

RAILTEL CORPORATION OF INDIA LIMITED
(A Govt. of India Undertaking)

**Expression of Interest for Selection of Partner from Empanelled Business Associate for
EXCLUSIVE PRE-BID TEAMING ARRANGEMENT**

For

“Request for Proposal (RFP)

For

**Selection of System Integrator (SI) for Design, Development, and Implementation of
Regional Information System for Mumbai Metropolitan Region and Urban Observatory at
Mumbai Metropolitan Regional Development Authority, Mumbai”**

EOI No: RCIL/WR/MUMBAI/Mktg/24-25/006 dated 25th Jul, 2024



EOI NOTICE
RailTel Corporation of India Ltd,
Western Railway Microwave Complex, Senapati Bapat Marg,
Mahalaxmi, Mumbai – 400013

EOI Notice No: RCIL/WR/MUMBAI/Mktg/24-25/006 dated 25th Jul, 2024

RailTel Corporation of India Ltd., (here after referred to as “RailTel”) invites EOIs from RailTel’s Empanelled Partners for the selection of suitable partner as Exclusive pre-bid teaming arrangement for “Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at Mumbai Metropolitan Regional Development Authority, Mumbai” as per Tender No. CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024 and any other addendums/ corrigendums/ documents contained within and related to the same. **The selected partner will Bid with RailTel jointly as a consortium member in Tender No. CA NO 02/MMRDA/IT CELL/SM/2024 25 Dt. 19.07.2024**

The details are asunder:

1	Last date for submission of Technical Packet against EOIs by bidders	01 st Aug 2024 at 15:00 Hrs
2	Opening of Technical Bid of EOIs	01 st Aug 2024 at 15:30 Hrs
4	EOI fees inclusive tax (Non-refundable)	11,800/- (Inclusive of 18% GST)
5	EMD for Pre-Bid Arrangement	Total EMD: 1,00,00,000/- Token EMD: Rs. 5,00,000/- in the form of online transfer as Token EMD along with submission of EoI response. Balance EMD: Balance amount of Rs. 95,00,000/- (after subtracting the Token EMD) to be paid through Online Transfer/BG/combination of both before end customer bid submission by RailTel.

The Token EMD should be in the favor of RailTel Corporation of India Limited payable at Mumbai through online bank transfer only. Partner needs to share the online payment transfer details like UTR No, date of payment.
RailTel Bank Details: Union Bank of India, Account No. 317801010036605, IFSC Code - UBIN0531782.

Eligible Business Associates are required to direct all communications related to this Invitation for EoI document, through the following Nominated Point of Contact persons:

1. Level 1

Contact Name: Sh. Viplov Nath Mishra

Designation: Senior Deputy General Manager/ Marketing

E-Mail Address: viplovnmishra@railtelindia.com

Mobile No: +91- 9004444124

2. Level 2

Contact Name: Sh. Santosh Parage

Designation: Group General Manager/ Marketing

E-Mail Address: santosh.parage@railtelindia.com

Mobile No: +91- 7020906278

Note:

1. Empanelled partners are required to submit soft copy of technical & price packet through an e-mail at eoι.wr@railtelindia.com duly signed by Authorized Signatories with Company seal and stamp.
2. The EOI response is invited from eligible **Empanelled Partners of RailTel only. The Empanelled partner has to submit its valid empanelment Letter of Intent along with his Bid.**
3. All the document must be submitted with **proper indexing and page no.**
4. This is an **exclusive pre-RFP partnership arrangement with empanelled business associate of RailTel for participating in the end customer RFP.** Selected partner's authorized signatory has to give an undertaking they will not submit directly or indirectly their bids and techno-commercial solution/association with any other organization once selected in this EOI for pre-bid teaming arrangement (before and after submission of bid to end customer organization by RailTel). **This undertaking has to be given with this EOI Response.**
5. Partner has to submit their response as an individual organization only. No consortium is allowed. The Bidder has to be an empanelled partner of RailTel.
6. **Transfer and Sub-letting.** The Business Associate has no right to give, bargain, sell, assign or sublet or otherwise dispose of the Contractor any part thereof, as well as to give or to let a third party take benefit or advantage of the present Contract or any part thereof.
7. All Bidders to sign and stamp RailTel's EOI and its corrigendum's implying acceptance of all terms and conditions as mentioned and submit the same along with their Bids.
8. Any changes made by RailTel's end customer in Tender No. CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024 upto the last date of submission of the said tender by RailTel will be unquestionably & without any objection accommodated by the Bidders in their Technical & Price offer submitted against this EoI. Changes include all the technical, financial, format changes and any other changes as applicable and deemed applicable by RailTel.

RAILTEL

1. As Introduction about RailTel

RailTel Corporation of India Limited (RailTel), an ISO-9001:2000 organization is a Mini Ratna Government of India undertaking under the Ministry of Railways. The Corporation was formed in Sept 2000 with the objectives to create nationwide Broadband Telecom and Multimedia Network in all parts of the country, to modernize Train Control Operation and Safety System of Indian Railways and to contribute to realization of goals and objective of national telecom policy 1999. RailTel is a wholly owned subsidiary of Indian Railways.

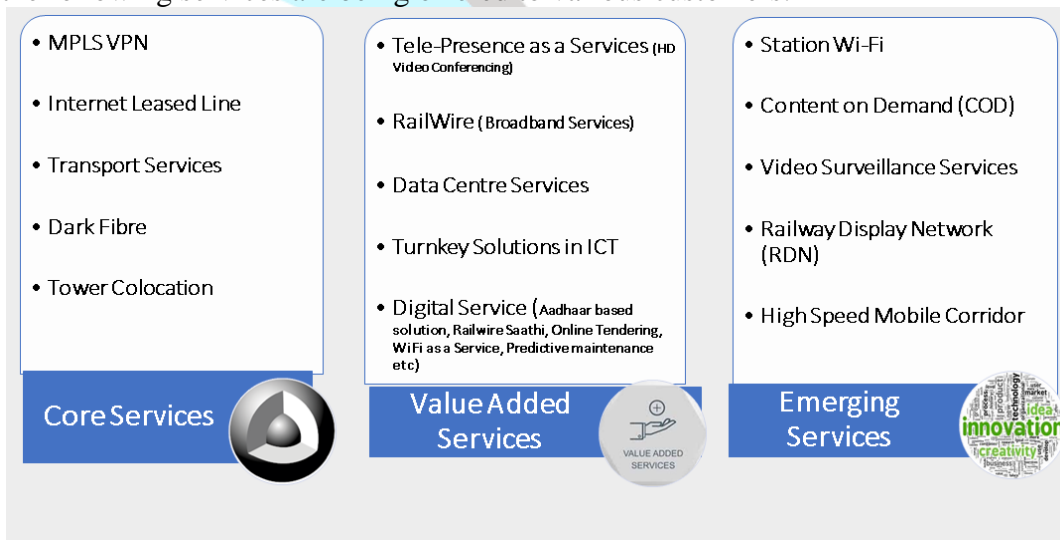
RailTel has approximately 60000 kms of OFC along the protected Railway tracks. The transport network is built on high capacity DWDM and an IP/ MPLS network over it to support mission critical communication requirements of Indian Railways and other customers. RailTel has Tier-III Data Center in Gurgaon and Secunderabad hosting / collocating critical applications. RailTel is also providing Telepresence as a Service (TPaaS), where a High-Definition Video Conference facility bundled with required BW is provided as a Service.

For ensuring efficient administration across India, country has been divided into four regions namely, Eastern, Northern, Southern & Western each headed by Executive Director and Headquartered at Kolkata, New Delhi, Secunderabad & Mumbai respectively. These regions are further divided into territories for efficient working. RailTel has territorial offices at Guwahati, & Bhubaneswar in East, Chandigarh, Jaipur, Lucknow in North, Chennai & Bangalore in South, Bhopal, and Pune & Ahmedabad in West. Various other territorial offices across the country are proposed to be created shortly.

RailTel's business service lines can be categorized into three heads namely B2G/B2B (Business to Government and Business to Business) and B2C (Business to customers):

Licenses & Service portfolio:

Presently, RailTel holds Infrastructure Provider -1, National Long-Distance Operator, International Long-Distance Operator and Internet Service Provider (Class-A) licenses under which the following services are being offered to various customers:



a) Carrier Services

- National Long Distance: Carriage of Inter & Intra -circle Voice Traffic across India

using state of the art NGN based network through its Interconnection with all leading Telecom Operators

- Lease Line Services: Available for granularities from E1 to multiple of Gigabit bandwidth & above
- Dark Fiber/Lambda: Leasing to MSOs/Telco's along secured Right of Way of Railway tracks
- Co-location Services: Leasing of Space and 1000+ Towers for collocation of MSC/BSC/BTS of Telco's

b) Enterprise Services

- Managed Lease Line Services: Available for granularities from E1, DS-3, STM-1 & above
- MPLS VPN: Layer-2 & Layer-3 VPN available for granularities from 2 Mbps & above
- Dedicated Internet Bandwidth: Experience the "Always ON" internet connectivity at your fingertips in granularities 2 Mbps to several Gbps

c) DATA CENTER

- Infrastructure as a service (IaaS), Hosting as Services, Security operation Centre as a Service (SOCaaS): RailTel has MeitY empaneled two Tier-III data centres in Gurgaon & Secunderabad. Presently RailTel is hosting critical applications of Indian Railways, Central & State government/ PSUs applications. RailTel will facilitate Government's applications
- Hosting services including smooth transition to secured state owned RailTel's Data Centers and Disaster Recovery Centres. RailTel also offers SOC as a Service 'SOCaaS'. In addition, RailTel offers VPN client services so that employees can seamlessly access government's intranet, applications securely from anywhere without compromising security.

d) National Long Distance:

Carriage of Inter & Intra -circle Voice Traffic across India using state of the art NGN based network through its Interconnection with all leading Telecom Operators

- Lease Line Services: Available for granularities from E1 to multiple of Gigabit bandwidth & above
- Dark Fiber/Lambda: Leasing to MSOs/Telco's along secured Right of Way of Railway tracks
- Co-location Services: Leasing of Space and 1000+ Towers for collocation of MSC/BSC/BTS of Telco's

e) High-Definition Video Conference:

RailTel has unique service model of providing high -definition video conference bundled with Video Conference equipment, bandwidth and FMS services to provide end to end

seamless services on OPEX model connecting HQ with other critical offices. RailTel also offers application-based video conference solution for employees to be productive specially during this pandemic situation.

f) Retail Services – RailWire

RailWire: Triple Play Broadband Services for the Masses. RailTel has unique model of delivering broadband services, wherein local entrepreneurs are engaged in delivering & maintaining broadband services and up to 66% of the total revenues earned are shared to these local entrepreneurs in the state, generating jobs and revitalizing local economies. On date RailTel is serving approx. 4,68,000 subscribers on PAN Indian basis. RailTel can provide broadband service across– Government PSU or any organization's officers colonies and residences.

2. Project Background and Objective of EOI

RailTel intends to participate in RFP floated by end Customer organization for “Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at Mumbai Metropolitan Regional Development Authority, Mumbai” with tender Tender No. CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024.

RailTel invites EOIs from RailTel's Empanelled Partners for the selection of suitable partner for participating in above mentioned work for the agreed scope work. The empanelled partner is expected to have excellent execution capability and good understanding customer local environment.

3. Scope of Work

The scope of work will be as mentioned in the end Customer organization Tender for “**Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at Mumbai Metropolitan Regional Development Authority, Mumbai**” with Tender No. CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024 with latest amendment/ Corrigendum/ Clarifications uploaded upto the last date of submission of the aforesaid tender.

The broad scope of work is mentioned in end customer **Tender No. CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024** along with its latest amendments and clarifications

In case of any discrepancy or ambiguity in any clause / specification pertaining to scope of work area, the tender/RFP and corrigendum/addendum released by end customer organization shall supersede and will be considered sacrosanct. (All associated clarifications, response to queries, revisions, addendum, and corrigendum, associated prime service agreement PSA/MSA/SLA also included.)

Business associate can participate as a sole bidder only. No consortium is permitted. Bidder must be RailTel's empanelled partner and will be responsible for all the conditions mentioned in this and the end customer RFP.

Special Note: RailTel may retain some portion of the work mentioned in the end organization RFP, where RailTel has competence so that overall proposal becomes most winnable proposal.

4. Response to EOI guidelines

4.1 Language of Proposals

The proposal and all correspondence and documents shall be written in English in soft copy through an email.

4.2 RailTel's Right to Accept/Reject responses

RailTel reserves the right to accept or reject any response and annul the bidding process or even reject all responses at any time prior to selecting the partner, without thereby incurring any liability to the affected bidder or Business Associate or without any obligation to inform the affected bidder or bidders about the grounds for RailTel's action.

4.3 EOI response Document

The bidder is expected to examine all instructions, forms, terms and conditions and technical specifications in the bidding documents. Submission of bids, not substantially responsive to the bidding document in every aspect will be at the bidder's risk and may result in rejection of its bid without any further reference to the bidder.

All pages of the documents shall be signed by the bidder including the closing page in token of his having studied the EOI document and should be submitted along with the bid.

4.4 Period of Validity of bids and Bid Currency

Bids shall remain valid for a period of 180 days from the date of Bid submission issued by the end Customer organization for which bid is going to be submitted.

4.5 Bid Earnest Money (EMD)

4.5.1 The Business Associate shall furnish a sum as given in EOI Notice via online transfer from any scheduled bank in India in favour of "RailTel Corporation of India Limited" along with the offer. This will be called as EOI/Token EMD.

4.5.2 Offers not accompanied with valid Token Earnest Money Deposit shall be summarily rejected.

4.5.3 In case if offer is selected for bidding, the partner has to furnish Earnest Money Deposit (for balance amount as mentioned in the customer's Bid or as per RailTel policy as applicable) for the bid to RailTel in the form of Online Transfer/BG/combination of both. The selected Business Associate shall have to submit EMD before submission of bid to end customer as applicable.

4.5.4 Return of EMD for unsuccessful Business Associates: EOI EMD of the unsuccessful Business Associate shall be returned without interest after completion of EOI process.

4.5.5 Return of EMD for successful Business Associate: EOI-EMD & Earnest Money Deposit (balance proportionate EMD) and Integrity Pact BG of the

successful bidder will be discharged / returned as promptly as possible after the receipt of RailTel's EMD/BG from the end Customer and or on receipt of Security Deposit Performance Bank Guarantee as applicable (clause no. 4.6) from Business Associate whichever is later.

4.5.6 Forfeiture of EOI EMD or EOI EMD & balance EMD (balance proportionate EMD) and or Penal action as per EMD Declaration:

4.5.6.1 The EOI EMD will be forfeited if the Balance EMD is not paid before RailTel's bid submission in end customers Tender

4.5.6.2 The EOI EMD & Balance EMD may be forfeited and or penal action shall be initiated if a Business Associate withdraws his offer or modifies the terms and conditions of the offer during validity period.

4.5.6.3 In case of non-submission of SD/PBG (as per clause no. 4.6) lead to forfeiture of EOI EMD, EMD (balance proportionate EMD) if applicable and Integrity Pact and or suitable action as prescribed in the EMD Declaration shall be initiated as applicable.

4.5.6.4 Having participated with another party/directly/through consortium apart from RailTel in RailTel's end customer Tender

4.6 Security Deposit / Performance Bank Guarantee (PBG)

4.6.1 In case the bid is successful, the PBG of requisite amount proportionate to the agreed scope of the work will have to be submitted to RailTel.

4.6.2 As per work share arrangements agreed between RailTel and Business Associate the PBG will be proportionately decided and submitted by the selected Business Associate.

4.7 Last date & time for Submission of EOI response

EOI response must be submitted to RailTel at the email address specified in the preamble not later than the specified date and time mentioned in the preamble.

4.8 Modification and/or Withdrawal of EOI response

EOI response once submitted will be treated, as final and no modification will be permitted except with the consent of the RailTel.

No Business Associate shall be allowed to withdraw the response after the last date and time for submission.

The successful Business Associate will not be allowed to withdraw or back out from the response commitments. In case of withdrawal or back out by the successful business associate, the Earnest Money Deposit shall be forfeited, and all interests/claims of such Business Associate shall be deemed as foreclosed.

4.9 Details of Financial bid for the above referred tender

Business Associate meeting eligibility criteria and lowest price will be selected for exclusive pre-bid arrangement for optimizing technical and commercial solution so that most winnable solution is submitted to end customer.

In case if there are Two or more Business Associate meeting eligibility criteria and quoting same price, then negotiation will be conducted within these Sole partner in the second stage

for the given scope of the work and Sole bidder with overall lowest (L1) offer will be selected for exclusive pre bid arrangement for optimizing technical and commercial solution.

The final bid for the tender will be prepared jointly with the selected Business Associate so that the optimal bid can be put with a good chance of winning the Tender.

Also it may be noted that RailTel may choose multiple BAs for final bidding depending upon the lowest offer received so that a winning bid can be put forth.

The BA's will have to encompass RailTel margin over all components of the Price in end customer Tender/RFP.

Any Changes in the end customer Tender after the last date of submission of RailTel EoI shall be unquestionably & without any objection accommodated by the BA/BAs in their Technical & Price offer submitted against this EoI.

4.10 Clarification of EOI Response

To assist in the examination, evaluation and comparison of bids the purchaser may, at its discretion, ask the Business Associate for clarification. The response should be in writing and no change in the price or substance of the EOI response shall be sought, offered or permitted.

4.11 Period of Association/Validity of Agreement

RailTel will enter into a pre-bid agreement with selected bidder with detailed Terms and conditions.

5. Eligibility Criteria for Bidding Business Partner of RailTel

S No	Particulars	Criteria for Tender Package
		(Mandatory Compliance & Document Submission)
A)	Financial Conditions	
i)	Sole bidder should be registered under Companies Act, 1956 or Companies Act 2013 or as amended and should have at least 7 years of operations in India as on bid submission date.	1. Certificate of Incorporation 2. GST Registration 3. PAN Card
ii)	Sole Participating bidder should have Cumulative turnover of Rs 40 Crore in the preceding three financial years (FY 21-22, 22-23, 23-24).	Audited balance sheet, profit & loss statement and Turnover Certificate issued by the Chartered Accountant for sole bidder. Certificate should contain UDIN no. issued by ICAI In case of previous year audited balance sheet is not available, then provisional balance sheet would be accepted only for previous year i.e. FY 2023-24
iii)	Sole partner should also have a positive net worth as of March 31 st & be profitable in each of the last 3 financial years (FY 21-22, 22-23,	Audited balance sheet, profit & loss statement and Positive Net Worth & Profitability Certificate issued by the CA for the last three

S No	Particulars	Criteria for Tender Package
		(Mandatory Compliance & Document Submission)
	23-24).	financial years (FY 21-22, 22-23, 23-24). Certificate should contain UDIN no. issued by ICAI. In case of previous year audited balance sheet is not available, then provisional balance sheet would be accepted only for previous year i.e. FY 2023-24
B)	Technical Conditions	
iv)	The Sole Bidder or the Consortium should have experience in executing at least 2 nos. of ICT projects which includes any of the following areas during last 10 years as on bid submission date: Value of each project should be minimum of Rs. 5 Crore 1. GIS-based development of the Geo-Portal 2. Smart Transport 3. ICT based solid waste management 4. Smart utilities solutions 5. Smart parking/smart lighting 6. Surveillance 7. Emergency Response system 8. Smart Cities IT Implementation	Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder. Note: Unpaid pilot or Proof of Concept will not be acceptable.
v)	Bidder should have been engaged in at least one project (of value not less than INR 5 Crores in last 7 years) involving Design, Supply of hardware & software, Development and Deployment of an Information System comprising a Portal integrating data/metadata from multiple government agencies (minimum five) such as Central & State Government agencies, to facilitate dissemination of information from a single platform (similar to scope mentioned as part of the envisaged RIS application)	Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% of overall project cost shall be submitted by the Bidder. Note: Unpaid pilot or Proof of Concept will not be acceptable.
vi)	The Bidder must possess valid ISO 9001:2015 certification and CMMI level 5 for Development (DEV) & Services (SVC)	Copy of valid certificates signed and stamped by the Authorized Signatory of the Bidder. Valid CMMI Level 5 for Development (DEV) & Services (SVC) as on date of bid submission issued by Authorized partner of

S No	Particulars	Criteria for Tender Package
		(Mandatory Compliance & Document Submission)
		<p>CMMI institute. Certificate issuing organization name should reflect on below link in CMMI Partner Directory</p> <p>https://cmmiinstitute.com/partners/directory?searchtext=&searchmode=anyword&cmproductsuite=&dmmsmartsearchfilter=&peoplesmartsearchfilter=&geographicsmartsearchfilter=0&countrysmartsearchfilter=0&smartsearchfilter=0</p> <p>The bidder's name should reflect on CMMI Institute (An ISACA Enterprise) – Published Appraisal Results website.</p> <p>https://www.cmmiinstitute.com/pars/?StateId=88cfeb7e-d30f-4dd7-9939-30a4f95fd0de</p>
vii)	The Bidder should never have been blacklisted by any of the Central/ State/ Semi Govt./ Local Self Govt./ PSUs as on the date of Bid Submission	Self-Declaration on company letter head in this regard by the authorized signatory of the bidder
viii)	The bidder must have at least 50 technical resources on its full time payroll in the domain of IT/ ICT/ Software Development/ GIS/ Survey with qualification- Diploma/ B.E/ B.Tech/ M.E/ M.Tech, BSc/MSc, BCA / MCA as on date.	Self-Certification by the authorized signatory with clear declaration of staff – year wise, level / designation wise.
xi)	<p>The bidder has to submit CVs for each of the following as per end customer RFP:</p> <ol style="list-style-type: none"> 1. Team Leader/GIS Manager 2. Urban Expert 3. GIS QA Lead 4. GIS DBA 5. GIS Solution Architect 6. GIS Data Analyst 	CVs in the prescribed format are to be submitted.

6. Bidder's Profile

The bidder shall provide the information in the below table:

S. No.	ITEM	Details
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1.	Full name of bidder's firm	
2.	Full address, telephone numbers, fax numbers, and email address of the primary office of the organization / main / head / corporate office	
3.	Name, designation and full address of the Chief Executive Officer/Director of the bidder's organization as a whole, including contact numbers and emailAddress	
4.	Full address, telephone and fax numbers, and email addresses of the office of the organization dealing with this tender	
5.	Name, designation and full address of the person dealing with the tender to whom all reference shall be made regarding the tender enquiry. His/her telephone, mobile, Fax and email address	
6.	Bank Details (Bank Branch Name, IFSC Code, Account number)	
7.	PAN, GST, TAN Registration numbers	

7. Evaluation Criteria

7.1 The Business Associates are first evaluated on the basis of the Eligibility Criteria as per clause 5 above.

7.2 The Business Associate qualifying the Eligibility criteria will be selected for exclusive pre-bid arrangement for optimizing technical and commercial solution so that most winnable solution is submitted to end customer.

7.3 In case if there are two or more Sole Bidders meeting eligibility criteria then the price bids will be sought from these Sole Bidder in the second stage for the given scope of the work and Sole Bidder with overall lowest (L1) offer will be selected for exclusive pre-bid arrangement for optimizing technical and commercial solution.

7.4 RailTel reserves the right to accept or reject the response against this EOI, without assigning any reasons. The decision of RailTel is final and binding on the participants. The RailTel evaluation committee will determine whether the proposal/ information is complete in all respects and the decision of the evaluation committee shall be final. RailTel may at its discretion assign lead factor to the Business associate as per RailTel policy for shortlisting partner against this EOI.

7.6 All General requirements mentioned in the Technical Specifications are required to be complied. The solution proposed should be robust and scalable.

8. Withdrawal of Bids

A Bidder wishing to withdraw its bid shall notify to RailTel by e-mail prior to the deadline prescribed for bid submission. The notice of withdrawal shall be addressed to RailTel at the address named in the Bid Data Sheet, and bear the Contract name, the <Title> and < Bid No.>, and the words "Bid Withdrawal Notice." Bid withdrawal notices received after the bid submission deadline will be ignored, and the submitted bid will be deemed to be a valid submitted bid.

No bid can be withdrawn in the interval between the bid submission deadline and the expiration of the bid validity period specified in the Bid Data Sheet. Withdrawal of a bid during this interval may result in the forfeiture of the Bidder's EMD.



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9 Evaluation Process

The evaluation process of the bid proposed to be adopted by RailTel is indicated in this section. The purpose of this section is to provide the Bidder an idea of the evaluation process that RailTel may adopt.

RailTel shall appoint a Bid Evaluation Committee (BEC) to scrutinize and evaluate the technical and commercial bids received. The BEC will examine the Bids to determine whether they are complete, responsive and whether the bid format conforms to the bid requirements. RailTel may waive any informality or non-conformity in a bid which does not constitute a material deviation according to RailTel.

The bid prices should not be mention in any part of the bid other than the Commercial Bid. Any attempt by a bidder to influence the bid evaluation process may result in the rejection of Bid and forfeiture of EMD.

10 Performance Bank Guarantee

The Bidder shall at his own expense, deposit with RailTel, an unconditional and irrevocable Performance Bank Guarantee (PBG) from nationalized banks as per the format given in this bid, payable on demand, for the due performance and fulfilment of the contract by the Bidder.

This Performance Bank Guarantee will be submitted within 25 days of the notification of award of the contract/ Letter of Acceptance (LOA) issuance whichever is earlier. If PBG is not submitted within this time frame a delayed PBG penalty will be attracted. Post 25 days and up to 50 days from date of notification of award of the contract/ Letter of Acceptance (LOA) issuance a penalty at 15% per annum interest of LOA amount will be levied as delayed PBG penalty and this penalty will be deducted from the Invoices & EMD of the Bidder. After these 50 days if PBG is not submitted then it will be assumed that the Bidder is not interested in submitting PBG and the Amount of PBG along with the delayed PBG penalty calculated will be retained from Invoices & EMD of the Bidder. Non-submission of PBG can also lead to cancellation of contract and the decision with respect to whether, to retain the PBG Amount and penalty from Invoices & EMD or cancellation of contract, will be at the sole discretion of RailTel. In the event of cancellation of contract EMD will be forfeited. If PBG is retained from Invoices & EMD then the PBG Amount only and not the penalty attracted will be paid to the Bidder in such a case post the contract period plus three months (expected PBG validity date) are over after deducting any applicable deductions (e.g.: Poor service, etc).

This Performance Bank Guarantee will be for an amount equivalent to a particular percentage of the total contract value or as specified in RailTel's end customers tender. All charges whatsoever such as premium, commission, stamp duties etc. with respect to the Performance Bank Guarantee shall be borne by the Bidder. The Performance Bank Guarantee format can be found in this document.

The Performance Bank Guarantee may be discharged/ returned by RailTel upon being satisfied that there has been due performance of the obligations of the Bidder under the contract. However, no interest shall be payable on the Performance Bank Guarantee.

In the event of the Bidder being unable to service the contract for whatever reason, RailTel would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of RailTel under the Contract in the matter, the proceeds of the PBG shall be payable to RailTel as compensation for any loss resulting from the Bidder's failure to complete its obligations under the Contract. RailTel shall notify the Bidder in writing of the exercise of its right to receive such compensation within 30 days, indicating the contractual obligation(s) for which the Bidder is in default.

The 30 days notice period shall be considered as the 'Cure Period' to facilitate the Implementation Agency to cure the breach. The PBG shall be invoked only if the breach is solely attributable to the bidder and the bidder fails to rectify the breach within the 'Cure Period'.

RailTel shall also be entitled to make recoveries from the Bidder's bills, performance bank guarantee, or from any other amount due to the Bidder, the equivalent value of any payment made to the Bidder due to inadvertence, error, collusion, misconstruction or misstatement.

11 Rights to Terminate the Process

RailTel may terminate the bid process at any time and without assigning any reason. RailTel makes no commitments, express or implied, that this process will result in a business transaction with anyone.

This bid document does not constitute an offer by RailTel. The Bidder's participation in this process may result in RailTel selecting the Bidder to engage in further discussions and negotiations towards execution of a contract. The commencement of such negotiations does not, however, signify a commitment by RailTel to execute a contract or to continue negotiations. RailTel may terminate negotiations at any time without assigning any reason.

12. Payment terms

12.1 RailTel shall make payment to selected Business Associate after receiving payment from Customer for the agreed scope of work. In case of any penalty or deduction made by customer for the portion of work to be done by BA, same shall be passed on to Business Associate.

12.2 All payments by RailTel to the Partner will be made after the receipt of payment by RailTel from end customer organization and upon submission of correct Tax Invoices as per statutory norms.

12.3 The Payments received from end customer will be disbursed Scope wise to the selected BA.

12.4 Payments to selected BAs will be in Arrears only

13 SLA/Penalty/LD

The selected bidder will be required to adhere to the SLA/Penalty/LD matrix as defined in the end Customer organization tender for his scope of work and the SLA/Penalty/LD breach penalty will be applicable proportionately on the selected bidder, as specified in the end Customer organization Tender. The SLA/Penalty/LD scoring and penalty deduction mechanism

for in-scope of work area shall be followed as specified in the Tender. All associated clarifications, responses to queries, revisions, addendum and corrigendum, associated Prime Services Agreement (PSA)/ MSA/ SLA also included. Any deduction by Customer from RailTel payments on account of SLA/Penalty/LD breach which is attributable to Partner and will be passed on to the Partner proportionately based on its scope of work.

14 Duration of the Contract Period

The contract shall remain in force for a minimum period of 1 year from the Commercial Operation Date (COD) which will be back to back as per end customer tender. The effective date will be the day when the Condition Precedents are met. After 1 year, RailTel may extend the agreement as per its end customers' requirements and performance.

Note:

- 1. Depending on RailTel's business strategy RailTel may choose to work with Partner who is most likely to support in submitting a winning bid**
- 2. All Documents and requirements like EMD, Tender Fees, PBG, Contract Agreement to be shared/executed Back to Back as per the end customer RFP/Tender with Tender No. CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024**
- 3. In case of any discrepancy or ambiguity in any clause /specification pertaining to scope of work area, the RFP released by end customer organization shall supersede and will be considered sacrosanct. (All associated clarifications, response to queries, revisions, addendum and corrigendum, associated prime service agreement (PSA)/ MSA/ SLA also included.)**
- 4. All clauses such as cost involved, payment term, validity, lock in period, etc will be back to back as per MMRDA tender**
- 5. All required MAFs and other OEM related documents along with end customer consortium partner related documents like Integrity pact, Manpower CVs, etc which are mandatory in RailTel's end customer tender is to be arranged by Selected Bidders before RailTel's submission of Bid in end customer tender.**

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Annexure 1: COVERING LETTER

(To be submitted by sole Bidder on Letter head)

EoI Reference No: _____ Date: _____

To
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013

Dear Sir,

SUB: Participation in the EoI process

Having examined the Invitation for EoI document bearing the reference number _____ Dt. _____ released by your esteemed organization, we, undersigned, hereby acknowledge the receipt of the same and offer to participate in conformity with the said Invitation for EoI document.

If our application is accepted, we undertake to abide by all the terms and conditions mentioned in the said Invitation for EoI document.

We hereby declare that all the information and supporting documents furnished as a part of our response to the said Invitation for EoI document, are true to the best of our knowledge. We understand that in case any discrepancy is found in the information submitted by us, our EoI is liable to be rejected.

We hereby Submit EMD amount of Rs. _____ issued vide _____ from Bank _____.

Authorized Signatory Name:

Designation:

Contact No:

E-Mail Address:

Signature:

Seal of the Organization:

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Annexure 2: Self-Certificate & Undertaking
(To be submitted by sole Bidder on Letter Head)

EOI Reference No: _____ Date: _____

To
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013

Dear Sir,

Sub: Self Certificate for Tender, Technical, Commercial & other compliances

1. Having examined the Technical specifications mentioned in this EOI & end customer tender, we hereby confirm that we meet all specification.
2. We agree to abide by all the technical, commercial & financial conditions of the end customer RFP for which EOI is submitted (except pricing, termination & risk purchase rights of the RailTel). We understand and agree that RailTel shall release the payment to selected sole partner/lead partner after the receipt of corresponding payment from end customer by RailTel. Further we understand that in case selected sole bidder fails to execute assigned portion of work, then the same shall be executed by RailTel through third party or departmentally at the risk and cost of selected sole partner bidder.
3. We agree to abide by all the technical, commercial & financial conditions of the end customer's RFP for the agreed scope of work for which this EOI is submitted.
4. We hereby agree to comply with all OEM technical & financial documentation including MAF, Technical certificates/others as per end to end requirement mentioned in the end customer's RFP. We are hereby enclosing the arrangement of OEMs against each of the BOQ item quoted as mentioned end customer's RFP. We also undertake to submit MAF and other documents required in the end Customer organization tender in favour of RailTel against the proposed products.
5. We hereby certify that any services, equipment and materials to be supplied are produced in eligible source country complying with OM/F. No. 6/18/2019 dated 23rd July 2020 issued by DoE, MoF.
6. We hereby undertake to work with RailTel as per end customer's RFP terms and conditions. We confirm to submit all the supporting documents constituting/ in compliance with the Criteria as required in the end customer's RFP terms and conditions like technical certificates, OEM compliance documents.
7. We understand and agree that RailTel is intending to select a sole bidder who is willing to accept all terms & conditions of end customer organization's RFP for the agreed scope of work. RailTel will strategies to retain scope of work where RailTel has competence.

8. We hereby agree to submit that in case of being selected by RailTel as sole bidder for the proposed project (for which EOI is submitted), we will submit all the forms, appendix, relevant documents etc. to RailTel that is required and desired by end Customer well before the bid submission date by end customer and as and when required.
9. We hereby undertake to sign Pre-Bid Agreement, Pre-Contract Integrity Pact and Non-Disclosure Agreement with RailTel on a non-judicial stamp paper of Rs. 500/- in the prescribed Format.
10. We undertake that we will not submit directly or indirectly out bids and techno-commercial solution/association with any other organization once selected in this EOI for pre-bid teaming arrangement (before and after submission of bid to end customer organization by RailTel)

Authorized Signatory Name:

Designation:

Signature:

Seal of the Organization:



Annexure 3: Undertaking for not being Blacklisted/Debarred
(To be submitted by sole bidder on Letter Head)

EoI Reference No: _____ Date: _____

To
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013

Dear Sir,

Subject: Undertaking for not being Blacklisted/Debarred

We, <Company Name>, having its registered office at <Address> hereby declares that that the Company has not been blacklisted/debarred by any Governmental/ Non-Governmental organization in India for past 3 Years as on bid submission date.

