

पुणे
स्मार्ट सिटी
डेव्हलपमेंट
कॉर्पोरेशन लिमिटेड



PUNE
SMART CITY
DEVELOPMENT
CORPORATION LTD.

Expression of Interest

for

“Selection of Concessionaire for
E-Connectivity Infrastructure for Pune, Aundh-
Baner-Balewadi area (Area Based Development under
Pune Smart City Plan)”

EOI Notification No.: PSCDCL, Feb. 2018 – 1

Issued By:

CEO

Pune Smart City Development Corporation Limited

Dated: 14th Feb. 2018

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Glossary

DC	Data Center
ECB	Emergency Call Box
EoI	Expression of Interest
FTTH	Fiber to the Home
GIS	Geographic Information System
GoI	Government of India
GoM	Government of Maharashtra
GB	Gigabyte
HDD	Horizontal Directional Drilling
HDPE	High Density Polyethylene
IT	Information Technology
NOC	Network Operation Center
NPV	Net Present Value
O&M	Operation & Maintenance
OFC	Optical Fiber Cable
POP	Point of Presence
PQ	Pre-Qualification
PSCDCL	Pune Smart City Development Limited
QoS	Quality of Service
SCOC	Integrated Command and Control Centre
SI	System Integrator
Smart Pole	Smart Pole
SPV	Special Purpose Vehicle

Notice Inviting Expression of Interest

for

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[PSCDCL, Feb. 2018-1]

This EOI Document is being published by the Pune Smart City Development Corporation Limited (PSCDCL) for the project of “E-Connectivity Infrastructure” which is an initiative for creating shared Digital Infrastructure for Pune, Aundh-Baner-Balewadi (ABB) area. PSCDCL invites leading industry participant to share their feedback and suggestions on various sections of the EOI.

Respondents, are advised to study this EOI document carefully before submitting their feedback & suggestions in response to the EOI Notice. The feedback & suggestions received as part of the response from the industry participants to this EOI may or may not be included in the RFP for e-connectivity infrastructure which is proposed to be released in the near future; and will be at the sole discretion of PSCDCL. This EOI document is not transferable.

Last date (deadline) for EOI response	Feedback & suggestions in response to the EOI, should be submitted through: a. Email to: cko@punsmartcity.in Latest by 01/03/2018 up to 15:00 hrs. b. Hard copy of the responses (duly signed) through Speed Post or Courier or in person. Latest by 01/03/2018 up to 15:00 hrs. at the following address: CEO PSCDCL A-204, ICC Trade Towers Senapati Bapat Marg Pune
Pre-bid date	22 nd Feb. 2018, 15:00 hrs. at <u>ICC Trade Towers, S.B. Road, Pune</u>
Website to download EoI	https://pmc.gov.in

The right to accept/reject any or all the responses received is reserved with PSCDCL without assigning any reason thereof.

Pune Smart City Development Corporation Limited

1. Disclaimer

This Expression of Interest (EoI) contains brief information about the Project and qualification process for short listing of Applicants during the RFP stage. This EoI is not an agreement or an offer by the purchaser/authority to the applicants or any other person.

The purpose of the document is to provide the applicants with information to assist the formulation of their EoI application or response to EoI Document (“the Application”). While all efforts have been made to ensure the accuracy of information contained in this EoI Document, this document does not purport to contain all the information required by the Applicants. The Applicants may conduct their own independent assessment, site visit, investigations and analysis and check the reliability, accuracy and completeness of the information at their end and obtain independent advice from relevant sources as required before submission of their EoI application. Pune Smart City Development Corporation Limited (PSCDCL) or any of its employees or advisors / representatives shall incur no liability under any law, statute, rules or regulations as to the accuracy or completeness of the EoI Document. PSCDCL reserves the right to change any or all conditions/ information set in this EoI Document by way of revision, deletion, updation or annulment through issuance of appropriate addendum as the organisation may deem fit without assigning any reason thereof. PSCDCL reserves the right to accept or reject any or all applications without assigning any reasons thereof. PSCDCL will not entertain or be liable for any claim for costs and expenses in relation to the preparation of the EoI applications to be submitted in terms of this Document.

2. Introduction and Background

2.1. About Pune

Pune is the seventh-most populous city in India and the second largest in the state of Maharashtra. It was known as Punya nagari in earlier times. It is situated 560 meters (1,837 feet) above sea level on the Deccan plateau, on the right bank of the Mutha River. Pune city is the administrative headquarters of Pune district and was once the center of power of the Maratha Empire.

In the 18th century, Pune became the political center of the Indian subcontinent, as the seat of Peshwas who were the prime ministers of the Maratha Empire. Since the 1950s and 1960s, Pune has had traditional old-economy industries which continue to grow today.

Further, the city is also known for manufacturing and automobiles, as well as government and private sector research institutes for information technology (IT) education, management and training that attract migrants, students, and professionals from India, South East Asia, the Middle East, and Africa.

Pune is also one of the fastest growing cities in the Asia-Pacific region. Pune is considered as the cultural capital of Maharashtra and is also popularly known as 'Queen of the Deccan'. The city has been a Maratha empire stronghold in the 17th and 18th century and has been marked by various forts and historical places. Pune is also known as 'Oxford of the East' and has one of the oldest universities and colleges in India such as, University of Pune, College of Engineering Pune and Fergusson College.

Pune is one of India's major industrial hubs. The city is known for its automobile and Information Technology (IT) industries. Other major manufacturing sectors in Pune are steel, equipment, biotechnology and pharmaceutical. Pune is one of the most populous districts in Maharashtra and ranks third in the state in terms of population.

As per 2011 census, Pune has a population of more than 9.4 mn and population density of 603 people per sq. km. The decadal population growth rate from 2001 to 2011 was reported at 30.34%.

2.1.1. About Pune Smart City

The Pune Smart City proposal was selected for priority financing under Smart City Mission by Ministry of Urban Development (MoUD), Government of India.

