

VASAI VIRAR CITY MUNICIPAL CORPORATION



EXPRESSION OF INTEREST

**Invitation for Expression of Interest
for Implementation of Smart Poles on PPP-
Model in Vasai-Virar City**

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The Applicant shall bear all its costs associated with or relating to the participation in this process regardless of the conduct or outcome of the process.

**Invitation for Expression of Interest for
Implementation of Smart Poles on PPP-Model in Vasai Virar City**

Introduction:

1. Vasai Virar City Municipal Corporation invites Expression of Interest from interested firms / entities for Implementation of Smart Poles in Vasai-Virar City under PPP model which will involve, but not limited to, Feasibility Studies), Design, Development, Implementation, Operation and Maintenance of fixtures, equipment and services related to Smart Poles, Back bone Communication network, Telecom Infrastructure, City Surveillance, Command and Control Centre etc. in areas of Vasai-Virar City .
2. Interested applicants are requested to submit their responses in the formats under 'Forms'. They may also provide documents in support of their approach, achievements / claims and compliance to eligibility criteria.

The Objective

3. **Smart Pole Concept:** The Smart pole combines the capabilities of telecom connectivity and city surveillance. It allows city authorities to offer space within their (connected) street-lighting poles to network service providers for telecom infrastructure. Also some other functionalities / features / equipment can also be added which directly or indirectly utilize the main capability of telecom connectivity, such as, environment monitoring, digital signage, public announcement system, etc.
4. The mobile wireless infrastructure deployment on smart pole can result in improved data coverage and capacity for citizens so there are no more signal dropouts. This can vastly improve the telecom infrastructure of the city. City surveillance can enhance security.
5. Advertisement, Bill-boards, public announcement system, Environment sensors are some other features that may be attached to the Intelligent Poles.
6. All these functionalities / features / equipment create a significant commercial potential for its implementer. Thus, this project can result in a "win-win" situation for the citizens, government and businesses.
7. The successful applicant shall be solely and exclusively responsible to design, implement and maintain on a BOOT model the project and to provide the services which would be defined in the RFP.

The Process:

8. For evolving the best techno-economically feasible solution allowing non-proprietary functionalities / features / equipment / technology, it is essential to identify all system components, their operational requirements as well as capabilities, their mutual compatibility / interoperability, and formulating the minimum essential specifications, VVCMC has planned to invite an open and interactive participation of all solution providers.

Expression of Interest

9. VVCMC will receive EOIs from full / part solution providers (“applicant”) who will participate in technical discussions with VVCMC, demonstrate their solutions / capabilities / functionalities / features through installation of a ‘**Proof-of-Concept**’ (PoC). This PoC shall comprise a minimum of one smart pole and two CCTV cameras, to be installed at a **predefined location** by each applicant for live demonstration. The demonstration/presentation should provide a representative solution to integrate various features / aspects / functionalities / applications of the project as per the objective(s) set above.
10. VVCMC shall facilitate ground space for installation of Gateway, Switches, Routers etc. and power requirement to each applicant during the entire period of PoC. Any Civil/Electrical work required will be the responsibility of the applicant. OFC connectivity may not be available at the time of PoC. If this is essential for any applicant, VVCMC may consider providing suitable location(s) for their PoC. The applicants may organize demonstrations “on-site” through use of RF / Wi-Fi / Cloud and local display media.
11. Based on the learnings of the PoC; final specifications of the project will be drawn up for city-wide implementation. The applicants shall involve in formulation of technical specifications of various system components for long term sustainable implementation of the project, which shall be compiled in the RFP document.
12. The applicants shall also provide their inputs for identification and quantification of revenue streams, making their own assessments of revenue potential. Details, as necessary, may be shared with VVCMC for suitable incorporation in the RFP document.
13. The applicants will be invited to submit their technical and financial proposals in response to the RFP document, in the method to be described in the RFP document. After technical and financial evaluations, in the method to be described in the RFP document, VVCMC will identify the Most Preferred Partner for implementation of the project.
14. It is the responsibility of the applicants for the watch & ward, O & M, of the assets / services created for the PoC.
15. At the end of the PoC period, all facilities given to the applicants shall be terminated automatically.
16. During the presentation as well as PoC as per ‘Key Events and Tentative Dates’, each applicant shall discuss their recommendation of solution(s) for Vasai-Virar Smart City and also exhibit their technical approach, methodology and work plan for the implementation of:
 - i. Surveillance (approx. 300 locations)
 - ii. Environmental Sensors
 - iii. Smart Bill Board
 - iv. Public announcement system
 - v. Central Command and Control Centre
 - vi. Managing the Complete Network

along with discussion on

(i) Efficiency, operability, maintainability of features involved, (ii) Collaboration model among all ecosystem stakeholders, (iii) Procurement & Financing Models.