Authorized Signatory Name:

Designation:

Signature:

Seal of the Organization:

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Annexure 4: Format of Affidavit

(To be submitted by sole bidder)

FORMAT FOR AFFIDAVIT TO BE UPLOADED BY SOLE PARTNER ALONGWITH THE EOI DOCUMENTS

(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 500/-. The paper has to be in the name of the BA) **

I..... (Name and designation) * appointed as the attorney/authorized signatory of the BA (including its constituents),
M/s _____ (hereinafter called the BA) for the purpose of the EOI documents for the work of _____ as per the EOI No. _____ Dt. _____ of (RailTel Corporation of India Ltd), do hereby solemnly affirm and state on the behalf of the BA including its constituents as under:

1. I/we the BA (s), am/are signing this document after carefully reading the contents.
2. I/we the BA(s) also accept all the conditions of the EOI and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the EOI documents from RailTel website www.railtelindia.com. I/we have verified the content of the document from the website and there is no addition, no deletion or no alternation to be content of the EOI document. In case of any discrepancy noticed at any stage i.e. evaluation of EOI, execution of work or final payment of the contract, the master copy available with the RailTel Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. I/we also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.
6. I/we declare that the information and documents submitted along with the EOI by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.
7. I/we undersigned that if the certificates regarding eligibility criteria submitted by us are found to be forged/false or incorrect at any time during process for evaluation of EOI, it shall lead to forfeiture of the EOI EMD besides banning of business for five years on entire RailTel. Further, I/we (insert name of the BA) * and all my/our constituents understand that my/our constituents understand that my/our offer shall be summarily rejected.
8. I/we also understand that if the certificates submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for five years on entire RailTel.

DEPONENT
SEAL AND SIGNATURE OF THE BA

VERIFICATION

I/We above named EOI do hereby solemnly affirm and verify that the contents of my/our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

DEPONENT

SEAL AND SIGNATURE OF THE ADVOCATE

Place:

Dated:

****The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by BA. Attestation before Magistrate/ Notary Public.**

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Annexure 5: Draft Non-Disclosure Agreement

(To be submitted on a Rs. 500 Stamp Paper)

This Non-Disclosure Agreement (“Non-Disc”) is made and entered into _____ day of _____ month _____ year (effective date) by and between _____ (“Department”) and _____ (“Company”). Whereas, Department and Company have entered into an Agreement (“Agreement”) _____ effective _____ for _____ and

Whereas, each party desires to disclose to the other party certain information in oral or written form which is proprietary and confidential to the disclosing party, (“CONFIDENTIAL INFORMATION”).

NOW, THEREFORE, in consideration of the foregoing and the covenants and agreements contained herein, the parties agree as follows:

1. Definitions. As used herein:

- a. The term “Confidential Information” shall include, without limitation, all information and materials, furnished by either Party to the other in connection with citizen/users/persons/customers data, products and/or services, including information transmitted in writing, orally, visually, (e.g. video terminal display) or on magnetic or optical media, and including all proprietary information, customer and prospect lists, trade secrets, trade names or proposed trade names, methods and procedures of operation, commercial or marketing plans, licensed document know-how, ideas, concepts, designs, drawings, flow charts, diagrams, quality manuals, checklists, guidelines, processes, formulae, source code materials, specifications, programs, software packages, codes and other intellectual property relating to the disclosing party’s data, computer database, products and/or services. Results of any tests, sample surveys, analytics, data mining exercises or usages etc. carried out by the receiving party in connection with the Department’s information including citizen/users/persons/customers personal or sensitive personal information as defined under any law for the time being in force shall also be considered Confidential Information.
- b. The term, “Department” shall include the officers, employees, agents, consultants, contractors and representatives of Department.
- c. The term, “Company” shall include the directors, officers, employees, agents, consultants, contractors and representatives of Company, including its applicable affiliates and subsidiary companies.

2. Protection of Confidential Information: With respect to any Confidential Information disclosed to it or to which it has access, Company affirms that it shall:

- a. Use the Confidential Information as necessary only in connection with Project and in accordance with the terms and conditions contained herein;

- b. Maintain the Confidential Information in strict confidence and take all reasonable steps to enforce the confidentiality obligations imposed hereunder, but in no event take less care with the Confidential Information than the parties take to protect the confidentiality of its own proprietary and confidential information and that of its clients;
 - c. Not to make or retain copy of any commercial or marketing plans, citizen/users/persons/customers database, Bids developed by or originating from Department or any of the prospective clients of Department except as necessary, under prior written intimation from Department, in connection with the Project, and ensure that any such copy is immediately returned to Department even without express demand from Department to do so;
 - d. Not disclose or in any way assist or permit the disclosure of any Confidential Information to any other person or entity without the express written consent of the other party; and
 - e. Return to the other party, or destroy, at Department's discretion, any and all Confidential Information disclosed in a printed form or other permanent record, or in any other tangible form (including without limitation, all copies, notes, extracts, analyses, studies, summaries, records and reproductions thereof) immediately upon the earlier to occur of (i) expiration or termination of either party's engagement in the Project, or
(ii) the request of the other party therefore.
 - f. Not to discuss with any member of public, media, press, any or any other person about the nature of arrangement entered between Department and Company or the nature of services to be provided by the Company to the Department.
- 3. Onus.** Company shall have the burden of proving that any disclosure or use inconsistent with the terms and conditions hereof falls within any of the foregoing exceptions.
- 4. Exceptions.** These restrictions as enumerated in section 1 of this Agreement shall not apply to any Confidential Information:
- a. Which is independently developed by Company or lawfully received from another source free of restriction and without breach of this Agreement; or
 - b. After it has become generally available to the public without breach of this Agreement by Company; or
 - c. Which at the time of disclosure to Company was known to such party free of restriction and evidenced by documentation in such party's possession; or
 - d. Which Department agrees in writing is free of such restrictions.
 - e. Which is received from a third party not subject to the obligation of confidentiality with respect to such Information;

- 5. Remedies.** Company acknowledges that
- (a) any actual or threatened disclosure or use of the Confidential Information by Company would be a breach of this agreement and may cause immediate and irreparable harm to Department;
 - (b) Company affirms that damages from such disclosure or use by it may be impossible to measure accurately; and
 - (c) injury sustained by Department may be impossible to calculate and remedy fully.
- Therefore, Company acknowledges that in the event of such a breach, Department shall be entitled to specific performance by Company of Company's obligations contained in this Agreement. In addition, Company shall indemnify Department of the actual and liquidated damages which may be demanded by Department. Moreover, Department shall be entitled to recover all costs (including reasonable attorneys' fees) which it or they may incur in connection with defending its interests and enforcement of legal rights arising due to a breach of this agreement by Company.
- 6. Need to Know.** Company shall restrict disclosure of such Confidential Information to its employees and/or consultants with a need to know (and advise such employees of the obligations assumed herein), shall use the Confidential Information only for the purposes set forth in the Agreement, and shall not disclose such Confidential Information to any affiliates, subsidiaries, associates and/or third party without prior written approval of the disclosing party.
- 7. Intellectual Property Rights Protection.** No license to a party, under any trademark, patent, copyright, design right, mask work protection right, or any other intellectual property right is either granted or implied by the conveying of Confidential Information to such party.
- 8. No Conflict.** The parties represent and warrant that the performance of its obligations hereunder does not and shall not conflict with any other agreement or obligation of the respective parties to which they are a party or by which the respective parties are bound.
- 9. Authority.** The parties represent and warrant that they have all necessary authority and power to enter into this Agreement and perform their obligations hereunder.
- 10. Dispute Resolution.** If any difference or dispute arises between the Department and the Company in connection with the validity, interpretation, implementation or alleged breach of any provision of this Agreement, any such dispute shall be referred appropriately to RailTel/ stakeholders/ partners/ patrons
- a. The arbitration proceedings shall be conducted in accordance with the (Indian) Arbitration and Conciliation Act, 1996 and amendments thereof.
 - b. The place of arbitration shall be Mumbai.
 - c. The arbitrator's award shall be substantiated in writing and binding on the parties.
 - d. The proceedings of arbitration shall be conducted in English language.
 - e. The arbitration proceedings shall be completed within a period of 180 days from the date of reference of the dispute to arbitration.
- 11. Governing Law.** This Agreement shall be interpreted in accordance with and governed by

the substantive and procedural laws of India and the parties hereby consent to the exclusive jurisdiction of Courts and/or Forums situated at Mumbai, India only.

- 12. Entire Agreement.** This Agreement constitutes the entire understanding and agreement of the parties, and supersedes all previous or contemporaneous agreement or communications, both oral and written, representations and under standings among the parties with respect to the subject matter hereof.
- 13. Amendments.** No amendment, modification and/or discharge of this Agreement shall be valid or binding on the parties unless made in writing and signed on behalf of each of the parties by their respective duly authorized officers or representatives.
- 14. Binding Agreement.** This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns.
- 15. Severability.** It is the intent of the parties that in case any one or more of the provisions contained in this Agreement shall be held to be invalid or unenforceable in any respect, such provision shall be modified to the extent necessary to render it, as modified, valid and enforceable under applicable laws, and such invalidity or unenforceability shall not affect the other provisions of this Agreement.
- 16. Waiver.** If either party should waive any breach of any provision of this Agreement, it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision hereof.
- 17. Survival.** Both parties agree that all of their obligations undertaken herein with respect to Confidential Information received pursuant to this Agreement shall survive till perpetuity even after any expiration or termination of this Agreement.
- 18. Non-solicitation.** During the term of this Agreement and thereafter for a further period of two (2) years Company shall not solicit or attempt to solicit Department's employees and/or consultants, for the purpose of hiring/contract or to proceed to conduct operations/business similar to Department with any employee and/or consultant of the Department who has knowledge of the Confidential Information, without the prior written consent of Department. This section will survive irrespective of the fact whether there exists a commercial relationship between Company and Department.
- 19. Term.** Subject to aforesaid section 17, this Agreement shall remain valid up to _____ years from the "effective date".

IN WITNESS HEREOF, and intending to be legally bound, the parties have executed this Agreement to make it effective from the date and year first written above.

For Department

Name:

Title:

WITNESSES:

1. _____

2. _____

For Company

Name:

Title:

WITNESSES:

1. _____

2. _____

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Annexure 6: Integrity Pact

(To be executed on Rs. 500/- Stamp Paper)

EoI Number: _____ Dated: _____

This Integrity Pact is made at on this _____ Day of _____ 2022

BETWEEN

RailTel Corporation of India Ltd (a Govt of India Enterprise under Ministry of Railways) having its registered office at Plate-A, 6th Floor, Office Block Tower-2, East Kidwai Nagar, New Delhi-110023 and Regional Office at Western Railway Microwave Complex, Senapati Bapat Marg, Mahalaxmi, Mumbai – 400013, hereinafter referred to as “The Principal”, which expression shall unless repugnant to the meaning or contract thereof include its successors and permitted assigns AND

<Bidder Name> having its registered office at <Bidders Registered and Branch Address (if any)> hereinafter referred to as “The Bidder/ Contractor/ Concessionaire/ Consultant” and which expression shall unless repugnant to be meaning or context thereof include its successors and permitted assigns.

Preamble

Whereas, the Principal intends to award, under laid down organizational procedure’s contract/s for ‘ _____ ,

The Principal values full compliance with all relevant laws of the land, rules of land, regulations, economic use of resources and of fairness/ transparency in its relations with its Bidder(s) and for Contractor(s)/Concessionaire(s)/Consultant(s).

And whereas to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact (hereafter referred to as Integrity Pact) the terms and conditions of which shall also be read as integral part and parcel of the Tender documents and contract between the parties. Now, therefore, in consideration of mutual covenants stipulated in this pact, the parties hereby agree as follows and this pact witnessed as under: -

Article – 1: Commitments of the Principal

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principle: -
 - a. No employee of the Principal, personally or through family members, will in connection with the Tender for, or the execution of a contract, demand take a

promise for or accept for self or third person any material or immaterial benefit which the person is not legally entitled to.

- b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - c. The Principal will exclude all known prejudiced persons from the process.
2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act or any other Statutory Acts or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions as per its internal laid down Rules/ Regulations.

Article – 2: Commitments of the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s)

The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- a. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principals employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- b. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission or bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- c. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not commit any offence under the relevant IPC / PC. Act and other Statutory Acts; further the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not use improperly for purposes of completion or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- d. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) of foreign origin shall disclose the name and address of the Agents/ representatives in India. If any similarly the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) of Indian

Nationality shall furnish the name and address of the foreign principle, if any. Further details as mentioned in the 'Guidelines on Indian Agents of Foreign Suppliers' shall be disclosed by the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s). Further, all the payments made to the Indian Agent /Representative have to be Indian Rupees only.

- e. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. He shall also disclose the details of services agreed upon for such payments.
- f. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- g. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) will not bring any outside influence through any Govt. bodies/quarters directly or indirectly on the bidding process in furtherance of his bid.
- h. The Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) who have signed a Integrity pact shall not approach the court while representing the matter to IEMs and shall wait for their decision in the matter.

Article – 3: Disqualification from tender process and exclusion from future contracts

1. If the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) before award or during execution has committed a transgression through a violation of any provision of Article-2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s) from the tender process.
2. If the Bidder/Contractor/Concessionaire/Consultant has committed a transgression through a violation of Article-2 such as to put his reliability or credibility into question, the Principal shall be entitled to exclude including blacklist and put on holiday the Bidder/Contractor/Concessionaire/Consultant for any future tenders/contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case particularly taking into account the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder/Contractor/Concessionaire/Consultant and the amount of the damage. The exclusion will be imposed for a maximum of 1 year.
3. A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that “On the basis of facts available there are no material doubts”.

4. The Bidder/ Contractor/Concessionaire/Consultant will its free consent and without any influence agrees and undertakes to respect and uphold the Principal's absolute rights to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.
5. The decision of the Principal to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder/ Contractor/Concessionaire/Consultant shall be final and binding on the Bidder/ Contractor/Concessionaire/Consultant, however, the Bidder/ Contractor/ Concessionaire/ Consultant can approach IEM(s) appointed for the purpose of this Pact.
6. On occurrence of any sanctions/ disqualification etc. arising out from violation of integrity pact, Bidder/ Contractor/Concessionaire/Consultant shall not be entitled for any compensation on this account.
7. Subject to full satisfaction of the Principal, the exclusion of the Bidder/Contractor/Concessionaire/Consultant could be revoked by the Principal if the Bidder/ Contractor/Concessionaire/Consultant can prove that he has restored/recouped the damage caused by him and has installed a suitable corruption prevention system in his organization.

Article – 4: Compensation for Damages

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Article-3, the Principal shall be entitled to forfeit the Earnest Money Deposit/ Bid Security or demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security apart from any other legal right that may have accrued to the Principal.
2. In addition to above, the Principal shall be entitled to take recourse to the relevant provisions of the contract related to Termination of Contract due to Contractor/Concessionaire/Consultant's Default. In such case, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor/ Concessionaire/ Consultant and/or demand and recover liquidated and all damages as per the provisions of the contract/Concession agreement against Termination.

Article – 5: Previous Transgression

1. The Bidder declares that no previous transgression occurred in the last 3 years immediately before signing of this integrity pact with any other Company in any country conforming to the anticorruption/Transparency International (TI) approach or with any other Public Sector Enterprise/Undertaking in India or any Government Department in India that could justify his exclusion from the Tender process.

2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Article-3 above for transgression of Article-2 and shall be liable for compensation for damages as per Article-4 above.

Article – 6: Equal treatment of all Bidders/ Contractors/ Concessionaires/ Consultants/ Subcontractors

1. The Bidder(s)/Contractor(s)/Concessionaire(s)/Consultant(s) undertake(s) to demand from all sub-contractors a commitment in conformity with this integrity Pact, and to submit it to the Principal before contract signing.
2. The Principal will enter into agreements with identical conditions as this one with all Bidders/Contractors/Concessionaire/Consultant and Subcontractors.
3. The Principal will disqualify from the Tender process all Bidders who do not sign this Pact violate its provisions.

Article – 7: Criminal charges against violating Bidder(s)/ Contractor(s)/ Concessionaire(s)/ Consultant(s)/ Sub-contractor(s)

If the Principal obtains knowledge of conduct of a Bidder/ Contractor/ Concessionaire/ Consultant or Subcontractor, or of an employee or a representative or an associate of a Bidder/ Contractor/ Concessionaire/ Consultant or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Article – 8: Independent External Monitor (IEM)

1. The Principal appoints competent and credible Independent External Monitor for this Pact after approval from Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, RailTel.
3. The Bidder/Contractor/Concessionaire/Consultant accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Bidder/ Contractor/ Concessionaire/ Consultant. The Bidder/ Contractor/ Concessionaire/ Consultant will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his Project documentation. The same is applicable to Subcontractors.
4. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/Contractor(s)/Subcontractors(s) with confidentiality. The Monitor has also signed on 'Non-disclosure of Confidential Information' and of 'Absence of Conflict of

Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform CMD, RailTel and recuse himself/herself from that case.

5. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Bidder/Contractor/Concessionaire/Consultant. The parties offer to the Monitor the option to participate in such meetings.
6. As soon as the Monitor notices, or believes to notice any transgression as given in Article- 2, he may request the Management of the Principal to take corrective action, or to take relevant action. The monitor can in this regard submit non-*binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
7. The Monitor will submit a written report to the CMD, RailTel within 8-10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
8. If the Monitor has reported to the CMD, RailTel, a substantiated suspicion of an offence under relevant IPC/PC Act or any other Statutory Acts, and the CMD, RailTel has not, within the reasonable time taken visible action to proceed against such offence or reported it the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.
9. The word 'Monitor' would include both singular and plural.

Article – 9: Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor/Consultant 12 months after his Defect Liability Period is over or 12 months after his last payment under the contract whichever is later and for all other unsuccessful Bidders, 6 months after this Contract has been awarded (In case of BOT projects). It expires for the concessionaire 24 months after his concession period is over and for all other unsuccessful Bidders 6 months after this Contract has been awarded. Any violation of the same would entail disqualification of the bidder and exclusion from future dealings.

If any claim is made/lodged during this time, the same shall be biding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged determined by CMD of RailTel.

Article – 10: Other Provisions

1. This pact is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
2. Changes and supplements as well as termination notices need to be made in writing.
3. If the Bidder/Contractor/Concessionaire/Consultant is a partnership or a Joint Venture partner, this pact must be signed by all partners or members.

4. Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid, in this case, the parties will strive to come to an agreement to their original intentions.
5. Issue like warranty / Guarantee etc. shall be outside the purview of IEMs.
6. In the event of any contradiction between the Integrity Pact and its Annexure, the clause in Integrity Pact shall prevail.
7. Any dispute/differences arising between the parties with regard to term of this Pact, any action taken by the Principal in accordance with this Pact or interpretation thereof shall not be subject to any Arbitration.
8. The actions stipulated in the integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

In witness whereof, the parties have signed and executed this pact at the place and date first done mentioned in the presence of following witnesses: -

(For & On behalf of the (Principal)

(For & On behalf of Bidder/Contractor/
Concessionaire/Consultant)

Place:

Date:

Witness 1:

Witness 2:

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Annexure 7: Complete EoI Examination & Nil Deviation Certificate

(To be submitted by Bidder)

To
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Near Railway Sports Ground
Mahalaxmi, Mumbai – 400013

Sub: Complete EoI Examination & Nil Deviation Certificate

Ref: EoI Number: _____ Dated: _____

Dear Sir,

We <Bidder Name> having completely examined the referred EoI, its corrigendum and any other documents/its addendums/corrigendum referred in this EoI, conclude that we have understood the Terms & Conditions of the EoI and its subsequent addendums & corrigendum (if any) and any other documents/its addendums/corrigendum referred in this EoI. We declare that we have sought all clarifications for the same from RailTel or its end customer for anything contained in this EoI & any other documents/its addendums/ corrigendum referred in this EoI and have been satisfied with the clarifications to the fullest extent and there are no terms, clauses, conditions, etc which are ambiguous.

We also declare that there is no deviation from adhering to anything that is contained in this EoI and any other documents/its addendums/corrigendum referred in this EoI and that any deviation later raised by us shall lead to forfeiture of the Bid/Contract at complete discretion of RailTel.

Signature of Authorized Signatory (with official seal)

Name :
Designation :
Address :
Telephone and Fax :
E-mail address :

Annexure 8: Back to Back Compliance Certificate

(To be submitted by Bidder)

To
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Near Railway Sports Ground
Mahalaxmi, Mumbai – 400013

Sub: Complete back to back Compliance Certificate

Ref: 1) EoI Number: _____ Dated: _____

2) Tender Reference No CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024 and all of its addendums/ corrigendum's & published documents

Dear Sir,

Considering reference 1 & 2 we would like to declare that we have read and understood the EoI, its corrigendum and any other documents/its addendums/corrigendum referred in this EoI thoroughly. We would like to give you our back to back compliance for all the tender terms and conditions, clauses, timelines, deliverables and anything explicitly mentioned in the EoI, its corrigendum and any other documents/its addendums/corrigendum referred in this EoI.

Signature of Authorized Signatory (with official seal)

Name :

Designation :

Address :

Telephone and Fax :

E-mail address :

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Annexure 9: Performance Bank Guarantee Format

(For a sum of percentage of the value of the contract as per RailTel's end customer RFP/tender)
(Stamp Duty to be confirmed by RailTel in co-ordination with RailTel's Legal Department)
(Final Draft to be confirmed by RailTel Legal before BG issuance)

To
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Mahalaxmi
Mumbai – 400013

WHEREAS:

_____ name and address of Applicant] (hereinafter called “the Applicant”) and RailTel (the “Authority”) have entered into an agreement (the “Agreement”) for “Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at Mumbai Metropolitan Regional Development Authority, Mumbai” in the state of Maharashtra, subject to and in accordance with the provisions of the Agreement.

(A) The Agreement requires the Applicant to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the {Implementation Period/ Defects Liability Period and Maintenance Period} (as defined in the Agreement) in a sum of Rs ***** Cr.

(B) We,Through our branch at(The “Bank”) have agreed to furnish this bank guarantee (hereinafter called the “Guarantee”) by way of Performance Security. NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Applicant obligations during the {Implementation period /Defects Liability Period and maintenance period} under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Applicant, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in RailTel that the Applicant has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Applicant is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Applicant is in default shall be final and binding on the Bank, notwithstanding any difference between the Authority and the Applicant, or any dispute between them pending before any court, tribunal, arbitrators or any other Authority or body, or by the discharge of the Applicant for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Applicant and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Applicant before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/or performance of all or any of the obligations of the Applicant contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Applicant, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Applicant or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Applicant under the Agreement.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the guaranteed amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****\$ unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

Signed and sealed this day of 20..... at SIGNED, SEALED AND DELIVERED For and on behalf of the Bank by:

(Signature) (Name) (Designation) (Code Number) (Address)

NOTES:

- a. The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- b. The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch

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Annexure 10: Bank Guarantee for Earnest Money Deposit

To
RailTel Corporation of India Ltd
Western Railway Microwave Complex
Senapati Bapat Marg, Mahalaxmi
Mumbai – 400013

Whereas <<Name of the Bidder>> (hereinafter called 'the Bidder') has submitted the bid for Submission of EOI <<EOI Number>> dated <<Date>> for “Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at Mumbai Metropolitan Regional Development Authority, Mumbai” (hereinafter called "the Bid") to RailTel Corporation of India Ltd

Know all Men by these presents that we <<Name of the Bank>> having our office at <<Address>> (hereinafter called "the Bank") are bound unto the RailTel (hereinafter called "RailTel") in the sum of Rs. <<Amount in figures>> (Rupees <<Amount in words>> only) for which payment well and truly to be made to RailTel, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this <<Date>>

The conditions of this obligation are:

- i. If the Bidder having its bid withdrawn during the period of bid validity/extended validity specified by the Bidder on the Bid Form; or
 - ii. Having participated with another party/consortium apart from RailTel in RailTel's end customer Tender; or
 - iii. If the Bidder, having been notified of the acceptance of its bid by RailTel during the period of validity of the bid.
- a. Withdraws his participation from the bid during the period of validity of bid document; or
 - b. Fails or refuses to participate in the subsequent EOI process after having been short-listed;

We undertake to pay to RailTel up to the above amount upon receipt of its first written demand, without RailTel having to substantiate its demand, provided that in its demand RailTel will note that the amount claimed by it is due to it owing to the occurrence of one or both or all of the three conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to <<insert date>> and including <<extra time over and above mandated in the RFP>> from the last date of submission and any demand in respect thereof should reach the Bank not later than the above date.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN:

- I. Our liability under this Bank Guarantee shall not exceed Rs. <<Amount in figures>> (Rupees <<Amount in words>> only)
- II. This Bank Guarantee shall be valid upto <<insert date>>)
- III. It is a condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for

payment under this Bank Guarantee on or before <<insert date>>) failing which our liability under the guarantee will automatically cease.

(Authorized Signatory of the Bank)

Seal:

Date:



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Annexure 11: Curriculum Vitae (CV) of Key Personnel

General Information	
Current Designation / Job Title	
Name of the person	
Current Designation / Job Title	
Current job responsibilities	
Proposed Role in the Project	
Academic Qualifications: <ul style="list-style-type: none">• Degree• Academic institution graduated from• Year of graduation• Specialization (if any)• Key achievements and other relevant information (if any)	
Professional Certifications (if any)	
Total number of years of experience	
Number of years with the current company	
Past assignment details (For each assignment provide details regarding name of organizations worked for, designation, responsibilities, tenure) Prior Professional Experience covering: <ul style="list-style-type: none">• Organizations worked for in the past:<ul style="list-style-type: none">○ Organization name○ Duration○ Designation Location(s)○ Key responsibilities• Prior project experience<ul style="list-style-type: none">○ Project name○ Client○ Key project features in brief	

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Annexure 12: Consortium Agreement Draft Format

Format for Joint Venture / Consortium Agreement

THIS JOINT VENTURE AGREEMENT is entered into on this theday of 2024

AMONGST

1. Company incorporated under the Companies Act, 1956 and having its registered office at (hereinafter referred to as the “First Party” which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

..... a Company incorporated under the Companies Act, 1956 and having its registered office at (hereinafter referred to as the “Second Party” which expression shall, unless repugnant to the context include its successors and permitted assigns)

The above mentioned parties of the [FIRST AND SECONUD] PART are collectively referred to as the “Parties “and each is individually referred to as “Party”

WHEREAS,

Mumbai Metropolitan Region Development Authority represented by Government of Maharashtra having its head office at IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East), Mumbai-400051, in India (herein after referred to as the “Authority” which expression shall, unless repugnant to the context or meaning there of, include its administrators, successors and assigns) has invited proposals (the Applications”) by its RFP No. . CA NO.02/MMRDA/IT CELL/SM/2024- 25; dated (the “RFP”) for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai (the “Project”).

- A. The Parties are interested in jointly bidding for the project as members of a Consortium and in accordance with the terms and conditions of the RFP document and other bid document in respect of the Consultancy, and
- B. It is a necessary condition under the RFP document that the member of the Consortium shall enter into a joint Bidding Agreement and Furnish a copy there of with the Application

NOW IT IS HEREBY AGREED as follows:

1. Definitions and Interpretations

In this Agreement, the capitalized terms shall, unless the context otherwise require, have the meaning ascribed thereof under the RFP

2. Consortium

- a. The Parties do here by irrevocably constitute a consortium (“the Consortium”) for the purposes of jointly participating in the selection process for the project
- b. The Parties hereby undertake to participate in the Bidding Process only through this Consortium and not individually and/ or through any other consortium constituted for this project, either directly or indirectly or through any of their Affiliates

3. Covenants

The Parties hereby undertaken that in the event the Consortium is declared the selected bidder and awarded the project, the Parties shall enter into a contract for project (“Contract”) with the Authority and for performing all obligations as the bidder in terms of the Contract for the project

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below :-

- a. The First Party shall be the Members in Charges of the Consortium and shall have the power of attorney from all Parties for conducting all business for and behalf of the Consortium during the selection process for the project and until the Effective Date under the Contract;
- b. The Second Party shall be the associate partner

5. Joint and Several Liability

The Parties do hereby undertake to be jointly and severally responsible for all and liabilities relating to the project and in accordance with the terms of the RFP and the Contract, for the performance of the Contract.

6. Member in Charge or Lead Member

Without prejudice to the joint and several liabilities of all the Parties, each Party agrees that it shall exercise all rights and remedies under the Contract through the Bidder / Lead Member and the Authority shall be entitled to deal with such Bidder as the representative of all Members. Each Party agrees and acknowledges that:

- a. Any decision (including without limitation, any waiver or consent), action, omission, communication or notice of the Member in Charge on any matters related to the Contract shall be deemed to have been on its behalf and shall be binding on it. The Authority shall be entitled to rely upon any such action, decision or communication from the Member in Charge;
- b. Consolidated invoices for the service in relation to the project performed by all the Members shall be prepared and submitted by the Lead bidder and the Authority shall have right to release payment solely to the Lead bidder and the Authority shall not in any manner be responsible or liable for the inter seal location of payments, works etc. among the parties
- c. Any notice, communication, information or documents to be provided to the bidder shall be delivered to the authorized representative of the bidder (as designated pursuant to the Contract) and any such notice, communication, information of documents shall be deemed to have been delivered to all the Parties.

7. Representation of the Parties

Each party represents to the other Parties as of the date of this Agreement that:

- a. Such Party is duly organized, validly existing and in good standing under laws of its incorporation and has all requisite power and authority to enter into this agreement;
- b. The execution, delivery and performance by such Party of this Agreement has been authorized by all necessary and appropriated corporate or governmental action and a copy of the extract of the charter document and board resolution/ power of attorney in favor of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the party is annexed to this Agreement, and Will not, to the best of its knowledge:
 - i. Require any consent or approval not already obtained;
 - ii. Violate any Application Law presently in effect and having applicability to it;
 - iii. Violate the memorandum and articles of association, by-laws or other applicable organizational document thereof;
 - iv. Violate any clearance, permit, concession, grant, license or other governmental authorization, approval, judgment, order or decree or any mortgage agreement, indenture or any other instrument to which such Party Is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party ; or
 - v. Create or impose any lines, mortgages, pledges, claims, security interests, charges or Encumbrances or obligation to create a line, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;
- c. This Agreement is the legal and binding obligation of such Party, enforceable in accordance with its term against it; and
- d. There is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its affiliates is a Party that presently affects or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfillment of its obligation under this agreement

8. Authorized Representation

The parties agree that, who is employed with the Lead bidder, or his/her nominee shall be the authorized representative of the consortium, to do on behalf of the Consortium, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of the Consortium's proposal for an the project including but not limited to signing and submission of all application, proposal and other document, participating in pre-bid and other conferences and providing information/ responses to the authority, representing the consortium in the matters before the authority, signing and execution of all contracts and undertakings consequent to acceptance of the consortium's proposal and generally dealing with the Authority in all matters in connection with or relating or arising out of the Project.

9. Termination

This Agreement shall be effective from the date hereby and shall continue in full force and effect until the Effective Date under the Contract, in case the project is awarded to the Consortium. However, in case the Consortium is not selected for award of the project, the Agreement will stand terminated upon intimation by the Authority that it has not been selected and upon return of the EMD by the Authority.

10. Miscellaneous

This Joint Bidding Agreement shall be governed by laws of India.

The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the Authority

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERD THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED & DELIVERED

For and on behalf of MEMBER

IN- CHARGE by:

Name:

Designation:

Address:

In Presence of:

- 1.
- 2.

SIGNED, SEALED & DELIVERED

For and on behalf of SECOND PART

by

Name:

Designation:

Address:

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Annexure 13: Agreement Draft Format

(As per Tender No. CA NO 02/MMRDA/IT CELL/SM/2024_25 Dt. 19.07.2024 and any if its addendums/ corrigendums/ clarifications issued by the Tender floating authority. The agreement will be signed with selected Bidder on Back to Back basis and will be binding upon the parties)



Annexure 14: Price Bid Format

**(Back to Back as per end customer RFP/Tender referred including all its amendments/
corrigendums/ clarifications)**

Sr No	Item Description	Basic Rate in Figures	Total Amount Without Tax	Total Amount in Words
1	CAPEX + RIS DEVELOPMENT COST + MAPPING SRVICES + Training+ OPEX			
Total in figures				
Quoted Rate in Words				

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MMRDA

RFP Document No.

CA NO.02/MMRDA/IT CELL/SM/2024-25

For

RFP for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at Mumbai Metropolitan Regional Development Authority, Mumbai

July 2024

Tender Processing Fee: Rs. 11,800/- (Rs. Eleven Thousand Eight Hundred Only) (including 18% GST (Non- Refundable))

Systems Manager

**IT Cell, 5th Floor, B Wing, MMRDA Old Building,
E Block BKC, Bandra Kurla Complex,
Bandra East, Mumbai, Maharashtra 400051**

Email ID: ris.sm@mailmmrda.maharashtra.gov.in

Disclaimer

1. Mumbai Metropolitan Region Development Authority, Mumbai (hereinafter referred to as MMRDA) has issued the Request for Proposal (hereinafter referred to as RFP) for the Appointment of **Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai** on such terms and conditions as set out in the RFP document, including but not limited to the requirements set out in different parts of the RFP document.

2. The RFP has been prepared with an intention to invite prospective Bidders and to assist them in making their decision regarding submission of Proposal. It is hereby clarified that the RFP is not an Agreement, and the purpose of the RFP is to provide the Bidder(s) with information to assist them in the formulation of their Proposals. The RFP document does not purport to contain all the information Bidders may require. The RFP document may not be appropriate for all persons, and it is not possible for MMRDA to consider the investment objectives, financial situation and particular needs of each Bidder.

3. MMRDA has taken due care in preparation of information contained herein. However, this information is not exhaustive. Interested parties are required to make their own inquiries and respondents will be required to confirm in writing that they have done so, and they do not solely rely on the information contained in the RFP in submitting their Proposal. The RFP includes statements, which reflect various assumptions and assessments arrived at by MMRDA in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require.

4. The RFP is not an Agreement by and between MMRDA and the prospective Bidders or any other person. The information contained in the RFP is non-binding on MMRDA, any of its authorities or agencies, or any of their respective officers, employees, agents, or advisors. MMRDA makes no representation or warranty and shall incur no liability under any law as to the accuracy, reliability or completeness of the information contained in the RFP document. Each Bidder shall consider the RFP document as per his understanding and capacity. The Bidders shall undertake appropriate examination, enquiry and scrutiny of all aspects mentioned in the RFP document before bidding. Bidders are encouraged to take professional help of experts on IT Cell, Urban Planning, IT Solution Architecture, Infrastructure Expert, Bid Process Management, Financial, Legal, Technical, Taxation, and any other matters / sectors appearing in the document or specified work. Bidders shall also go through the RFP document in detail and bring to notice of MMRDA any kind of error, misprint, inaccuracies, or omission in the document before pre-bid meeting. MMRDA reserves the right not to proceed with the project, to alter the timetable reflected in this document, and to change the process or procedure mentioned in the RFP in larger public interest. MMRDA also reserves the right to decline to discuss the Project with any party submitting a proposal.

5. Persons / Entities / Bidders / Applicants / Respondents / Agencies / consortium partners submitting this Proposal shall not be entitled for any type of reimbursement from MMRDA. The Bidder shall bear all costs arising from, associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, and expenses associated with any demonstrations or presentations that may be required by MMRDA or any other costs incurred in connection with or relating to its Bid.

