorized parking on real time which can be used by operator for enforcing the over stay and Police to enforce the unauthorized parking.
- j. Operation for the managing the parking area for one year from the date of execution. Which may include team of manager for managing complete operations, Customer care executive to support citizens for paying at parking meters, enforcement personnel and some Security guards for 18 hours of operations.
- k. JSCL will give the priority that will provide updated technology with less human intervention.
- I. System integrator is solely responsible to provide this infrastruction, Internet, electricity, security of machines etc. JSCL will NOT provide any thing to SI like hardware, place ,space, manpower, internet connection, electricity, telephone etc.Physical security of machine like any theft, any damage of its equipments SI will only responsible for this.
- m. Security of vehicle will not be responsibility of JSCL.
- n. JSCL may extend this the contract as per requirement.

## SMART PARKING - TECHNICAL SPECIFICATIONS

## **BROAD SYSTEM DESCRIPTION**

- System design shall be modular and of proven reliability.
- All software and/or firmware interface equipment for connection to remote monitoring station from field hardware or the operator's terminal shall be provided.

#### QUALITYASSURANCE

- Responsibility: The bidder of the smart parking system shall be responsible for inspection and Quality Assurance (QA) for all materials and workmanship furnished by them.
- Component Testing: Maximum reliability shall be achieved through extensive use of high-quality, pre-tested components. Each and every controller, sensor and all other parking systems, guidance systems shall be individually tested by the manufacturer prior to shipment.
- **Tools and Testing:** The control system supplier shall provide all tools necessary.

 Calibration: Necessary to ensure reliability and equipment accuracy of the control system.

## REFERENCE STANDARDS

Generally the latest IS Codes shall be followed. In the event there are no IS Codes on the subject then the latest edition of the following standards and codes in effect and amended as of supplier's proposal date and any applicable subsections thereof, shall govern design and selection of equipment and material supplied:

- Bureau of Indian Standards (BIS)
- National Electrical Code (NEC)
- FCC Part 15, Subpart J, Class A
- EMC Directive 89/336/EEC (European CE Mark)
- City, country, state, and federal regulations and codes in effect as of contract date.
- Except as otherwise indicated the system supplier shall secure and pay for all permits, inspections, and certifications required for his work and arrange for necessary approvals by the Project Manager of Reliance Industries Limited.

#### Functional:

- The system should be able to detect within two seconds whether a car is parked at a specific location that is equipped with a wireless sensor and wireless peripherals
- 95% of parking bay status change (free or occupied) should be made available at the central server within one minute after the status was changed
- The duration of the status 'occupied' should be available within the system
- Parking bay status information must easily be available in third party systems for parking guidance, enforcement or other systems
- Besides detection of vehicle, the system must also allow for the identification of vehicles
   by using a wireless device that is put inside the car. This onboard device should be

registered within the system and should be linked to parking bays that require specific authorization

#### Architecture:

- The system uses wireless networking communication using a full mesh network topology
- At ground level the system should consist of wireless sensors that should be available in different models:
- For situations where drilling into the floor is unwanted, surface mount sensors should be available that can be glued to the surface.
- For situations where bulldozers are used to clean the surface of the street from dirt, flush mount sensors should be available that can be mounted fully into the floor and remain below the street surface.
- For situation that allow it, sensors should be available that offer improved accuracy in detection by utilizing a combination of more than one sensor technology. Sensor technology should contain magnetic sensors and infrared sensors.
- To improve robustness and speed of the wireless network, the system architecture should consist of an overlay layer in the wireless network consisting of repeaters (relay nodes). These relay nodes should have wireless network range of at least 50 meters radius. These repeaters are battery operated and wireless.
- At one or multiple locations in the network, devices should be available that act as a
  gateways between the wireless and the IP network. These devices should optionally
  support powering using solar power and GPRS communication to enable a fully wireless
  architecture.
- The gateways should forward the individual parking bay status information to a central server. This central server should enable basic configuration and administration tasks using a web browser. The server system should use a SQL Server as a database and

- should enable connectivity to 3<sup>rd</sup> party systems using REST/SOAP/Web services or a stream of events over a configurable TCP port.
- The system should enable connectivity to APPs on Apple devices and Android devices.
- Displays can be connected over IP with the central server, but the system should also
  facilitate deployment of displays that connect to the wireless mesh network. Content of
  displays can be configured using the central server application.