17. All the information provided by the applicants, like the names of the clients, contract values or any proprietary information etc. will be treated as confidential information.

Design Parameters:

18. Desired design parameters of the complete system are as below. The applicant should strive to exhibit most of these to confirm suitability of their products / services for the project. The design of the smart pole should be sleek and aesthetic. The frame should hide remote radio units and antennas inside the pole and macro radios, baseband units, transmission equipment, extra capacity, power, batteries and additional equipment underneath. All equipment being used should comply with relevant ISO standards. All equipment which are exposed to the environment should comply IP 64 standards or better.
- a. **Mobile / broadband Infrastructure:** Mobile / broadband infrastructure should be at least 4G LTE compliant and should be platform independent so that any mobile operator is able to rent space on the poles on non-discriminatory basis.
 - b. **Power Back-up:** There should be power back-up to ensure round-the-clock functioning. A minimum of six hours' power back-up should be ensured. The service provider should give a detailed breakdown of the power consumption of the equipment being used and accordingly work out 6 hour back-up.
 - c. **City Surveillance System:** This shall include observation by means of electronic equipment, namely, CCTV cameras, analyze and assist in decision-making (approx.300 locations). The system shall manage video feeds for all CCTV systems required under this project through Video Management System (VMS) application. The camera should be IP 67/68 compliant. System should have Video Storage for 90 Days.
 - d. **Air Quality sensors:** Air quality sensors fitted on the smart pole will provide real time data to the CCCC for analysis and reporting.
 - e. **Security:** The physical and data security shall be the responsibility of the service provider. Cyber Security / ISO 27001 standards as applicable to Smart City project should be complied with.
 - f. **Central Command and Control Centre (CCCC):** A CCCC facility is required to be set up by the service provider. The CCCC will acquire real time data and analyze and provide dashboard view of all reports necessary for monitoring and managing the smart pole infrastructure. Software requirement specifications shall be shared prior to installation. During the full-scale implementation, the selected service provider will set up the CCCC on a Tier-III (or higher) data Centre, and connect all intelligent poles installed under this project by OFC. The specifications and the facilities of the CCCC shall be elaborated in the RFP document.

Eligibility Criteria:

19. EOI of each Applicant shall be evaluated on the basis of the following Eligibility Criteria:

No.	Criteria	Specific Requirements	Documents Required
1.	Applicant Entity	Legal entities duly registered under the Companies Act 1956 / 2013, or, public / semi-public entities which are financially autonomous. Entities registered under equivalent law / act in foreign countries may participate. However, they will need to be registered in India, if selected for this project's implementation.	Certificate(s) of incorporation.
2.	General Requirement	Applicant/consortium should be: (i) Telecom Service Provider having valid UL(AS) / UASL from DoT, Gol for a period of last three years. Or (ii) Engaged in Supply, Installation, Commissioning and Operations & Maintenance Services of CCTV / Telecom network projects for a period of last three years.	Self-attested certificates / registrations / copy of documents to establish the general requirement conditions to be enclosed. MoU of the consortium clearly specifying the role and area of specialization of the individual partners should be submitted.
3.	GST Registration	The applicant should have GST registration certificate	Certificate(s) from statutory auditors of the Applicant; Annual Audit Reports
4.	No Barring Certificate	Any entity which has been barred, by any public / semi-public agency / Central / State / Local Government, and the bar subsists as on the date of Application, would not be eligible, either individually or as member of a Consortium.	Undertaking by the authorized signatory as well as all members of consortium
5	Positive Net worth	The entity should have positive net worth in last 3 years	Profit and loss statement and balance sheet certified by CA to be attached

Forms:

FORM 1: TECHNICAL CAPABILITY OF THE APPLICANT

S. No.	Information	Response (with supporting documents to be attached)
1	Name and address of the Applicant	
2	Name, Designation, Address and Contact Details of the person to whom all references can be made in connection with this EOI	
3	Legal Status	
4	Product(s) / Service(s) Offered	
5	Years in business.	
6	Number of similar projects executed	
7	Project Information – Name, Client, Scope, Technology used, Value, Start / End Dates, etc.	(repeat for each project as per information under (4))
8	Requirement to form any joint venture for providing any product / feature / service etc. under this project	Yes / No
9	If Yes for (8) above, define the product / feature / service etc.	
10	MoU with other agencies), if making a joint application	Attach

FORM 2: FINANCIAL CAPABILITY OF THE APPLICANT

(in Rs. Cr.)

S. No.	Financial Year	Turn Over
1	2018-19	
2	2019-20	
3	2020-21	