6. The issue of the RFP does not imply that MMRDA is bound to select and pre-qualify Bids for any Bid Stage or to appoint the selected Bidder as the case may be, for the project and MMRDA reserves exclusive right to reject all or any of the Bids without assigning any reasons whatsoever.

7. MMRDA may, in its absolute discretion but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in the RFP

8. MMRDA, its employees and advisors make no representation or warranty and shall have no liability (for any cost, damage, loss or expense which may arise from or is incurred or suffered on account of anything contained in this RFP or otherwise, including but not limited to the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to be part of this RFP or arising in any way with eligibility of Bidder for participation in the Bidding Process) towards any Bidder or a third person, under any law, statute, rule, regulation or tort law, principles of restitution or unjust enrichment or otherwise.

9. MMRDA also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statement contained in this RFP.

10. Interested parties, after careful review of all the clauses of the 'Request for Proposal', are encouraged to send their suggestions in writing to MMRDA on ris.sm@mailmmrda.maharashtra.gov.in. Such suggestions, after review by MMRDA, may be incorporated into this 'Request for Proposal' as a corrigendum which shall be uploaded onto the e-tendering portal and MMRDA website: <https://mahatenders.gov.in/nicgep/app> and <https://mmrda.maharashtra.gov.in>

The submitted documents/ data/ bid/ drawings/ concepts/ IPR/ patents/ models/ presentations/ walkthrough/ clarifications etc. shall be exclusive property of MMRDA once submitted. The same shall be retained by MMRDA and shall be produced by MMRDA for any deemed use for the implementation of project in larger public interest. The Bidder shall have no right or claim on the submitted documents/ data/ bid/ drawings/ concepts/ IPR/ patents/ models/ presentations/ walkthrough/ clarifications etc.- soft and hard copies and Bidder shall not seek any compensation for any information submitted by Bidder to be used by MMRDA. The submission by Bidder empowers MMRDA to retain and use information at MMRDA's discretion multiple times in multiple forums in multiple formats.

Definitions

Sr. No.	Terms	Definitions
1)	ACCEPTING AUTHORITY	Means MMRDA or the Competent Authority to accept the bid
2)	ACCOUNTING YEAR	Means the financial year commencing from 1 st April of any calendar year and ending on 31 st March of the next calendar year
3)	ADDITIONAL FACILITIES	Means the facilities which the IA may provide for the Successful completion of the assignment
4)	AFFILIATE(S)	Means an individual or an entity that directly or indirectly controls, is controlled by, or is under common control with the IA.
5)	IA / SELECTED BIDDER	Means the Successful Bidder selected through this RFP after following all due procedure.
6)	APPOINTED DATE	Means the date on which the Agreement is signed and shall be deemed to be the date of commencement of the Contract Period
7)	APPLICABLE LAWS	Means all laws, promulgated or brought into force and effect by GOI or GOM including regulations and rules made there under, and judgments, decrees, injunctions, writs and orders of any court of record, as record, as may be in force and effect during the subsistence of this RFP / Agreement
8)	APPLICABLE PERMITS	Means all clearances, permits, authorizations, consents and approvals required to be obtained or maintained under Applicable Laws in connection with the said Project during the subsistence of the Agreement
9)	AUTHORITY/ MMRDA	Means Mumbai Metropolitan Region Development Authority
10)	ASSOCIATE	An Associate is an entity, including an unincorporated entity such as partnership, over which the investor has significant influence and that is neither a subsidiary nor an interest in a joint venture
11)	BIDDER	Bidder means an entity that is a Registered Company/ Proprietorship Firm/ Partnership Firm/ Limited Liability Partnership having its registered office in India, and which is submitting its bid pursuant to RFP documents. Bidder can be a Sole Bidder / Consortium with a maximum of 2 members: 1 Lead Bidder + 1 Consortium Partner.
12)	BID EVALUATION COMMITTEE (BEC)	Means the committee constituted by the MMRDA for evaluation and selection of the Bidder for bids received in response to this RFP document
13)	CHANGE IN LAW	Means the occurrence of any of the following after the date of Financial Bid:

Sr. No.	Terms	Definitions
		the enactment of any new Indian law; the repeal, modification or re-enactment of any existing Indian law; the commencement of any Indian Law which has not entered into effect until the date of financial Bid; a change in the interpretation or application of any Indian law by a court of record as compared to such interpretation or application prior to the date of financial Bid
14)	CLIENT	Means “Mumbai Metropolitan Region Development Authority” or “Authority” that signs the Contract for the Services with the selected IA.
15)	COMPANY	Means a Company incorporated and existing under the Companies Act, 1956 or 2013 whichever is applicable.
16)	AGREEMENT/ CONTRACT	Means a legally binding written agreement signed between the Client and the IA and includes all the attached documents listed (the General Conditions of Contract (GCC), the Special Conditions of Contract (SCC), and the Appendices).
17)	CONTRACT PERIOD / CONSULTANCY PERIOD	Means a period of one year, the period beginning from the Appointed Date or as specified in the Work Order, plus one years of support.
18)	CONTRACT SUM/ CONSULTANCY FEE	Means the sum for which the offer is accepted.
19)	IN CHARGE IT CELL	As used anywhere in the document, shall mean In Charge Information Technology Cell of MMRDA.
20)	DAY	Means Calendar day of 24 hours from midnight to midnight irrespective of the number of hours worked in any day in that week.
21)	DATA ANALYTICS	Solutions include -Business Intelligence/ MIS/ Big Data Analytics/ Data Lake/ Predictive Analytics/ Market Research/ Sector Analytics, etc.
22)	DOCUMENT OR DOCUMENTATION	Means documentation printed or in written form, tapes, discs, drawings, computer programmers, writings, reports, photographs, cassettes, or expressed in any other written, audio or visual form
23)	FOREIGN PERSONNEL	Means such professionals and support staff who at the time of being so provided had their domicile outside the India;
24)	GOVERNMENT	Means the Government of Maharashtra;
25)	INR	Means Indian Rupee (s).

Sr. No.	Terms	Definitions
26)	INFRASTRUCTURE SECTOR	Includes any work associated in- Roads and bridges/ Ports/ Inland Waterways/ Airport/ Railway Track/ Tunnels/ Viaducts/ Bridges/ Urban Public Transport, etc.
27)	ITB	Means the Instructions to Bidders that provides the Bidders with all information needed to prepare their Proposals.
28)	IT/ICT PROJECTS	Design, development/customization, and implementation of an IT application/web application project including web development/ software development/ mobile app development/ network configuration/ software implementation/ hardware installation/ database management/ and IT emergency recovery and data centre operations any other relevant application in India as decided by MMRDA
29)	KEY PROFESSIONAL(S)	Means an individual professional whose skills, qualifications, knowledge, and experience are critical to the performance of the Services under the Contract and whose CV is taken into account in the Technical Evaluation of the IA's proposal.
30)	LOCAL AUTHORITY	Means Municipal Corporation of Greater Mumbai (MCGM).
31)	LOCAL PERSONNEL	Means such professionals and support staff who at the time of being so provided had their domicile inside India.
32)	MMRDA REPRESENTATIVE	Means such person or persons as may be authorized in writing by Metropolitan Commissioner, MMRDA or the OIC to act on its behalf under this Agreement and shall include any person or Persons having authority to exercise any rights or perform and fulfil any obligations of MMRDA under this Agreement
33)	OFFICER OR OFFICER -IN-CHARGE	Means the OFFICER -IN-CHARGE of the work for the time being appointed by Metropolitan Commissioner, MMRDA
34)	OFFICER'S REPRESENTATIVE	mean an assistant / representative of the OFFICER -IN-CHARGE
35)	PROFESSIONALS	Means, collectively, Key Professionals, Support Professionals, support staff, or any other personnel of the IA, Sub-IA or Joint Venture member(s).
36)	PROPOSAL / BID	Means the Technical Proposal and the Financial Proposal of the IA.
37)	RFP	Means the Request for Proposals issued by the Client for the selection of IA.
38)	SERVICES	Means the work to be performed by the IA pursuant to the Contract.

Sr. No.	Terms	Definitions
39)	SIMILAR PROJECTS	<p>Includes-</p> <ul style="list-style-type: none"> • Design, Development/Customization implementation of an IT Application/Web Application Project • Web Development/ Software Development/ Mobile App Development • Information System Deployment with BI Analytics. • Network Configuration • Software Implementation • Hardware Installation • Database Management • Data Center Operations, DC/DR supply and/or maintenance • Communication Infrastructure • City Surveillance • 3D City Mapping / Urban Mapping /Property Mapping • ICT Based Utility Management • Command & Control Center Implementation <p>OR any other relevant application in India as decided by MMRDA</p>
40)	TERMS OF REFERENCE (TOR)	Means the Terms of Reference that explain the objectives, scope of work, activities, and tasks to be performed, respective responsibilities of the Client and the IA, and expected results and deliverables of the assignment.
41)	URGENT WORKS	Mean any measure which, in the opinion of the OFFICER-IN-CHARGE, become necessary during the progress of the works to obviate any risk or accident or failure or which become necessary for security of the work or the persons working, thereon.
42)	WORK	Mean the works to be executed in accordance with the Contract or part(s) thereof as the case may be and shall include all extra or additional, altered or substituted works as required for the performance of the Contract.

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INVITATION

CA NO.02/MMRDA/IT CELL/SM/2024-25

Dated: _____

- i.MMRDA hereby invites Request for Proposal for **Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA** Bidder shall study the RFP document carefully before submitting their proposals in response to the RFP Notice. Submission of a proposal in response to this notice shall be deemed to have been done after careful study and examination of this document with full understanding of its terms, conditions and implications.
- ii.To participate in online bidding process, Bidders shall procure a Digital Signature Certificate (Class - III) as per Information Technology Act-2000 (with its amendments and applicable CAA guidelines) using which they shall digitally sign and encrypt their electronic bids. Bidders shall procure the same from any CCA approved certifying agency, i.e. TCS, Safecrypt, nCode, etc. Bidders who already have a valid Digital Signature Certificate (DSC) (Class II or Class III valid till the last date of bid submission) need not procure a new DSC. (Refer <https://cca.gov.in/sites/files/pdf/guidelines/CCA-IVG.pdf>) Registration for e-bidding must be done by the entity bidding for the project.
- iii.The Bidders who desire to participate in the bidding process shall register on <https://mahatenders.gov.in/nicgep/app>
- iv.The complete bidding document is available on <https://mahatenders.gov.in/nicgep/app> for free download.
- v.The downloaded bidding document shall be considered valid for participation in the electronic bidding process (e-tendering) subject to the submission of prescribed tender/bidding document fee.
- vi.The Bidder firm shall be selected as per procedures described in the RFP
- vii.The Bidder (authorized signatory) shall submit their offer online in electronic formats for eligibility criteria, technical and financial proposal. However, Tender Document & EMD Fees shall paid online through Maha Tender portal and Performance Bank Guarantee as applicable and defined in RFP.
- viii.The Bidder (authorized signatory) shall submit their offer online in electronic formats for preliminary qualification, technical and financial proposal (Envelope A, B & C)
- ix.MMRDA shall not be responsible for delay in online submission due to any reason. For this the Bidders shall upload the complete bid proposal well in advance so as to avoid any unforeseen problems.

- x. The Bidders shall refer “Bidders Manual Kit” available at <https://mahatenders.gov.in/nicgep/app> for further details about the e-tendering process
- xi. The objective of the assignment is **Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA.**

1.1 RFP SUMMARY

Name of the Authority	Mumbai Metropolitan Region Development Authority (MMRDA), Mumbai, Maharashtra, India
Document No.	CA NO.02/MMRDA/IT CELL/SM/2024-25
Name of RFP	Request for Proposal (RFP) for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA
Selection Process	Selection Process : QCBS (80:20). Three Envelope System (A, B, C) through e-tender. [Amongst the Technically Qualified Bidders (i.e. Bidders with technical score of 70 (Seventy) or more), the Preferred Bidder shall be the one with the highest QCBS Ranking, H1.
Tender Processing Fees	Rs. 11,800/- (Rs. Eleven Thousand Eight Hundred Only, including 18% GST (Non- Refundable)) by way of electronic transfer through Mahatender portal
Earnest Money Deposit (EMD)	INR. 1,00,00,000/- (Indian Rs. One Crore only) • INR 1,00,000/- (Indian Rs. One Lakhs only) by electronic transfer through Mahatender portal only and • INR 99,00,000/- (Indian Rs. Ninety Nine Lakhs Only) by Bank Guarantee a Scheduled Bank (Scanned copy to be uploaded) NO EMD exemption allowed for any of the bidder.
Scope of Work	Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA
Bidder	Bidder can be a Sole Bidder / Consortium with maximum of 2 members: 1 Lead Bidder + 1 Consortium Partner
Bid Validity Period	(180) One-hundred-and-eighty days from the last date of submission of Bids
Performance Bank Guarantee	5% of the Contract Value to be submitted within 25 days from the date of issue of a letter accepting the offer of assignment

1.2 KEY EVENTS

Sl. No.	Information	Details
1.	Advertisement Date	19.07.2024
2.	Download Start Date	19.07.2024 17:01 hrs (IST)
3.	Last date to send in requests for clarifications	29.07.2024, 17:01 hrs Clarifications to be sent by email to the following address: ris.sm@mailmmrda.maharashtra.gov.in
4.	Release of response to clarifications would be available at	<i>Maha Tender Online Portal:</i> https://mahatenders.gov.in/nicgep/app
5.	Download End Date	12.08.2024, 17:00 hrs (IST)
6.	Last date (deadline) for online submission of bids	12.08.2024, 17:01 hrs (IST) on <i>Maha Tender Online Portal</i>
7.	Closing of Bids	13.08.2024 from 13:01 Hrs on <i>Maha Tender Online Portal:</i> https://mahatenders.gov.in/nicgep/app
8.	Technical Bid Opening Date & Time	14.08.2024 from 13:01 Hrs on <i>Maha Tender Online Portal:</i> https://mahatenders.gov.in/nicgep/app
9.	Date for Presentation	To be informed later to eligible Bidders
10.	Commercial Bid Opening Date & Time	To be informed later to eligible Bidders
11.	Nodal Officer & Address for communication for seeking clarifications on RFP. (During office hours on working days)	Systems Manager, IT Cell Mumbai Metropolitan Region Development Authority (MMRDA), IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East), Mumbai- 400051 Tel: 022-26597448 Email: ris.sm@mailmmrda.maharashtra.gov.in

Note:

- 1) Bidder are requested to upload their pre-bid queries online on email I.D. ris.sm@mailmmrda.maharashtra.gov.in from 19.07.2024 to 29.07.2024.
- 3) Bidder may attend financial bid opening. Financial bid Opening date will be informed separately.

1.3 Structure of the RFP

This RFP document for the Selection of System Integrator (SI) for Design, Development and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA for the Department comprising the following.

- i. Instructions on the bid process for the purpose of responding to this RFP. This broadly covers:
 1. General instructions for bidding process
 2. Bid evaluation process including the parameters for pre-qualification, technical evaluation and commercial evaluation to facilitate the Department in determining Bidder's suitability as the implementation partner
 3. Payment schedule
 4. Commercial bid and other formats
- ii. Functional and technical requirements of the project. The contents of the document broadly cover the following areas:
 1. About the project and its objectives
 2. Scope of work for the implementation agency
 3. Functional and Technical requirements
 4. Project Schedule
 5. Service levels for the implementation partner

The Bidder is expected to respond to the requirements as completely and in as much relevant detail as possible, and focus on demonstrating Bidder's suitability to become the implementation partner of the Department .

- iii. Master Service Agreement (MSA), Service Level Agreement (SLA) and Non-Disclosure Agreement (NDA).

The Bidders are expected to examine all instructions, forms, terms, project requirements and other information in the RFP documents. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the Bidder's risk and may result in rejection of the proposal.

1.4 Background information

1.4.1 Introduction

The Mumbai Metropolitan Region Development Authority (MMRDA) was established in accordance with the Mumbai Metropolitan Region Development Authority Act, 1974, on 26th January 1975. Since its inception, MMRDA is engaged in long term planning, promotion of new Growth Centres, implementation of strategic projects and financing infrastructure development. The Regional Plan provides for a strategic framework of MMR's sustainable growth. The objective behind establishing MMRDA was to make MMR a destination for economic activity by promoting infrastructure development and improving the quality of life.

The Mumbai Metropolitan Region Development Authority is responsible for the preparation of Regional Plan, providing financial assistance for significant regional projects, providing help to local authorities and their infrastructure projects, coordinating execution of projects and schemes in MMR, restricting any activity that could adversely affect appropriate development of MMR, etc. The MMRDA prepares plans, formulates policies and programs, implements projects and provides financial assistance for significant regional projects. In particular, it conceives, promotes and monitors the key projects for developing new Growth Centres and brings about improvement in sectors like transport, housing, water supply and environment in the Region. The Authority as Special Planning Authority has also prepared detailed development plan for specific areas in MMR.

The "Authority" is at the apex having perpetual succession and a common seal with power, subject to the provisions of the Act and is presided by the Minister of Urban Development Department. At the second tier is the Executive Committee presided by the Chief Secretary to the State Government. The Metropolitan Commissioner assisted by the Additional Metropolitan Commissioner and other officers chairs the third tier.

1.4.2 Purpose and Service Outcomes Statement

MMRDA conceptualized the creation of Regional Information System and Creation of Urban Observatory to improve regional management and development in MMR region. The project aims in development and implementation of a comprehensive Geo Spatial Database, a web-based GIS application/ interface and data analytics system along with the Urban Observatory within MMRDA to integrate the data from multiple entities such as Central & State Government entities, District Administrative office, Educational department, Disaster management, Town Planning department, Environmental department and Health department to facilitate dissemination of information, Monitoring/ Decision Support in a single platform. This database will assist administrative officers, policy makers, investors, emergency response teams etc. in rapid decision making by leveraging on organized spatial and non-spatial data at ease. The system will include a public Geo Portal and Dashboard for sharing necessary information with the public, along with a detailed Internal dashboard and Comprehensive GIS application for monitoring and data driven decision making for various stakeholders of the Information System. MMRDA intends to develop this system, which will provide the public and business community information regarding various parameters like land use, environment, economy, etc. indicating the status of MMR. This will enable the investors to plan their businesses at suitable locations leading to enhanced synergies. It will create multiple employment opportunities and give a boost to the economy of MMR. Integrated

Command & Control Centre (ICCC) along with the Urban Observatory within MMRDA would integrate the data from multiple entities.

MMRDA through this RFP process intends to consider those potential bidders that have the requisite capability and competency, in terms of technical strengths, experience of carrying out similar projects and financial stability to address the requirements of MMRDA.

Benefits Of RIS For Different Stakeholders:

- a) **Enhanced Public Services:** RIS enables the delivery of higher-quality public services by optimizing service routes and schedules, while also facilitating citizen engagement through interactive platforms that allow for feedback and participation in public affairs.
- b) **Transparency for Site Selection:** Investors and the public benefit from the transparency that RIS provides in the site selection process, as it offers clear insights into land use, zoning regulations, and infrastructure availability, aiding in informed decision-making.
- c) **Access to Comprehensive Data:** RIS grants both the public and investors access to a wealth of data, including demographic trends, economic indicators, and environmental conditions, empowering them with the information needed to make educated choices and investments.
- d) **Risk Assessment and Management:** With RIS, users can conduct thorough risk assessments by analyzing geographic and socio-economic data, allowing for better management of potential risks associated with investments and public safety.
- e) **Increased Investment Attractiveness:** By showcasing the region's resources, infrastructure, and development opportunities through RIS, MMRDA can enhance the region's appeal to investors, attracting more investment and fostering economic growth.
- f) **Informed Policy-Making:** By providing evidence-based insights, RIS supports the development of well-grounded policies and enables ongoing policy evaluation to ensure their effectiveness, leading to more impactful governance.
- g) **Transparency and Accountability:** RIS ensures public access to up-to-date information regarding government actions and resource management, while performance monitoring tools help hold authorities accountable for their decisions and outcomes.
- h) **Enhanced Collaboration:** The platform fosters inter-agency cooperation by sharing data and insights, and it encourages community involvement by providing a means for public input and engagement in the decision-making process.
- i) **Cost Savings:** RIS contributes to operational efficiency by optimizing resource use and enabling preventive measures that can reduce long-term expenses related to maintenance, emergency responses, and service disruptions.
- j) **Environmental and Social Governance (ESG):** RIS supports ESG initiatives by tracking environmental impacts, social outcomes, and governance practices, allowing MMRDA and stakeholders to make decisions that align with sustainability and ethical standards.

1.4.3 Area of Interest

The Mumbai Metropolitan Region Development Authority (MMRDA) intends to find SI for the Selection of Design, Development and Implementation of a Regional Information System for the Mumbai Metropolitan Region and Urban Observatory at MMRDA. The Mumbai Metropolitan Region (MMR) is spread over 6,328 Sq. Km. encompassing 9 Municipal Corporations, 9 Municipal Councils, 1 Nagar Panchayat along with more than 1,469 villages in Mumbai City, Mumbai Suburb, Palghar, Thane, and Raigad Districts.

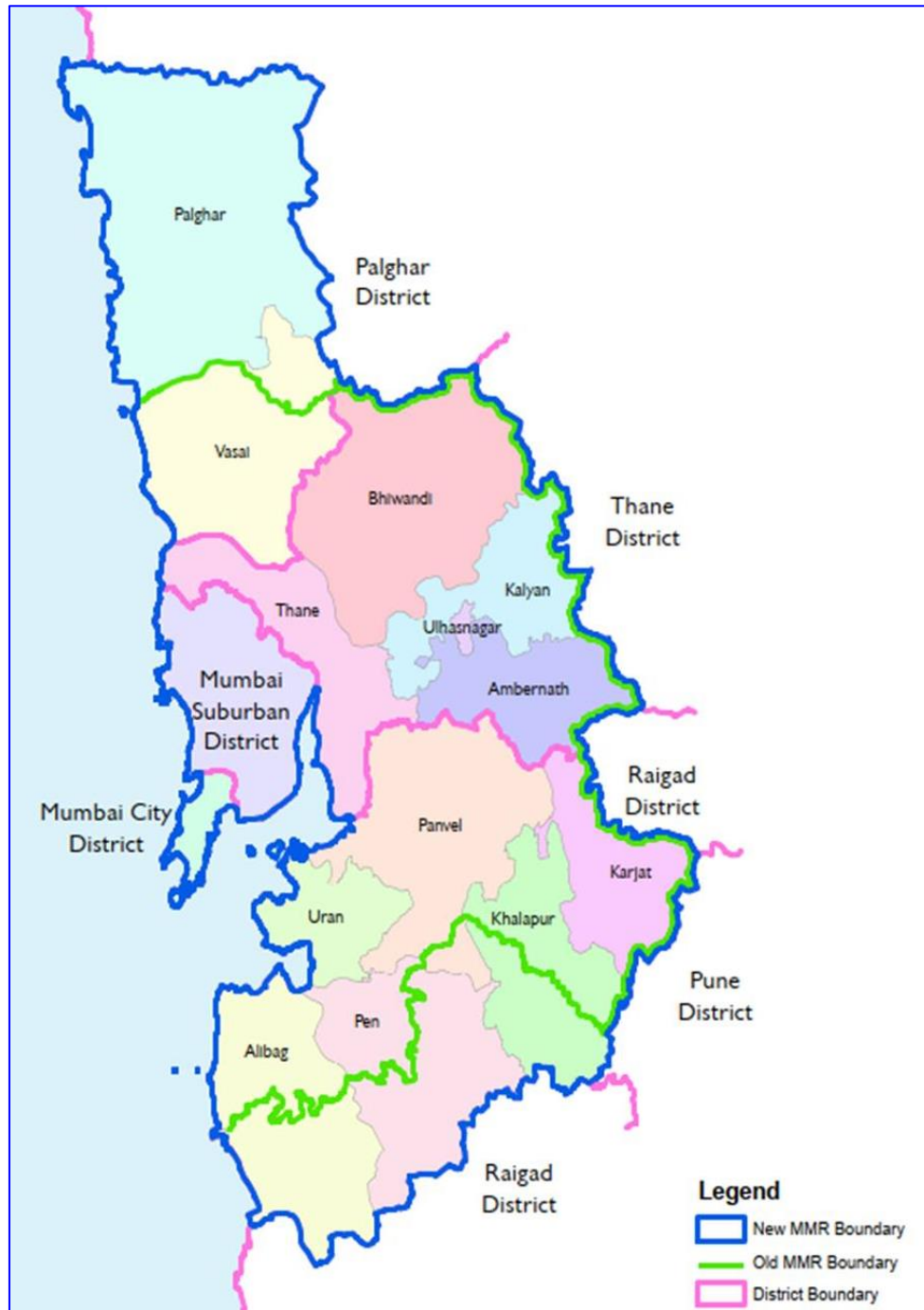
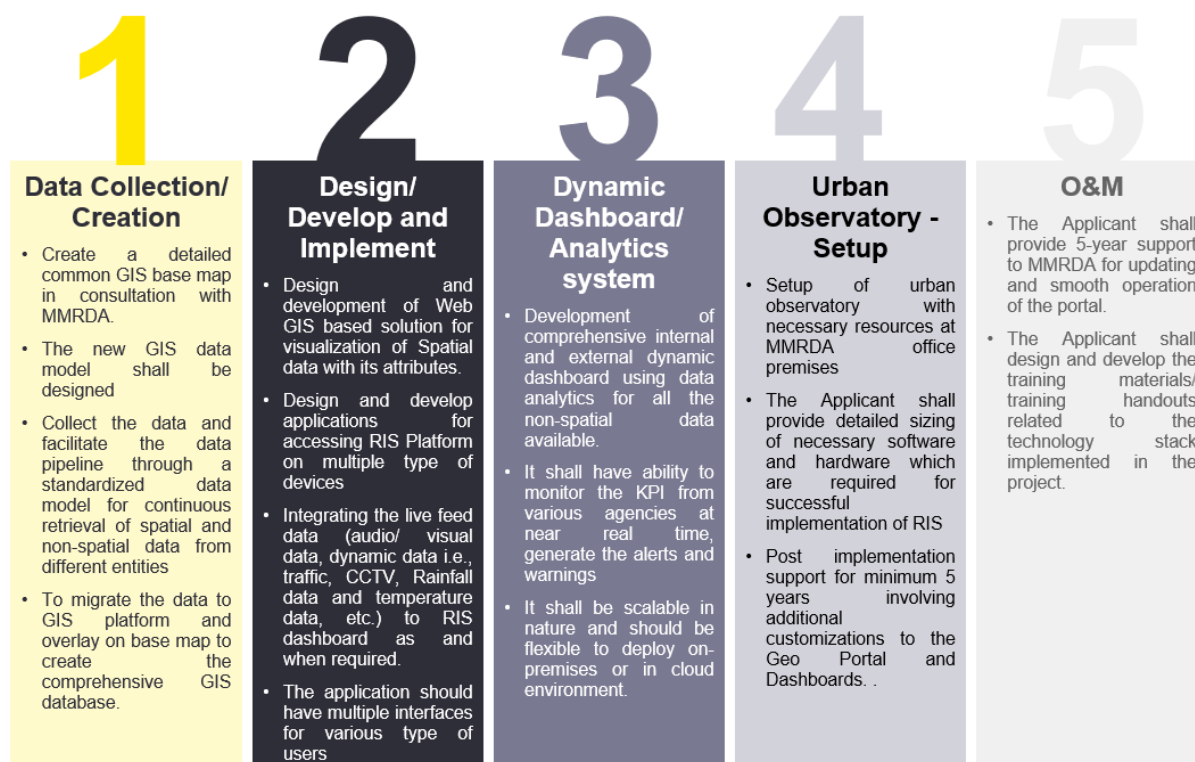


Figure 1 Area of Interest

1.4.4 Project Flowchart



1.4.5 Indicative List of Departments

The Indicative List of Departments that are going to be incorporated into this solution.

Tentative List of Departments (Not Limited)	
Category	Agency
Urban Local Bodies	Brihanmumbai Municipal Corporation
	Bhiwandi Nizampur City Municipal Corporation
	Kalyan Dombivli Municipal Corporation
	Mira Bhaindar Municipal Corporation
	Navi Mumbai Municipal Corporation
	Panvel Municipal Corporation
	Thane Municipal Corporation
	Ulhasnagar Municipal Corporation
	Vasai Virar City Municipal Corporation
	Alibag Municipal Council
	Ambarnath Municipal Council
	Karjat Municipal Council
	Kulgaon Badlapur Municipal Council
	Matheran Municipal Council
	Palghar Municipal Council
	Pen Municipal Council
	Uran Municipal Council

Rural Development Agencies	Khopoli Municipal Council
	Khalapur Nagar Panchayat
	Palghar Zilha Parishad
	Raigad Zilha Parishad
	Thane Zilha Parishad
District Collectorate	Office of Mumbai City, Mumbai Suburb, Palghar, Thane, and Raigad Districts District Collector
Planning Authorities	MSRDC
	CIDCO
	SRA
	MHADA
	MIDC
Public Utility Agencies	JNPT
	MBPT
	Zilha Parishad, Raigad
	Deputy Director of Town Planning Mumbai City, Mumbai Suburb, Palghar, Thane, and Raigad Districts
	MJP
	Mahanagar Gas Limited
	Adani Electricity
	Tata Power
	BEST
	MSEDCL
	Gas Authority of India Limited
	ONGC
	PWD
	NHAI
	MSRDC
Infrastructure	Central Railway
	Western Railway
	MRVC
	Konkan Railway
	Water Resource Department
	Irrigation Department
	Konkan Irrigation Development Corporation
	Revenue Department
	Agriculture Department
	Deputy Director, Land Records
Other Government of Maharashtra Departments	District Superintendent of Land Records - Mumbai City, Mumbai Suburb, Palghar, Thane, and Raigad Districts
	Maharashtra CZMA
	Maharashtra Maritime Board, Ports
	Maharashtra Pollution Control Board (MPCB)

	Maharashtra Fire Services
	Housing Dept; MHADA
	Archaeology Dept
	Ground Water surveys and Development Agency
Forest	Mangrove Cell, GoM
	Chief Conservator of Forest and Dy.CF
Education	Directorate of Education - Primary
	Directorate of Education - Secondary & Higher Secondary
	Directorate of Education - Minority and Adult Education
Industries	Directorate of Industries
	MIDC
	Maharashtra Small Scale Industries Development Corporation
	Development Corporation of Konkan Limited
Energy	Maharashtra Energy Development Agency
Tourism	MTDC

Note: Relevant Data of Any other agencies of GoM/Gol/Private etc.in MMR 6328 sqkm.

1.5 Instructions to Bidders

1.5.1 General

E-Bids are invited by Mumbai Metropolitan Region Development Authority (MMRDA) for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA subject to the conditions mentioned below and further subject to the 'Conditions of Contract' annexed hereto. 'Instructions to Bidders', 'Conditions of Contract', 'Form of Financial Offer' etc. are enclosed. You are requested to fill the bid and submit to MMRDA duly signed and certified along with the Tender Fees on or before the closing date.

- k) While every effort has been made to provide comprehensive and accurate background information and requirements and specifications, Bidders must form their own conclusions about the solution needed to meet the requirements. Bidders and recipients of this RFP may wish to consult their own legal advisers in relation to this RFP.
- l) All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the Department on the basis of this RFP.
- m) No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of the Department. Any notification of preferred Bidder status by the Department shall not give rise to any enforceable rights by the Bidder. The Department may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of the Department.
- n) This RFP supersedes and replaces any previous public documentation & communications, and Bidders should place no reliance on such communications.

1.5.2 Compliant Proposals / Completeness of Response

- a) Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.
- b) Failure to comply with the requirements of this paragraph may render the Proposal non-compliant and the Proposal may be rejected. Bidders must:
 - 1) Include all documentation specified in this RFP;
 - 2) Follow the format of this RFP and respond to each element in the order as set out in this RFP;
 - 3) Comply with all requirements as set out within this RFP.

1.5.3 Code of Integrity

No official of procuring entity or a bidder shall act in contravention of the codes which includes,

- a. prohibition of
 - i. Making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair

advantage in the procurement process or to otherwise influence the procurement process.

- II. Any omission, or misrepresentation that may mislead or attempt to mislead so that financial or other benefit may be obtained or an obligation avoided.
 - III. any collusion, bid rigging or anticompetitive behaviour that may impair the transparency, fairness and the progress of the procurement process.
 - IV. Improper use of information provided by the procuring entity to the bidder with an intent to gain unfair advantage in the procurement process or for personal gain.
 - V. any financial or business transactions between the bidder and any official of the procuring entity related to tender or execution process of contract; which can affect the decision of the procuring entity directly or indirectly.
 - VI. any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.
 - VII. obstruction of any investigation or auditing of a procurement process.
 - VIII. making false declaration or providing false information for participation in a tender process or to secure a contract;
- b. disclosure of conflict of interest.
 - c. disclosure by the bidder of any previous transgressions made in respect of the provisions of sub-clause (a) with any entity in any country during the last three years or of being debarred by any other procuring entity.

In case of any reported violations, the procuring entity, after giving a reasonable opportunity of being heard, comes to the conclusion that a bidder or prospective bidder, as the case may be, has contravened the code of integrity, may take appropriate measures.

1.5.4 Clarifications

- a. The Bidders will have to ensure that their queries on ris.sm@mailmmrda.maharashtra.gov.in on or before 26.07.2024 mentioned in the "Key Events" in the section 1.2 above.
- b. The queries should necessarily be submitted in the following format:

Name of the Bidder			
Sl. Nr.	RFP document reference(s) (Section & page number)	Content of RFP requiring clarification(s)	Clarification Sought
1.			
2.			

- d. Department shall not be responsible for ensuring that the Bidders' queries have been received by them. Any requests for clarifications post the indicated date and time may not be entertained by the Department.

1.5.4.1 Responses to Clarifications Queries and Issue of Corrigendum

- a. The MMRDA will endeavour to provide timely responses to all queries. However, Department makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does Department undertake to answer all the queries that have been posed by the Bidders.
- b. At any time prior to the last date for receipt of bids, Department may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP Document by a corrigendum.
- c. The corrigendum (if any) & clarifications to the queries from all Bidders will be posted on the MMRDA web site.
- d. Any such corrigendum shall be deemed to be incorporated into this RFP.
- e. In order to provide prospective Bidders reasonable time for taking the corrigendum into account, the Department may, at its discretion, extend the last date for the receipt of RFP Proposals.

1.5.5 Key requirements of the bid

1.5.5.1 Right to Terminate the Process

- a. Department may terminate the RFP process at any time and without assigning any reason. Department makes no commitments, express or implied, that this process will result in a business transaction with anyone.
- b. This RFP does not constitute an offer by the Department. The Bidder's participation in this process may result in Department selecting the Bidder to engage towards execution of the subsequent contract.

1.5.5.2 RFP document fees

- a. The RFP documents have been made available for download without any fee from the MMRDA website.
- b. The demand draft of RFP document fees (if any, as mentioned in the Fact Sheet) should be submitted along with the bidder's proposal. Proposals received without or with inadequate RFP Document fees shall be rejected.