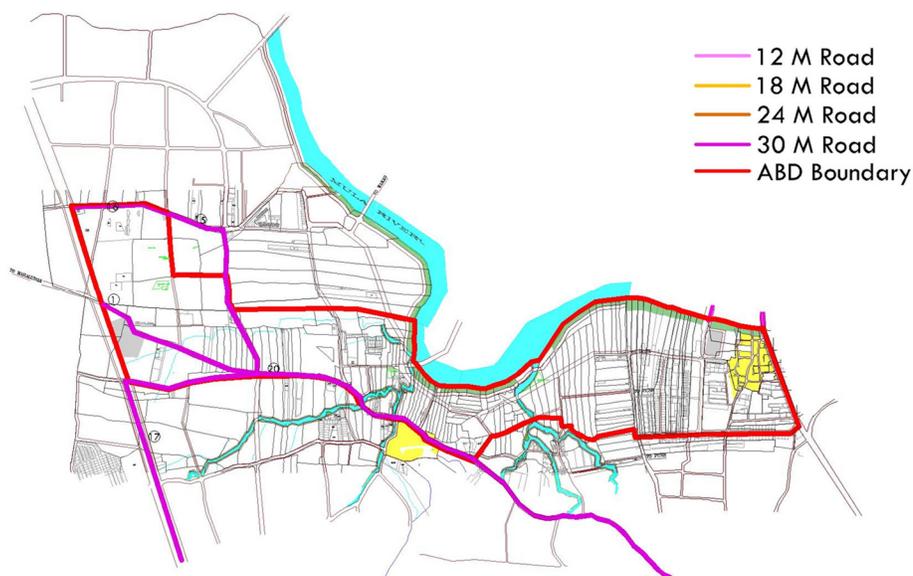
Thereafter, the Pune Municipal Corporation (PMC) has incorporated a Special Purpose Vehicle (SPV) company called PUNE Smart City Development Corporation Limited (PSCDCL), under the Companies Act 2013, solely for the purpose of implementing the Smart City proposal. PSCDCL will be fully owned by the Government with equal shareholding from the Government of Maharashtra and the Pune Municipal Corporation (PMC).

The Board of PSCDCL is chaired by Principal Secretary of Maharashtra with board comprising of elected representatives of PMC, representatives of the state and central government as well as independent directors

PSCDCL will receive funding from Government of India and PMC/ the State Government for implementing the smart city projects. Given the wide range of technical and sector specific expertise required to implement the smart city projects, PSCDCL shall be supported by a team of consultants for strategic, technical and project management support.

2.2. About ABB Area-Pune Smart City

PSCDCL had selected the ABB area within PMC boundaries as the area for Local Area Development under the smart city plan for the city of Pune. As a part of the plan envisages to retrofit and redevelop certain areas of Pune in Aundh-Baner-Banewadi into a round-the-clock, happening destination with investments of over Rs. 2000 Crores expected within the area. The details of the area and the road stretches involved are given below



SR.NO.	NAME OF ROAD	LANDMARK	LENGTH
			Total
1	UNIVERSITY -BANER-BALEWADI	BANER ROAD	7500
2	ROAD FROM MEDIPOINT TO BALEWADI GAOTHAN	CROSSING RAM RIVER	3400
3	ROAD ALONG RIVER SIDE	RIVERSIDE	7300
4	NAGARAS ROAD	AUNDH	550
5	PARIHAR CHOWK TO DAV SCHOOL	DP ROAD	550
6	BANER PHATA T-PARIHAR CHOWK-AUNDH GAOTHAN	ITI ROAD	1500
7	AUNDH INTERNAL ROAD	AUNDH	1070
8	ROAD INFRONT OF SERJA HOTEL	SEASON HOTEL	1000
9	FROM BANER ROAD TO KAPIL MALHAR SOCIETY	MAIN ROAD	1150
10	ROAD FROM STP TO BANER PETROL PUMP	POLLOD FARMS	1200
11	ROAD JOINING TO RD-(15 & RD-17)-16	ROAD BETWEEN 15 & 17	600
12	ROAD AT KAPIL MALHAR SOCIETY	KAPIL MALHAR SOCIETY	350
13	ROAD AT BANER GAOTHAN	BANER	270
14	ROAD FROM BANER ROAD TOWARDS RIVER CROSSING	TOWARDS INGAWALE NAGAR	600
15	NEW POONA BEKRY TO BHARATI VIDYAPITH	BANER BALEWADI ROAD	1800
16	BHARATI VIDYAPITH TO BALEWADI STADIUM	BANER BALEWADI ROAD	1230
17	BHARATI VIDYAPITH SOPAN BAGH TO HIGHWAY	BANER BALEWADI ROAD (INFRONT OF CUMMINS INDIA OFFICE)	7500
18	HIGHWAY-MADHUBAN SOCIETY-TOWARDS RIVER	HIGHWAY	1900
19	ROAD STARTS FROM RD 23 TOWARDS WAKAD	ROAD CROSSING RIVER	650
20	FROM BANER ROAD TOWARDS BANER BALEWADI ROAD	BALEWADI MAIN ROAD	2000
21	FROM MITCON INSTITUTE TOWARDS WATIKA GARDEN APRT	VATIKA SOCIETY	950
22	ROAD BESIDES NICMAR	NICMAR INSTITUTE	440
23	ROAD BESIDES CUMMINS INDIA OFFICE	SYNGENTA COMPANY	400
24	FROM CUMMINS INDIA OFFICE TOWARDS MULA RIVER	HOTEL SHIVAR	1350

25	ROAD BEHIND PARK MARINA RESIDENCY	WOODLAND FURNITURE	270
26	PATIL NAGAR TO MULA RIVER	RIVER	450
27	PATIL NAGAR TO MULA RIVER	P P CARS AND DECORS	370
28	ROAD NEAR SAI ISHANYA BUILDING	BALEWADI GAOTHAN	450
29	ROAD IN BALEWADI GAOTHAN	BALEWADI GAOTHAN	850
30	Sadanand Hotel to Cummins Roads		1125
31	Above Road to Jagtap Dairy Bridge		620
32	Mitcon to Balewadi Amba Mata Junction		1600
35	Sus Baner Boundary Road		2300
Total			53295

Excluded Roads in ABD Area	Length approx (m)
30m DP Road	345
24m DP road	1170
18m DP road	1440
12m DP road	465
Total DP	3420
Non DP roads	30000

To bring smart and intelligent IT innovations to civic utilities, public safety without adding significantly more physical infrastructure in this identified area, PSCDCL proposes implementation of E Connectivity Infrastructure together with Smart City services in public places in ABB Area in first phase. Various smart elements shall be deployed separately leveraging the E connectivity infrastructure will act as brain of entire city's nervous system.

In next phase, the project shall be rolled out across complete Pune city.

2.3. About Pune E-Connectivity Infrastructure Project

Pune smart city approved plan had visualized rollout of comprehensive OFC network across ABB area for launching various smart city applications as a part of the SCP. The same was launched as a part of SC03/2016 where the tender was subsequently revised to take out Optical Fibre and Smart Parking (as part of SC08/2016). The current project of Smart Element is under way and this EOI plans to cover the Optical Fibre Cable as envisaged under Smart City Proposal for the ABB area along with the Smart Poles and optional provision for expansion of the Smart Elements originally under SC08/2016

PSCDCL is engaged in the development of various smart city projects across sectors in the city. PSCDCL now proposes to develop E-Connectivity infrastructure in the ABB area of Pune City which can be utilized in expanding the telecom and digital services / facilities across the State towards realizing the vision of ‘Digital Pune’.

Experiences of some of the developed cities across the world have demonstrated that creating an enabling digital infrastructure can significantly increase the GDP of cities. There is a **clear connection between broadband and economic competitiveness**. Multiple analyses have established the importance of Information and Communication technology (ICT), including broadband, in fostering a city or nation’s social and economic strength.