## **Single space detection Sensors:**

- The sensor should combine optical sensor technology and magnetic sensor technology.
- The polling interval for vehicle detection should be every second.
- The sensor should have at least a 5 year battery life.
- The battery lifetime should be extendable to 7 years by reconfiguring network settings and allow more latency.
- The sensors should support wireless communication in the permissible frequency spectrum.
- The firmware of the sensor should be upgradable over the wireless network.
- The sensor setting should allow setting of an overdrive filter.
- The sensors should be able to locally queue events when the wireless connection is lost.
- The wireless network protocol used should not be based on a dump protocol, but should be based on time division and should include measures to prevent packet loss.



## **Gateway:**

The Gateway must be available in two versions:

- A small version that easily can be built into a third party housing.
- A pole mounted version in IP65 housing.
  - With GPRS
  - Without GPRS (cabled)
- The Gateway should have the option to be solar powered.

#### Server:

- All information must be collected at a central server.
- Supplier should be able to provide the software as a hosted service.
- The server system can be accessed with any modern web browser that supports Java.
- The server should support the following parking facility levels:
  - Parking site
  - Parking zone
  - o Parking bay
- The server system should have an import tool to setup a new installation with new sensors.
- The system should have an option to create a vector based graph that is a visual presentation of the parking facility and that will show the actual status of each individual parking bay using color coding.
- The system should have the option to show a list of all parking bays with their actual status.
- The system should support configurable overstay detection and should have the option to show all overstay violations.
- The system should have advanced tools available for analysis of network and sensor node performance:
  - Node analysis tool, node cross check tool.
  - Network latency analysis tool.
  - Compare tool to check accuracy of system.

#### Vehicle identification

- The system should support the option to identify vehicles using a wireless, battery operated device that is situated inside the car.
- The wireless device will register with the wireless network once the car is parked at a parking bay that is equipped with a wireless parking sensor.
- The system should allow for the possibility to apply a special authorization requirement for parking bays that are intended for a specific audience (handicapped, VIP's, permit holders, pregnant women, etc.)
- These groups and the special parking bays can be administered through the server system.
- If a car is parked at one of these 'special' parking bays, the system will use a formula to calculate the likelihood of a parking violation.
- Parking bays with potential parking violations will be listed in the server system.

## **Parking meters:**

- Pay-Your-way terminals accepts cards and pay-by-phone integration
- Real time information on desk top / tablet or smartphone to the parking operator / enforcement team
- Can configure SMS and / or email alerts to field staff
- Easy to integrate with space sensors or any third party device
- Stainless steel and aluminum construction for vandal proof operation
- Integrated solar panel for long life battery power
- Protected by accelerometers, shock, tilt sensors and tamper switches
- Electronic locks with full access control and auditability of access
- Manual backup lock and recue system
- Separate vault with self-locking cash tin
- Keypad based PCI/ DSS payment terminal for card based payment

- Option of coin and RFID (J Card) based payment
- There should have some solution to enforce persons/ vehicle to go without payment.

## INTELLECTUAL PROPERTY RIGHTS

The Intellectual Property Rights of the software will rest with JSCL / JCTSL. The Successful Bidder will provide the source code of the application to JSCL at the time of sign-off. Source code development should follow best practices and clearly put headers or comment in each section of the code. The successful bidder will provide a complete know how document and presentation of working source code having no dependencies on any of the third party or SUCCESSFUL BIDDER ITSELF.