1.5.5.3 Earnest Money Deposit (EMD)/ Bid Security

Sr. No.	Item	Details
1.	Earnest Money Deposit	<p>INR. 1,00,00,000/- (Indian Rs. One Crore only)</p> <ul style="list-style-type: none"> • INR 1,00,000/- (Indian Rs. One Lakhs only) by electronic transfer through Mahatender portal only and • INR 99,00,000/- (Indian Rs. Ninety Nine Lakhs Only) by Bank Guarantee from a Scheduled Bank (Scanned copy to be uploaded)

- a) NO EMD exemption allowed for any of the bidder.
- b) The EMD shall be denominated in Indian Rupees only. No interest shall be payable to the Bidder on the amount of the EMD.
- c) The Bids submitted without adequate EMD shall be liable for rejection.
- d) The EMD of Unsuccessful Bidders shall be returned to the respective unsuccessful Bidder within 120 days from the date of opening of the financial bid.
- e) The EMD of Successful Bidder shall be returned after the award of contract and submission of the performance bank guarantee within specified time and in accordance with the format given in the RFP.

- f) The EMD shall be non-transferable.
- g) The Proposal not submitted in accordance with the procedure and formats prescribed in this document and adhering to the timeline shall be treated as non-conforming Proposal.
- h) The Bidder shall upload the scanned copy of the Bank Guarantee as part of Envelope-A on the Maha tender portal only. The Bidder shall submit the Physical BG at the address for communication mentioned at clause 2.1 Key Events, S.No.12, within 2 working days after opening of the Envelope-A. Successful EMD shall only be considered if Scanned copy and the Physical Copy of the BG matches in totality. In case the Bidder submits the BG in any form (Scanned or Physical) before the opening of the Envelope-A in online e-tendering solution, apart from the process as suggested, the bid shall be summarily rejected. The BG shall have validity for a period of 180 days from last date of bid submission. After the validity period the BG would be discharged by MMRDA as per the Terms & Conditions of the RFP.

1.5.5.4 Language of Bids

The bid shall be submitted in English language only. If any supporting documents submitted are in any language other than English/Hindi/Marathi, translation of the same in English language is to be duly attested by the Bidder and submitted with the bid, and English translation shall be validated at MMRDA's discretion. All figures/ currencies shall be in Indian Rupees.

1.5.5.5 Consortiums and Sub-Contracting

The prospective bidder has the option to assume the role of either a Lead Applicant (LA) / Lead Bidder (LB) or engage in a Joint Venture (JV), Consortium, Memorandum of Understanding (MOU) partnership, or act as a business associate, with a strict limitation of two members per entity/consortium (comprising one Lead Applicant/Bidder and one JV/Consortium partner only). However, every member of the consortium shall be equally responsible & jointly & severally liable for the successful completion of the entire project. The Sole Bidder cannot be a Lead Bidder or Consortium partner of any other Bidder. The entity submitting the Bid as a Lead Bidder cannot be a Consortium partner of any other Bidder. The Consortium partners cannot be Sole Bidder/Lead Bidder/Consortium Partner with another Bidder in a separate Bid submitted against this RFP. The successful bidder is permitted to subcontract specific portions of up to 40% of the work outlined in this RFP provided the bidder provides written notification to MMRDA of its intent to subcontract any part of the work. MMRDA reserves the right to approve or disapprove the proposed subcontractors.

1.5.5.6 Submission of Proposals

- i. The Bidder shall submit the bid online through Maha tender Portal only.
- ii. To view the Tender Notice, Detailed Time Schedule, RFP Document and its supporting documents, the Bidder shall visit the following portal:
<https://mahatenders.gov.in/nicgep/app>
- iii. The bids submitted by the Bidder shall comprise of the following three envelopes (Online submission only):

A three-envelope tender system shall be followed for the bid –

- **Envelope A:** Comprising of Tender Fees, Bid Security Declaration and Eligibility Criteria as per guidelines.
 - **Envelope B:** Comprising of Technical Proposal as per guidelines.
 - **Envelope C:** Comprising of Financial Proposal as per guidelines.
- iv. The Bidder shall ensure that all the required documents, as mentioned in the RFP/ bidding document, are submitted along with the bid and in the prescribed format only. MMRDA shall not accept delivery of Proposal in any manner other than that specified in the RFP. The Proposal delivered in any other manner shall be treated as defective, invalid, and rejected. Non-submission of the required documents or submission of the documents in a different format/ content may lead to the rejections of the bid proposal submitted by the Bidder if not found justified by the MMRDA. The Bidder shall submit the reasons of deviation along with the bid submission and submit clarification sought by BEC if any to substantiate any such deviation and the said clarification shall be binding on the Bidder.
- v. The Bidders participating first time for e-tendering on Maha tender Portal will have to complete the Online Registration Process for the e-tendering Portal. For any concerns or queries related to e-tendering, kindly email at <https://mahatenders.gov.in/nicgep/app>.
- vi. The Bidders interested in participating in the on-line e-tendering process are required to obtain Class II or Class III Digital Certificates with signing and encryption/decryption facility. The bids shall be prepared & submitted online using individual's digital signature certificate.

1.5.5.7 Bidder's authorised signatory

A Proposal should be accompanied by an appropriate board resolution or power of attorney in the name of an authorised signatory of the Bidder stating that he is authorised to execute documents and to undertake any activity associated with the Bidder's Proposal. A copy of the same should be uploaded under the relevant section/folder on the e-Procurement portal. Furthermore, the bid must also be submitted online after being digitally signed by an authorized representative of the bidding entity.

1.5.5.8 Deviations

No Deviations Allowed.

1.5.5.9 Evaluation process

- a) MMRDA shall constitute a Tender Recommendation Committee (TRC) to evaluate the responses of the bidders as mentioned in the delegation of powers. The decision of the Committee in the evaluation of responses to the RFP shall be recommended to the Competent Authority for approval. The inability of a Bidder to submit requisite supporting documents / documentary evidence within a reasonable time provided to it, may lead to the Bidder's Proposal being declared non-responsive.
- b) The TRC shall submit its decision to the Competent Authority whose decision shall be final and binding upon the bidders.
- c) The Bidders who qualify on Eligibility Criteria Envelope 'A' shall be considered for Technical evaluation- Envelope 'B'.
- d) Technical Evaluation: The Bidders with Technical score of **70 marks** or above in technical evaluation (Envelope B) shall be considered to be eligible for

Financial Evaluation Envelope 'C'.

- e) The technical evaluation marks shall be given 80% weight and financial evaluation marks shall be given 20% weight to arrive at a composite score (QCBS 80:20).
- f) Amongst the bidders who are considered for financial evaluation, the bidder scoring the highest composite score shall be preferred bidder and awarded work at the discretion of MMRDA, if found successful after all compliances as per RFP.
- g) The TRC reserves the right to accept or reject any or all bids without giving any reasons thereof. No correspondence will be entertained outside the process of negotiation/ discussion with the TRC. The TRC may ask for meetings with the Bidders to seek clarifications on their proposals.
- h) In case of Single Bid response, MMRDA reserves the right to accept or reject the bid on approval of Competent Authority.
- i) In the event of two or more Bidders quoting the same Financial Bid, then MMRDA reserves the right to:
 - Declare the Bidder whose technical marks is highest, among the eligible Bidders, or
 - Invite fresh financial proposals from these Bidders having same technical marks and evaluate these fresh financial proposals, or
 - Adopt any other method as decided by MMRDA.

1.5.5.10 Proposal opening

The Proposals submitted will be opened as per the Key events mentioned at Section 1.3 above by the Nodal Officer or any other officer authorized by the Department, in the presence of the Bidder's representatives who may be present at the time of opening. The representatives of the Bidders are advised to carry an identity card or a letter of authority from the Bidding entity to identify their bonafides for attending the opening of the Proposal.

1.5.5.11 Proposal validity

The offer submitted by the Bidders should be valid for a minimum period of **180 days** from the date of submission of the Proposal.

1.5.5.12 Proposal evaluation

Initial Proposal scrutiny will be held to confirm that Proposals do not suffer from the infirmities detailed below. Proposals will be treated as non-responsive if a Proposal is found to have been:

- i. submitted in manner not conforming with the manner specified in the RFP document.
- ii. Submitted without appropriate EMD as prescribed herein.
- iii. received without the appropriate power of attorney.
- iv. containing subjective/incomplete information.
- v. submitted without the documents requested in the checklist.
- vi. non-compliant with any of the clauses stipulated in the RFP.
- vii. having less than the prescribed validity period.
- viii. Any deviation from RFP as decided by the competent Authority.

The EMD of all non-responsive bids shall be returned to the bidders without any interest.

All responsive Bids will be considered for further processing as below.

MMRDA will prepare a list of responsive Bidders, who comply with all the Terms and Conditions of the Tender. All eligible bids will be considered for further evaluation by a committee according to the Evaluation process defined in this RFP document. The decision of the Committee will be final in this regard.

1.5.5.13 Change in Specifications

For any reason if the quoted hardware/software and any specification originally quoted is changed or end-of-life or for any reason needs alteration after award of the contract, the bidder will inform MMRDA and the necessary approval from MMRDA before replacing the equipment. The decision of MMRDA is final. No compromise shall be made with Quality, Quantity, Deliverables, and Time.

1.5.5.14 Prices, Taxes, and Duties

Bidder should consider all the prices, taxes and duties as of the date of RFP submission and if there are any changes in any of the price, taxes and duties after the award of contract, Bidder would inform MMRDA about the change and make a request for such change and MMRDA would consider such change if it tana mounts to hardship or force majeure to be decided by MMRDA.

1.5.5.15 Arbitration

The MC, MMRDA shall serve as the ultimate authority in all instances of arbitration arising within the scope of the contract. In matters pertaining to dispute resolution, Bidder acknowledges and agrees that the decisions, determinations, and resolutions rendered by MC, MMRDA shall be considered final and binding.

1.6 Criteria for evaluation

1.6.1 Pre-qualification (PQ) criteria - Envelope 'A'

The Bidder shall fulfil all the following eligibility criteria on date of submission of bid (Refer chapters 10, 11, 12 for standard templates) MMRDA (or a nominated party) reserves the right to check/validate the authenticity of the information provided in the pre-qualification and technical evaluation criteria and requisite support must be provided by the Bidder. The following sections explain how the Bidders will be evaluated on each of the evaluation criteria. Wherever Non-Disclosure Agreement (NDA) exists between the Bidder and its customers, documents may be shared with suitable masking of data to inhibit recognition.

S. No.	Basic requirement	Specific Requirements	Documents required	Sole Bidder	Bidder Quoting as Consortium	
					Lead Bidder	Partner
1	Legal Entity	<p>Company shall be</p> <ul style="list-style-type: none"> - Registered under Companies Act, 1956/2013, a limited company, a private limited company or a partnership firm registered under LLP Act, 2008 or a Public Service Unit. - Registered with the Tax Authorities - Shall have been in operation for the past 15 years. 	<p>Certificate of Incorporation/ Registration under Companies Act 1956 or 2013 or as amended from time to time.,</p> <p>Partnership Firm registered under Partnership Act or Proprietorship Firm or LLP Act</p> <ul style="list-style-type: none"> • PAN Card, GST Registration Certificate • Memorandum and Articles of Association <p>For Consortium members</p> <ul style="list-style-type: none"> • GST registration certificate • PAN • Consortium agreement/MoU clearly stating the roles and responsibilities and 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

			scope of works of each member/partner company.			
2	Bidder's turnover	<p>Average annual turnover of bidder should be at least 500 Crore INR during last 3 Financial Years (FY2023-24, FY2022-23, FY2021-22) from ICT & IT product/services.</p> <p>Note: "ICT/ IT Services" includes design, development/customization and implementation of an IT application/web application project including web development/ software development/ mobile app development/ network configuration/ software implementation/ hardware installation/ database management and IT emergency recovery/ data centre operations any other relevant application in India as decided by MMRDA</p>	<p>Copy of the audited Balance Sheet and Profit & Loss Statement of the company and/or Certificate from the Chartered Accountant clearly stating the average annual turnover from IT & ICT product/services during last 3 Financial Years (FY2023-24, FY2022-23, FY2021-22).</p> <p>Only audited financial statements will be considered for evaluation purposes. In case of current year audited balance sheet is not available, then provisional balance sheet would be accepted only for current year i.e. FY 2023-24</p>	<input checked="" type="checkbox"/>	Anyone	
3	Net worth of the bidder	The bidder should have a positive net worth in the last three financial years. (FY2023-24, FY2022-23, FY2021-22)	<p>Audited balance sheet, profit & loss statement and certificate from certified Chartered Account mentioning positive net worth.</p> <p>In case of current year audited balance sheet is</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

			not available, then provisional balance sheet would be accepted only for current year i.e. FY 2023-24			
4	Technical Capability Technical Capability	<p>Bidder must have successfully implemented a large-scale project in the last 7 years from the date of NIT for ULB/ State / Central Government/ regulatory bodies/ PSUs of the State / Central Government clients:</p> <p>One project of "similar" nature with a project value of Rs. 80 Crores</p> <p>OR</p> <p>at least 2 (Two) projects with "similar" nature with a project value of Rs. 60 Crores</p> <p>OR</p> <p>at least 3 (Three) projects with "similar" nature with a project value of Rs. 40 Crores</p> <p>“Similar” projects include-</p> <ul style="list-style-type: none"> • Design, Development/Customization of IT Application/Web Application Project • Web Development/ Software Development/ Mobile App Development • Information System Deployment with BI Analytics. • Network Configuration • Software Implementation • Hardware Installation • Database Management • Data Center Operations, DC/DR supply and/or maintenance • Communication Infrastructure • City Surveillance • 3D City Mapping / Urban Mapping /Property Mapping • ICT Based Utility Management • Command & Control Center Implementation <p>OR</p> <p>any other relevant application in India as decided by MMRDA</p>	<p>Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>	<input checked="" type="checkbox"/>	Anyone	

	<p>b. The Sole Bidder or the Consortium should have experience in executing at least 2 nos. of ICT projects which includes any of the following areas during last 10 years as on bid submission date:</p> <p>Value of each project should be minimum of Rs. 5 Crore</p> <ol style="list-style-type: none"> 1. GIS-based development of the Geo-Portal 2. Smart Transport 3. ICT based solid waste management 4. Smart utilities solutions 5. Smart parking/smart lighting 6. Surveillance 7. Emergency Response system 8. Smart Cities IT Implementation <p>Note-</p> <p>“GIS-based development of the Geo-Portal”- is an integrated platform that centralizes geographic data, providing real-time spatial analysis and decision-making tools for spatial data infrastructure.</p> <p>“Smart Transport”- refers to the application of advanced technologies to monitor and manage transportation networks, enhancing traffic flow and public transit efficiency across the region.</p> <p>“ICT based solid waste management”- involves the use of digital systems to optimize waste collection routes, monitor disposal practices, and manage recycling processes within a region.</p> <p>“Smart utilities solutions”- entail the deployment of intelligent networks and meters for real-time monitoring and management of utility services, improving resource conservation and service delivery.</p> <p>“Smart parking/smart lighting- utilize sensor”-driven data to efficiently</p>	<p>Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>	<input checked="" type="checkbox"/>	<p>Anyone</p>
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		<p>manage parking availability and adaptively control street lighting, contributing to safer and more sustainable urban environments.</p> <p>“Surveillance” encompasses the strategic placement and use of monitoring equipment to enhance security, oversee critical infrastructure, and support law enforcement activities across the region.</p> <p>“Emergency Response”- is a coordinated network that rapidly mobilizes resources and personnel to respond to and manage emergencies, ensuring public safety and minimizing impact.</p> <p>"Smart cities IT implementation" refers to the integration of information and communication technologies into urban infrastructure to enhance the efficiency of city operations and services. This involves deploying sensors, IoT devices, and advanced software solutions to collect and analyze data, which is then used to improve urban planning, traffic management, energy distribution, public safety, and provide citizens with better services and quality of life.</p>			
	Technical Capability	<p>Bidder should have been engaged in at least one project (of value not less than INR 5 Crores in last 7 years) involving Design, Supply of hardware & software, Development and Deployment of an Information System comprising a Portal integrating data/metadata from multiple government agencies (minimum five) such as Central & State Government agencies, to facilitate dissemination of information from a single platform (similar to scope mentioned as part of the envisaged RIS application)</p>	<p>Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% of overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>	<input checked="" type="checkbox"/>	Anyone
5	Certification	The bidder possesses the below certification:	Copy of valid certificate of ISO	<input checked="" type="checkbox"/>	Anyone

		<ul style="list-style-type: none">• ISO 20000• ISO 9001• ISO/IEC 27001• CMMI Level 5	20000-1:2018, ISO 9001:2015, ISO/IEC 27001:2022 & CMMI 5 Certifications.			
6	Cloud Infrastructure	Bidder shall own a MEITY empanelled Tier-3 (or above) Government/PSU Data Center/Cloud setup, operated and managed by own team.	A proof or A Self Certified letter.	<input checked="" type="checkbox"/>	Anyone	
7	MAF Authorization	An OEM Manufacturer's Authorization Form (MAF) is required for all software proposed as part of this Request for Proposal (RFP).	OEM Manufacturer's Authorization Form (MAF)	<input checked="" type="checkbox"/>	Anyone	
8	Debarment	The Bidder shall not be debarred/ blacklisted by Government/ Semi-Government department/ Funding Agency/Public Sector Organization in India or Globally for Unsatisfactory performance, corrupt or fraudulent practices or any other unethical conduct either indefinitely or any other reason as on bid submission date.	A Self Certified letter that the bidder (or any of its successors) is not in the active debarred list.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
9	Manpower	The bidder must have at least 100 full time technical resources in case of sole bidder, and 50 technical resources each in case of consortium on its full time payroll in the domain of IT/ ICT/ Software Development/ GIS/ Survey with qualification- Diploma/ B.E/ B.Tech/ M.E/ M.Tech, BSc/MSc, BCA / MCA as on date.	Self-Certification by the authorized signatory with clear declaration of staff –year wise, level / designation wise.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10	Integrity Pact	The Sole Bidder or in case of Consortium (Lead Bidder and Consortium Member) shall submit an integrity pact as per the format mentioned.	Integrity pact in the prescribed form in Appendix 1: Form 13	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
11	Compliance Checklist	The bidder has to comply with all the checklist items mentioned under ‘Annexure IV: Detailed Specification & Compliance Sheet’ for all the deliverables and functionalities mentioned.	Self-Certification by the authorized signatory confirming delivery compliance and any relevant documents as prescribed in Annexure IV.	<input checked="" type="checkbox"/>	Anyone	

Note: (INR 1 Crore = Rs 1,00,00,000), (Cr = Crore)

1.6.2 Technical Qualification (TQ) Criteria- - Envelope 'B'

- Each Technical Proposal shall be assigned a Technical Score out of a maximum of 100 Marks.
- To qualify for the opening of the financial proposal, the Bidder must get a minimum overall technical score of =70.00 (Seventy) Marks
- The financial proposals of Bidders who do not qualify technically shall be kept unopened in the e- Tendering system.
- MMRDA reserve the right to accept or reject any or all bids without giving any reasons thereof.
- MMRDA shall inform to the technically shortlisted Bidders about the date and venue of the opening of the financial proposals.
(INR 1 Crore = Rs 1,00,00,000), (Cr = Crore)

Sl. No	Criteria	Basis for valuation	Max Marks	Supporting Documents	Sole Bidder	If Quoting as Consortium											
						Lead Bidder	Partner										
	COMPANY PROFILE		55														
1.	Annual average turnover of from ICT/ IT Services in last three financial years (FY2023-24, FY2022-23, FY2021-22)	<table><tr><th>Turnover Value</th><th>Marks</th></tr><tr><td>>=1000 - 1500 Cr.</td><td>10</td></tr><tr><td>>=750 Cr. &<1000 Cr.</td><td>7</td></tr><tr><td>>=500 Cr. &<750 Cr.</td><td>3</td></tr><tr><td>Less than 500 Cr.</td><td>0</td></tr></table>	Turnover Value	Marks	>=1000 - 1500 Cr.	10	>=750 Cr. &<1000 Cr.	7	>=500 Cr. &<750 Cr.	3	Less than 500 Cr.	0	10	Copy of audited Balance sheet along with Chartered Accountant clearly stating the average annual turnover ICT/ IT Services over three financial years. In case of current year audited balance sheet is not available, then provisional balance sheet would be accepted only for current year i.e. FY 2023-24	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Turnover Value	Marks																
>=1000 - 1500 Cr.	10																
>=750 Cr. &<1000 Cr.	7																
>=500 Cr. &<750 Cr.	3																
Less than 500 Cr.	0																
2.	Company Quality Certifications. The Bidder/ consortium partner shall have the	<table><tr><th>Certification</th><th>Mark</th></tr><tr><td>ISO: 9001</td><td>5</td></tr></table>	Certification	Mark	ISO: 9001	5	5	Valid certificates of all the certifications	<input checked="" type="checkbox"/>	Anyone							
Certification	Mark																
ISO: 9001	5																

	following latest certifications, ▪ ISO: 9001: 2015, ▪ ISO/IEC 27001:2013, ▪ ISO/IEC 20000-1:2011, ▪ CMMI Level-5	<table><tr><td>ISO/IEC 27001</td><td></td></tr><tr><td>ISO/IEC20000-1</td><td></td></tr><tr><td>CMMI Level-5</td><td></td></tr></table>	ISO/IEC 27001		ISO/IEC20000-1		CMMI Level-5			need to be submitted.								
ISO/IEC 27001																		
ISO/IEC20000-1																		
CMMI Level-5																		
3.	<p>Bidder must have successfully implemented a large-scale project in the last 7 years from the date of NIT for ULB/ State / Central Government/ regulatory bodies/ PSUs of the State / Central Government clients:</p> <p>Project of "similar" nature with a project value of more than or equal to INR 40 Crores</p>	<table><tr><th>Project Value</th><th>Mark</th></tr><tr><td>>=200 Cr.</td><td>15</td></tr><tr><td>>=150 Cr.&<200 Cr.</td><td>12</td></tr><tr><td>>=80 Cr. & <150 Cr.</td><td>9</td></tr><tr><td>>=60 Cr. & <80 Cr.</td><td>6</td></tr><tr><td>>=40 Cr. & <60 Cr.</td><td>3</td></tr></table>	Project Value	Mark	>=200 Cr.	15	>=150 Cr.&<200 Cr.	12	>=80 Cr. & <150 Cr.	9	>=60 Cr. & <80 Cr.	6	>=40 Cr. & <60 Cr.	3	15	<p>Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>	<input checked="" type="checkbox"/>	Anyone
Project Value	Mark																	
>=200 Cr.	15																	
>=150 Cr.&<200 Cr.	12																	
>=80 Cr. & <150 Cr.	9																	
>=60 Cr. & <80 Cr.	6																	
>=40 Cr. & <60 Cr.	3																	
4.	<p>The Sole Bidder or the Consortium should have experience in executing at least 2 nos. of ICT projects which includes any of the following areas during last 10 years as of bid submission date:</p> <p>The value of each project should be a minimum of Rs. 5 Crore</p> <p>1. Web GIS Projects / GIS based development of the Geo-Portals. 2. Smart Transport 3. ICT based solid waste management 4. Urban Mapping / property Mapping / Smart utilities solutions 5. Smart parking/smart lighting 6. Surveillance 7. Emergency Response system 8. Smart Cities IT Implementation</p>	<table><tr><th>Number of Projects</th><th>Mark</th></tr><tr><td>=5 OR >5</td><td>10</td></tr><tr><td>=4</td><td>8</td></tr><tr><td>=3</td><td>6</td></tr><tr><td>=2</td><td>4</td></tr><tr><td>=1</td><td>2</td></tr></table>	Number of Projects	Mark	=5 OR >5	10	=4	8	=3	6	=2	4	=1	2	10	<p>Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>	<input checked="" type="checkbox"/>	Anyone
Number of Projects	Mark																	
=5 OR >5	10																	
=4	8																	
=3	6																	
=2	4																	
=1	2																	

	Note: As defined in Section 1.6.1. (PQ)													
5.	Bidder should have been engaged in at least one project (of value not less than INR 5 Crores in last 7 years) involving Design, Supply of hardware & software, Development and Deployment of an Information System comprising a Portal integrating data/metadata from multiple government agencies (minimum five) such as Central & State Government agencies, to facilitate dissemination of information from a single platform (similar to scope mentioned as part of the envisaged RIS application)	<table><tr><th>Project Value</th><th>Mark</th></tr><tr><td>>=06 Cr.</td><td>15</td></tr><tr><td>>=05 Cr. & <06 Cr.</td><td>10</td></tr><tr><td>Less than 5 Cr.</td><td>0</td></tr></table>	Project Value	Mark	>=06 Cr.	15	>=05 Cr. & <06 Cr.	10	Less than 5 Cr.	0	15	Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder. Note: Unpaid pilot or Proof of Concept will not be acceptable.	<input checked="" type="checkbox"/>	Anyone
Project Value	Mark													
>=06 Cr.	15													
>=05 Cr. & <06 Cr.	10													
Less than 5 Cr.	0													
APPROACH & METHODOLOGY			25											
6.	<table><tr><td>Solution Proposed</td><td rowspan="2">2. Understanding of the Requirements. 3. Approach: Bidder shall outline a general approach and shall include an overarching strategy or philosophy towards the project. 4. Methodology: Specifics of the Bidders methodology and detail the steps, techniques, and processes the bidder shall use to deliver the project. Include the following:<ul style="list-style-type: none">▪ Phases of the Project▪ Tools and Technologies▪ Detailed architecture plan encompassing all</td></tr><tr><td>Demonstration of Understanding of the Department's requirements</td></tr></table>	Solution Proposed	2. Understanding of the Requirements. 3. Approach: Bidder shall outline a general approach and shall include an overarching strategy or philosophy towards the project. 4. Methodology: Specifics of the Bidders methodology and detail the steps, techniques, and processes the bidder shall use to deliver the project. Include the following: <ul style="list-style-type: none">▪ Phases of the Project▪ Tools and Technologies▪ Detailed architecture plan encompassing all	Demonstration of Understanding of the Department's requirements	10		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
Solution Proposed	2. Understanding of the Requirements. 3. Approach: Bidder shall outline a general approach and shall include an overarching strategy or philosophy towards the project. 4. Methodology: Specifics of the Bidders methodology and detail the steps, techniques, and processes the bidder shall use to deliver the project. Include the following: <ul style="list-style-type: none">▪ Phases of the Project▪ Tools and Technologies▪ Detailed architecture plan encompassing all													
Demonstration of Understanding of the Department's requirements														

		ICT elements proposed <ul style="list-style-type: none"> Integration proposed with other IT initiatives Team and Expertise Risk Management Quality Assurance Timeline for the project completion. Compliance and Standards O&M 					
Technical Demonstration / Proof of concept	Successful Demonstration/Proof of Concept: - Bidder needs to demonstrate a minimum 3 use Cases, like- CCTV/ Surveillance/ Smart Parking/ Smart Lighting/Environmental sensor/Smart Transport/SWM / Smart City 3D Modelling/ Crowd monitoring/ Web GIS Projects/ Geo Portal etc., in a live environment.	5					
Technology Demonstrated robustness of the technology deployed across other installations around the world, including. <ul style="list-style-type: none"> Scalability and Future Security Ease of implementation 		10			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Project Team Strength			20	Supporting Document	Sole Bidder	Bidder Quoting as Consortium																			
						Lead	Partner																		
1.	Team Leader / GIS Manager	<div>1. Educational Qualification:<table><tr><th>Degree</th><th>Mark</th></tr><tr><td>Master's in GIS/ Remote Sensing/ Geoinformatics or Equivalent</td><td>1</td></tr></table></div> <div>2. Experience:<table><tr><th>Experience</th><th>Mark</th></tr><tr><td>>25 yrs</td><td>3</td></tr><tr><td>21- 25 yrs</td><td>2</td></tr><tr><td>15-20 yrs</td><td>1</td></tr></table></div> <div>3. Should have experience in public/ private companies/ govt agencies on large scale GIS and SI projects worth Rs. 5 Cr. each<table><tr><th>Projects</th><th>Mark</th></tr><tr><td>>2 projects</td><td>1</td></tr><tr><td>1-2 projects</td><td>0.5</td></tr></table></div>	Degree	Mark	Master's in GIS/ Remote Sensing/ Geoinformatics or Equivalent	1	Experience	Mark	>25 yrs	3	21- 25 yrs	2	15-20 yrs	1	Projects	Mark	>2 projects	1	1-2 projects	0.5	5	Resume	<input checked="" type="checkbox"/>	Anyone	
Degree	Mark																								
Master's in GIS/ Remote Sensing/ Geoinformatics or Equivalent	1																								
Experience	Mark																								
>25 yrs	3																								
21- 25 yrs	2																								
15-20 yrs	1																								
Projects	Mark																								
>2 projects	1																								
1-2 projects	0.5																								
2.	Data Centre Expert	<div>1. Educational Qualification:<table><tr><th>Degree</th><th>Mark</th></tr><tr><td>B Tech in C.Sc / M Tech in C.Sc</td><td>1</td></tr></table></div> <div>2. Experience:<table><tr><th>Experience</th><th>Mark</th></tr><tr><td>>10 yrs</td><td>2</td></tr><tr><td>5-10 yrs</td><td>1</td></tr></table></div> <div>3. Should have experience in cloud projects, implementation and management of on large scale cloud projects worth Rs. 5 Cr. each.</div>	Degree	Mark	B Tech in C.Sc / M Tech in C.Sc	1	Experience	Mark	>10 yrs	2	5-10 yrs	1	4	Resume	<input checked="" type="checkbox"/>	Anyone									
Degree	Mark																								
B Tech in C.Sc / M Tech in C.Sc	1																								
Experience	Mark																								
>10 yrs	2																								
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		<table><tr><th>Projects</th><th>Mark</th></tr><tr><td>>2 projects</td><td>1</td></tr><tr><td>1-2 projects</td><td>0.5</td></tr></table>	Projects	Mark	>2 projects	1	1-2 projects	0.5														
Projects	Mark																					
>2 projects	1																					
1-2 projects	0.5																					
3.	Urban Expert	1. Educational Qualification: <table><tr><th>Degree</th><th>Mark</th></tr><tr><td>Civil Engineering/ Urban Planning</td><td>1</td></tr></table> 2. Experience: <table><tr><th>Experience</th><th>Mark</th></tr><tr><td>>10 yrs</td><td>1</td></tr><tr><td>05-10yrs</td><td>0.5</td></tr></table>	Degree	Mark	Civil Engineering/ Urban Planning	1	Experience	Mark	>10 yrs	1	05-10yrs	0.5	2	Resume	<input checked="" type="checkbox"/>	Anyone						
Degree	Mark																					
Civil Engineering/ Urban Planning	1																					
Experience	Mark																					
>10 yrs	1																					
05-10yrs	0.5																					
4.	GIS QA Lead	1. Educational Qualification: <table><tr><th>Degree</th><th>Mark</th></tr><tr><td>BE in Computer Sc./ Masters</td><td>1</td></tr></table> 2. Experience: <table><tr><th>Experience</th><th>Mark</th></tr><tr><td>>10 yrs</td><td>1</td></tr><tr><td>05-10 yrs</td><td>0.5</td></tr></table> 3. Should have experience in public/private companies/govt agencies on large scale infrastructure project worth Rs. 5 Cr. each. <table><tr><th>Projects</th><th>Mark</th></tr><tr><td>>2 projects</td><td>1</td></tr><tr><td>1-2 projects</td><td>0.5</td></tr></table>	Degree	Mark	BE in Computer Sc./ Masters	1	Experience	Mark	>10 yrs	1	05-10 yrs	0.5	Projects	Mark	>2 projects	1	1-2 projects	0.5	3	Resume	<input checked="" type="checkbox"/>	Anyone
Degree	Mark																					
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Projects	Mark																					
>2 projects	1																					
1-2 projects	0.5																					
5.	GIS DBA	1. Educational Qualification: <table><tr><th>Degree</th><th>Mark</th></tr><tr><td>Master's in C.Sc/ Geoinformatics</td><td>1</td></tr></table> 2. Experience: <table><tr><th>Experience</th><th>Mark</th></tr><tr><td>>10 yrs</td><td>1</td></tr><tr><td>5-10 yrs</td><td>0.5</td></tr></table>	Degree	Mark	Master's in C.Sc/ Geoinformatics	1	Experience	Mark	>10 yrs	1	5-10 yrs	0.5	2	Resume	<input checked="" type="checkbox"/>	Anyone						
Degree	Mark																					
Master's in C.Sc/ Geoinformatics	1																					
Experience	Mark																					
>10 yrs	1																					
5-10 yrs	0.5																					
6.	GIS Solution Architect	1. Educational Qualification: <table><tr><th>Degree</th><th>Mark</th></tr><tr><td>Master's in GIS/ Computer Science/ Geoinformatics/ PhD</td><td>1</td></tr></table> 2. Experience: <table><tr><th>Experience</th><th>Mark</th></tr><tr><td>>20 yrs</td><td>1</td></tr><tr><td>15-20 yrs</td><td>0.5</td></tr></table>	Degree	Mark	Master's in GIS/ Computer Science/ Geoinformatics/ PhD	1	Experience	Mark	>20 yrs	1	15-20 yrs	0.5	2	Resume	<input checked="" type="checkbox"/>	Anyone						
Degree	Mark																					
Master's in GIS/ Computer Science/ Geoinformatics/ PhD	1																					
Experience	Mark																					
>20 yrs	1																					
15-20 yrs	0.5																					
7.	GIS Data Analyst	1. Educational Qualification: <table><tr><th>Degree</th><th>Mark</th></tr><tr><td>Master's in GIS/ Geoinformatics</td><td>1</td></tr></table> 2. Experience: <table><tr><th>Experience</th><th>Mark</th></tr><tr><td>>10 yrs</td><td>1</td></tr><tr><td>5-10 yrs</td><td>0.5</td></tr></table>	Degree	Mark	Master's in GIS/ Geoinformatics	1	Experience	Mark	>10 yrs	1	5-10 yrs	0.5	2	Resume	<input checked="" type="checkbox"/>	Anyone						
Degree	Mark																					
Master's in GIS/ Geoinformatics	1																					
Experience	Mark																					
>10 yrs	1																					
5-10 yrs	0.5																					

1.6.3 Scoring Model

The selection method applicable in this RFP shall be Quality and Cost Basis Selection (QCBS). In QCBS, the total score is calculated by weighting the technical and financial scores and adding them to obtain a combined QCBS (Technical cum Financial) score, as explained in the sub-clauses below.

The proposal obtaining the highest total combined score in evaluating quality and cost will be ranked as H-1, followed by the proposals securing lesser marks as H-2, H-3 etc.

The proposal securing the highest combined marks and ranked H-1 will be invited for negotiations as per Clause 1.7.11 mentioned below. If two or more bids have the same highest score in the final ranking, the bid with a higher technical score will be H-1.

1.6.4 Commercial Bid Evaluation

The Financial Bids of technically qualified Bidders will be opened on the prescribed date in the presence of Bidder representatives. If a firm quotes NIL charges/consideration, the bid shall be treated as unresponsive and will not be considered.