As a background for building the vision of ‘Digital Pune’, several rounds of meetings were held with various stakeholders including

- Telecom service providers,
- Internet service providers,
- Enterprise and Cloud service providers
- Global technology leaders like Google, Cisco etc.

The objective was to understand the growth potential and future needs, current challenges, and potential solutions, cost impact and business model. In addition to this, research was also conducted on global cities to understand the successful implementations and learnings and based on the experience on all this research.

There were four major identified challenges which need to be addressed for solving the Digital infrastructure needs for future

- Comprehensive Optical Fiber Infrastructure
- Availability of Telecom tower and Pole infrastructure for 5G Readiness
- Convergence of Smart City initiatives

Given the wide gap in the anticipated Optical fibre infrastructure and Telecom poles and tower infrastructure requirements, it is important to establish have a high capacity and high reliability E Connectivity infrastructure for Pune city. This will resolve the long-term inconsistencies in demand and supply for this critical infrastructure while ensuring an enabling set-up which supports the overall growth of the smart cities.

2.4. Objectives of E-Connectivity Infrastructure Project

To meet the Vision and Mission for Digital Infrastructure for Digital ABD¹ area of Pune, the shared infrastructure should meet following objectives:

1. Meet the **capacity requirements** for the next 30 years
2. **Meet global standards on Reliability** of 99.999% (5 9s)
3. **Comprehensive coverage of the Aundh Baner Balewadi (ABD)** to meet on demand availability
4. **Minimum cost option for Capital expenditure and Operating expenditure**
5. **Minimum inconvenience to citizens** during construction and operations
6. **Time to rollout need to be minimized** through Plug and Play infrastructure
7. **Optimum Monetization of assets and maximum leverage of PPP options for private investment**
8. Pricing for all potential users in transparent manner to enhance Digital productivity

2.5. Establishing Shared Optical Fiber Infrastructure requirements

While there are multiple wireless technologies like 3G/4G/WiFi for solving the last mile access however setting up of the Optical Fibre Cable backbone is currently the only way to satisfy the needs of the future digital infrastructure. The situation of Optical Fibre availability in the cities across India remain very grim as less than 20% of the telecom towers in cities are connected through fibre as against a global standard of 90% which is the key reason of poor experience of 3G/4G services in India.

During the discussion with Telecom and Internet service providers, the actual fiber deployment in the cities is less than 15% of the requirements thus impacting quality of experience of broadband services. There is an urgent need to significantly improve the OFC infrastructure in the city to provide reliable and consistent data services.

Studies of several cities, which have been able to create a robust digital infrastructure (e.g., Singapore, Seoul, Stockholm etc.), suggest that creating a “**Shared Optical Fibre Cable (OFC) infrastructure**” is the fastest and the cheapest way to create such an infrastructure

¹ Area Based Development

Highly reliable and High capacity shared OFC infrastructure (Multiple Core OFC ducts with Concrete protection) to serve next 30 years requirement is extremely important to avoid the duplication of resources. Huge inconvenience is caused to citizens on account of multiple trenching by different Telecom and cable service providers of Smart Cities (typically the same area is dug 8-9 times by different players. This shared OFC infrastructure can help solve following the challenges of the city:

- a. **Reducing inconvenience to the citizens** – Creating of separate infrastructure typically results in different entities requesting for permissions at different point of time. This results in multiple digging of the road (some times as high as 8-9 times for Optical Cable only) which causes significant inconvenience to the citizens. Creating a shared infrastructure would result in the road being dug only once.
- b. **Reduces the time to rollout digital services**- Any telecom service provider will be able to launch high bandwidth services on demand without any delay on account of laying fiber infrastructure. This would help faster roll-out of services including 4G/5G, Fiber to Home (FTTH) and comprehensive City WiFi services.
- c. **Reduces the cost to operators thus enabling growth of the cities digital services** – Given a shared infrastructure, the costs to the operators/ providers can be reduced which would results in improving the business case for setting up of the Optical Fibre Network in the city. This would enable faster growth of services within the city
- d. **Leads to an improvement in the Quality of services** - Currently most of the telecom services are being provided through only 10% fiberized BTS (compared to global average of 90%) thus providing very low quality wireless broadband services. The highly reliable and high capacity OFC infrastructure will help improve Quality of services significantly
- e. **Improve the quality of infrastructure being laid** : With the use of a common duct (with shared costs) it would be possible to set-up a robust concrete protection to prevent any cuts to the fibre. This will not only improve the service reliability but will also reduce Operations and Maintenance of the infrastructure (which also has an intangible benefit of reducing digging of the streets)

2.6. About the Pune OFC Project for E Connectivity Infrastructure

Currently PSCDCL is executing a project of shared OFC Duct Infrastructure of in ABB (Aundh Baner Banewadi) area of Pune along with other trenching projects including road construction, water, storm water, electricity supply etc. This Underground OFC

Infrastructure is likely to be completed in 24-30 months. The OFC project shared infrastructure is visualized to serve the needs for next 20-25 years of E Connectivity needs. This OFC duct infrastructure shall be managed and operated under strictest SLAs of Telecom grade by the Concessionaire for E -Connectivity Infrastructure and shall form a critical component of E-Connectivity Infrastructure. This infrastructure will be further enhanced to extend the reach of OFC ducts for enabling FTTH and 5G Ready Infrastructure through extended trenching under special ROW policy governed by Pune Smart City.

To fill the gap in timelines for a ready OFC infrastructure, following is proposed:

- i. The Concessionaire under this project will be allowed to establish Overhead OFC to connect the Smart Poles/ Towers across Pune ABB area.
- ii. This infrastructure shall be allowed to be operated only till the period Underground OFC infrastructure gets established by PSCDCL. The E-Connectivity Infrastructure provider on mandatory basis will have to transition to underground OFC network within a time period of 90 days after it gets established in the respective section of road.
- iii. Concessionaire will establish a Telecom service provider grade ring based architecture leveraging the best global practices of Overhead cables specifications of which will be defined in the RFP
- iv. Minimum of 48 core cable network shall be established to meet the aggregated requirements as per OTMR approach.
- v. Concessionaire shall be allowed to use existing Street light infrastructure on best effort basis subject to technical structure load approvals from Pune Municipal Corporation
- vi. Concessionaire will not be required to pay any rent or Right of Way to the Municipal Corporation for the street light pole
- vii. Complete Overhead OFC network shall be removed without any damage to structures and costs to PSCDCL after transitioning to Underground OFC network.