#### **ANNEXURES**

#### **COVERING LETTER**

**Covering Letter** 

[Bidder is required to submit the covering letter as given here on their letterhead]

T	•	)	,																														
		•		•	•	•	•	•	•	•			•		•		•			•			•		•	•	•		•	•		٠,	,

Sub: Proposal for Selection of Agency for implementation of On Street smart parking

#### Dear Sir.

- 1. We, the undersigned, having carefully examined the referred RFP, offer to provide the required services, in full conformity with the said RFP.
- 2. We have read the all the provisions of RFP and confirm that these are acceptable to us.
- 3. We further declare that additional conditions, variations, deviations, if any, found in our proposal shall not be given effect to.
- 4. We agree to abide by this Proposal, consisting of this letter, our Pre-qualification, Technical and Commercial Proposals, the duly notarized written power of attorney, and all attachments, for a period of 90 days from the date fixed for submission of Proposals as stipulated in the RFP and modifications resulting from Contract negotiations, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.
- 5. Until the formal final Contract is prepared and executed between us, this Proposal, together with your written acceptance of the Proposal and your notification of award, shall constitute a binding Contract between us.
- 6. We declare that we do not have any interest in downstream business, which may ensue from the RFP prepared through this assignment.
- 7. We hereby declare that all the information and statements made in this proposal are true and accept that any misrepresentation or misinterpretation contained in it may lead to our disqualification.
- 8. We understand you are not bound to accept any proposal you receive, not to give reason for rejection of any proposal and that you will not defray any expenses incurred by us in bidding.
- 9. Banker's Cheque / Demand Draft No. ------ dated ----- drawn on ----- for Rsxxxxx/- is enclosed towards EMD.

10. [Banker's Cheque / Documer towards RFP Documer by us by making cash p	nt Fee	as document was	download	ded from website.]	OR [RFP Doo	cument was purchased
Yours faithfully,						
Date						
Signature Designation						
BIDDER'S ORGANIZA	ATIO	N &CONSORTI	UM DE	ΓAILS		
		Details of	f the Org	anization		
Name						
Date of Incorporation / Es	stablis	hment				
Date of Commencement	of Bus	iness				
Address of the Headquart	ters					
Address of the Registered	l Offic	e in India				
Area of expertise with res	spect 1	to this project				
		Financial Infor	mation ( <i>i</i>	All Figures in Lac)		
		FY 2015-	16	FY 2014-	15	FY 2013-14
Revenue in INR						
Any other information						
DETAILS OF SIMILA	D ACC	CICNMENTS				
DETAILS OF SIMILAR	K AS	SIGNMEN 13				
Assignment Name:	Coi	untry:				
Location within		ofessional Staff				
Country:	Pro	vided by Compa	ny:			

Name of Client:	No. of Support Staff									
Address & Contact Details of Client:	Duration of Assignment:									
Start Date:	Completion Date: Approx. Value of Services (INR):									
Name of Associated resources:	No. of Months of Professional Staff provided by Associated resources:									
Name of Senior Staff inv	Name of Senior Staff involved and functions performed:									
Narrative Description of	Narrative Description of Project:									

# COMMERCIAL BID FORMAT

S No.	Item	Amount (Numbers INR)	Amount (Words INR)
1	Hardware Cost &Software Implementation Cost – Smart parking		
2	Cost of Operations ( detailed break up to be attached)		
3	Application support charges for one year after Go-Live		
Total C	Cost = (1+2+3) All applicable taxes)		
4	Average ost of per parking slot (Shuld be calculated considering all possible cost and uniformly distributed among all parking slot asked in the RFP )		

## SMART PARKING - TECHNICAL SPECIFICATIONS

## **BROAD SYSTEM DESCRIPTION**

- System design shall be modular and of proven reliability.
- All software and/or firmware interface equipment for connection to remote monitoring station from field hardware or the operator's terminal shall be provided.

## **QUALITYASSURANCE**

- Responsibility: The bidder of the smart parking system shall be responsible for inspection and Quality Assurance (QA) for all materials and workmanship furnished by them.
- Component Testing: Maximum reliability shall be achieved through extensive use of high-quality, pre-tested components. Each and every controller, sensor and all other parking systems, guidance systems shall be individually tested by the manufacturer prior to shipment.
- Tools, and Testing: The control system supplier shall provide all tools necessary.
- Calibration: Necessary to ensure reliability and equipment accuracy of the control system.

## **REFERENCE STANDARDS**

Generally the latest IS Codes shall be followed. In the event there are no IS Codes on the subject then the latest edition of the following standards and codes in effect and amended as of supplier's proposal date and any applicable subsections thereof, shall govern design and selection of equipment and material supplied:

- Bureau of Indian Standards (BIS)
- National Electrical Code (NEC)
- FCC Part 15, Subpart J, Class A

- EMC Directive 89/336/EEC (European CE Mark)
- City, country, state, and federal regulations and codes in effect as of contract date.
- Except as otherwise indicated the system supplier shall secure and pay for all permits, inspections, and certifications required for his work and arrange for necessary approvals by the Project Manager of Reliance Industries Limited.