- Only fixed-price financial bids indicating the total price for all the deliverables and services specified in this bid document will be considered. The bidder shall quote item-wise as per the bill of quantities as per 'Form 2 of Appendix II'.
- The bid price will include all taxes and levies and shall be in Indian Rupees and mentioned separately. Any conditional bid would be rejected.
- Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".

1.6.5 Combined and Final Evaluation

The Technical Proposals are given an absolute technical score (T_a) (T_a out of max 100) based on the evaluation criteria. However, to normalize this w.r.t. Financial Score S_f below, a relative Technical Score (X) based on their relative ranking shall be calculated. The highest evaluated Technical Score (T_{a-max}) is assigned the maximum relative Technical Score (X) of 100 (Hundred). The formula for determining the relative Technical scores (X) of all other Proposals is as follows:

$$X = 100 \times T_a / T_{a-max},$$

in which " T_{a-max} " is the highest evaluated absolute Technical Score, " X " is the relative Technical score calculated, and " T_a " is the absolute Technical Score of the proposal under consideration. This normalisation would avoid any unintended magnification of weightage to the Financial score due to different scales of Technical Scores and Financial Scores.

The Financial Proposals are given cost-score based on the relative ranking of prices, with the lowest evaluated Financial Proposal (F_m) being assigned the

maximum financial score (Y) of 100 (Hundred). The formula for determining the financial scores (Y) of all other Proposals is as follows:

$$Y = 100 \times F_m / F,$$

in which "F_m" is the price of the lowest offer, "Y" is the financial score calculated, and "F" is the price of the proposal under consideration.

The weights given to the Technical (T) and Financial (P) Proposals are specified in TIS/ AITC:

T (the weight given to the Technical Proposal) in %, and

P (the weight given to the Financial Proposal) in % (with T + P = 100%)

Proposals would be ranked according to their combined QCBS (weighted technical, X and financial, Y) scores as follows:

$$S = (X \times T + Y \times P) / 100.$$

in which "S" is the combined QCBS score, "X" is the relative technical score calculated as per sub-clause a) above and "Y" is the financial score calculated as per sub-clause b) above.

All scores shall be calculated up to two decimal places only.

Technical Marks: (X)

Each Proposal which is eligible in Envelope A shall be scrutinized further with Envelop B and evaluated accordingly as per the following process and granted marks.

- i. Technical Marks (X): The marks secured based on evaluation of the Technical Proposal (Envelope B) as above shall be the Technical Marks of the Bidder.
- ii. Only those Bidders who have secured Technical Marks of 70 or above out of 100 shall be declared as qualified for evaluation of their 'Financial Bid- Envelope C'. Bidders who have secured less than 70 for Technical Marks shall be rejected.

Financial Marks: (Y)

- i. **Financial Marks (Y):** The bidders shall submit their quote as per the format provided in Appendix II Form-2.
- ii. The Financial proposals shall be evaluated based on the **Consolidated Cost Summary (Exclusive GST)** offered by the bidder. Any monetary figure in decimal shall be rounded off to the nearest INR.
- iii. The financial offers of the qualified bidders (who have secured technical marks of 70 or above) shall be tabulated for this project and the bidder with lowest financial offer will be given financial marks of 100.
- iv. The financial marks of other bidders for the project shall be computed as follows:

[The 'financial marks' of Bidder for the project(Y)]	= 100 X	[Offer quoted by the lowest bidder for the project (Rs.)]
		[Offer quoted by the respective Bidder for the project (Rs.)]

- The marks secured as above shall be the Financial Mark of the bidder for the project (Y).

- In cases of discrepancy between the prices quoted in words and in figures, the value in words shall be considered. For any other calculation/ summation error etc. the bid may be rejected.
- The bidder shall submit the financial bid for staff mentioned in Financial Bid Form. However, this will be used for evaluation of all bids with same staff strength. The actual deployment will be as per MMRDA requirement and contract value will vary accordingly.

Composite Marks of the Bidder

Composite marks of the Bidder for the bid shall be worked out as under:

Bidder	Technical Marks (X)	Financial Marks (Y)	Weighted Technical Marks (80% of X)	Weighted Financial Marks (20% of Y)	Composite Marks (F=D+E)
A	B	C	D	E	F
1					
2					

Notes:

- The preferred bidder shall be the one securing the highest Composite Marks.
- In the event of two or more Bidders securing the same Composite Marks, then MMRDA reserves the right to:
 - Declare the bidder whose technical marks is highest, among the bidders who have secured the same composite marks as preferred bidder, or
 - Invite fresh financial proposals from these bidders having the same composite marks and evaluating these financial proposals, or
 - Adopt any other method as decided by MMRDA.

MMRDA reserves the right to confirm the preferred bidder as a successful bidder subject to negotiations/clarifications if any and approval of Competent Authority.

1.7 Appointment of Systems Implementation Agency

1.7.1 Award Criteria

- i. The contract shall be awarded after the tendering process is complete and after approval of competent authority.
- ii. On award of the Letter of Award (LOA) and its acceptance by the Bidder within 15 days the Bidder shall be required to submit the Performance Bank Guarantee (PBG) as per RFP within 15 days of the letter of accepting the Offer and enter into an agreement with MMRDA for the successful completion of the Consultancy as per the Terms and Reference and pay the necessary fees, stamp duty, etc.
- iii. The IA shall commence the assignment on the date and at the location specified in the Contract/ work order.
- iv. The Termination of the Contract shall be in accordance with provisions of General Conditions of Contract. In case of dispute, the matter shall be referred to an arbitrator as specified by MMRDA.
- v. MMRDA shall provide the relevant data/reports available with it. Collecting any other data relevant to the assignment shall be the sole responsibility of the IA. MMRDA shall provide the necessary introductory letter to get information from other concerned agencies/departments, wherever applicable.

1.7.2 Preference to domestic manufactures

Preference for domestically manufactured electronic products in the Government Procurement

- a) Department reserves the right to provide preference to domestically manufactured electronic products in terms of the Ministry of Electronics and Information Technology (MeitY) Notification No.33(3)/2013-IPHW dated 23.12.2013 and the relevant Guidelines. A copy of the aforesaid Notifications/Guidelines and updated list of notified hardware can be accessed from the MeitY website i.e. (www.meitY.gov.in/esdm). Purchase preference for domestic manufacturer, methodology of its implementation, value addition to be achieved by domestic manufacturers, self-certification, and compliance and monitoring shall be as per the aforesaid Guidelines/ Notifications. The Guidelines may be treated as an integral part of this tender document.
- b) The modalities through which the preference for Domestically Manufactured Electronic Products(DMEPs) shall be operated are as follows:

- 1) The electronic products for which preference will be provided to domestic manufacturers shall be:

By MeitY

1. Desktop PCs
2. Dot Matrix Printers
3. Tablet PCs
4. Laptop PCs
5. Contact Smart Cards

6. Contactless Smart Cards
7. LED Products
8. Biometric Access Control/Authentication Devices
9. Biometric Finger Print Sensors
10. Biometric Iris Sensors
11. Video Wall and its accessories

By DoT

1. Encryption/UTM platforms (TDM and IP)
2. Core/ Edge/ Enterprise routers
3. Managed Leased line Network equipment
4. Ethernet Switches (L2 and L3), Hubs, etc.
5. IP based Soft Switches, Media gateways
6. Wireless/ Wireline PABXs
7. CPE (Including WiFi Access points and Routers, Media Converters), 2G/3G Modems, Leased - line Modems, etc.
8. Set - Top Boxes
9. SDH/ Carrier- Ethernet/ Packet Optical Transport equipment
10. DWDM/CWDM systems
11. GPON equipment
12. Digital Cross- Connects/MUXs
13. Small size 2G/ 3G GSM based Base Station Systems
14. LTE based broadband wireless access systems (eNodeB, EPC, etc.)
15. (Access Point, Aggregation Block, Core Block, etc.)
16. Microwave Radio systems (IP/Hybrid)
17. Software Defined Radio, Cognitive Radio Systems
18. Repeaters (RF/RF- over- optical), IBS, and Distributed Antenna system
19. Satellite based systems - Hubs, VSAT etc.
20. Copper access systems (DSL/DSLAM)
21. Network Management systems
22. Security and Surveillance communication systems (video and sensors based)
23. Optical Fibre Cable

- c) Bidders, claiming to bid in the status of domestic manufacturer, are required to give an undertaking in the format, given in Form 4, Format for Affidavit of Self Certification regarding Domestic Value Addition in an Electronic Product.

Furnishing of false information on this account shall attract penal provisions as per Guidelines/Notification.

1.7.3 Right to Accept Any Proposal & To Reject Any or All Proposal(s)

The Department reserves the right to accept or reject any proposal, and to annul the tendering process / Public procurement process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the

affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for Department action.

1.7.4 Notification of Award

Prior to the expiration of the validity period, Department will notify the successful Bidder in writing or by fax or email, that its proposal has been accepted (Letter of Intent). In case the tendering process /public procurement process has not been completed within the stipulated period, the Department may request the Bidders to extend the validity period of their Proposal. The decision to extend the validity period of a Bidder's Proposal shall be the Bidder's sole prerogative.

1.7.5 Department Contract finalization and award

The Department shall reserve the right to negotiate with the Bidder(s) whose Proposal has been ranked best value bid based on Technical and Commercial Evaluation to the proposed Project, as per the guidance provided by Central Vigilance Commission (CVC). On this basis the draft contract agreement would be finalized for award & signing.

1.7.6 Performance guarantee

On receipt of a letter of intent from the Department, the successful Bidder shall at his own expense will furnish a bank guarantee, by way of performance security, equivalent to **5 per cent** of the total contract value excluding taxes, on or before the signing of the subsequent contract, typically within 15 days from notification of award, unless specified to the contrary (Performance Guarantee). In case the successful Bidder fails to submit the Performance Guarantee within the time stipulated, the Department may at its sole discretion cancel the letter of intent without giving any notice and encash the EMD furnished by the Bidder, in addition to any other right available to it under this RFP.

On failure of the Agency to submit the Performance Bank Guarantee within the due date, penal interest will be charged as per prevailing prime lending rate of the Nationalized bank from time to time till the amount of Performance Bank Guarantee is furnished by the Agency (both days inclusive). If the Agency further fails to deposit the amount of Performance Bank Guarantee along with interest within Fifteen days after the expiry of the due date, the contract awarded to the Agency shall stand terminated without issue of any further notice.

The Performance Guarantee furnished by the successful Bidder shall be in the manner prescribed at Appendix III. The successful Bidder shall ensure, the Performance Guarantee is valid at all times during the Term of the subsequent contract (including any renewal) and for a period of 60 days beyond all contractual obligations, including warranty terms.

Refund of Performance Bank Guarantee:

- i) The amount furnished towards Performance Bank Guarantee may be discharged/ returned / refunded by MMRDA, after 180 days of Completion

of Contract Period, upon being satisfied that there has been due performance of the obligations by the Agency under the contract, and after adjusting against all incurred expenditure by MMRDA for doing well the damages made by Agency (if any). However, no interest shall be payable on the Performance Bank Guarantee.

Forfeiture of Performance Bank Guarantee:

- i) In the event the Agency commits a breach of any of the terms and conditions of the contract or fails to observe and comply with any of the requirements under this contract, the Department shall be entitled to forfeit the Performance Bank Guarantee either in whole or in part thereof at his discretion without prejudice to other rights and remedies open to the Department and it shall be binding on the bidder.
- ii) The Department shall also be entitled to make recoveries from the performance bank guarantee, or from any other amount due to him, the equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction, or misstatement.

1.7.7 Signing of contract

Once MMRDA notifies the successful Bidder that its proposal has been accepted, MMRDA shall enter into a separate Agreement, incorporating the conditions of the RFP and its amendments and any special conditions during negotiations between the MMRDA and the successful Bidder.

1.7.8 Failure to Agree with the Terms and Conditions of the RFP

Failure of the successful Bidder to agree with the Draft Legal Agreement and Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event Department may award the contract to the next best value Bidder or call for new proposals from the interested Bidders. In such a case, the Department shall invoke the PBG of the most responsive Bidder.

1.7.9 Patent Claim

In the event of any claim asserted by a third party of infringement of copyright, patent, trademark or industrial design rights arising from the use of the Goods or any part thereof, the bidder shall expeditiously extinguish such claim. If the bidder fails to comply and MMRDA is required to pay compensation to a third party resulting from such infringement, the Bidder shall be responsible for such compensation, including all expenses, court costs and lawyer fees. MMRDA shall give notice to the successful bidder of any such claim and recover it from the bidder if required. During submission, if any Bidder obtains any information/ document from Third Party it is at the Bidders risk and cost.

1.7.10 Discussions/ clarifications with the successful bidder

Discussions/ clarification shall be held to reach agreement on all points and sign a contract. Discussions/ clarifications will include a discussion of the Technical

Proposal, the proposed methodology (work plan), staffing and any suggestions made by the firm to improve the Terms of Reference. MMRDA and the successful bidder shall then work out final Terms of Reference, staffing, staff-months, logistics, and reporting which will be incorporated in the Contract.

1.7.11 Financial Negotiations

The negotiations include the clarification of the successful bidder's tax liability in the Client's country and how it should be reflected in the Contract. Staff month rate negotiations shall not take place, except when the offered Key Professionals and support professionals' remuneration rates are much higher than the typically charged rates by other consultants in similar contracts. In such case, the Client may ask for clarifications and, if the fees are very high, ask to change the rates.

1.7.12 Conclusion of the negotiations

Negotiations will conclude with a review of the draft Contract. To complete negotiations the MMRDA and the successful bidder shall initiate the agreed Contract. If the negotiations fail, the MMRDA will invite the bidder whose Proposal received the second highest score to negotiate a Contract.

1.7.13 Guidelines: Award of Contract

- i. The contract shall be awarded after the tendering process is complete and after approval of competent authority.
- ii. On award of the Letter of Award (LOA) and its acceptance by the Bidder within 15 days the Bidder shall be required to submit the Performance Bank Guarantee (PBG) as per RFP within 15 days of the letter of accepting the Offer and enter into an agreement with MMRDA for the successful completion of the Consultancy as per the Terms and Reference and pay the necessary fees, stamp duty, etc.
- iii. The IA shall commence the assignment on the date and at the location specified in the Contract/ work order.
- iv. The Termination of the Contract shall be in accordance with provisions of General Conditions of Contract. In case of dispute, the matter shall be referred to an arbitrator as specified by MMRDA.
- v. MMRDA shall provide the relevant data/reports available with it. Collecting any other data relevant to the assignment shall be the sole responsibility of the IA. MMRDA shall provide the necessary introductory letter to get information from other concerned agencies/departments, wherever applicable.

1.7.14 Confidentiality

The Information relating to documents, reports etc in connection to the assignment mentioned within this RFP is the property of MMRDA and shall not be shared by the IA without prior notice of MMRDA. Except as otherwise permitted by this Agreement, neither of the parties may disclose to third parties the contents of this Agreement or any information provided by or on behalf of the other that ought reasonably to be treated as confidential and/or proprietary. Parties may, however, disclose such confidential information to the extent that it:

(a) is or becomes public other than through a breach of this Agreement, (b) is subsequently received by the receiving party from a third party who, to the receiving party's knowledge, owes no obligation of confidentiality to the disclosing party with respect to that information, (c) was known to the receiving party at the time of disclosure or is thereafter created independently, (d) is disclosed as necessary to enforce the receiving party's rights under this Agreement, or (e) must be disclosed under applicable law, legal process or professional regulations. These obligations shall be valid for a period of 1 year from the date of termination of this Agreement.

1.7.15 Signing of Contract

The Agency whose bid has been accepted shall within 30 days from the date of acceptance letter (work order) enter into a written agreement with MMRDA for the proper fulfilment of the contract on lines similar to the terms provided herein, failing which it shall be construed as if the Agency has entered into binding agreement with the Authority. The Agency, at their own cost, shall also get the contract Agreement duly adjudicated from the stamp office at Mumbai.

In the event of the bid of a Partnership Firm/ company being accepted, the contract agreement shall be signed by all the partners of the Firm/Company or by the competent persons on behalf of the Firm/Company, subject to production of the necessary resolution or any other documents in support thereof.

In the event of conflict, the provisions contained in the agreement between MMRDA and Consultant will prevail over any conditions present in the Joint Venture (JV) agreement.

Once MMRDA notifies the successful bidder that its proposal has been accepted, MMRDA shall enter into a separate Agreement, incorporating all the conditions of the RFP and its amendments and any special conditions during negotiations between the MMRDA and the successful bidder.

The Termination of the Contract shall be in accordance with provisions of General Conditions of Contract. In case of dispute, the matter shall be referred to an arbitrator as specified by MMRDA.

1.7.16 Indemnity

Bidder shall indemnify, protect and save MMRDA against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the Consultancy work done by it.

1.7.17 Deployment of Urban Observatory

The Bidder is obligated to install the Urban Observatory/ICCC hardware within the designated location and space allocated by the Department. Bidder should supply and implement the centre no additional cost will be paid. However, if any interior work would be needed, it has to be done by the Successful Bidder.

1.8 Scope of Work

The Mumbai Metropolitan Region Development Authority (MMRDA) is Intending to find SI for the Selection of Design, Development and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA. The Mumbai Metropolitan Region (MMR) is spread over 6,328 Sq. Km. encompassing 9 Municipal Corporations, 9 Municipal Councils, 1 Nagar Panchayat along with more than 1469 villages in Mumbai City, Mumbai Suburb, Palghar, Thane and Raigad Districts.

SI shall note that the activities defined within scope of work mentioned are indicative and may not be exhaustive. SI is expected to perform independent analysis of any additional work that may be required to be carried out to fulfil the requirements as mentioned in this RFP and factor the same in its response.

SI should consider the below minimum to execute the scope of work:

1.8.1 Project Inception

The Selected Bidder would be required to undertake the following activities and not limited to:

Preparation of Detailed Inception Report:

A detailed Project Report has to be prepared, detailing out the work plan towards,

- a. Requirement of hardware and software components with options available and method for their procurement,
- b. Creation of a Comprehensive GIS base map database,
- c. Digitisation of base map data and conversion of base map data from non-spatial form to spatial form,
- d. Establishing of GIS Enterprise system & Integrated RIS Platform,
- e. Develop Geo-portal, Web-GIS & Mobile Application,
- f. Develop Dynamic Dashboard & Analytics system,
- g. Outline the methodology, various types, checklists, techniques, test cases, scenarios, and scripts that will be used for testing the system.
- h. Detailed documentation consisting of Functional, Technical, Software Architecture, User Manuals, Training Manuals, etc, for each module.
- i. Standardization of geospatial data format,
- j. The Collection of Spatial and Non – spatial data from identified agencies,
- k. Create Urban observatory within MMRDA and O&M the same,
- l. Training and hand-holding support to MMRDA staff and its designated officers.

1.8.2 Business Requirements, System Design & Application Development.

The Selected Bidder shall perform the detailed assessment of the solution requirements as mentioned in SOW. Selected Bidder shall develop & finalize the System Requirement Specifications (SRS) in consultation with the Department and all the stakeholders as prescribed by the Department. Selected Bidder's resources would need to interact with the Department 's officials for assessing the requirements of the

Department. While doing the detailed assessment of the solution requirement, the Selected Bidder is expected to do the following:

- 1 Translate all the requirements mentioned in the document into System Requirements
- 2 Maintain traceability matrix with respect to SRS for the entire implementation
- 3 The Selected Bidder shall design the solution architecture and specifications for meeting the requirements mentioned as part of this RFP. The system architecture for the Integrated Solution shall be designed, developed & delivered as per following paragraph.

1.8.3 General Guidelines

The system architecture should be based on open industry standards and protocols. The system will be designed to be scalable and easily extensible

1.8.3.1 Applications

1. The Solution design should focus on developing workflow and business transaction, rules management, configuration management
2. All applications must consider appropriate security, performance, efficiency, and maintainability issues
3. The ownership of the product licenses (for pre-existing products) would be with the Selected Bidder

1.8.3.2 Integration

1. The integrated solution design should include integration framework for integration of both internal and external applications and services
2. The Integration framework should be API based.
3. MMRDA is in process to implement various IT solutions, successful bidder should cooperate during the implementation for integration work. No additional cost will be paid.

1.8.3.3 Data

1. Data will be owned, shared, controlled, and protected as an asset of the Department
2. Data should only be accessed through application / interfaces for creating, updating, and deleting. There should not be any direct access to the data layer for users. All logs should be maintained for data operation.

1.8.3.4 Security

Selected Bidder shall provide and implement strategy to maintain data security at application level. The architecture must adopt an end-to-end security model that protects data and the infrastructure from malicious attacks, theft, natural disasters etc. Attacks and theft should be controlled and well supported (and implemented) with the security policy. The virus and worm attacks should be well defended with gateway level Anti-virus system, along with workstation level Anti-virus mechanism.

There should also be an endeavour to make use of the SSL/VPN technologies to have secured communication between Applications and its end users.

Furthermore, all the system logs should be properly stored & archived for future analysis and forensics whenever desired. Selected Bidder shall provide and implement strategies of encryption and security for external transaction with partner network and systems. The authority would carry out the security audit of the entire system upon handover and at regular interval during O&M period. Appropriate insurance cover must be provided to all the equipment supplied under this project.

The systems implemented for project should be highly secure, considering that it is intended to handle sensitive data relating to the city and residents of the city. The overarching security considerations are described below:

- The security services used to protect the solution shall include: Identification, Authentication, Access Control, Administration and Audit and support for industry standard protocols.
- The solution shall support advanced user authentication mechanisms including digital certificates and biometric authentication.
- Security design should provide for a well-designed identity management system, security of physical and digital assets, data and network security, backup and recovery and disaster recovery system.
- The solution should provide for maintaining an audit trail of all the transactions and should also ensure the non-repudiation of audit trail without impacting the overall performance of the system.
- The overarching requirement is the need to comply with ISO 27001 standards of security.

1.8.3.5 Manageability

Ease of configuration, ongoing health monitoring, and failure detection are vital to the goals of scalability, availability, and security and must be able to match the growth of the environment. Network should be auto/manual configurable for various future requirements for the ease of maintenance / debugging.

1.8.3.6 Interoperability

The system should have capability to take feed from cameras installed by private / Govt. at public places, digitize (if required) & compress (if required) this feed & store as per requirements.

1.8.3.7 Open Standards

Systems should use open standards and protocols to the extent possible

1.8.3.8 Scalability

Important technical components of the architecture must support scalability to provide continuous growth to meet the growing demand of the MMR. The system should also support vertical and horizontal scalability so that depending on changing requirements from time to time, the system may be scaled upwards. Main technology components requiring scalability are storage, bandwidth and computing performance (IT Infrastructure). The architecture should be scalable (cater to increasing load of internal and external users and their transactions) and capable of delivering high performance till the system is operational. The Applications proposed for various vertical solutions shall be capable of handling 200% growth for the next 5 years. SI shall clearly quantify

the expansion capabilities of the application software without incurring additional cost.

1.8.3.9 Urban Observatory

Selected Bidder shall follow the Urban Observatory Guidelines issued by UN. Document can be found at <https://unhabitat.org/a-guide-to-setting-up-an-urban-observatory>. The selected bidder also has also comply with NUIS Guidelines & Design Standards mentioned under Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme. The standards and guidelines could be referred here- [designand standards amrut \(1\) 0.pdf \(assam.gov.in\)](#)

The Selected Bidder shall carefully consider the scope of work and provide a solution that best meets the Department s requirements. Selected Bidder is expected to deliver all the core modules, support components and common functionalities mentioned above. The Selected Bidder will be responsible for supplying the application, licenses, database and related software.

Note : MMRDA has specified the scope of work in details . However, bidder is requested to factorise those elements which are required for the successful implementation of project. No additional cost will be paid.

1.8.4 Supply, Installation, Configuration & Customization

1.8.4.1 Access Layer

It is envisaged that this platform shall be hosted centrally, at the cloud location, and will be accessed by all the stakeholders, authorized users through various means and mechanisms to request services through various access channels.

1.8.4.2 Web Browser

Access over Internet / through Web Browsers will be one of the key access mechanisms for this application. All the ecosystem partners will connect to the Portal via the Internet.

1.8.4.3 Email/SMS

This application may send alerts / intimations / automated messages to be registered email and mobile number of individual users/ user group.

1.8.4.4 Portal

To meet its objective, the application has been envisaged as a portal. This should have the following features but not limited to:

1. Proposed portal will be single integrated user interface for all stakeholders.
2. The portal should support workflows
3. The portal should not allow concurrent sessions for same user.
4. The portal should implement security features, such as password complexity, automatic blocking (temporary/permanent) of user logins after given number of unsuccessful login attempts
5. Portal should support HTTPS protocol on Secure Socket Layer (SSL)

6. The portal should support the leading browsers such as Internet Explorer, Edge, Firefox, Chrome, etc.
7. Should authenticate users with role-based access
8. Should support upload, store, organize and share documents
9. Should integrate with email servers
10. Should support multiple roles with associated access controls.
11. Should support upload, store, organize and share data
12. Users should be able to upload data in multiple formats and multiple files at the same time

1.8.4.5 Dashboard, Reporting & Analytics

As a part of data dissemination process, Selected Bidder is responsible for publishing many periodic and reports, the reporting requirement of department will be reviewed and analysed in detail as a part of proposed system. Services will include the development of Dashboards. Department may ask for additional reports time-to-time. No additional cost will be paid.

1.8.4.6 Dashboard

Role based dashboard shall be required for various end users. The department understand role and responsibility of decision makers and officials, and to support their decision-making process with interactive reports and graphs the proposed solution will have provision of dashboards for internal users with drill-down reports and graphs. This should be strictly privilege-restricted section based on Role Based Access Control (RBAC) mechanism defined through the 'Admin' module.

1.8.4.7 Reports MIS Reports

Administrative and monitoring reports, which need to be published on a defined periodic interval are categorized as MIS reports. The periodicity and format of these reports are fixed in nature and any change in the layout reports will be approved, processed, and published on portal.

Custom Reports

Apart from the defined set MIS reports and dashboards, department can receive the custom reporting requirement for data received from other departments and establishments.

Analytics

The Department 's official's work also involves a significant amount of estimation and forecasting. In order, effectively analyse these indicators and carry-out the impact analysis using various statically techniques, Department would like to have analytical reporting through reports and dashboards.

1.8.4.8 Data Integration Services

The solution should be designed to cater its integration needs of sharing the data and business processes among any connected application or any other data source. It is envisaged that various systems need to be linked together may reside on different operating system, use different database solution or may be legacy systems. These integrations are expected to be done through Web Services, File Based or Native API based on Batch Mode or Need basis (synchronous or asynchronous).

1.8.4.9 Application Testing

The Selected Bidder shall provide the testing strategy including the traceability matrix and relevant test cases and shall also conduct the testing of various components of the software developed/customized along with the solution. The testing should be comprehensive and should be carried out at each stage of development as well as implementation. The Selected Bidder shall demonstrate the testing criteria outlined in the table below prior to Go-Live as well as during project operations phase.

Type of Testing	Responsibility	Scope of Work
System Testing	Selected Bidder	The Selected Bidder shall prepare a test plan as well as test cases and maintain it. The Department may request the Selected Bidder to share the test cases and results when required.
Integration Testing	Selected Bidder	The Selected Bidder shall prepare and share with the Department the Integration test plans and test cases. The Selected Bidder shall perform Integration testing as per the approved plan.
Performance and Load Testing	Selected Bidder	The Selected Bidder will need to conduct performance and load testing in production/ production like setup.
Security Testing	Selected Bidder through a CERT-IN empanelled third-party auditor	The Solution should demonstrate compliance with security requirements as mentioned in the RFP including but not limited to security controls in the application, cloud environment, and security monitoring systems deployed by the Selected Bidder. The solution shall pass vulnerability and penetration testing for rollout of each phase. The solution should pass web application security testing for the portal and security configuration review of the baseline infrastructure. The Selected Bidder should carry out security and vulnerability testing on the developed solution as per latest OWASP guidelines.

User Acceptance Testing	Department	The Selected Bidder will need to prepare the User Acceptance Testing test cases and share with the Department . UAT will be performed by the Department .
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1.8.4.10Go-Live

1. The selected Bidder shall prepare and agree with Department, the detailed plan for Go-Live (in-line with the implementation plan as mentioned in RFP).
2. The Selected Bidder shall define and agree with Department , the criteria for Go-Live and the timelines for the same.
3. Selected Bidder shall submit signed-off UAT report (issue closure report) ensuring all issues raised during UAT are being resolved prior to Go-Live.
4. Selected Bidder shall ensure that Go –Live criteria as mentioned in User acceptance testing and selected bidder needs to take approval from Department team on the same. The Department and selected bidder can mutually decide to go-live with limited functionality based on urgency of deployment.
5. If any delay in Go-live happens during the execution of the project, there would be no additional payment from MMRDA for the additional period. Accordingly, the Operations & Maintenance would start after the Go-Live period only.

1.8.4.11Technical Documentation

The Selected Bidder will provide detailed final system documentation for reference to Department . Selected Bidder shall prepare the final User Manuals incorporating details of all menus and functionality provided by the System. Department expects the following (not limited to) in the form of product documents.

1.8.4.12Cloud / Hybrid Cloud Hosting

1. The bidder or respective MOU partner /business associate of bidder /JV partner/Consortium Partner should own a MEITY empanelled Tier-3 or above Government Data Center/Cloud setup with both DC/DR facilities and own SoC services.
2. The Primary and DR Data Centre (Cloud) shall be physically located at different locations in India
3. The Department retains ownership of loaded business solutions / bespoke software installed on the VMs
4. Support a secure administration interface - such as SSL/TLS or SSH - for the purchasing organization's designated personnel to remotely administer their virtual instance
5. The Selected Bidder should provide tools and mechanism to the Department or its appointed agency for defining their backup requirements & policy.
6. The Selected Bidder should provide tools and mechanism to the Department or its appointed agency for configuring, scheduling, performing and managing back-ups and restore activities (when required) of all the data including but not limited to files, folders, images, system state, databases and enterprise

applications in an encrypted manner as per the defined policy.

7. Design and document an efficient disaster recovery solution in line with the RFP requirements & ensuring best practices on disaster recovery as per RTO = 90 mins and RPO= 90 mins
8. The Primary and DR Data Centre (Cloud) shall be physically located at different seismic zones in India.
9. Cloud should support 500 concurrent users
10. The bidder is requested to propose the required sizing considering the additional 50% growth of the database. No separate charges to be paid for the additional cloud hosting.
11. MMRDA may go for consolidated cloud hosting for all the RFPs floated by the MMRDA in future. In the event, this said application and database will be migrated to MMRDA defined cloud. The selected bidder must cooperate fully to ensure the successful migration of data in future, without any additional cost.

1.8.4.13 Training & Capacity Building

1. The selected bidder will provide training (classroom and virtual training) for the stakeholders based on the training plan agreed in the inception report.
2. If, however, apart from the training requirement is not adequate and The Department feels the need to conduct a greater number of training, then additional training may be planned. This will be limited to not more than 10 training prior to go-live, and one training each quarter going forward from go-live.
3. Support during execution of acceptance testing.
4. Preparation and implementation of the information security policy, including policies on backup and redundancy plan.
5. Preparation of revised KPIs for performance monitoring of various urban utilities monitored through the system envisaged to be implemented.
6. Developing standard operating procedures for operations management and other services to be rendered by ICCC.
7. Preparation of system documents, user manuals, performance manuals, Operation manual etc.