2.7. Establishing Shared Telecom poles and tower Infrastructure

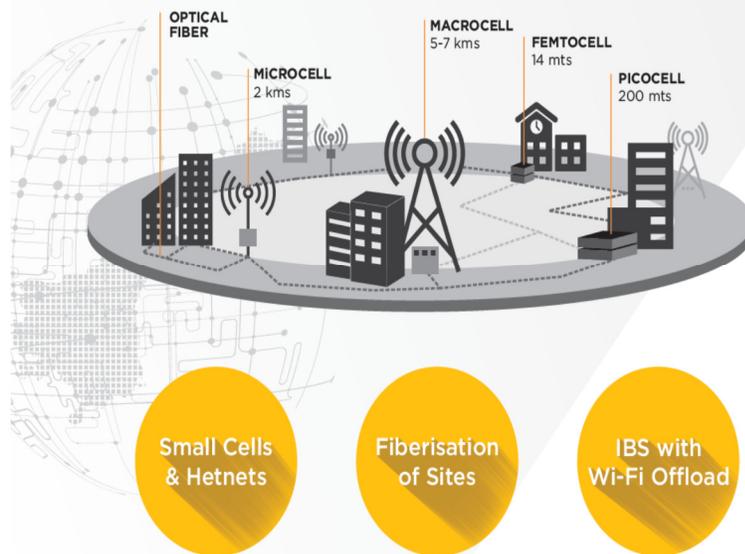
Telecom needs of the city are evolving significantly in last 18-24 months, 4G-LTE services have been rolled in all the cities. The quality of these networks in terms of coverage and capacity has been hugely lacking in comparison to global standards on account of infrastructure challenges. As new versions of 4G Advanced and 5G get deployed, the challenges will become more pronounced unless Telecom operators upgrade their existing infrastructure and cities help enable the same. Some of the big

challenges which has limited the quality of 4G networks compared to Global standards

- **No of Tower sites-** In order to meet the global standards of 4G-LTE data speeds, most of the telecom operators will have to significantly enhance the number of sites. It is almost impossible to create that number of cell sites because of RoW challenges and resistance from residents due to perceived RF radiation issues.
- **Operating Costs-** The high operating costs of the telecom networks are the biggest margin impact because of power/ diesel, rentals of the sites, manpower etc. and thus the ARPU has not been justifying the business for Telecom providers. It is understood through the discussions with telecom players that sharing of sites need to increase from current 1.7 average to 3 to sustain the operational challenges. In addition, lower cost options need to be explored leveraging some of the Government building and common assets.

The vision of this project is to include construction/management of various types of 'Shared telecom towers infrastructure' to handle/support all types of cells such as Macro, Micro, Femto and Pico and also radio hubs on non-discriminatory basis. These small cells "filled in" spots in the network to boost bandwidth in low-throughput areas or handle areas of concentrated demand. Carriers globally have increasingly installed such small cells to keep up with surging data traffic demand. For 5G to meet its potential, 10 times more small cell sites would be needed than it exists today and the distance between small cells shall reduce to 200-300 feet.

Robust Network Architecture



Constraints

- Urban Space Constraints
- Aesthetic Landscape
- Health, Safety and Environment Regulations
- Increasing Carbon Emissions
- Increasing Public awareness
- Proximity to public access areas

Key requirement for seamless data network

- Creation of High Capacity, High Speed, High Quality Mobile Networks.
- Provision of Deep Indoor Coverage

As a learning from some of the developed countries like US, it is proposed to adopt “one-touch make-ready (“OTMR”) approach which permits the service providers in future to leverage E connectivity infrastructure on plug and play basis.

Advantages of OTMR Approach



Under the OTMR approach, the smart pole infrastructure will be leveraged for supporting/enabling Smart city applications such as CCTV Surveillance cameras, Smart Advertising Boards, Public address systems, Adaptive Traffic systems, Emergency call boxes and Various other sensor based applications. The following rationale is the driving force behind the proposed project.

1. To promote and facilitate establishment of Shared telecommunication infrastructure such as smart poles and mobile towers across the city to enable Pune smart city to be 5G Infrastructure ready.
2. Transform and leverage the existing street light pole with smart pole infrastructure for convergence of telecom, smart city, smart lighting and any other future IOT or Digital Pune applications
3. Allow the vacant space in the Government buildings and other public service utility areas, substations, bus stands, roundabouts, bus stops, public toilet blocks etc., to erect telecom towers and E Connectivity Infrastructure.
4. Reduce Carbon foot print through Convergence of telecom and smart city initiatives through sharing the poles/towers/ power, network electronics.
5. City branding and Place making has been one of the key priorities for Smart City as initiative towards citizen engagements. There is significant potential to leverage the poles/ towers deployments which can be used for city branding and place making. These extensively visible tower sites and pole sites should be designed leveraging existing Bus stops, Public toilets, Road junctions, Parks and Gardens, Government buildings

There are numerous tangible and intangible benefits for Concessionaires partnering on PPP basis with PSCDCL:

1. **Surmounts site acquisition issues:** Site acquisition is one of the main issue being faced by the telecom industry today thereby restricting its growth and affecting quality of service. PSCDCL will have access to Government lands and buildings with a First Right of Refusal. These would be made available in an expeditious manner thereby reducing hurdles faced during site acquisition.
2. **More attractive site dynamics:** The marginal cost for rentals of sites would make site economics more attractive for Telecom Operators by reducing their total outflow.
3. **Quicker Roll-out:** The ready availability of locations, targeted RF planning, and lower hurdles from neighboring population will lead to a much faster rollout and thereby increase the revenue

4. **Smart city ready:** Majority of smart-city telecom deployments would happen in crowded areas and streets which are mainly owned by the government. Priority access to these locations provides a tremendous upside to be leveraged.
5. **Right of First Refusal at Government locations:** Safe-guarding the economic interests by providing priority access to government locations through a Right of First Refusal post query by a competitor at a location.
6. **Complete Statutory & regulatory compliance:** low likelihood of contingent liabilities & subsequent write-offs & continuity in operations leading to higher profitability & lesser operational intensity of sites
7. **Lower CapEx:** Easy access to power connection at building locations and lower project capitalisation costs would lead to lower CapEx by saving time and interest costs also.
8. **Lower OpEx:** Less security related costs and reliable availability of power connection would lower operating expenditure and lead to higher EBITDA margins.

2.8. Convergence of Smart City Initiatives

Most of the Smart city plans visualize comprehensive rollout of numerous smart services leveraging smart sensor network deployed across the city leveraging digital platform. Some of the smart services include

1. City Surveillance enabled through analytics based cameras
2. City Wifi leveraging location based analytics
3. Smart lighting
4. Smart parking sensors
5. Adaptive Traffic management leveraging traffic detection sensors and analytics
6. Digital signage
7. Environmental, Flood sensors,
8. Multi services Service/ Emergency call kiosks implementation,
9. Bus fleet monitoring
10. City sensors analytics like waste management, water supply etc.