## Bill of Materials – Smart parking systems

Sr.	Item description	Unit of	QTY
No		Measurement	
	Parking Management System - On street		
1	Surface mount sensors for identification of vehicle	Nos	200
	presence for on-street parking for cars only		
2	RF based Data communicator - Transmits data from	Nos	200
	sensor to gateway on realtime		
3	Payments terminal/ Parking meters integrated with	Nos	200
	parking sensors and command and control centre which		
	is capable to handle payment through Cash, J card/		
	mobility card (Smart card), credit/debit card and e-wallet		
	for parking transactions for on-street parking.		
4	Handheld devices (Fall back system) used for issuance of	Nos	50
	ticket, validation and also for monitoring the online pre-		
	booked transactions with printer and scanner		
5	Parking Guidance System		
	Variable message Sign :RGB – LED Matrix panel of	Nos	4
	minimum size 4' X 3' with all necessary accessories and		
	fixures - to display the parking availability on the		
	interconnecting road and to display emergency		
	information		
6	Command and control centre systems	Lot	1
7	Database SERVER for Central command centre (RACK)	No	1
	(Intel Xeon Octacore Processor sockets: 2,Memory Upto :		
	164 GB,StorageUtp : 32TB,		
8	Application SERVER for Central command centre (RACK)	No	1
	– (Intel® Xeon® octacore processor ,Processor Sockets: 2,		
	Memory Upto: 164 GB, Storage Utp: 32TB)		

9	App and Portal data storage SERVER (RACK) – (Two	No	1
	2.5GHz 6-core Intel™ processors per controller, Storage	110	-
	capacity:32TB, Memory: Up to 256 GB total available		
	cache per dual-controller system)		
10	Core Network Switch and Router Solution for Central	No	1
	Command Centre Control Room		_
11	Server Aggregation Network Switch for Data Center -	No	1
	(Throughput in Mpps : Up to 30 Mpps (per system),	-	
	Bandwidth in Gbps : 1x 8 Gbps (dedicated per slot))		
12	Internet Router for Data Center	No	2
13	Intranet Router Switch for Data Center	No	2
14	Enterprise firewall with IPS Solution for Data Center	No	2
15	Access Network Switch for Control Room ( Min 24 Port)	No	2
16	Work station at central command and control center :	No	10
	Intel i7 processor with 8GB RAM, 500 GB hard disk,		
	15"monitor with complete accessories		
17	10 KVA Online UPS with batteries for Central command	No	1
	and control system		
18	Software applications (Central)		
а	Parking management software for on street	No	1
b	PGS Software for facility guidance for outdoor parking/	No	1
	VMS		
С	Software for Business Intelligent reports	No	1
d	Parking App Software	No	1
е	Parking portal software	No	1
f	Enforcement app software	No	1
19	Smart Parking app	No	1
20	Design Installation and Commissioning charges inclusive	No	1
	of any IT infra required for the solution		

# **O&M** Cost for period one year

S No	Particulars	Rate	Amount
1	Manpower (minimum no of people ref in above clause)		
2	Admin and staff welfare		

3	Uniforms	
4	Communication	
5	Training	
6	Others cost applicable	
7	Management fee	
	Taxes	_
	Total	

# PROJECT TIME LINE

The successful bidder for implementation of the entire project would be governed by the following schedule.

SI#	<mark>Milestone</mark>	<mark>Timeline</mark>
<mark>1</mark>	Team Mobilization, Signing of Contract	T0 +1 Week=T1
2	SRS Preparation and Sign off	T1+2 Months
3	User Acceptance of Application Software	T1+9 Months
<mark>4</mark>	Stakeholder Training & Change Management	T1+10 Months
<mark>5</mark>	Application Software Security Audit	T1+11 Months
<mark>6</mark>	Go-Live Phase-1	T1+12 Months=T2
7	Operation & Maintenance Support	T2+24 Months