1.8.4.14 Operations & Maintenance

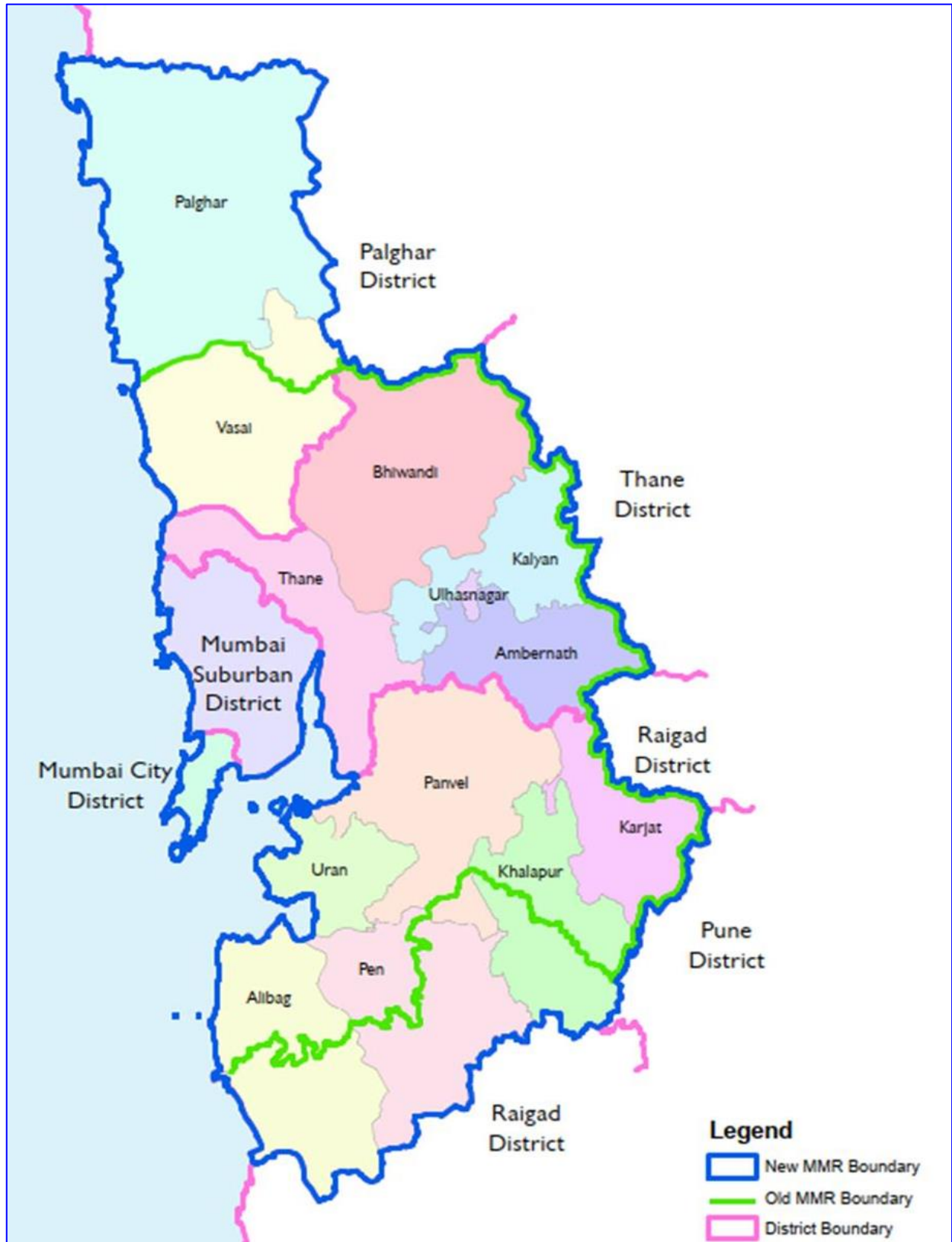
Application support includes, but is not limited to, production monitoring, troubleshooting and addressing functionality, availability and performance issues. The Selected Bidder shall keep the application software in good working order; perform changes and upgrades to applications as requested by the Department's team. Key activities to be performed by Selected Bidder in the application support phase are as follows:

1. Application monitoring and Compliance to Service Level Agreements
2. Application support including modifications and integration with future systems
3. Bugs/Fixes Management
4. Software Change and Version Control
5. Maintenance of Configuration and System Documentation

1.8.4.15 Regional Information System (RIS)

MMRDA expects the selected SI to have a multidisciplinary approach involving GIS specialists, database administrators, software developers, data analysts, and domain experts. Collaboration with stakeholders and ongoing user engagement is crucial to ensure the RIS meets the region's information needs and contributes to informed decision-making

1.8.4.16 Area of Interest

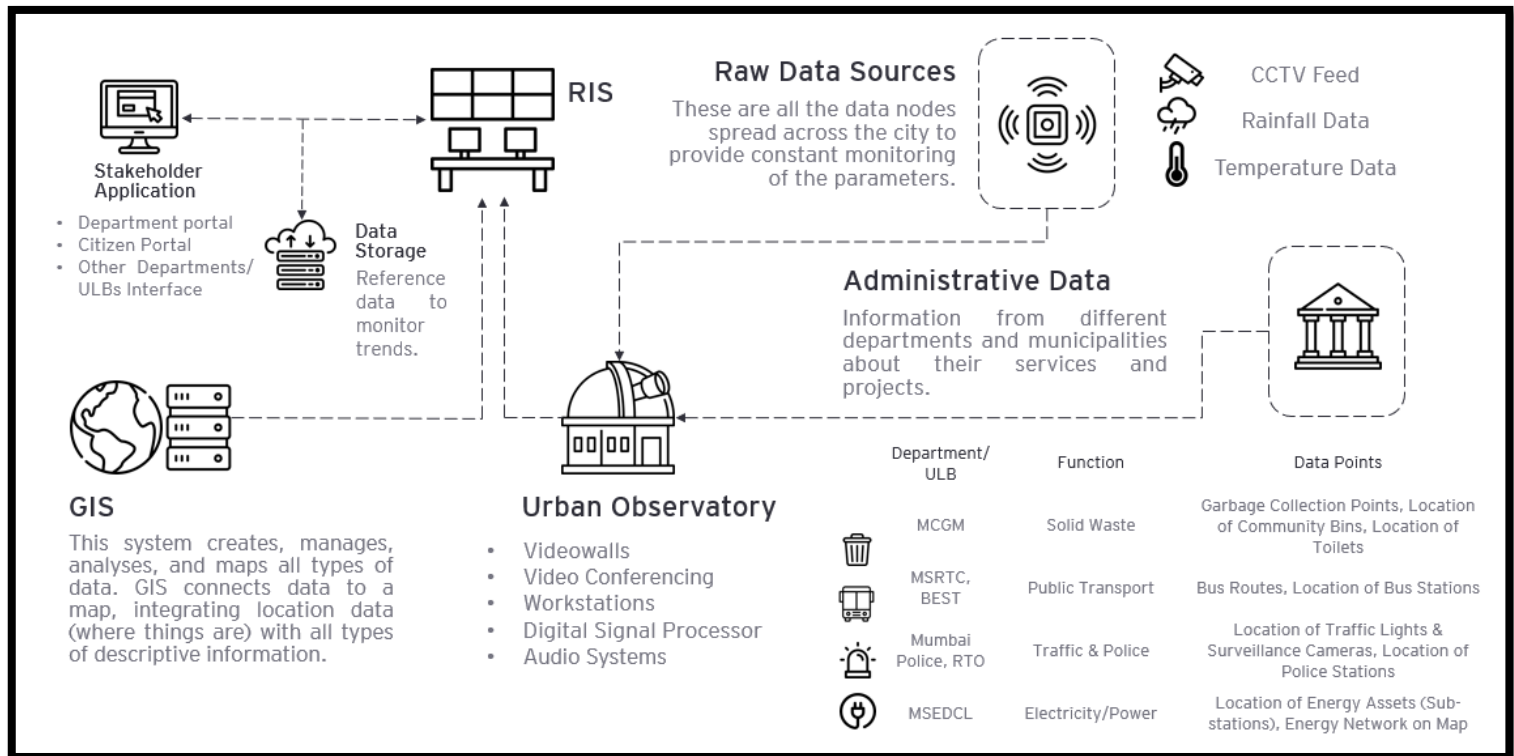


The Mumbai Metropolitan Region (MMR) is spread over 6,328 Sq. Km. encompassing 9 Municipal Corporations, 9 Municipal Councils, 1 Nagar Panchayat along with more than 1469 villages in Mumbai, Mumbai Suburb, Palghar, Thane and Raigad Districts.

1.9 RIS Development

Designing, developing, and implementing an integrated GIS-based Regional Information System (RIS) shall involve creating a system that combines a geographic information system (GIS) with various data sources to provide comprehensive regional information.

Indicative list of components for the RIS development are mentioned below:



Use cases of RIS in the context of MMRDA:

1. Emergency Response:

In the event of a crisis, the RIS becomes a vital asset for the MMRDA, providing a detailed and interactive map of the entire Mumbai Metropolitan Region. It can pinpoint the location of critical infrastructure, access routes, and vulnerable populations. The system can also track the real-time deployment of emergency services, optimize rescue and relief efforts, and ensure that resources are directed to the most affected areas.

By integrating data from various sources, including weather forecasts and traffic patterns, the RIS can help predict potential impacts and prepare for fast-evolving situations, ultimately saving lives and reducing the economic impact of disasters.

2. Virtual Test Bedding & Experimentation:

RIS offers a virtual platform for MMRDA to simulate and analyze various urban scenarios. It can be used to test the impact of new infrastructure projects on traffic flow, public transportation efficiency, and utility services. Planners can also use it to model the effects of policy changes, such as the introduction of congestion pricing or the expansion of green spaces.

The RIS allows for experimentation with urban design and planning without the risks and costs associated with real-world trials. This capability is especially useful for testing the resilience of the city's infrastructure against natural disasters or for planning large-scale events that require complex coordination.

3. Improving Air Quality:

The RIS can integrate environmental monitoring data to provide a comprehensive view of air quality across Mumbai. It can identify pollution sources, track air quality trends, and correlate these with traffic patterns, industrial activities, and weather conditions.

The system can also simulate the effects of potential interventions, such as traffic restrictions or the expansion of green zones, allowing stakeholders to develop targeted strategies for improving air quality.

By providing a platform for continuous environmental monitoring and analysis, the RIS supports proactive public health initiatives and helps MMR region to meet its sustainability goals.

4. Underground Asset Register:

An underground asset register within the RIS can revolutionize how MMR region manages the city's subterranean infrastructure. It can provide a comprehensive map of all underground utilities, including water and sewage pipes, gas lines, electrical cables, and telecom ducts.

This information is crucial for coordinating maintenance work, planning new construction projects, and responding to emergencies such as pipe bursts or gas leaks. By having a clear understanding of what lies beneath the city's streets, respective departments of MMR region can avoid accidental damage to utilities, minimize service disruptions, and plan for future infrastructure needs.

5. Mapping Climate Action & SDG Goals:

The RIS can serve as a strategic tool for MMRDA to track and analyze progress towards climate action and the Sustainable Development Goals. By mapping green spaces, energy consumption, and waste generation, the system can highlight areas where the city is succeeding and where improvements are needed.

It can also be used to model the potential impacts of climate change on the city's infrastructure and population, and to develop adaptation strategies. The RIS enables MMRDA to set measurable targets, monitor progress, and engage with stakeholders to promote sustainable urban development.

6. Sandbox for Citizens:

By providing a public-facing RIS portal, MMRDA can empower citizens to engage with urban data and contribute to the city's development. Residents can access a wealth of information on public services, infrastructure projects, and city planning initiatives.

They can also use the system's GIS capabilities to create custom maps, analyze data, and develop applications that address local issues. This participatory approach fosters a sense of ownership among citizens, encourages innovation, and helps MMRDA to tap into the collective intelligence of the community.

7. Land Governance:

The RIS can enhance land governance by providing MMRDA and the respective Government bodies with tools to monitor land use compliance and enforce regulations. It can identify unauthorized constructions, land encroachments, and zoning violations.

The system can also support land acquisition processes, compensation mechanisms, and resettlement plans by providing accurate and up-to-date land records. By ensuring transparent and efficient land governance, the RIS helps maintain public trust and promotes sustainable urban development.

8. Economic Growth:

The RIS can analyze a range of economic indicators to identify growth opportunities within the Mumbai Metropolitan Region. It can map business density, infrastructure development, and investment flows to pinpoint areas poised for economic expansion.

The system can also help MMRDA to attract investment by highlighting the region's strengths and potential. By providing a data-driven foundation for economic planning, the RIS supports the MMRDA's efforts to realize Mumbai's potential as a global economic hub.

9. Unemployment:

The RIS can be a powerful tool for addressing unemployment by mapping residential areas against joblessness rates. It can analyze spatial patterns and correlations with demographic and economic factors to identify underlying causes of unemployment.

10. Citizen Happiness Index:

The RIS can overlay survey data on citizen satisfaction with various aspects of urban life, such as green spaces, public services, and commute times. By visualizing and analyzing happiness patterns across Mumbai to identify areas where improvements are needed and develop policies that enhance the quality of life for residents.

The system can also track changes in citizen satisfaction over time, providing a valuable feedback loop for the city's governance.

11. Tourism Growth:

The RIS can analyze factors affecting tourism, such as visitor numbers, hotel occupancy rates, and attraction popularity. It can provide insights into the economic impact of tourism and help tourism relevant stakeholders in MMR region to develop strategies for promoting sustainable tourism growth.

The system can also identify areas where tourism infrastructure needs to be improved or where new attractions could be developed to draw more visitors.

12. Equity & Social Inclusion:

By mapping income levels, access to education and healthcare, and demographic data, the RIS can help identify areas of social exclusion.

This information is crucial for developing targeted policies that promote equity and social inclusion. The system can also track the effectiveness of these policies over time, ensuring that they are making a tangible difference in the lives of Mumbai's residents.

13. Biodiversity & Conservation:

The RIS can map habitats, species distribution, and ecological networks to monitor biodiversity and prioritize conservation efforts. It can help to identify areas of ecological significance, track changes in biodiversity, and develop strategies for protecting and enhancing natural habitats.

The system can also support environmental education and awareness by providing accessible information on Mumbai's biodiversity.

14. Education Access:

The RIS can map school locations, student population densities, and commute distances to analyze and improve access to education across Mumbai.

It can help to identify areas where additional schools are needed, where transportation to schools can be improved, and where educational programs can be targeted to meet the needs of specific populations.

15. Healthcare Access:

The RIS can map healthcare facilities, patient distribution, and transportation networks to identify gaps in healthcare access. It can help to plan service improvements, such as the construction of new healthcare centers or the expansion of mobile health services.

The system can also support public health initiatives by providing data on health outcomes and risk factors.

16. Grievance Redressal:

The RIS can visualize complaint data and resolution times across different areas of Mumbai, helping to identify and address systemic issues in grievance redressal.

The system can track the effectiveness of public services, highlight areas where residents are experiencing problems, and ensure that complaints are resolved in a timely and satisfactory manner.

17. Advertising & Outreach: The RIS can identify key locations for advertising and outreach campaigns based on demographic data and consumer behavior patterns.

It can help the stakeholders and businesses to optimize the placement and targeting of promotions, ensuring that they reach the intended audience and achieve the desired impact.

18. Water & Sewer Management:

The RIS can map water supply networks, sewer lines, and treatment facilities to monitor service delivery and plan maintenance.

It can help to ensure efficient water and sewer management, reduce the risk of service disruptions, and plan for future infrastructure needs.

19. Traffic & Road Safety:

The RIS can provide comprehensive data on traffic volumes, peak times, flows, and vehicle types at city crossroads and junctions.

This information can be used for regional traffic management and planning, as well as for identifying accident spots and minimizing emergency response times.

20. Infrastructure Development:

The RIS can measure the adequacy of infrastructure in Mumbai, supporting ULBs efforts to improve access to clean water, sanitation, good roads, and information and communication technology.

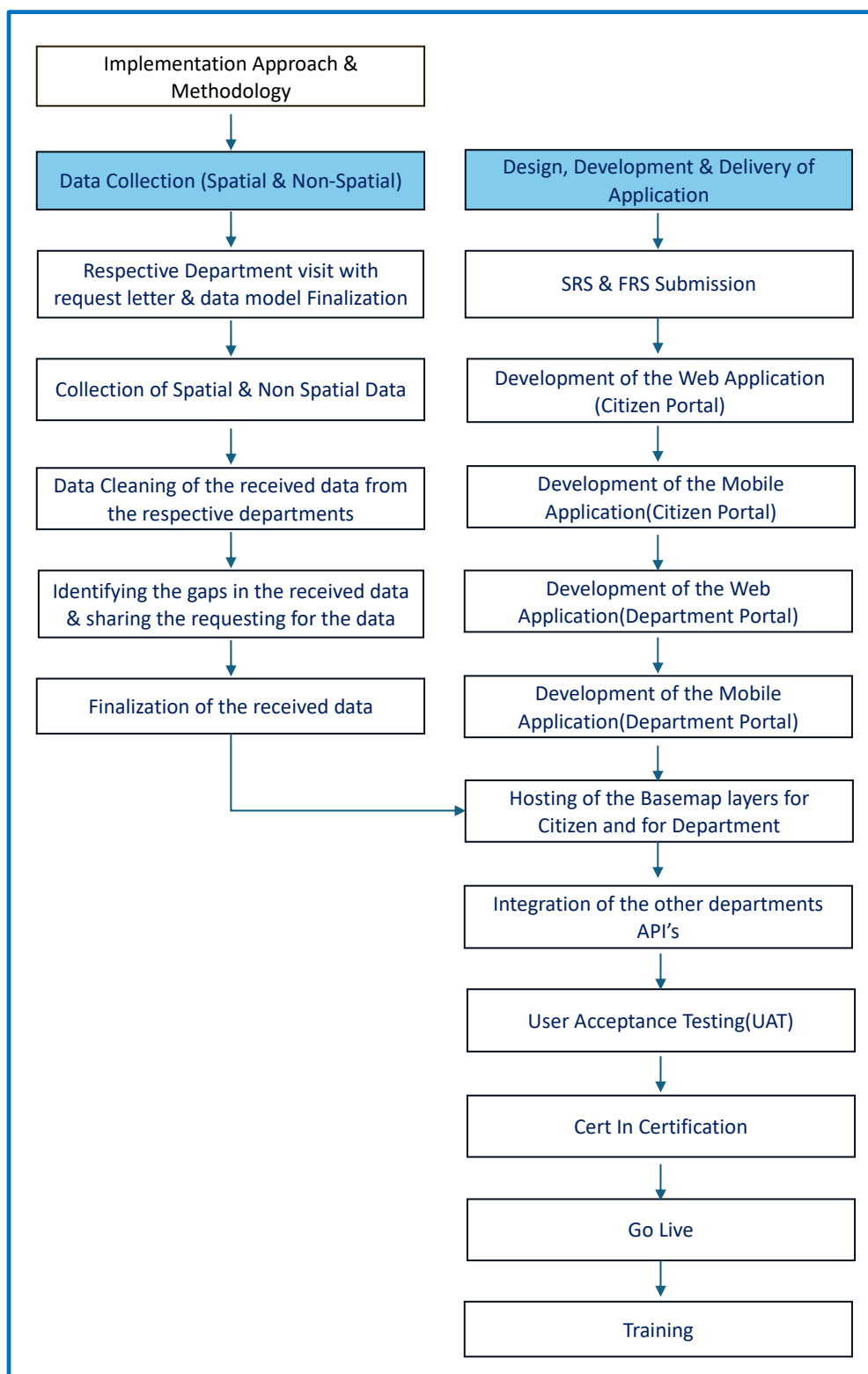
By providing a data-driven foundation for infrastructure development, the system helps to enhance living standards and promote economic growth.

21. Urban Planning:

The RIS can integrate land use data, infrastructure, and population growth projections to assist in strategic urban planning and sustainable development.

It can help to ensure that urban growth is managed in a way that meets the needs of residents, preserves the environment, and supports economic development.

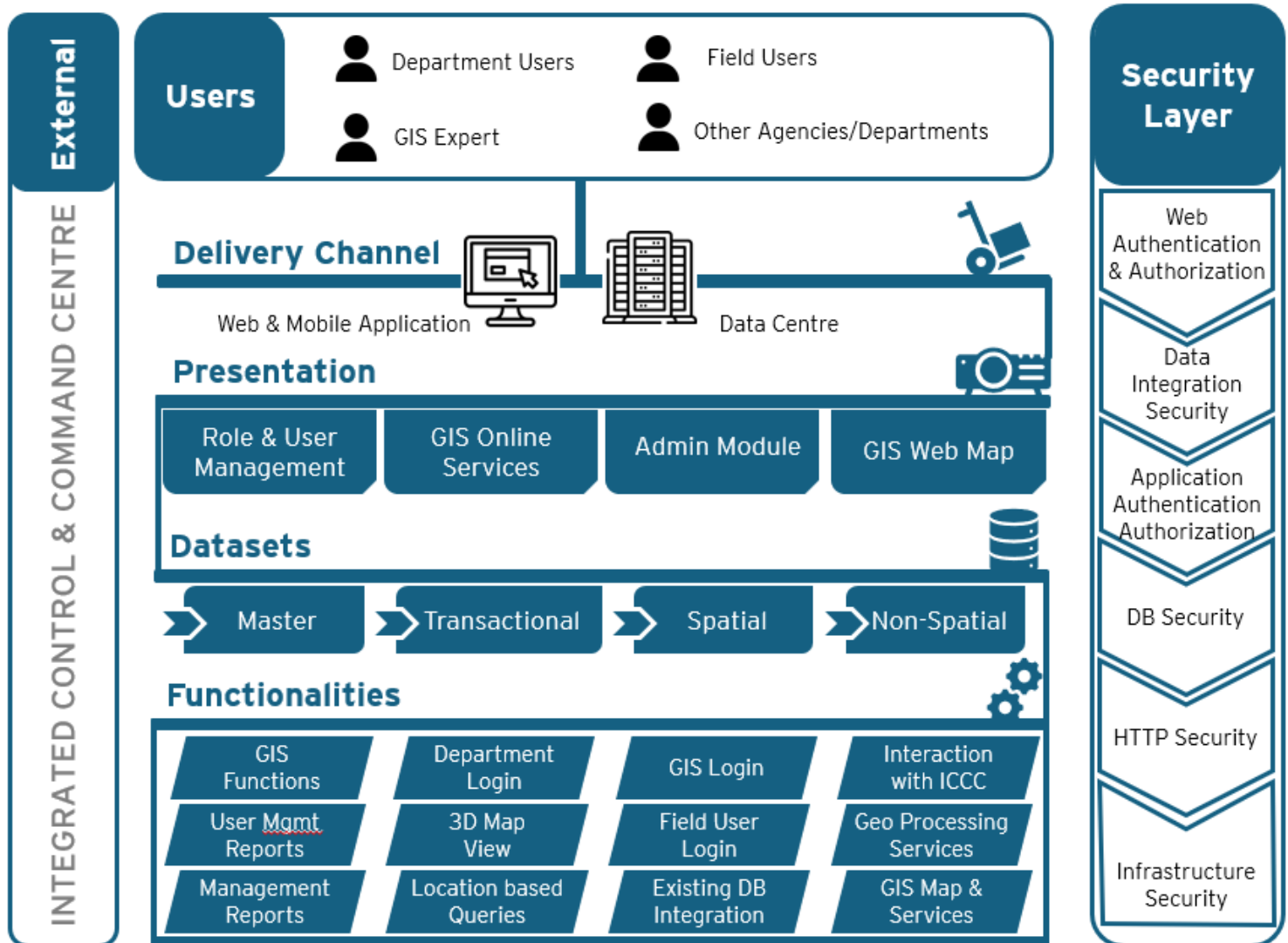
The following Graphic shows the key activities MMRDA envisions for the SI to consider for the RIS platform:



1.9.1 Needs Assessment & functional requirements gathering

SI needs to identify the specific requirements and goals of the RIS by engaging with MMRDA. Determine the types of data and functionalities needed to address the region's challenges and support decision-making.

Refer below a tentative logical architecture for better understanding:



1.9.2 Tentative list of Layers

Below tabled are the minimum layers required for RIS. MMRDA may add/remove any of these during the SRS stage before finalizing the data model/schema.

Tentative list of layers to be collected from ULBs, Infrastructure agencies, Planning Authorities, Government and concerned non-government Institutions.

List of the Departments is given in the Section 1.4.5 above

Class	Sub Class	Geometry
Administrative Boundaries	International Boundary	Polygon
	State Boundary	Polygon
	District Boundary	Polygon
	Tehsil / Mandal / Block Boundary	Polygon
	Village Boundary	Polygon
	Forest Boundary	Polygon
	Revenue Boundary	Polygon
Planning Boundaries	Planning Area Boundary	Polygon
	Highway Corridor Development Zone	Polygon
	Peripheral Control belt boundary	Polygon
	Controlled Area boundary	Polygon
	Urban sable Area Boundary	Polygon
	Industrial Zone / Area	Polygon
	Special Economic Zone	Polygon
Municipal Boundaries	National Park / Sanctuary /Conservation Area	Polygon
	Municipal Boundary	Polygon
	Zone Boundary	Polygon
	Ward Boundary	Polygon
Other Boundaries	Tax zone Boundary	Polygon
	Urban Frame Survey Boundary	Polygon
	Enumeration Block Boundary	Polygon
Hazard	Mining Area Boundary	Polygon
	Flood	Polygon
	Earthquake	Polygon
Road	Landslide	Polygon
	Expressway	Polygon / Line
	National Highway	Polygon / Line
	State Highway	Polygon / Line
	Bypass	Polygon / Line
	Ring Road	Polygon / Line
	Service Road	Polygon / Line
	Major City Road#	Polygon / Line
	Minor City Road#	Polygon / Line
	Other Public Road	Polygon / Line
	Other Private Roads	Polygon / Line
	BRTS	Polygon / Line
	Cycle Track	Polygon / Line
	Village road	Polygon / Line
	Foot path	Line
	Cart track	Line
	Ropeway	Line
	Carriageway	Line
	Right of way	Line

Rail	Broad Gauge	Line
	Narrow Gauge	Line
	Meter Gauge	Line
	Metro/MRTS	Line
	MMTS	Line
Bridges	Culvert	Line
	Tunnel	Line
	Bridge across river	Line
	Over Bridge	Line
	Underpass	Line
	Road Bridge Across	Line
Flyovers	Rail	Line
	Subway	Line
	Foot over bridge	Line
	Rope bridge	Line
	Flyover	Line
Water Bodies	River	Polygon
	Stream	Polygon / Line
	Canal	Polygon / Line
	Drain	Polygon / Line
	Ponds	Polygon
	Lake	Polygon
	Tank	Polygon
	Island	Polygon
	(River/Lake)	Polygon
	Reservoir	Polygon
	Back Water	Polygon
	Sea	Polygon
Residential	Residential Area/Colony	Polygon
	Township	Polygon
	Housing scheme	Polygon
Commercial	Retail	Polygon
	Wholesale	Polygon
	General Business	Polygon
	Hotel / Lodge / Restaurant	Polygon
	Shopping Centre / Mall	Polygon
	Resort	Polygon
	Petrol Pump / LPG filling station	Polygon
	Informal Shop	Polygon
	Hostel	Polygon
	Market (Daily & Weekly) / Mandi	Polygon
Industrial	Manufacturing	Polygon
	Service	Polygon
	Chemical	Polygon
	Pharmaceutical	Polygon
	Textile	Polygon
	IT Parks	Polygon
	Industrial Estate / SEZ	Polygon
	Agro based & Food Processing	Polygon
	Obnoxious	Polygon
	Cottage and Household	Polygon

		Other Industries	Polygon
Mixed		Residential & Commercial	Polygon
		Residential & Commercial	Polygon
		Residential & Household Industry	Polygon
		Residential & Educational	Polygon
		Residential & Health Services	Polygon
		Commercial & Industrial	Polygon
		Commercial & Health Services	Polygon
		Commercial & Educational	Polygon
Educational		School	Polygon
		College	Polygon
		University	Polygon
		Vocational Institute	Polygon
		Anganwari	Polygon
		Training Institute	Polygon
Health Services		Govt. Hospital	Polygon
		Private Hospital	Polygon
		Diagnostic Centre/Clinic/Dispensary	Polygon
		Nursing Home	Polygon
		Primary/Community Health Centre	Polygon
Central Property	Govt.	Office	Polygon
		Quarter	Polygon
State Property	Govt.	Office	Polygon
		Quarter	Polygon
Railway		Railway Property	Polygon
Public & Semi Public		Private Office	Polygon
		Banks	Polygon
		Credit Society	Polygon
		Foreign Establishment	Polygon
		Police Station	Polygon
		Cantonment/Battalion	Polygon
		Jail	Polygon
		Crematorium Burial Ground/GraveYard	Polygon
		Auditorium	Polygon
		Convention Centre	Polygon
		Museum	Polygon
		Public Library	Polygon
		Art Gallery & Cultural Centre	Polygon
		LPG/CNG Gas Booking Office	Polygon
		Ticket Booking & Reservation Office	Polygon
		Stock Exchange	Polygon
		Disaster Management Centre	Polygon
		Metrological Station	Point
		Dhobi Ghat	Polygon
		Creche/Day Care	Polygon
		Public/Community Toilet	Polygon
		Social Welfare Centre	Polygon
		Orphanage	Polygon
		Old Age Home	Polygon
		Night Shelter	Polygon
		Fire Station	Polygon

	ATM	Point
Religious	Temple	Polygon
	Mosque	Polygon
	Idgah	Polygon
	Church	Polygon
	Gurudwara	Polygon
Recreational	Park	Polygon
	Playground	Polygon
	Club	Polygon
	Sports Centre	Polygon
	Gymnasium	Polygon
	Swimming Pool	Polygon
	Stadium	Polygon
	Planetarium	Polygon
	Aquarium	Polygon
	Open Air Theatre	Polygon
	Golf Course	Polygon
	Racecourse	Polygon
	Exhibition Ground	Polygon
	Amusement /Theme Park	Polygon
Public Utilities	Water Treatment Plant	Polygon
	Water Pumping Station	Polygon
	Ground Level Reservoir	Polygon
	Sewage Treatment Plant	Polygon
	Sewage Pumping Station	Polygon
	Electric Power Plant	Polygon
	Electric Substation	Polygon
	City Gate Metering Stations	Polygon
	Area Regulator Stations	Polygon
	Rainwater Harvesting System	Polygon
	Effluent Treatment Plant	Polygon
Solid-Waste Management	Landfill site	Polygon
	Dumping Yard	Polygon
	Recycling Plant	Polygon
	Garbage Collection Point/Dumper	Polygon
Communication	Telephone exchange	Polygon
	Post/Telegraph Office	Polygon
	Radio/TV Station	Polygon
	Satellite & Tele-communication Centre	Polygon
	Public Telephone Booth	Point
	Cell Tower	Point
	WIFI Hotspot	Point
Heritage	Monument	Polygon
	Fort	Polygon
	Archaeological Site	Polygon
Slum	Notified Slum	Polygon
	Non- notified Slum	Polygon
	Squatter / Kachi Basti	Polygon
Vacant Land	Private Vacant	Polygon
	Municipal Asset	Polygon
	Government Asset	Polygon

	Reclaimed Land	Polygon
	Layout / Plotted	Polygon
Transportation	Bus stand /Terminus	Polygon
	Railway Station	Polygon
	Railway Yard / Siding	Polygon
	Railway Track Area	Polygon
	Airport / Airstrip	Polygon
	Truck Terminus	Polygon
	Freight Complex	Polygon
	Taxi Stand	Polygon
	Auto Stand	Polygon
	Cycle rickshaw/Cycle /Cart stand	Polygon
	Bus Bay	Polygon
	Bus Stop	Polygon/Point
	Transport Nagar	Polygon
Traffic related	Traffic Island	Polygon
	Median / Divider	Polygon
	Parking Space / Area	Polygon
Rural	Village / Abadi Area	Polygon
Green Areas	Reserved Forest	Polygon
	Protected Forest / Notified Forest	Polygon
	Social	Polygon
	Green belt	Polygon
	Tree Clad Area	Polygon
	Tree	Point
Agricultural Land	Cropland	Polygon
	Fallow land	Polygon
	Plantations	Polygon
	Orchard	Polygon
	Horticulture	Polygon
	Plant nursery	Polygon
Wetlands	Waterlogged	Polygon
	Low lying area	Polygon
	Marshy	Polygon
	Swampy	Polygon
	Mudflat	Polygon
	Creek	Polygon
Wastelands	Scrubland	Polygon
	Barren	Polygon
	Rocky	Polygon
	Sandy area	Polygon
	Salt affected	Polygon
	Gullied	Polygon
Specific Land Use	Hill / Mountain	Polygon
	Snow covered area	Polygon
	Mining Area	Polygon
	Grazing land	Polygon
	Pastures	Polygon
	Meadows	Polygon
	Tea/Coffee Garden	Polygon
	Ghats	Polygon

	Coral Reef	Polygon
	Sand Dunes	Polygon
Eco-Sensitive Areas	Bird Sanctuary	Polygon
	Bio-diversity Park	Polygon
	Botanical Garden	Polygon
	Zoo	Polygon
	National Park	Polygon
	Mangrove	Polygon
Others	Brick kiln	Polygon
	Quarry	Polygon
	Dam	Polygon
	Barrage	Polygon
	Aqueduct	Polygon
	Weir Farmhouse	Polygon
	Dairy farm	Polygon
	Poultry farm	Polygon
	Nursery	Polygon
	Slaughterhouse	Polygon
	Dairy Booth	Polygon/Point
	Lighthouse	Point
	Beach	Polygon
Building Footprints	Building Footprints	Polygon
Water Supply Network	Water Treatment Plant	Point
	Water Pumping Station	Point
	Ground Level Reservoir	Point
	Raw Water Main Pipeline	Line
	Pumping Line	Line
	Distribution Pipeline	Line
	Service Pipeline	Line
	Supply Valve	Point
Storm water Drainage	Storm Water Drain	Line
	Storm Water Vent	Point
Sewerage Network	Sewage Treatment Plant	Point
	Sewage Pumping Station	Point
	Pumping Line	Line
	Main Sewer Line	Line
	Branch Sewer Line	Line
	Service Sewer Line	Line
	Manhole	Point
	Vent Valve	Point
Power	Electric Power Plant	Point
	Electric Sub- Station	Point
	Transmission Tower	Point
	Transformer	Point
	33 Kv Line	Line
	11 Kv Line	Line
	Pole	Point
	Street Light	Point
Natural Gas	City Gate Metering Station	Point
	Area Regulator Station	Point
	Main Distribution Line	Line

	Branch Distribution Line	Line
	Regulator	Point
	Flow Meter	Point

The following table captures the sample data points that have to be published through the RIS solution:

Function			Data Points									
1	Solid Waste Management		Garbage Collection Points & Landfill in City	Location of Community Bins		Type of Fleet		Location of Toilets				
2	Public Transport		Bus Routes			Location of Bus Stations						
3	Traffic & Police		Location of Traffic Lights		Location of Surveillance Cameras		Location of Police Stations					
4	Electricity/ Power		Location of Energy Assets (Sub Stations, Transmission Network)			Location of Energy Network on Map						
5	Gardens		Location of Parks/ Gardens			Amenities at Each Park/ Garden						
6	Housing & Slums		Location of Slums									
7	Smart Poles		Location of Smart Poles			Features on Each Smart Pole						
8	Smart Parking		Location and Number of Parking Slots									
9	Streetlights		Location of Street Lights									
10	Property Taxes		Properties on GIS Map									
11	E Governance		Population by Each Ward	Location of Important Government Buildings		Location of HD One Centers		Location of Public Advertisement Boards		Location of Tourist Attractions		
12	Disaster Management		Location of Highest Disaster Impact Areas in the City									
13	Emergency Management		Location of Fire Hydrants	Location of Fire Stations		Amenities at the Each Fire Station		Location of Health Centres/ Hospitals		Amenities at each Health Centre/ Hospital		Type of Fleet Vehicle
14	Water		Location of Water Assets				Location of Water Network on GIS Map					
15	Sewage		Location of Sewage Assets (STPs, ETPs etc.)									
16	Storm Water		Location of Storm Water Drains									

1.9.3 System Design

Create a conceptual design for the RIS, outlining its structure, data sources and user interface. Consider the hardware and software requirements, data standards, and interoperability with existing systems.

Determine the spatial and non-spatial data layers to be included in the system, such as maps, satellite imagery, demographic data, infrastructure data, environmental data, etc. SI shall provide a detailed guideline to MMRDA and explore the rates as defined in the BoQ Form 2, to be shared to each stakeholder from where the Spatial and Non-Spatial data is to be collected for RIS

1.9.4 Data Collection/Creation, Acquisition, and Integration:

- a. Collect the data and facilitate the data pipeline through a standardized data model for continuous retrieval of spatial and non-spatial data from different government and non-government entities.
- b. Create a detailed common GIS base map in consultation with MMRDA.SI to set the required APIs/connectors and collect/acquire the necessary data from various sources through MMRDA. SI to Ensure data quality is coming, with accuracy, and compatibility from respective stakeholders from where the data shall be consumed in the RIS Platform. Integrate the collected data into the RIS, organizing it into relevant layers or themes.

1.9.5 GIS Database Development

The Data Model for storing the spatial & non-Spatial shall be created by the SI/ Bidder with the help of a detailed round of discussion with each concerned MMRDA department officials. The bidder shall use proper tools to create the data model. The final data model shall be approved by MMRDA and before proceeding further the data model needs to be finalized. Once the data model is finalized, the Bidder/ SI shall give the details of the data model diagram (ER Diagram) to MMRDA for future references or for any modifications in future. The data model shall be created in such a way that all the layers that are already available with MMRDA are considered while finalizing the data model. The data model may include the few layers that may not have any data. However, provision of the same shall be kept in the enterprise GIS database. The bidder shall take care of the changes in the Data Model as per the requirements from MMRDA users and shall maintain the changes history for the entire period. Design the database schema and establish appropriate relationships between different data layers. Consider the scalability and performance of the database, as it will store large volumes of data. This finalized data model shall be used as template by each agency from where the data shall be integrated. Collect the data and facilitate the data pipeline through a standardized data model for continuous retrieval of spatial and non-spatial data from different government and non-government entities.