Many cities are in various stages of rolling out these digital initiatives including Pune, Nagpur, Thane, Nasik etc. Most of the projects have been moving at a very slow pace on account of lack of infrastructure. For delivering these digital services to

comprehensively across the ABD geography, following are the critical infrastructural requirements

1. Optical Fiber connectivity, Network electronics and internet bandwidth connectivity
2. Pole/ tower structures for mounting the sensors/ cameras, network devices, power supply equipment etc.
3. Mains power supply and uninterrupted power supply for the devices.
4. Approvals from all the city authorities for all the equipment and structure
5. Maintenance services of the equipment and structure as per SLAs

2.9. Description of Bidding Process

Pune Smart City Development Corporation Limited (PSCDCL) has adopted a two stage (EOI + RFP) Bidding process (collectively the Bidding Process) in evaluating the Proposals. During the first stage of Expression of Interest (EOI) is undertaken as an industry consultation where, credible Bidders having requisite capability for undertaking the Scope of Work have been requested to provide their inputs on the key parameters to be adopted by PSCDCL as it determines the terms and conditions of the RFP

The prospective bidders shall participate with financial sustainability proposal of the project as PSCDCL would not pay anything towards the expenditure of the project as described in Responsibility matrix section. All the costs for CAPEX / OPEX / any other associated costs as per the responsibility matrix, shall be paid by the selected agency for the entire duration of the project.

Further, the selected agency shall also be required to share the revenue generated by the project with the PSCDCL in the form of Monthly rentals and Revenue share percentage which shall be kept as financial bidding criteria at the time of floating of RFP.

3. Proposed Pre-Qualification Criteria for RFP

#	Pre-qualification Criteria	Proof document required	PQ applicability on consortium
1	The Bidder must be a company in India Registered under The Company's Act 2013 or registered partnership firm	Certificate of Incorporation / Registration Certificate	All members
2	The Bidder shall have valid License for "Infrastructure Provider of Category One (IP-1) License" issued by D.O.T.	Copy of the relevant and valid license	Prime Bidder
3	The Bidder should be in business of providing telecommunication related services and should have constructed, managed and operated Minimum of 1000 Tele Communication towers and/or Telecom Poles for at least three years as on the date of publication of this EoI.	Appropriate proof of the same	Prime Bidder
4	Bidder should have a minimum average annual turnover of Rs. 300 crores in last three (3) financial years i.e. FY 2016-17, 2015-16 and 2014-15.	Copy of the Audited Profit and Loss statement and CA certificate from a regarding turnover.	Prime Bidder
5	Registered for GST and Income Tax in India	GST Registration and Income Tax Certificate (ITR)	All
6	The firm should not have been blacklisted by Central Government or any State Government organization/department in India at the time of submission of the bid	Declaration letter by bidder as per the format given in the EOI document	All
7	In the event of a consortium – maximum three consortium members (including the lead bidder) are allowed. All the members have to define their distinct roles and responsibilities as per format given in the bid document.	Signed Consortium and Teaming Agreement along with teaming details, original Power of Attorney (PoA) in support of their authorization to sign the document. The PoA should	

#	Pre-qualification Criteria	Proof document required	PQ applicability on consortium
	<p>Note: Both members of the consortium will be jointly and severally responsible and liable for successful completion of the project.</p> <p>A consortium member company can participate in this RFP through a maximum 1 (one) bid only (Exclusive Consortium Arrangement).</p> <p>In case of a single bidder (i.e. no consortium), all of the above PQ conditions must be fulfilled by that single bidder and consortium agreement is not required.</p>	<p>be submitted on a stamp paper of Rs. 100/-.</p>	

Instructions to Applicants

The PSCDCL, invites reputed firms to submit their proposals for the project of E-Connectivity Infrastructure for Pune, Aundh-Baner-Balewadi area (Area Based Development under Pune Smart City Plan), in accordance with conditions and manner prescribed in this Expression of Interest (EOI) document.

3.1. Availing Bid Documents

The EoI document can be downloaded from the website <https://pmc.gov.in> up to the date and time mentioned in the EoI Notice. PSCDCL, Feb. 2018-1.

3.2. Completeness of the EOI Response

Applicants are advised to study all instructions, forms, terms, requirements and other information in the EOI documents carefully. Submission of bid shall be deemed to have been done after careful study and examination of the EOI document with full understanding of its implications. The response to this EOI should be full and complete in all respects. Failure to furnish all information required by the EOI document or submission of a proposal not substantially responsive to the EOI documents in every respect will be at the applicant's risk and may result in rejection of their proposal.

3.3. EOI Preparation Cost

The applicant is responsible for all costs incurred in connection with participation in this process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of proposal, in providing any additional information required by PSCDCL to facilitate the evaluation process. PSCDCL will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process. All materials submitted by the applicant shall become the property of the PSCDCL and may be returned at its sole discretion.

3.4. Sealing, marking and submission of EOI

The response to the EOI should be submitted through Email and Postal Speed Post or Courier or in person, so as to reach on or before 01/03/2018 up to 15:00 hrs. **PSCDCL won't be responsible for any postal delays.**

Applicants should submit two copies of the EoI including the information requested in the prescribed formats along with any supporting documents. The original copy shall be sealed in an envelope marked “Original” and the other copy in an envelope marked “Copy”. Both these envelopes shall then be enclosed in an outer envelope marked “EoI for E-Connectivity Infrastructure for Pune, Aundh-Baner-Balewadi area”. Along with the hardcopies, a soft copy in PDF format shall also be submitted through a CD / DVD / USB flash drive.

If the envelopes are not sealed and marked as instructed above, the PSCDCL assumes no responsibility for the misplacement or premature opening of the contents of the application and consequent losses, if any suffered by the applicant.

- a. In the event of any discrepancy between the original and CD/Pen Drive/USB stick, the original shall prevail.
- b. Each page of the above should bear the initials of the Applicant along with the seal of the Applicant in token of confirmation of having understood the contents

Technical proposal should be signed by an authorized person holding the power of attorney in case of limited company or corporation. A certified copy of the power of attorney shall accompany the EoI. Proposals must be direct, concise, and complete. PSCDCL will evaluate applicant’s proposal based on its clarity and completeness of its response to the requirements of the project as outlined in this EOI. The CEO, PSCDCL reserves the right to accept or reject any or all the proposals without assigning any reason.

3.5. Late Proposal for EoI

EOI response not reaching on or before the specified time limit will not be accepted.

3.6. Language of Bids

The responses prepared by the applicant and all correspondence and documents relating to the bids exchanged by the applicant and PSCDCL, shall be written in English language. Any printed literature furnished by the applicant in another language shall be accompanied by an English translation, in which case, for purposes of interpretation of the bid, the English translation shall govern.

If any supporting documents submitted are in any language other than English, translation of the same in English language is to be duly attested by the applicant.

Details to be mentioned exactly on sealed envelope

EoI Details

Notice No.: PSCDCL, Feb. 2018-1 EoI for “Selection of Concessionaire for E-Connectivity Infrastructure project for Pune, Aundh-Baner-Balewadi area (Area Based Development under Pune Smart City Plan)”

Last date of Submission: On or before 01/03/2018

To,

CEO,
Pune Smart City
Development Corporation
Limited, Pune

3.7. Evaluation of EoI

All the information provided will be evaluated for the purpose of inclusion in the RFP. PSCDCL may optionally invite applicants to make a presentation as part of the evaluation. The feedback received will be evaluated may be considered for designing the actual RFP.