1.9.6 GIS Software applications for RIS:

- i. SI shall supply the software packages and customize them as per the project requirement for the smooth operation of RIS system. Following are the indicative list of licences which could be required:
 1. **Desktop Image Processing and Photogrammetry Software – 3 Licenses**
 2. **Desktop 3D Globe Client Viewer Application software – 5 Licenses**
 3. **Enterprise GIS (2D/3D) Software for Web with failover – 1 License**
- ii. MMRDA is currently using ESRI GIS Software packages for the day to day operations. Wherever applicable, MMRDA will provide the ESRI GIS software packages for the operation of the RIS system. The bidder is responsible for providing any additional software necessary to meet the above requirements at their own expense for the successful completion of the project. No additional cost would be paid.
- iii. Beyond the COTS solution mentioned above, if any additional requirements are there-

SI can use Open Source and customize to develop the final RIS software application (Web and Mobile) that are defined in the needs assessment and finalized through SRS and should serve as the front-end of the RIS. This software should provide tools for data visualization, analysis, querying, and reporting spatial data. Consider user-friendly interfaces and ensure compatibility with different devices and operating systems. SI to refer Appendix IV for detailed specification. SI shall provide the desired GIS platform for MMRDA.

- iv. Industry best practices should be followed by SI while establishing the system like taking backups, converting old legacy file format/ schema into new file format/schema
- v. Web-based GIS application suitable for MMRDA should be designed for viewing, analyzing and utilizing the geographic information based on the needs.
- vi. The developed application should cater the need of decision support system for MMRDA departments.
- vii. Integration of GIS database with existing applications through APIs.
- viii. Application shall offer viewing, analyzing, and utilizing the Geospatial Information across different departments.
- ix. Allows users to create interactive queries (user-created searches), analyze spatial information, edit data, maps, and present the results of all these operations of the data and Decision-making.
- x. The developed Web GIS Application should also be linked to the existing applications site of MMRDA.
- xi. A link should be provided in the website which would redirect the users to RIS developed Web GIS Application.
- xii. In the Web GIS Application, all the database information should be stored in database server and map server for all different type of maps.
- xiii. User should be connected with application server where application server is interconnected with map server and database server. In web-based application, Application server contains all the specific applications of databases.
- xiv. Geo enabled web solution would be developed.
- xv. The application would be developed as per the need of MMRDA, and the information gathered would be documented [SRS Preparation] and approved by MMRDA.
- xvi. After the integration of final data, maps, reports in the Web Application, training should be provided to MMRDA Group members. Customized training and advertising materials should be provided to MMRDA for public awareness programs through print, radio, social media or television mediums supported by MMRDA.
- xvii. All licence procurement applicable under this project should be done in the name of MMRDA. The confirmation of licences issued need to be submitted to MMRDA from respective OEMs. If licence details are mentioned on OEM portal/ website, the same shall be shared to MMRDA.

The centralized web-application should have the below mentioned minimum functionalities:

- a. To view the map data
- b. User should be able to query the data
- c. User friendly GUI, on-line help, supports multiple GIS formats, data security with encryption and facility to generate MIS report.
- d. Central server for data sharing and user authentication with user id and password
- e. Report generation
- f. Able to switch among image, map or hybrid view
- g. The application should be in compliance to OGC Open Geospatial Consortium data standards
- h. The application should be a single window application that would help the users to visualize MIS and GIS data on the same platform

- i. User Management Module should be integrated into it, to define user roles to control the access of tools and database as per MMRDA's requirement.
- j. The standards like SOAP, HTTP/HTTPS, UDDI, WSDL should be used as application Transfer Protocols
- k. The application should support GIS based Standard Web Services like Google, Open-Street Maps
- l. The application should be able to host & consume OGC Complied services like WMTS, WMS WFS, WCS, WFS-T, KML, CSV
- m. The application should support multiple DBMS / RDBMS for database storage including Microsoft SQL Server, PostgreSQL
- n. The application should support standard Web Server / Application Server like IIS, Apache Tomcat.

1.9.7 Important features required for the Application Server:

1. Spatial Database Management

Application Server should provide facility to create and manage a spatial database for the purpose of storing and managing the spatial data. The database should contain the information pertaining to geometry, attributes and spatial references system. Application Server manages multiuser database.

2. MAP Services

Support of various types of MAP services by Application Server. These services should be able to share GIS Data over internet. All web services should support in Application Server conform to the following industrial web standards:

A. Open Geospatial Consortium (OGC)

Simple Object Access Protocol (SOAP) Following are the list of web services to be supported by Application Server:

- I. Features: Application desktop
- II. Spatial Data replication: Data sharing among multiple users.
- III. Geo-code: Search and display location on a map by finding associated geographic coordinates from a data, such as street addresses.
- IV. Geometry: Supports SFA for storage model of geographical data. It is represented as Well-known Text (WKT) and Well-Known Binary (WKB).
- V. Raster Data: Distributing and sharing raster data among users on network.
- VI. Keyhole Markup Language (KML): Support of KML. KML has been adopted as an OGC implementation standard.
- VII. Search: Provision for searching spatial information Services

B. Web Map Service (WMS)

It is a standard protocol for serving geo-referenced map images over the Internet that is generated by a map server using data from a GIS database.

C. Web Coverage Service (WCS)

Provide an interface allowing requests for geographical coverage across the web using platform-independent calls.

D. Web Feature Service (WFS)

Provide an interface allowing requests for geographical features across the web using platform-independent calls.

E. Styled Layer Descriptor (SLD)

It is an XML schema specified by the Open Geospatial Consortium (OGC) for describing the appearance of map layers. It is capable of describing the rendering of vector and raster data. A typical use of SLDs is to instruct a Web Map Service (WMS) of how to render a specific layer.

1.9.8 Creation of Dynamic Dashboard/Analytics modules in RIS

A. Agency Modules

1. Urban Local Bodies - Option to view all or individual ULB

- a. List of agencies in MMR
- b. GIS View of Approved Development plan
- c. GIS view of Current LULC
- d. GIS view of Road Network (Road Center line and Road Polygon)
- e. GIS view of Green Area (Trees, Tree Canopy, gardens, parks)
- f. GIS View of Government Properties
- g. GIS View of Water resources (Lakes, Ponds, River, Over water Tanks)
- h. GIS view of public properties (commercial/Residential linked with BPAS and Property tax database)
- i. GIS view of public Health properties (Government/Private-Blood banks etc.)
- j. GIS view of educational institutions (Government and Private)
- k. GIS view of open land
- l. GIS view of public recreation lands
- m. GIS view of Public Toilets
- n. GIS view of mapped Utilities (UG utilities, MH, Electric Poles, Transformers, Sub-Station, Water lines, Drainage, CCTV, Wi-Fi Spots)
- o. GIS View of Government initiated projects.
- p. Dashboard to view the statistics of the current assets (Total number of Government properties, Total number of Hospitals, Total number of Blood Banks, Total length of NH, Health projects, Educational Projects etc. which should be viewed on Web and Mobile application)
- q. Analysis for Public safety: Proactive planning to verify sufficient streetlights available on a specific area to avoid any thefts, accidents.
- r. Analysis tool to get details of government or private Poi against a preferred location of the jurisdiction.
- s. Tool to superimpose different layers against a specific layer and run analytics or query for intended result and report extraction.

2. Rural Development Agencies - Option to view all or individual ZP.

- a. List of Rural Agencies under MMRDA
- b. GIS View Government Offices
- c. GIS View of water resources (Rivers, Lakes, Canals, ponds, Well, Hand pumps, Overhead tanks)
- d. GIS view of Agricultural and NA spaces
- e. GIS view of public properties (commercial/Residential linked with BPAS and Property tax database)
- f. GIS view of public Health properties (Government/Private - Blood banks etc.)
- g. GIS view of educational institutions (Anganwadi, Government and Private)

3. District Collectorate - Option to view all or individual District.

- a. GIS view of administrative boundaries
- b. GIS View of Cadastral Maps
- c. GIS View of Land Records
- d. GIS View of LULC maps
- e. GIS view of government facilities with in the region
- f. GIS View of the infrastructure mapping
- g. GIS view of Government lands
- h. Road Network in the respective districts
- i. Education institutes along with the subtype and MIS reports
- j. Population data
- k. Water Supply Network and water-bodies location for effective use in the respective districts
- l. GIS view of emergency shelter location and other facilities

4. Planning Authorities

- a. GIS view of TP Plans
- b. GIS view of Existing Development plans
- c. Utility Networks
- d. Transportation network

5. Public Utility Agencies

- a. Superimpose other layers with Utility data
- b. GIS view of Sub Stations and networks
- c. GIS view of GAS/Petrol filling stations
- d. GIS View of Built-up/Settlement locations

6. Infrastructure

- a. On going project track and monitoring with mobile application
- b. Tool to plan for any new project with reference to other existing surrounding objects
- c. GIS view of Material availability locations
- d. GIS view of Transportation Network

7. Forest

- a. View DP plan against Forest land for any encroachment
- b. View historical data for any encroachment and illegal urbanization.
- a. View of Cadastral Maps
- b. Watching tower/ Forest offices
- c. Road networks
- d. RFID sensor locations

8. Education

- a. GIS view of All education Institutes
- b. GIS view of Accommodation facilities
- c. GIS view of Transportation facilities
- d. GIS View of Population Census

9. Industries

- a. View DP plan against Forest land for any encroachment
- b. GIS of Natural resources (Water, Land, Materials, etc.)
- c. GIS view of Transportation facilities

- d. GIS View of Population Census
- e. GIS View for Dumping Yards
- f. GIS view of Recycling and treatment plants
- g. GIS view of near-by health facilities

10. Energy

- a. View DP plan against Forest land for any encroachment
- b. GIS of Natural resources (Water, minerals etc.)
- c. GIS view of Sub Stations and networks
- d. GIS view of the terrain of the regions (EX:- Planning for Wind mills)

11. Tourism

- a. Provide a 3D view of prominent ASI structures or sites
- b. Theme & Amusement Parks
- c. Zoo & Entertainment Locations
- d. Safari/Trekking Places
- e. Well Known religious places
- f. GIS view of Resorts & beaches
- g. GIS view of Rented vehicles

B. User Management Module

- a. User Management Module should be integrated in to it so as to define user roles to control the access of tools and database as per MMRDA's requirement.
- b. System Admin should have access to all modules while individual users shall have access to modules/sub-modules based on the access rights provided by System Admin.
- c. The module should support configurable password policies such as; password expiry, complexity, history and reuse policy and forced password change on first log on.
- d. Monitor access rights to user departments.

C. Dashboard:

The dashboard should have general GIS modules & department specific modules.

D. Layer Management:

This module should enable user to switch on and off the visibility of a particular layer based on his/her requirement. The transparency and visibility scale of each layer will be fixed.

E. Attribute Viewer:

Enable user to view the attribute information of the selected feature.

F. Query Panel:

Enable user to perform query on the data by using SQL based expression to get desired output.

G. Predefined queries:

Predefined queries allow user to perform queries based on predefined expression for users to view specific type of information on a single button click.

H. Map Contents:

This module should display all the layers on the map along with check box in each and every layer showing which layers are currently on and off for display.

I. Navigation:

Standard navigation tool like zoom in, zoom out, pan etc should be available for user to navigate in the map window.

J. Buffer:

Enable user to create a zone around a point or line or polygon features based on a distance provided by the user as input.

K. Proximity:

Module will select features based on their location relative to the features in another layer based on the input provided by user.

1.9.9 Guidelines to Agencies

Guidelines and standardization of Spatial data & non-spatial collection/creation are to be created by the SI in consultation with MMRDA. It will provide detailed guidelines to other agencies listed above for data collection, creation, and sanitization of existing databases as per the finalized data model through this project. Below are tentative activities that must be executed by the respective agencies,

Existing data collection and other data standards: -

- As mentioned in the layers list the SI should collect all the information from the institutions within their respective jurisdiction /allotted area.
- Migrating the data as per the RIS data model
- The above collected GIS format data must be integrated with the base map.
- Mapping of GIS Data
- Create Drone Survey/Satellite image procurement standards for other agencies.
- DGPS survey standards for the GCP collections
- Data to be Published in the RIS Portal
- Base Map standards for all mentioned layers with attributes
- MIS data standards

1.9.10 Operation and Maintenance

SI shall continuously evaluate the performance and effectiveness of the RIS to identify areas for improvement during the O&M period.

- 1 Set up of GIS Cell with minimum 5 Resources.
- 2 Operation and Maintenance period of the entire system for 1 years after Go-Live.
- 3 MMRDA may extend the O&M period by an additional 2 yrs. apart from the original contract. This additional contract can be offered to the SI upon satisfactory performance.
- 4 Related Materials like Design & Development Manuals, Training Manuals in PDF format need to be provided to the users.

1.9.11 Training & Capacity Building

- a) The selected SI shall provide training to application users – MMRDA, ULBs, Local Authority, and Government Agencies staffs and a record of the same has to be maintained.
- b) A detailed self-help manual with representative images shall be provided for training of the general citizen application users.
- c) Preliminary awareness generation among citizens has to be provided about the RIS, its functionality, and the way to access it by Popular Social media and Mainstream media

d) The selected bidder will provide training (classroom and virtual training) for the stakeholders based on the training plan agreed in the inception report.

This will be limited to not more than 10 trainings prior to go-live, and one training each quarter going forward after go-live.

1.9.12 Go-Live

Go live shall be done by the SI on consultation and directions of MMRDA after successful completion, development, installation, testing, bug-free, comprehensive auditing, UAT, and training.

1.9.13 Post Go-Live

After the RIS portal goes live, the SI shall ensure its ongoing success and address any post-launch requirements. Here are the key steps typically involved:

- **Monitoring and Support:** Closely monitor the system for any issues. Provide immediate support to handle any bugs, performance issues, or user queries that arise.
- **Gathering Feedback:** Collect feedback from users to understand their experience with the software. This includes identifying any usability issues or additional features they might find valuable.
- **Post-Deployment Testing:** Continue testing the software in the live environment to ensure all aspects are working as expected. This might include performance testing, security testing, and usability testing.
- **Bug Fixing and Enhancements:** Based on the feedback and testing results, work on fixing any bugs and making necessary enhancements to improve the software.
- **Creation and Updating of Documentation:** Ensure that all documentation is updated to reflect the current state of the software, including user manuals, help guides, and technical documentation.
- **Roadmap Planning and Future Releases:** Based on the overall performance and strategic goals, plan for future releases, including major updates or new versions of the software.

1.9.14 Urban Observatory - ICCC.

The SI should ensure the successful implementation of the proposed ICCC Project as per the scope of services described below:

1.9.14.1 Requirement Gathering and Analysis

- The system integrator collaborates with stakeholders to understand their needs and expectations for the ICCC platform. This involves collecting information on desired features, scalability, security, and integration requirements.

1.9.14.2 System Design and Architecture

- Based on the requirements, the system integrator designs the overall structure of the ICCC platform. This includes identifying modules, subsystems, and components needed for its operation and integration with existing systems.

1.9.14.3 Technology Selection

- The system integrator evaluates available technologies and tools to choose the most suitable ones for the ICCC platform. This involves selecting programming languages, databases, frameworks, and communication protocols that align with the project requirements.

1.9.14.4 Integration Planning

- The system integrator creates a detailed integration plan that outlines how the ICCC platform will interact with various systems, devices, and data sources. This includes identifying APIs, protocols, and data formats required for smooth integration in future.

1.9.14.5 Risk Assessment

- The system integrator assesses potential risks and challenges associated with developing and implementing the ICCC platform. This involves identifying technical, operational, and security risks and devising strategies to manage or mitigate them effectively.

1.9.14.6 Development Approach

- The system integrator determines the development approach to be followed, such as agile or waterfall methodology. This includes creating a development roadmap, setting milestones, and defining project timelines.

1.9.14.7 Resource Planning

- The system integrator allocates any necessary resources mention in RFP, including development teams, project managers, infrastructure, and tools required for ICCC platform development. This ensures the project has the right talent and resources for successful execution.

1.9.14.8 Documentation

- The system integrator prepares detailed documentation, including technical specifications, system requirements, architectural diagrams, and user manuals. This guides the development team and facilitates future maintenance and support.

1.9.14.9 Training

- This training session will be specific to activities/tasks so that respective members of the respective departments are able to perform his/her activity or task without any dependency.

1.9.14.10 Solution and Platform

The following minimum functions shall be available in the ICCC:

- The ICCC platform shall be fully integrated commercial off the shelf (COTS) software platform that provides seamless integration and control mechanism with various Information Technology, Operational Technologies and applications/platforms.
- System must provide a comprehensive API (Application Program Interface) or

SDK (Software Development's Kit) to allow interfacing and integration with existing systems, and future application and sensors which will be deployed on the field.

- The solution should be network and protocol agnostic and provide option to connect legacy system through API's with either read, write or both options for IT/ICT components. It should connect diverse on premise and/or cloud platform's and makes it easy to exchange data and services between them.
- The system shall allow seamless integration with all the department's existing and future initiatives (e.g. open source intelligence, situation management war room, etc.)

1.9.14.11 Industry Standards for the Command & Control Centre:

- ICCC platform should have the ability to integrate with subsystems, driving unified user interface providing ease of operations and facilitating central control across multiple operations. IT, OT and IoT conversion in Single Platform. This enables integration server to integrate seamlessly with Operational Technology, Information Technology (IT)/ IoT based subsystems.
- Operational Technology Integration should support protocols such as: OPC UA/DA (SCADA), MODBUS (Metering & field controller PLCs/DCS) , IEC either directly or via API's.
- IT Application should integrate via ESB (Enterprise Service Bus) with IT protocols like: Web-services/APIs/ REST/SOAP (City Surveillance, ITMS, BRTS, GIS), ERP (e-Gov, payment gateway).

1.9.14.12 Command and Control Centre Components:

- The solution shall be available via a VPN as a web-based interface or a thin-client interface The user interface (UI) to present customized information in various preconfigured views in common formats. All information to be displayed through easy-to-use dashboards.
- The successful bidder has to built, operate, and Transfer Command and Control Centre for MMRDA.
- The system should have an Application server to provide a set of services for accessing and visualizing data. Should be able to import data from disparate external sources, such as databases and files. It should provide the contacts and instant messaging service to enable effective, real-time communication. It should provide business monitoring service to monitor incoming data records to generate key performance indicators. It should also provide the users to view key performance indicators, standard operating procedures, notifications, and reports, spatial- temporal data on a geospatial map, or view specific details that represent a city road, building or an area either on a location map, or in a list view. The application server should provide security services that ensure only authorized users and groups can access data.
- Analytics functionality can be part of application server or separate server.

1.9.14.13 Integrated User Specific and Customizable Dashboard

- Should provide integrated dashboard with an ease to navigate user interface for managing profiles, groups, message templates, communications, tracking receipts and compliance
- Collects major information from other integrated City sensors/platforms.
- Should allow different inputs beyond cameras, such as, PC screen, web page, and other external devices for rich screen layout

- Use of, GIS tool which allows easy map editing for wide area monitoring (Google map, Bing map, ESRI Arc GIS map, etc.).
- Should provide tools to assemble personalized dashboard views of information pertinent to incidents, emergencies & operations of command center.
- Should provide historical reports, event data & activity log. The reports can be exported to pdf or html or any other format requested by the client.
- The ICCC platform shall allow users generate reports. The platform should have the capability to provide access to near real-time, real-time data and historical data from various connected devices for reporting and analytics.

1.9.14.14 Standard Operations Procedures (SOP)

- Command & Control Centre should provide for authoring and invoking un-limited number of configurable and customizable standard operating procedures through graphical, easy to use tooling interface.
- Standard Operating Procedures should be established, approved sets of actions considered to be the best practices for responding to a situation or carrying out an operation.
- The users should be able to edit the SOP, including adding, editing, or deleting the activities.
- The users should be able to also add comments to or stop the SOP (prior to completion).
- There should be provision for automatically logging the actions, changes, and commentary for the SOP and its activities, so that an electronic record is available for after-action review.
- The SOP Tool should have capability to define the following activity types:
 - Manual Activity - An activity that is done manually by the owner and provide details in the description field.
 - Automation Activity - An activity that initiates and tracks a particular work order and select a predefined work order from the list.
 - If-Then-Else Activity - A conditional activity that allows branching based on specific criteria. Either enter or select values for Then and Else.
 - Notification Activity - An activity that displays a notification window that contains an email template for the activity owner to complete, and then send an email notification.
 - SOP Activity - An activity that launches another standard operating procedure.
 - ICCC Platform should provide for authoring and invoking un-limited number of configurable and customizable standard operating procedures through graphical drag and drop design tool preferably using workflow engine
 - The SOPs defined in the system should be easily editable by an administrator with drag and drop capabilities
 - ICCC platform should be able to pass the SOP step on to operator workstation for the user to respond based on his role and responsibility in the SOP to achieve faster response to the incidences or events.

1.9.14.15 Key Performance Indicator

- Command & Control Centre should be able to facilitate measurement or criteria to assay the condition or performance of departmental processes & policies.
- Green indicates that the status is acceptable, based on the parameters for that KPI, no action is required.
- Yellow indicates that caution or monitoring is required, action may be required.

- Red indicates that the status is critical, and action is recommended.

1.9.14.16 Event Correlation

- Command & Control Centre should be able to correlate two or more events coming from different subsystems (incoming sensors) based on time, place, custom attribute and provide correlation notifications to the operators based on predefined business and operational rules in the configurable and customizable rule engine.

1.9.14.17 Reporting Requirements

- Command & Control Centre should provide easy to use user interfaces for operators such as Click to Action, Charting, Hover and Pop Ups, KPIs, Event Filtering, Drill down capability, Event Capture and User Specific Setup
- The solution should generate Customized reports based on the area, sensor type or periodic or any other customer reports as per choice of the administrators
- ICCC platform should be able to process at least 1 year of historical data in less than a second, giving immediate access to performance trends
- Possibility to connect to local or remote Relational Database (RDB) sources through either Open Database Connectivity (ODBC) or OLE-DB
- Report template version management.

1.9.14.18 Collaboration Tools

The CCC platform should have the capability to bring in multiple stake holders automatically into a common collaboration platform for ex: persistent chat rooms and/or virtual meeting rooms etc. in response to a SOP defined to handle a particular event.

1.9.14.19 Security and Access Control

- Provide comprehensive protection of web content and applications on back-end application servers, by performing authentication, credential creation and authorization.

1.9.14.20 Authorization

- Should support to enable assignment of permissions to groups, and administration of access control across multiple applications and resources. Secure, web-based administration tools to manage users, groups, permissions and policies remotely

1.9.14.21 User group

- Provide policies using separate dimensions of authorization criteria like Traditional static Access Control Lists that describe the principals (users and groups) access to resource and the permissions each of these principals possess.

1.9.14.22 Operation and maintenance (O&M)

- a) O&M phase shall start after the successful completion of Final User Acceptance Test and shall include various activities like GIS application upgrade, additional training etc.
- b) The Applicant shall provide 1-year support to MMRDA for updating and smooth operation of the portal.
- c) The Applicant shall design and develop the training materials/ training handouts related to the technology stack implemented in the project. The training materials

should include methodologies and procedures to add, update & delete features from the portal. Selected Applicant shall impart on-site training at MMRDA premises.

d) MMRDA may extend O&M period by an additional 5 yrs. apart from original contract. This additional contract can be offered to the SI upon satisfactory performance. Payment shall be made by applying a 10% inflation factor to the awarded contract value for the same task year on year.

1.9.14.23 General Requirements

- a) The Integrated GIS application shall be accessed by Authority staff within the MMRDA and Other government entities (ULBs, Police, PWD, Health, Education, Transport, Power supply.) and Citizen users (approx. 100 authority users for viewing GIS data simultaneously and 50 authority users for editing GIS simultaneously and multiple Citizens Internet Users).
- b) Layer and data security – Each Authority user shall have a personal username and password to control access to data and layers.
- c) The Applicant shall ensure the GIS integration with existing and proposed systems, as defined by the MMRDA. The level of integration with the selected existing systems shall be assessed by vendor during the system study.
- d) Shall have Multi-lingual (Marathi, English & Hindi) online help files and user manual with GIS usage examples for the end user.
- e) The SI shall be solely responsible for testing, web hosting, and commissioning of the complete and accepted web RIS portal on the cloud.
- f) The rights of the source code of the customised version of the COTS product and/ or the bespoke application shall lie with MMRDA. The source code needs to be transferred to MMRDA within 3 months of Go- Live. All the cost associated with such transfer shall be borne by the SI.

MMRDA, hence envisages to hire services for Design, Development and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA. The applicants competing in this RFP shall submit detailed project proposals with respect to the scope mentioned above.

1.10 Key Personnel

1.10.1 Positions identified for Key personnel

The bidder shall have the following Key Experts in their rolls available for this project.

Sl. Nr	Key Position	Minimum Qualification / Training (general and relevant)	Sector/ Area of experience desirable
1	2	3	6
1a	Team Leader / GIS Manager	Master Degree in Geo Informatics / Remote Sensing / GIS	GIS based Application & Technology Implementation in programs like Smart City, NUIS, Land Record Management, Regional and Development Plan, Urban Observatory, etc. Development Exposure to different GIS technology platforms like ArcGIS, ERDAS, Open Source GIS, etc. Experience in development technologies like Java, JavaScript, Python etc. Experience in documentation including FRS, SRS, Architecture design, Test Plan, Deployment, Release.
1b	Deputy Team Leader / GIS Manager	Degree in Geoinformatics/ GIS	
2a	Data Team Co-ordinator		Experience of Coordination, Data Collection from Government Agencies/ ULBs and detailed understanding of SOPs to be adopted. Data Migration from non- spatial to spatial from.
2b	Deputy Data Team Co-ordinator		
3	GIS QA Lead		Experience in GIS domain Collaboration with developers and Project Manager to improve overall product/solution quality by emphasizing defect prevention throughout the development process enabling them with Unit Testing tools and frame work Participation in all release planning and relevant internal testing meetings to ensure critical SDLC/Agile deliverables, testing deliverables and project risks are proactively managed and communicated to key stakeholders.
4	GIS DBA	Preferably Master's Degree in Geoinformatics/ Geography / Geoscience / Computer Applications.	Experience in working in GIS DBA/ Spatial databases / database design, development; maintenance, security, backup, recovery, etc. using Oracle/ SQL/ PostgreSQL, etc. Experience in versioning and replication Knowledge of System Hardware and Software
5a	Lead GIS Data Analyst	Bachelor's Degree in Geoinformatics/ Geography / Geoscience / Computer Science / IT	Tools GIS / CAD tools, software for GIS data creation like ArcGIS Desktop AutoCAD, QGIS, etc. GIS data QA/QC Exposure to Spatial and linked attribute Data Management and Digital Image Processing Should have proficiency in Converting various forms

5b	Deputy GIS Data Analyst	Bachelor's Degree in Geoinformatics/ Geography / Geoscience / Computer Science / IT or Applications	of inputs to proper GIS formats and maintain GIS database.
6a	Urban Expert	Masters in Urban Planning / Civil with relevant qualification in GIS.	GIS based Technology Implementation in programs like Smart City/ NUIS/ Land Record Management/ Regional/ Development Plan/ Urban Observatory, etc.
6b	Deputy Urban Expert	Bachelors in Civil / Urban Planning with relevant qualification in GIS.	
7	GIS Solution Architect/ GIS Software Developer	M. Tech/B.E./ B.Tech./ MCA/ M.Sc. with specialization in GIS.	Experience in architecture, implementing, and administrating enterprise GIS solutions on all platforms. Expertise in geospatial and mapping concepts such as spatial analysis, map projections, etc. Develop python programs within the GIS domain. Develop JavaScript sites within GIS domain Front-End (html / java script) and Back-End (RESTful Services, GIS, Python, Java, Shell Scripting,) development. Code review, Unit Test applications and perform bug fixes, Understanding of SDLC
8	Statistician	Degree in maths and Statistics	Degree in Mathematics and Statistics
9	UI/UX Developer	B.E./B.Tech./MCA/Graduation in Science Any UX/UI design certification / Any design software certifications	Experience in Web development like Java Script, Angular JS, Experience with Graphic Designing, HTML5, CSS3, Word press, Photoshop, Coral Draw, Dreamweaver Creative Visualization Skill
10	Data Centre Expert	Bachelor's Degree in Computer Science / IT	Complete Knowledge in Cloud Operations and management

Note: The successful bidder has to submit details of the number of people against the positions deployed.

1.10.2 Positions identified for Onsite Supporting personnel.

In addition to the above Key Personnel/ Key Professionals, SI shall deploy a team of minimum 5 Support Professionals having relevant qualifications and a minimum 3 years of relevant experience to support Key Personnel in delivering the services.

SI needs to provide brief CVs for the Support Professional staff in summary tabular form. SI shall assess and indicate the support professional's man-months.

SI Nr	Position	Minimum Qualification / Training (general and relevant)	Experience in Years
1.	GIS Expert	Degree in GIS	3
2.	GIS Database Administrator	Degree in GIS	3-5
3.	GIS Draftsman	Diploma in GIS	3
4.	Remote Sensing /Image Processing Expert	Degree in Remote Sensing / GIS	3

5.	Software Developer	B.Tech in IT/CS/GIS	3
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1.10.3 Initial Composition; Full-Time Obligation; Continuity of Personnel

- a) SI shall ensure that each member of the Key Personnel devotes substantial working time to perform the services to which that person has been assigned as per the proposal.
- b) SI shall use commercially reasonable efforts to ensure it retains the services of its Key Personnel, including provisioning of competitive compensation, benefits and other conditions to its Key Personnel so as to incentivize them to remain in SI's employment.
- c) SI shall not make any changes to the composition of the Key Personnel and not require or request any member of the Key Personnel to cease or reduce his or her involvement in the provision of the Services during the Term (or agree to any request other than from department that would have the same effect):
 - (i) unless that person resigns, is terminated for cause, dies, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires; or
 - (ii) without department's prior written consent.
- a) SI shall promptly notify department of its intention to re- hire any member of the Key Personnel who had resigned from SI in the previous 12- month period. department shall have the right to request that any member of the Key Personnel who resigns and is re-hired by SI within 12 months of the resignation date be re-assigned to the provision of the Services.

1.10.4 Evaluations

- a) SI shall carry out an evaluation of the performance of each member of the Key Personnel in connection with the Services at least once in each Contract Year. SI shall provide reasonable written notice to department of the date of each evaluation of each member of the Key Personnel and department shall be entitled to provide SI with input for each such evaluation.
- b) SI shall promptly provide the results of each evaluation to department, subject to Applicable Law.

1.10.5 Replacement

- a) In case the resource has resigned then the Bidder has to inform within one week of such resignation.
- b) SI Vendor shall promptly initiate a search for a replacement and use commercially reasonable efforts (including the expenditure of reasonable sums, such as to engage the services of a recruiting firm) to ensure that the role of any member of the Key Personnel is not vacant for any longer than 30 days, subject to reasonable extensions requested by SI.
- c) Before assigning any replacement member of the Key Personnel to the provision of the Services, SI shall provide Department with:
 - (i) a resume, curriculum vitae and any other information about the candidate that is reasonably requested by Department; and
 - (ii) an opportunity to interview the candidate.

- d) The Bidder has to provide replacement resource who scores at least the same marks as the resource proposed originally on the same evaluation parameters defined in this RFP document. Once this is confirmation, the Department shall conduct an interview of the candidate and notify SI within ten days after its interview (or if Department does not request an interview within ten working days after SI has provided the information, then it would be deemed as accepted).
- e) If department does object to the appointment, SI shall not assign the individual to that position and shall seek an alternative candidate in accordance with this Section.
- f) The Bidder has to ensure at least 4 weeks of overlap period in such replacements.

1.10.6 High Attrition

- a) If in the first 6-month period from the Contract Effective Date or in any rolling 12 months period during the Term, 15 percent or more of the members of the Key Personnel cease or reduce their involvement in the Services for any reason other than with department's prior written consent, SI shall:
 - (i) provide department with a reasonably detailed explanation as to the reasons for such change, including, where applicable and permitted, notes from any exit interviews conducted by SI with any departing member of the Key Personnel; and
 - (ii) if such change to Key Personnel has or is likely to have any material adverse impact on the provision of the Services or any substantial part thereof, undertake, at its own costs, such remediation acts as are reasonably necessary in order to improve the retention of the Key Personnel including making reasonable changes to the human resources policies and procedures applicable to the Key Personnel (including those related to compensation, benefits and other conditions so that they are competitive with the market) as may be necessary to ensure that such policies and procedures comply with Good Industry Practice.

1.11 Deliverables & Timelines

1.11.1 Regional Information System (RIS) CAPEX

Sl. Nr	Description / Activity	Deliverables	Time Lines in Months
1.	Inception Report, As-IS Study	Submission of Inception report	T + 0.5
	Data Model Finalization SRS and FRS Submission.	Submission of the SRS and FRS Reports.	T + 1
	Detailed Design Document (SDD)	Submission of the SDD	T + 1.5
2.	COTS Software Installation (Parallel Activity)	Desktop and Web Software Delivery	T + 1
		Installation Report Submission.	
3.	Hardware (Parallel Activity) -10 Workstations -5 Servers -100TB Storage -Urban Observatory System (As mentioned in Annexure-IV)	Delivery of the Hardware	T + 3
		Installation of the Hardware	T + 4
4.	Development of the web & Mobile application, Customization. (Citizen Portal & Department Portal) (Parallel Activity)	Creation of common GIS base map and delivery. Self-declaration from the bidder for base map completion.	T + 6
		Development & implementation of Web & Mobile GIS application	
		Integration of the other department API's	T + 10
		Data Collection, Acquisition from MMRDA & their stakeholders. Integration of Spatial & Non-Spatial data.	
		Testing of GIS application & bug fixing	T + 10
		Comprehensive audit including security Certification, VAPT & load testing from CERT-IN empanelled agency for all applications developed as per the scope of work.	T + 11
		Hosting of application to cloud	T + 11
		UAT	T + 11
		Go-Live	T + 11
5.	Hosting of datasets & Enterprise Geospatial Application on Cloud	Hosting of datasets and application	T + 12
6.	Training for MMRDA and Other Relevant Stakeholders	Attendance list and Digital copies of the software manuals	T + 12
7.	GIS Cell - 5 Resources (One Year), Monthly Billing of resources -5 No's (Parallel Activity)	Attendance Record	T + 12
8.	Cloud Charges Initially Two Years, (For RIS Deployment 1Year and Maintenance 1 Year) (Parallel Activity)	Cloud Systems in the form of Virtual Machines	T + 12
(T is the date of signing of the contract.)			

1.11.2 Regional Information System (RIS) OPEX:

Sl. No.	References of the Components	Deliverables	Timelines in Month for every year
1	AMC of web & Mobile application (Citizen Portal)- Quarterly	Maintenance and change management of Web & Mobile GIS application	D+12
2	AMC of web & Mobile application (Department Portal)	Report Submission on AMC activities	D+12
3	GIS Cell- 5 Resources Quarterly billing	Attendance list	D+12
4	Hosting of datasets & Enterprise Geospatial Application on Cloud Quarterly billing	Hosting of datasets and application. Report Submission on AMC activities	D+12
5	AMC Software Quarterly Billing	Report Submission on AMC activities	D+12
6	VAPT (by CERT-IN certified company) and Certification	Report Submission on VAPT	D+12
D is the Date of Go Live.			