PSCDCL may require verbal/written clarifications from the applicants to clarify ambiguities and uncertainties arising out of the information submitted.

3.8. Key Suggestions

Workable comments and suggestions on the Scope of Work of this EoI that could overall improve the quality/effectiveness of this project shall be considered by PSCDCL at his own discretion. The applicants are suggested to provide their clarifications or key suggestions in the format provided in Annexure II of this EoI.

3.9. Right to extend the validity of EoI Document

PSCDCL in its absolute discretion and prerogative may extend the validity of the EoI submitted by the Applicants by according proper reasons thereof.

3.10. No obligation to issue of RFP

PSCDCL shall be under no obligation to issue a Request for Proposal (RFP) for the Project described in this EoI Document.

4. Scope of Work

- a. The Concessionaire shall be solely and exclusively responsible to design, implement and maintain the solution for E Connectivity Infrastructure on a PPP model such as BOOT (Build, Own, Operate, and Transfer) model.
- b. The Concessionaire shall have to create infrastructure to enable multiple digital services based on Wi-Fi/3G/4G/5G to be utilized by all/multiple service providers having valid license from Department of Telecom (DoT) on non-discriminatory basis.
- c. The smart pole and tower infrastructure should be designed for plug and play integration for smart city services mentioned in objectives of the project
- d. The area covered by PSCDCL-Aundh Baner Banewadi area is ~14 sq.km and details are provided in previous section.

4.1. Indicative Scope of work for Concessionaire for E-Connectivity Infrastructure

The complete solution for E Connectivity Infrastructure should include Design, Supply, Installation, Configuration, Commissioning, Activation and Maintenance Support of software, hardware, networks components, smart elements of E Connectivity Infrastructure.

Concessionaire shall be responsible for the following with respect to OFC Infrastructure:

- Acceptance, take over, operations and maintenance of OFC ducts (current and the new ones created by PSCDCL through various co-trenching projects)
- Operations and maintenance of the ducts retained by the dark fibre company
- Pull high capacity OFC through one of the OFC ducts and Monetizing the same dark fiber sale for concession period
- Laying a telecom grade high capacity Overhead OFC Network to connect the smart Poles/ Towers to meet the interim needs of the city till underground OFC is established.
- Provide lease of dark fiber to the potential customers like ISPs, OTT Players, large enterprise customers, data centre customers or any institution needing dark fibre.

- Supporting the PSCDCL or any associates of these organizations for broadband requirement of 100 Mbps on Free of cost basis. For other Govt agencies, DFC shall provide bandwidth at nominal cost basis.
- As per market requirements and after assessing the business case, at it's own costs will execute additional OFC duct infrastructure for the last mile (where utility projects are not available for co-laying the OFC infrastructure).
- For this infrastructure, The Concessionaire will complete the Reinstatement activity as per Road department guidelines and will not be obligated to pay an Reinstatement costs to PMC/ PSCDCL.

Concessionaire shall be required to undertake following activities wrt Smart Poles/ Towers Infrastructure for the same:

- Site survey to assess and confirm the exact requirement for each of the sites (in order to adhere to the QoS requirements for 5G Infrastructure)
- Take necessary approvals from PSCDCL for the digging requirements
- Supply of necessary hardware / software and their installation, configuration
- Integration with SCOC (Command and Control Centre), necessary tools to monitor and manage the entire system
- Provision of Dedicated Reserved OFC pair for all Govt and Smart City applications
- Provisioning of As Required Internet bandwidth for Smart City applications as mentioned in Objectives section without any commercial implications.
- Establishing primary and back up power infrastructure and provide for Smart City applications as mentioned in Objectives section
- Testing and commissioning of the E Connectivity Infrastructure
- Monitoring of the usage through NOC in existing SCOC
- Warranty and Annual Maintenance which includes periodic maintenance services for the software, hardware and other IT infrastructure installed
- The Operation and Maintenance (O&M) of E Connectivity Infrastructure for 20 Years which would entail undertaking all activities to ensure uptime of all the smart elements.
- Conducting periodic audits of the project from a third party, if required or instructed by PSCDCL
- Concessionaire shall maintain the sufficient spares to ensure 24 x 7 uptime

4.2. Support from PSCDCL

- a. Necessary digging permissions upon submission of required documentation
- b. Right of Way on the ground and below the ground, limited only for the network established as part of this project, subject to approval of PSCDCL.
- c. Permission of Use for PSCDCL and Other Government buildings Owned Structures/buildings
- d. Permissions for Electrical Power supply for equipment and smart components. Concessionaire shall carry out necessary additional cabling on their own cost.
- e. PSCDCL will allow the use of the existing electrical and lighting poles to set up infrastructure required for this project

4.3. Operation and Maintenance

- a. Concessionaire shall provide full operational, maintenance and technical support during the entire period of the contract.
- b. Concessionaire shall be responsible for managing and monitoring the complete architecture of the E Connectivity Infrastructure during the entire period of contract.
- c. All the E Connectivity Infrastructure shall be managed by a centralized management software and controller. User credentials for MIS access to the software must be shared by Concessionaire with PSCDCL.
- d. During the duration of the contract, the Concessionaire shall be required to conduct periodic checks of the deployed solution for performance & security, and further perform continuous network monitoring on behalf of PSCDCL. The Concessionaire shall be required to provide necessary information, support and MIS reports in the desired format to the PSCDCL and/or any of its authorized representatives to carry out forensic analysis at any point during the contract, if required.
- e. The Concessionaire will have to provide necessary trainings to the departmental staff identified by PSCDCL from time to time on usage of the system.
- f. The Concessionaire shall be required to setup and operate 24x7 helpdesk customer support system (Toll free numbers) and web based complaint / feedback registration system for end users. In order to provide better services,

the selected agency would set-up response teams to address technical, outage or other network issues at the sites.

4.4. Proposed Timelines

Concessionaire shall be required to adhere to the following timelines for Minimum rollout which shall be used for calculating due Monthly Rental towards PSCDCL (To is the date of Work Order from PSCDCL)

- a. To + 12 weeks = 20 Smart Poles + 5 Ground Based Towers + 5 Roof Top Tower (Concessionaire to Propose for Acceptance to PSCDCL)

To+ 12 Months = 200 Smart Poles

To+ 24 Months= 300 Smart Poles

To+ 36 Months= 400 Smart Poles

To+ 48 Months= 500 Smart Poles

To+ 60 Months= 700 Smart Poles

Concessionaire will be allowed to deploy Ground based towers and Roof top tower at all the PMC/PSCDCL or any other Government office as per the list enclosed. The total number of GBT/RTT shall not exceed 30% of Smart Poles Rollout over a period of 60 months subject to minimum rollout being completed. Exceptions on same shall be subject to the permissions from CEO, PSCDCL

- b. To + 24 weeks = Overhead OFC Infrastructure for E Connectivity for Smart Poles/Towers
- c. Acceptance of OFC Ducts established by PSCDCL and laying OFC cable in one of the ducts- On completion of OFC Duct Infrastructure by PSCDCL

4.5. Proposed Financial Evaluation Criteria

Financial Bidding Criteria shall be as below. Following shall be predefined in RFP. **Minimum Rental for Infrastructure leveraged under concession agreement**

a. For Poles/ Towers Infrastructure

- Minimum Monthly Rental for Smart Pole = INR 3500/ PM
- Minimum Monthly Rental for GBT = INR 12,000/PM
- Minimum Monthly Rental for RTT = INR 10,000/PM

- b. **OFC Duct Infrastructure-** Minimum payment shall be payable for the complete length of underground OFC duct for dark Fiber business by Concessionaire. This minimum price of Duct IRU for 20 Years shall be made proportionately equal to the Current Reinstatement costs as per trenching policy and average construction costs as per prevailing DSR rates for PMC . This shall be payable for the complete length in ABB area as per the enclosed plan for Road infrastructure.
- i. 90% of total amount for approximately 200 Kms of total road length where ducts will be laid by PSCDCL at the time of award. In case there is a delay in completing the OFC duct project within the timelines committed, delay for the compensation will be agreed with the concessionaire.
 - ii. 10% of total amount at the time of handover of OFC duct.
- c. **Revenue Share to PSCDCL shall be the financial bidding criteria.** Minimum monthly rental shall be triggered as per rollout timeline as mentioned in EOI or actual whichever is higher.

4.6. Proposed Business Model and Responsibility Matrix

It is proposed to implement this project under Public Private Partnership between PSCDCL and selected bidder. The table below shows the broad role & responsibility of PSCDCL and PPP Partner (Concessionaire) organization:

Sr. No	Components	Concessionaire	PSCDCL
A	OFC Infrastructure for E Connectivity		
1	Overhead Optical Fibre Cable (OFC) network –for ABD Area for meeting Pole and Tower Connectivity	Yes	
2	Shared OFC Duct Infrastructure along with utilities		Yes
3	OFC pulling in Underground OFC duct under concession agreement and Monetization through Dark fiber Sale	Yes	
4	Power supply and back up power, Junction boxes	Yes	
5	Active Components (Network Switches, Security Firewall etc.)	Yes	
6	Minimum of Minimum 1 Gbps Internet Bandwidth connectivity to approx. 50 office locations of PMC/PSCDCL & any other Government offices	Yes	

Sr. No	Components	Concessionaire	PSCDCL
	(Initial list of 27 offices enclosed in Annexure -1) for which ROW will be allowed for deploying Smart Pole/GBT/RTT		
7	ROW for deploying GBT/RTT at all listed Govt buildings		Yes
B	Smart Pole		
1	Pole structures as per design standards	Yes	
2	Telecom/RF Antenna Subsystem (3G/4G/5G/ Small Cell)	Yes	
3	Public WiFi (100 Hotspots) – Identified locations in ABB area	Yes	
4	Environmental Sensors		Yes
5	Smart Bill Boards (Variable Messaging Display)		Yes
6	Smart Lighting		Yes
7	Smart Parking sensors, Traffic Sensors and other smart city elements		Yes
8	CCTV Camera		Yes
9	Public Address (PA) System, Emergency call boxes		Yes
10	Monetization of Smart Pole infrastructure	Yes	
C	Integration with CCC		
1	I) Provision of active components for integration purpose and Integration with CCC Software Solution II) WiFi Services Options a) WiFi Access points shall be integrated with existing Pune smart city WiFi broadband infrastructure. b) Alternatively Concessionaire may deploy independent WiFi broadband infrastructure for delivering services	Yes Yes	
D	On Field Activities and Permissions		
1	ROW Charges		Yes

Sr. No	Components	Concessionaire	PSCDCL
2	Reinstatement to be completed (RI Charges Not payable)		Yes
3	Reinstatement to be completed with regard to Smart Pole	Yes	
4	Statutory Approvals required for providing services such as Telecom Tower/Antennae Renting/Leasing	Yes	
E	Electrical Power Supply		
1	Application and paperwork (documentation) for seeking metered Single Phase electricity connection	Yes	
2	Provisioning of Single Phase Electric Power		Yes
3	Payment of recurring electricity charges required for items	Yes	

Note:

1. The above table is indicative in nature. PSCDCL shall invest for the components marked against it. PSCDCL may ask the Concessionaire to execute the same or may get it executed from third party.
2. In the EOI proposal, applicant is required to propose the suggestion or changes with respect to above roles and responsibilities with proper justification on the same.

4.7. Revenue Model for Concessionaire

- a. It is proposed that selected bidder will monetize the OFC Infrastructure for both Overhead and Underground through Dark Fiber sale and Shared Smart Pole and Tower Infrastructure through rental agreements with Telecom service providers. Concessionaire will provide a fixed rental and revenue share with PSCDCL per month.
- b. Concessionaire shall also provide the access of Smart pole infrastructure including internet bandwidth as required to PSCDCL for all the Smart city applications on Plug and play design. This scope shall be provided on Free of cost basis however PSCDCL or it's assigned contractor will pay Operating expenditure on account of incremental power consumption. No other operating cost shall be payable by PSCDCL.
- c. Concessionaire shall also be allowed to deploy WiFi, Advertising boards or any other revenue monetization services at it's own costs on the Smart Poles and Towers to offer services. These services shall be in compliance to all rules and regulations as applicable.

4.8. Marketing and Promotion

- The selected agency shall do the branding of E Connectivity Infrastructure Zones in consultation with the PSCDCL and as per approvals only.
- The Concessionaire shall design all the logos, symbols, trademark etc. for the Smart Poles project in consultation with the PSCDCL and per approvals only. At the time of designing, the decision of PSCDCL shall be final and only PSCDCL shall claim the Intellectual Property Rights (IPRs) on all such designs finalized by it.

The Concessionaire shall promote the use of E Connectivity Infrastructure in Pune through regular advertising in radio, press, media etc. All such advertisements shall be screened by the PSCDCL before publishing. The selected agency shall bear all the costs related to the advertisements.

5. Formats & Check-list to be used for the Proposal Submission

5.1. EOI Cover Letter

(To be submitted on Applicant's letterhead duly signed by Authorized signatory)

Date: DD/MM/YYYY

To

CEO,
**Pune Smart City,
ICC Towers, Senapati Bapat Road, Pune.**

Sub : Selection of Concessionaire for ' E Connectivity Infrastructure Project' for Pune, Aundh-Baner-Balewadi area (Area Based Development under Pune Smart City Plan)

Ref : PSCDCL's EoI no. PSCDCL, Feb. 2018-1

Dear Sir,

Having examined the EOI, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to provide the professional services as required and outlined in the EOI for the "Selection of Concessionaire for E-Connectivity Infrastructure for Pune, Aundh-Baner-Balewadi area (Area Based Development under Pune Smart City Plan)".

We attach hereto our responses as required by the EOI. We confirm that the information contained in these responses or any part thereof, including the exhibits, and other documents and instruments delivered or to be delivered to PSCDCL, is true, accurate, verifiable and complete. This response includes all information necessary to ensure that the statements therein do not in whole or in part mislead the department in its short-listing process.

We fully understand and agree to comply that on verification, if any of the information provided here is found to be misleading the selection process, we are liable to be dismissed from the selection process and legal action.

We agree that you are not bound to accept any EOI 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 EOI 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.

Signature of Authorized Signatory (with official seal) Name :

Designation :

Address :

Telephone & Fax :

E-mail address :

5.2. Check-list for the documents to be submitted in Eoi response

Sr. No	Description	Details (to be filled by the Lead Bidder and all members of Consortium)
1.	Name of the company	
2.	Official address	
3.	Phone No. and Fax No.	
4.	Web Site Address	
5.	Name of Registration Authority	
6.	Details of Company's Registration (Please enclose copy of the company registration document) Registration Number and Year of Registration	
7.	Company's Revenue for last 3 years (Year wise)	
8.	Company's Profitability for the last 3 years (Year wise)	
9.	Company's Networth for the last 3 years (Year wise)	
10.	No. of years of operation in India	

Sr. No	Description	Details (to be filled by the Lead Bidder and all members of Consortium)
11.	Location, address and contact details of Network Operating Center (NOC) if any	
16.	Locations, addresses and contact details of offices in Pune (if any)	
17.	Technical Proposal included (Y/N)	

Details	Authorised signatory	Contact person
Name		
Title		
Company Address		
Phone		
Mobile		

5.3. Required format of the Technical Proposal

Applicants have to submit a structured and organized technical proposal, which will be analysed by PSCDCL for different compliances with regards to the requirements of the project. Each point listed below must be provided in detail with the necessary supporting documents and assumptions. Information to be included by the applicants in their Technical Proposal is as follows:

1. **Experience of the applicant for the relevant scope** over the past 5 years (numbers of telecom towers/ poles installed, kilometres of Optical Fibre laid and established, Kilometres of Optical Fibre maintained, Smart City Application Experience etc.
2. **Turnover related to e-connectivity (including from** telecom towers/ poles, Optical Fibre Cable, Smart City System Integration)
3. **Understanding of Project Scope** – Applicants may also propose any additional scope which they deem necessary to achieve objectives set out for the project

4. **Approach & Methodology** for implementation & post-implementation period.
5. High level project plan with proper Timelines
6. Detailing of Project Risks & Mitigation Plan
7. Teaming details for Consortium as per given format
8. Illustrative business models implemented for similar project implemented globally
9. Valuable, pragmatic suggestions for the proposed PPP responsibility matrix on Business Model (Section 4.6)
10. Key suggestion for the pre-bid qualification criteria and technical weightages
11. Suggestions on the Innovative revenue models and willingness to share the revenue with PSCDCL
12. List of locations with business potential for revenue growth.
13. Demand estimation under various revenue stream for project viability.

Annexure I – Indicative Location of government offices/ properties for shared tower/pole infrastructure and High speed Internet connectivity

Offices of Pune Municipal Corporation in Aundh Baner Balevadi Area			
Sr. No.		Latitude	Longitude
1	Aundh Baner Area Office, Sayajirao Gaikwad Udyog Bhavan, Second Floor, Aundh Gaon, Pune-7	18.563211	73.812928
2	Aundh Area office (Old), Bremen Chowk, Aundh	18.560896	73.814870
3	Baner Contact Office, Baner, Pune	18.560399	73.787238
4	Baner Balevadi Proposed Area office	18.559614	73.781814
Central/State Government offices in area of Aundh-Baner-Balevadi			
Sr. No.		Latitude	Longitude
1	Savitribai Phule Pune University	18.553055	73.824670
2	Industrial Training Institute (ITI), Aundh	18.558764	73.809817
3	Inter-University Centre for Astronomy and Astrophysics (IUCAA)	18.559316	73.825435
4	Forensic Science Lab, Near Chatusringi, Ganeshkhind road, Pune	18.546567	73.825346
5	National Informatics Center, Ganeshkhind road, Pune	18.541638	73.830479
6	Commissionerate of Animal Husbandry, Maharashtra State, Pune-07	18.562140	73.820387
7	Indian Agricultural Research Institute Regional Station, I.T.I Road, Aundh	18.550557	73.809330
8	Food & drug Administration, MS, Aundh	18.563211	73.812928
Municipal Hospitals in Aundh-Baner-Balewadi area			
Sr. No.		Latitude	Longitude
1	Sanjay Gandhi Maternity Home, Elphinston Road, Dapodi	18.570903	73.838089
2	Mumbai-Pune Road Trauma Hospital	18.570903	73.838089
3	Baburao Genba Shevale Hospital	18.562671	73.832687
4	Aundh Kuti Hospital	18.562923	73.810138

5	Late Sahdev Nimhan Kuti Hospital, Pashan Village	18.537699	73.795215
Sr. No.	Schools in Aundh-Baner- Balewadi area	Latitude	Longitude
1	Late Sarvpalli Radhakrishnan School, Bopodi	18.569439	73.833611
2	Late Patashibai Mohanlal Chached Primary School, Bopodi	18.568959	73.833938
3	Dr. Zakir Hussain Primary School, Bopodi	18.568676	73.833631
4	Late Anantrao Pawar Memorial School (English medium), Bopodi	18.569152	73.833273
5	Shri. Rajendra Prasad Primary School, Bopodi	18.570837	73.835616
6	Mata Ramabai Ambedkar Primary School, Chikhalvadi	18.564362	73.835512
7	Punyshlok Ahilyabai Holkar Primary School, Chavannagar	18.545055	73.821599
8	Indira Gandhi Primary School, Aundh Gaon	18.562126	73.811032
9	Golvalkar Guruji Primary School, Aundh Gaon	18.563288	73.810838
10	Padmbhushan Vasantdada Patil Primary School, (PMC Girls School No. 54), Someshwarvadi	18.546906	73.799057
11	Late Baburao (Shethji) Genuji Balvadkar Primary School, Balevadi	18.574979	73.776902
12	Late Sopanrao Banurao Katke Primary School, Baner	18.559267	73.786202
13	Sant Tukaram Primary School, Pashan	18.548965	73.792220
14	Late Sau. Venutai Yashwant Chavan Primary School, Sutarvadi	18.540274	73.783035
15	Late Sanjay Mahadev Nimhan Primary School, Pashan	18.541618	73.802447

Note: The above list of 32 sites is indicative. PSCDCL reserves the right to scale-up these sites up to 50 locations.

Annexure II – Clarification and Key Suggestions Format

Request for Clarification			
	Name and Address of the Organization submitting request:	Position of Person submitting request	Contact details of the Organization / Authorized Representative
Sl. No.	EoI Reference (Section No. / Page no.)	Content of EoI requiring clarification	Point of Clarification / Additional suggestions point's
1.			
2.			