Note: All the hardware under this project should be supplied with 3 years warranty.

1.11.3 Service Level Agreement

Services Level Agreements (hereinafter referred to as SLA) shall play an important role in defining of Quality of Services (QoS) that shall govern the level of service provided by the bidder. The SLA defined below provided for a minimum level of services required as per contractual obligations based on performance indicators and measurement thereof. The SLAs shall be tracked on a periodic basis and are envisaged to have penalty clauses for non-adherence to any of them. The bidder shall submit reports on all SLA and KPI parameters to the department in accordance with the specified formats and reporting periods and provide clarification if required.

1.11.4 Penalty for delay in project execution

For any delay in the go-live of the project, the Department will charge penalty @0.25% of the corresponding milestone value per week or part thereof subject to a maximum of 5% of the project capex value.

1.11.5 SLA for Software Support

Any patch released by the OEM needs to be applied to the corresponding product within 30 working days. If in case the patch interferes with any of the customised deployment the same need to be informed to MMRDA and with the approval of MMRDA the patch need not be applied. Any delay in applying the patch will attract a penalty of Rs. 500/- per day.

Any software bug identified by department will be classified in types:

- Critical: Having bearing on the day - to -day functioning of the respective system/availability of application (full functionality or part functionally) for the Department and end users
- Non-critical: Not- having bearing on the day-to-day functioning of the respective system

Few modules have high impact and are critical for the department - In such critical situations the department would require the module to be up and running without any problem. The department at the time of requirement gathering will communicate the peak period of all the modules and applications.

In case of dispute between Department and the Agency with respect to classification of bugs As Critical or Non-Critical, agency and the department shall mutually decide on the resolution of the same. Resolution time & the penalty component for the bug fixing is given below (applicable on 24/7 basis):

Sr No	Parameter	Resolution time	Penalty Amount
1	Critical	24 hours	Rs. 500/- per hour beyond 24 hours, and Rs. 1000/- per hour beyond 72 hours.
2	Non- critical	5 working days	Rs. 500/- per day beyond 5 days, and Rs. 1000/- per day beyond 7 days

1.11.6 SLA for the O&M

Sr No	Parameter	Service Level	Penalty Amount
1	Uptime	>99%	For an uptime below 99%, 1% of the opex for respective month will be imposed as penalty for every additional percentage of downtime.
2	Staff Attendance	No unplanned absenteeism	In case of any unplanned absenteeism, the penalty imposed will be twice the daily rates for number of days absenteeism
3	Staff Attendance	More than one leave per month	In case of more than one leave, the penalty imposed will be twice the daily rates for number of days absenteeism

Planned Downtime is not considered for penalty calculation. The Vendor will have to take at least 2 days prior permission from the Department for the planned downtime.

1.11.7 Acceptance Testing and Certification

The primary goal of Acceptance Testing and Certification is to ensure that the Project (including all the project components as discussed in the scope of work) meets requirements, standards, specifications and performance, by ensuring that the following are associated with clear, quantifiable metrics for accountability:

- Functional requirements
- Localization Compliance Review
- Infrastructure (Hardware and Network) Compliance Review
- Availability of the project Services in the defined locations
- Performance
- Security
- Manageability
- SLA Reporting System
- Project Documentation (Design, development, configuration, training and administration manuals etc)
- Data Quality Review

As part of Acceptance testing, performed through a third party agency, Department shall review all aspects of project development and implementation covering software, hardware and networking including the processes relating to the design of solution architecture, design of systems and subsystems, coding, testing, business process description, documentation, version control, change management, security, service-oriented architecture, performance in relation to defined requirements, interoperability, scalability, availability and compliance with all the technical and functional requirements of the RFP and the agreement.

The procedures and parameters for testing will be laid down by the Third Party Agency after approval from Department ; the solution deployed by the vendor has to satisfy third party acceptance testing upon which the system shall go-live, subject to Department /Departmental approval. The Department / Department will establish appropriate processes for notifying the selected vendor of any shortcomings from defined requirements at the earliest instance after noticing the same to enable the selected vendor to take corrective action. All gaps identified shall be addressed by the vendor immediately prior to Go-live of the solution. It is the responsibility of the selected Bidder to take any corrective action required to remove all shortcomings, before the roll out of the project.

It is to be noted that the involvement of the third party for acceptance testing and certification, does not absolve the vendor of his responsibilities to meet all SLAs as laid out in this RFP document. It is to be noted that: Department may get the solution audited through a Third Party before Go-Live and periodically after Go-Live in order to ensure the success of the project. Such third-party agency for carrying out the acceptance testing and certification of the entire solution will be nominated by the Department. Following discusses the acceptance criteria to be adopted for the project as mentioned above. The list below is indicative and the activities will include but not be limited to the following:

Functional Requirements Review

The solution developed/customized by selected Bidder shall be reviewed and verified by the agency against the Functional Requirements signed-off between the Department and the selected Bidder. All gaps identified shall be addressed by the vendor immediately prior to Go-live of the solution. One of the key inputs for this testing shall be the traceability matrix to be developed by the vendor for the solution. Apart from the Traceability Matrix, the agency may develop its own testing plans for validation of compliance of the system against the defined requirements. The acceptance testing w.r.t. The functional requirements shall be performed by an independent third party agency (external audit) as well as the select internal department users (User Acceptance Testing) and the system has to satisfy both third party acceptance testing and internal user acceptance testing, upon which the system shall go-live. For conducting the User Acceptance Testing, Department / The Department shall identify the employees from respective divisions, who shall be responsible for day-to-day operations of the functions automated through the project. The system, during the functional requirements review, shall necessarily satisfy the user acceptance testing process.

Localisation Compliance Review

A third party supports shall perform the Localisation Compliance Review to verify the Application Multilingual Architecture Design with Input/Saved/Output Data as per Localisation guidelines, i.e UNICODE 6.0 standard (refer Annexure I).

Infrastructure Compliance Review

Department shall perform the Infrastructure Compliance Review to verify the conformity of the Infrastructure (both IT, non IT as well as Network infrastructure) supplied by the selected Bidder against the requirements and specifications provided in the RFP and/or as proposed in the proposal submitted by the selected Bidder. Compliance review shall not absolve the vendor from ensuring that the proposed infrastructure meets the SLA requirements. Hardware supplied by the vendor should be as specified in RFP or better without any cost escalation subject to following restrictions:

- a. OEM cannot be replaced;
- b. Product should meet all functionalities listed in the RFP.
- c. OEM must provide a representation that the new product is a newer version of the proposed product.
- d. If COTS is used then its version should be as specified or a newer version.

Security Review

The software developed/customized shall be audited by the agency from a security and controls perspective. Such an audit shall also include the IT infrastructure and network deployed for the project. Following are the broad activities to be performed by the Agency as part of Security Review. The security review shall subject the solution to the following activities.

- a. Audit of Network, Server and Application security mechanisms
- b. Assessment of authentication mechanism provided in the application /components/modules
- c. Assessment of data encryption mechanisms implemented for the solution
- d. Assessment of data access privileges, retention periods and archival mechanisms
- e. Server and Application security features incorporated.
- f. Application Security mechanisms should be accessed in compliance with the IT Act
- g. 2000,2008 Amendment and IT rules 2011, such that it maintains data/information Integrity,
- h. Confidentiality, Non-repudiation
- i. Audit of Security mechanisms so that they are in compliance with the latest Guidelines by Controller of Certifying authority (CCA),IT Act, ISO27001.
- j. Gap assessment of certain controls like say ISO 27001 and section 43, 47, 66, 69, 79, 84 and 87 of IT ACT amendment 2008 and decide how the sensitive data from a data centric stand point is to be protected.

Performance

Performance is another key requirement for the project and the agency shall review the performance of the deployed solution against certain key parameters defined in SLA. Such parameters include request-response time, work-flow processing time, concurrent sessions supported by the system etc, Disaster Recovery drill etc. The performance review also includes verification of scalability provisioned in the solution for catering to the project requirements.

Availability

The solution should be designed to remove all single point failures. Appropriate redundancy shall be built into all the critical components to provide the ability to recover from failures. The agency shall perform various tests including network, server, security,

DC/DR fail-over tests to verify the availability of the services in case of component/location failures. The agency shall also verify the availability of the project services to all the users in the defined locations.

Manageability Review

The agency shall verify the manageability of the solution and its supporting infrastructure deployed using the Enterprise Management System (EMS) proposed by the selected Bidder. The manageability requirements include requirements such as remote monitoring, administration, configuration, inventory management, fault identification etc.

SLA Reporting System

The selected Bidder shall design, implement/customize the Enterprise Management System (EMS) and shall develop any additional tools required to monitor the performance indicators listed as per the SLAs mentioned in the RFP. The Acceptance Testing and Certification agency shall verify the accuracy and completeness of the information captured by the SLA monitoring system implemented by the vendor and shall certify the same. The EMS deployed for the project, based on SLAs, shall be configured by the selected Bidder to calculate the payment to be paid by the department after deducting the necessary penalties.

Project Documentation

The Agency shall review the project documents developed by the selected Bidder including requirements, design, source code, installation, training and administration manuals, version control etc. Any issues/gaps identified by the Agency, in any of the above areas, shall be addressed to the complete satisfaction of the Department.

Data Quality

The Agency shall perform the Data Quality Assessment for the Data digitized by selected Bidder and the data migrated by the vendor to the new system. The errors/gaps identified during the Data Quality Assessment shall be addressed by the vendor before moving the data into the production environment, which is a key milestone for Go-live of the solution.

1.11.8 Payment Schedules

MMRDA shall affect payment to the SI in accordance with the following schedule of payment, as per the delivery of the project milestone completed:

1.11.8.1 Payment Schedule CAPEX

Sr. No.	Description / Activity	Deliverables	Time Lines in Months	%of Total “CAPEX” Value Quoted
1.	Inception Report, As-IS Study	Submission of Inception report	T + 0.5	10% After Submission 5% After Approval
	Data Model Finalization SRS and FRS Submission.	Submission of the SRS and FRS Reports.	T + 1	
	Detailed Design Document (SDD)	Submission of the SDD	T + 1.5	
2.	COTS Software Installation (Parallel Activity)	Desktop tools and Web Software tools other than ESRI to be supplied as per the RFP.	T + 1	10% After Delivery
		Installation Report Submission.		5% After Installation
3.	Hardware (Parallel Activity) -10 Workstations -5 Servers -100TB Storage -Urban Observatory System (As mentioned in Annexure-IV)	Delivery of the Hardware	T + 3	10% After Delivery
		Installation of the Hardware	T + 4	5% After Installation
4.	Development of the web & Mobile application, Customization. (Citizen Portal & Department Portal) (Parallel Activity)	Creation of common GIS base map and delivery. Self-declaration from the bidder for base map completion.	T + 6	40% After Go Live
		Development & implementation of Web & Mobile GIS application		
		Integration of the other department API's	T + 10	
		Data Collection and acquisition from MMRDA & their stakeholders. Integration of Spatial & Non-Spatial data.		
		Testing of GIS application & bug fixing	T + 10	
		Comprehensive audit including security Certification, VAPT & load testing from CERT-IN empanelled agency for all applications developed as per the scope of work.	T + 11	
		Hosting of applications on the cloud.	T + 11	
		UAT	T + 11	
		Go-Live	T + 11	
5.	Hosting of datasets & Enterprise Geospatial Application on Cloud	Hosting of datasets and application	T + 12	5%After Submission
6.	Training for MMRDA and Other Relevant Stakeholders	Attendance list and Digital copies of the software manuals	T + 12	5% After Training
7.	GIS Cell - 5 Resources (One Year), Monthly Billing of resources -5 No's (Parallel Activity)	Attendance Record	T + 12	3% Proportionate Monthly Billing
8.	Cloud Charges Initially Two Years, (For RIS Deployment 1Year and Maintenance 1 Year) (Parallel Activity)	Cloud Systems in the form of Virtual Machines	T + 12	2% Proportionate Monthly Billing
(T is the date of signing of the contract.)				

(T is the date of signing of the contract.)

1.11.8.2 Payment Schedule OPEX

Sr. No	References of the Components	Deliverables	Timelines in Month	%of Total OPEX Value Quoted
1	AMC of web & Mobile application (Citizen Portal)- Quarterly	Maintenance and change management of Web & Mobile GIS application	D+12	25% Quarterly
2	AMC of web & Mobile application (Department Portal)	Report Submission on AMC activities	D+12	
3	GIS Cell- 5 Resources Quarterly billing	Attendance list	D+12	
4	Hosting of datasets & Enterprise Geospatial Application on Cloud Quarterly billing	Hosting of datasets and application. Report Submission on AMC activities	D+12	
5	AMC Software Quarterly Billing	Report Submission on AMC activities	D+12	
6	Periodic CERT-IN Certification, Per Year	Report Submission on VAPT	D+12	
D is the Date of Go Live.				

1.11.9 Fraud and Corrupt Practices

I. The Bidders/Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFP, the Department shall reject a Proposal without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the Selection Process. In such an event, the Department shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Authority for, inter alia, time, cost and effort of the Authority, in regard to the RFP, including consideration and evaluation of such Bidder's Proposal.

II. Without prejudice to the rights of the Department under Clause above and the rights and remedies which the Department may have under the LOI or the Agreement, if an Bidder or Systems Implementation Agency, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOI or the execution of the Agreement, such Bidder or Systems Implementation Agency shall not be eligible to participate in any tender or RFP issued by the Department during a period of <2 (two) years> from the date such Bidder or Systems Implementation Agency, as the case may be, is found by the Department to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

III. For the purposes of this Section, the following terms shall have the meaning here in after respectively assigned to them:

i. "corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the

Department who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOI or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Department, shall be deemed to constitute influencing the actions of a person connected with the Selection Process; or (ii) save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Department in relation to any matter concerning the Project;

- ii. "fraudulent practice" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;
- iii. "coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process;
- iv. "undesirable practice" means (i) establishing contact with any person connected with or employed or engaged by Department with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and
- v. "restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Selection Process.

1.11.10 Conflict of Interest

- I. Bidder shall not have a conflict of interest that may affect the Selection Process or the Solution delivery (the "**Conflict of Interest**"). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Department shall forfeit and appropriate the EMD, if available, as mutually agreed genuine pre-estimated compensation and damages payable to the Department for, *inter alia*, the time, cost and effort of the Department including consideration of such Bidder's Proposal, without prejudice to any other right or remedy that may be available to the Department hereunder or otherwise.
- II. The Department requires that the Implementation Agency provides solutions which at all times hold the Department's interests paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Systems Implementation Agency shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the Department.
- III. Without limiting the generality of the above, an Bidder shall be deemed to have a Conflict of Interest affecting the Selection Process, if:
 - i. the Bidder, its consortium member (the "**Member**") or Associates (or any constituent thereof) and any other Bidder, its consortium member or Associate (or

any constituent thereof) have common controlling shareholders or other ownership interest; *provided that this disqualification shall not apply in cases where the director indirect shareholding or ownership interest of an Bidder, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case may be) in the other Bidder, its consortium member or Associate is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof.* For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows:

- where any intermediary controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the “**Subject Person**”) shall be taken into account for computing the shareholding of such controlling person in the Subject Person; where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on
- a proportionate basis; provided, however, that no such shareholding shall be reckoned under this Sub-clause if the shareholding of such person in the intermediary is less than 26% (twenty six per cent) of the subscribed and paid up equity shareholding of such intermediary; or

- ii a constituent of such Bidder is also a constituent of another Bidder; or
- iii. such Bidder or its Associate receives or has received any direct or indirect subsidy or grant from any other Bidder or its Associate; or
- iv. such Bidder has the same legal representative for purposes of this Application as any other Bidder; or
- v such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other's information about, or to influence the Application of either or each of the other Bidder; or
- vi. there is a conflict among this and other Systems Implementation/Turnkey solution assignments of the Bidder (including its personnel and other members, if any) and any subsidiaries or entities controlled by such Bidder or having common controlling shareholders. The duties of the Systems Implementation Agency will depend on the circumstances of each case. While providing software implementation and related solution to the Department for this particular assignment, the Systems Implementation Agency shall not take up any assignment that by its nature will result in conflict with the present assignment; or
- vii. A firm hired to provide System Integration/Turnkey solutions for the implementation of a project, and its Members or Associates, will be disqualified from subsequently providing goods, or works, or services related to the same project;

List of Appendices.

Appendix I: PQ, TQ, and Other Bid Templates

Appendix II: Financial Proposal Template

Appendix III: Template for PBG

Appendix - IV: Detailed Specification& Compliance Sheet

Appendix I: PQ, TQ, and Other Bid Templates

The Bidders are expected to respond to the RFP using the forms given in this section and all documents supporting Pre-Qualification / Technical Evaluation Criteria.

Forms/Templates to be used in submitting the proposal

- Form 1: Covering Letter (Technical Bid)
- Form 2: Compliance Sheet for Pre-Qualification Proposal
- Form 3: Compliance Sheet for Technical Proposal
- Form 4: Particulars of the Bidder
- Form 5: Bank Guarantee for Earnest Money Deposit
- Form 6: Letter of Proposal
- Form 7: Project Citation Format
- Form 8: Proposed Solution
- Form 9: Proposed Work Plan
- Form 10: Curriculum Vitae (CV) of Key Personnel
- Form 11: Deployment of Personnel
- Form 12: Manufacturers Authorization Form
- Form 13: Format for Joint Venture / Consortium Agreement
- Form 15: Form Of Certificate Confirming Submission Of All Documents Of Financial Package In The Technical Bid With Prices Left Blank
- Form 16: Form Of Certificate Confirming Careful Examination Of All The Contents Of Bid Documents And Signing Of All Pages Of Bidder's Proposal
- Form 17: Format Pending Litigation & Arbitration
- Form 18: Format For Scope Of Work Compliance Undertaking
- Form 19: Certificate For Annual Turnover
- Form 20: Certificate For Net Worth
- Form 21: Format For Performance Security
- Form 22: Format Of Declaration For Bidders For Works Under Rule 144 (Xi) In The General Financial Rules (Gfrs), 2017

Form 1: Covering Letter (Technical Bid)

To,

Systems Manager, IT Cell

Mumbai Metropolitan Region Development Authority (MMRDA),

IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),

Mumbai- 400051

Tel: 022-26597448

Email: ris.sm@mailmmrda.maharashtra.gov.in

Ref: Your Request for Proposal Document No. CA NO.02/MMRDA/IT CELL/SM/2024-25;

Tender Title: Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai

Sir/ Madam,

Having examined the abovementioned RFP Document, we, the undersigned, hereby submit/ upload our Request for Proposal (RFP) for the performance of Services in conformity with the said RFP Document.

(Please tick appropriate boxes or strike out sentences/ phrases not applicable to you)

1) About us:

We M/s _____, hereby certify that We are a firm of proven, established, and reputed Applicant having required Experience, Past performance, Personnel, and financial capability, with offices at.

2) Our Eligibility and Qualifications to participate:

We comply with all the eligibility criteria stipulated in this RFP Document, and the relevant declarations are made along with documents in Form 1.2 of this RFP-Form. We fully meet the qualification criteria stipulated in this RFP Document, and the relevant details are submitted along with documents in Form 2: 'Qualification Criteria – Compliance' and its sub-forms.

3) Affirmation of terms and conditions of the RFP Document:

We have understood the complete terms and conditions of the RFP Document. We accept and comply with these terms and conditions without reservations, although we are not signing and submitting some of the sections of the RFP Document.

4) Abiding by the RFP Validity

We agree to keep our RFP valid for acceptance for a period upto -----, as required in the RFP Document, or for a subsequently extended period, if any, agreed to by us.

5) Non-tempering of Downloaded RFP Documents and Uploaded Scanned Copies

We confirm that we have not changed/ edited the contents of the downloaded RFP Formats. We realize that any such change noticed at any stage, including after the contract award, shall be liable to punitive action in this regard stipulated in the RFP Document. We also confirm that scanned copies of documents/ affidavits/ undertakings uploaded along with our RFP are valid, true, and correct to the best of our knowledge and belief. We shall be responsible if any dispute arises regarding the validity and truthfulness of such documents/ affidavits/ undertakings. Upon our successful shortlisting, we undertake to submit for scrutiny, on-demand by MMRDA, originals and self-certified copies of all such certificates, documents, and affidavits/ undertakings.

6) Signatories:

We confirm that we are duly authorized to submit this RFP and make commitments on behalf of the Applicant. We acknowledge that our digital/digitised signature is valid and legally binding.

7) Rights of MMRDA to Reject RFP(s):

We understand that you are not bound to accept the lowest or any RFP you may receive against your above-referred RFP Document.

.....

(Signature with date)

(Name and designation)

Duly authorised to sign RFP for and on behalf of [name & address of Applicant and seal of Company]

Form 2: Compliance Sheet for Pre-Qualification Proposal

Pre-Qualification Criteria Submission Template

The pre-qualification proposal should comprise of the following basic requirements. The documents mentioned in this compliance sheet along with this form, need to be a part of the Pre-Qualification proposal. Bidders are requested to provide the Compliance Sheet in the following format only along with the required documents justifying the basic requirements.

S. No.	Basic requirement	Specific Requirements	Documents required	Compliance (Yes/ No)	Document Reference Number
1	Legal Entity	<p>Company shall be</p> <ul style="list-style-type: none"> - Registered under Companies Act, 1956/2013, a limited company, a private limited company or a partnership firm registered under LLP Act, 2008 or a Public Service Unit. - Registered with the Tax Authorities - Shall have been in operation for the past 15 years. 	<p>Certificate of Incorporation/ Registration under Companies Act 1956 or 2013 or as amended from time to time.,</p> <p>Partnership Firm registered under Partnership Act or Proprietorship Firm or LLP Act</p> <ul style="list-style-type: none"> • PAN Card, GST Registration Certificate • Memorandum and Articles of Association <p>For Consortium members</p> <ul style="list-style-type: none"> • GST registration certificate • PAN • Consortium agreement/MoU clearly stating the roles and responsibilities and scope of works of each member/partner company. 		
2	Bidder's turnover	Average annual turnover of bidder should be at least 500 Crore INR	Copy of the audited Balance		

		<p>during last 3 Financial Years (FY2023-24, FY2022-23, FY2021-22) from ICT & IT product/services.</p> <p>Note: "ICT/ IT Services" includes design, development/customization and implementation of an IT application/web application project including web development/ software development/ mobile app development/ network configuration/ software implementation/ hardware installation/ database management and IT emergency recovery/ data centre operations any other relevant application in India as decided by MMRDA</p>	<p>Sheet and Profit & Loss Statement of the company and/or Certificate from the Chartered Accountant clearly stating the average annual turnover from IT & ICT product/services during last 3 Financial Years (FY2023-24, FY2022-23, FY2021-22).</p> <p>Only audited financial statements will be considered for evaluation purposes. In case of current year audited balance sheet is not available, then provisional balance sheet would be accepted only for current year i.e. FY 2023-24</p>		
3	Net worth of the bidder	<p>The bidder should have a positive net worth in the last three financial years. (FY2023-24, FY2022-23, FY2021-22)</p>	<p>Audited balance sheet, profit & loss statement and certificate from certified Chartered Account mentioning positive net worth.</p> <p>In case of current year audited balance sheet is not available, then provisional</p>		

			balance sheet would be accepted only for current year i.e. FY 2023-24		
4	Technical Capability Technical Capability	<p>Bidder must have successfully implemented a large-scale project in the last 7 years from the date of NIT for ULB/ State / Central Government/ regulatory bodies/ PSUs of the State / Central Government clients:</p> <p>One project of "similar" nature with a project value of Rs. 80 Crores</p> <p>OR</p> <p>at least 2 (Two) projects with "similar" nature with a project value of Rs. 60 Crores</p> <p>OR</p> <p>at least 3 (Three) projects with "similar" nature with a project value of Rs. 40 Crores</p> <p>“Similar” projects include-</p> <ul style="list-style-type: none"> • Design, Development/Customization of IT Application/Web Application Project • Web Development/ Software Development/ Mobile App Development • Information System Deployment with BI Analytics. • Network Configuration • Software Implementation • Hardware Installation • Database Management • Data Center Operations, DC/DR supply and/or maintenance • Communication Infrastructure • City Surveillance • 3D City Mapping / Urban Mapping /Property Mapping • ICT Based Utility Management • Command & Control Center Implementation <p>OR</p> <p>any other relevant application in India as decided by MMRDA</p>	<p>Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>		
		b. The Sole Bidder or the Consortium should have experience in executing at	Work Order / Client Experience		

	<p>least 2 nos. of ICT projects which includes any of the following areas during last 10 years as on bid submission date:</p> <p>Value of each project should be minimum of Rs. 5 Crore</p> <ol style="list-style-type: none"> 1. GIS-based development of the Geo-Portal 2. Smart Transport 3. ICT based solid waste management 4. Smart utilities solutions 5. Smart parking/smart lighting 6. Surveillance 7. Emergency Response system 8. Smart Cities IT Implementation <p>Note-</p> <p>“GIS-based development of the Geo-Portal”- is an integrated platform that centralizes geographic data, providing real-time spatial analysis and decision-making tools for spatial data infrastructure.</p> <p>“Smart Transport”- refers to the application of advanced technologies to monitor and manage transportation networks, enhancing traffic flow and public transit efficiency across the region.</p> <p>“ICT based solid waste management”- involves the use of digital systems to optimize waste collection routes, monitor disposal practices, and manage recycling processes within a region.</p> <p>“Smart utilities solutions”- entail the deployment of intelligent networks and meters for real-time monitoring and management of utility services, improving resource conservation and service delivery.</p> <p>“Smart parking/smart lighting- utilize sensor”-driven data to efficiently manage parking availability and adaptively control street lighting,</p>	<p>Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>		
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		<p>contributing to safer and more sustainable urban environments.</p> <p>“Surveillance” encompasses the strategic placement and use of monitoring equipment to enhance security, oversee critical infrastructure, and support law enforcement activities across the region.</p> <p>“Emergency Response”- is a coordinated network that rapidly mobilizes resources and personnel to respond to and manage emergencies, ensuring public safety and minimizing impact.</p> <p>"Smart cities IT implementation" refers to the integration of information and communication technologies into urban infrastructure to enhance the efficiency of city operations and services. This involves deploying sensors, IoT devices, and advanced software solutions to collect and analyze data, which is then used to improve urban planning, traffic management, energy distribution, public safety, and provide citizens with better services and quality of life.</p>			
	Technical Capability	<p>Bidder should have been engaged in at least one project (of value not less than INR 5 Crores in last 7 years) involving Design, Supply of hardware & software, Development and Deployment of an Information System comprising a Portal integrating data/metadata from multiple government agencies (minimum five) such as Central & State Government agencies, to facilitate dissemination of information from a single platform (similar to scope mentioned as part of the envisaged RIS application)</p>	<p>Work Order / Client Experience Certificate/ Go-live Certificate /Other Supporting documents to substantiate completion of at least 80% of overall project cost shall be submitted by the Bidder.</p> <p>Note: Unpaid pilot or Proof of Concept will not be acceptable.</p>		
5	Certification	<p>The bidder possesses the below certification:</p>	<p>Copy of valid certificate of ISO</p>		

		<ul style="list-style-type: none"> • ISO 20000 • ISO 9001 • ISO/IEC 27001 • CMMI Level 5 	20000-1:2018, ISO 9001:2015, ISO/IEC 27001:2022 & CMMI 5 Certifications.		
6	Cloud Infrastructure	Bidder shall own a MEITY empanelled Tier-3 (or above) Government/PSU Data Center/Cloud setup, operated and managed by own team.	A proof or A Self Certified letter.		
7	MAF Authorization	An OEM Manufacturer's Authorization Form (MAF) is required for all software proposed as part of this Request for Proposal (RFP).	OEM Manufacturer's Authorization Form (MAF)		
8	Debarment	The Bidder shall not be debarred/blacklisted by Government/ Semi-Government department/ Funding Agency/Public Sector Organization in India or Globally for Unsatisfactory performance, corrupt or fraudulent practices or any other unethical conduct either indefinitely or any other reason as on bid submission date.	A Self Certified letter that the bidder (or any of its successors) is not in the active debarred list.		
9	Manpower	The bidder must have at least 100 full time technical resources in case of sole bidder, and 50 technical resources each in case of consortium on its full time payroll in the domain of IT/ ICT/ Software Development/ GIS/ Survey with qualification- Diploma/ B.E/ B.Tech/ M.E/ M.Tech, BSc/MSc, BCA / MCA as on date.	Self-Certification by the authorized signatory with clear declaration of staff –year wise, level / designation wise.		
10	Integrity Pact	The Sole Bidder or in case of Consortium (Lead Bidder and Consortium Member) shall submit an integrity pact as per the format mentioned.	Integrity pact in the prescribed form in Appendix 1: Form 13		
11	Compliance Checklist	The bidder has to comply with all the checklist items mentioned under 'Annexure IV: Detailed Specification & Compliance Sheet' for all the deliverables and functionalities mentioned.	Self-Certification by the authorized signatory confirming delivery compliance and any relevant documents as prescribed in Annexure IV.		

Form 3: Compliance Sheet for Technical Proposal

Technical-Qualification Criteria Submission Template

S. No.	Criteria	Name of Projects by Bidder	Client & Country of Project	Reference in Project Citation Format	Page no. in Technical Proposal
1.	<p>Company Quality Certifications. The Bidder/ consortium partner shall have the following latest certifications,</p> <ul style="list-style-type: none"> ▪ ISO: 9001: 2015, ▪ ISO/IEC 27001:2013, ▪ ISO/IEC 20000-1:2011, ▪ CMMI Level-5 				
2.	<p>Bidder must have successfully implemented a large-scale project in the last 7 years from the date of NIT for ULB/ State / Central Government/ regulatory bodies/ PSUs of the State / Central Government clients:</p> <p>Project of "similar" nature with a project value of more than or equal to INR 40 Crores</p>				
3.	<p>The Sole Bidder or the Consortium should have experience in executing at least 2 nos. of ICT projects which includes any of the following areas during last 10 years as of bid submission date:</p> <p>The value of each project should be a minimum of Rs. 5 Crore</p> <ol style="list-style-type: none"> 1. Web GIS Projects / GIS based development of the Geo-Portals. 2. Smart Transport 3. ICT based solid waste management 4. Urban Mapping / property Mapping / Smart utilities solutions 5. Smart parking/smart lighting 6. Surveillance 7. Emergency Response system 8. Smart Cities IT Implementation <p>Note: As defined in Section 1.6.1. (PQ)</p>				

S. No.	Criteria	Name of Projects by Bidder	Client & Country of Project	Reference in Project Citation Format	Page no. in Technical Proposal
4.	Bidder should have been engaged in at least one project (of value not less than INR 5 Crores in last 7 years) involving Design, Supply of hardware & software, Development and Deployment of an Information System comprising a Portal integrating data/metadata from multiple government agencies (minimum five) such as Central & State Government agencies, to facilitate dissemination of information from a single platform (similar to scope mentioned as part of the envisaged RIS application)				

Form 4: Particulars of the Bidder

(Required to be submitted by sole bidder or by all parties of the Consortium)

S. No.	Information Sought	Details to be Furnished
A.	Name and address of the Bidding Company. (All parties of the Consortium)	
B.	Incorporation status of the firm (public limited / private limited, etc.)	
C.	Year of Establishment	
D.	Date of registration	
E.	ROC Reference No.	
F.	Details of company registration	
G.	Details of registration with appropriate authorities for service tax	
H.	Name, Address, email, Phone nos. and Mobile Number of Contact Person	

Form 5: Bank Guarantee for Earnest Money Deposit

To,

Systems Manager, IT Cell

Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

Whereas <<Name of the Bidder>> (hereinafter called 'the Bidder') has submitted the bid for Submission of RFP # <<RFP Number>> dated <<Date>> for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai (hereinafter called "the Bid") to <Department >

Know all Men by these presents that we << >> having our office at <<Address>> (hereinafter called "the Bank") are bound unto the <Department > (hereinafter called "the Department ") in the sum of Rs. <<Amount in figures>> (Rupees <<Amount in words>> only) for which payment well and truly to be made to the said Department , the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this <<Date>>

The conditions of this obligation are:

1. If the Bidder having its bid withdrawn during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its bid by the Department during the period of validity of the bid.

(a) Withdraws his participation from the bid during the period of validity of bid document; or

(b) Fails or refuses to participate in the subsequent Tender process after having been short-listed;

We undertake to pay to the Department up to the above amount upon receipt of its first written demand, without the Department having to substantiate its demand, provided that in its demand the Department will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to <<insert date>> and including <<extra time over and above mandated in the RFP>> from the last date of submission and any demand in respect thereof should reach the Bank not later than the above date.

NOTWITHSTANDING ANYTHING CONTAINED HEREIN:

- I. Our liability under this Bank Guarantee shall not exceed Rs. <<Amount in figures>> (Rupees <<Amount in words>> only)
- II. This Bank Guarantee shall be valid upto <<insert date>>)
- III. It is a condition of our liability for payment of the guaranteed amount or any part thereof arising under this Bank Guarantee that we receive a valid written claim or demand for payment under this Bank Guarantee on or before <<insert date>>) failing which our liability under the guarantee will automatically cease.

(Authorized Signatory of the Bank)

Seal:

Date:

Form 6: Letter of Proposal

To:

<Location, Date>

Systems Manager, IT Cell

Mumbai Metropolitan Region Development Authority (MMRDA),

IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),

Mumbai- 400051

Tel: 022-26597448

Email: ris.sm@mailmmrda.maharashtra.gov.in

Subject: Submission of the Technical bid for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai

Dear Sir/Madam,

We, the undersigned, offer to provide Systems Implementation solutions to the Department < Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai > with your Request for Proposal dated <insert date> and our Proposal. We are hereby submitting our Proposal, which includes this Technical bid and the Financial Bid sealed on the <URL of eProcurement portal> portal.

We hereby declare that all the information and statements made in this Technical bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

We undertake, if our Proposal is accepted, to initiate the Implementation services related to the assignment not later than the date indicated in Fact Sheet.

We agree to abide by all the terms and conditions of the RFP document. We would hold the terms of our bid valid for <90> days as stipulated in the RFP document.

We understand you are not bound to accept any Proposal you receive.

Yours sincerely,

Authorized Signature [In full and initials]:

Name and Title of Signatory:

Name of Firm:

Address:

Location: _____

Date: _____

Form 7: Project Citation Format

Relevant Project experience (Against clause mentioned in Clause 1.6.1 & Clause 1.6.2)	
	General Information
	Name of the project
	Client for which the project was executed
	Name and contact details of the client
	Project Details
	Description of the project
	Scope of services
	Technologies used
	Other Details
	Total cost of the project
	Total cost of the services provided by the respondent
	Duration of the project (no. of months, start date, completion date, current status)
	Other Relevant Information
	Letter from the client to indicate the successful completion of the projects, Copy of Work Order

Form 8: Proposed Solution

Technical approach and work plan are key components of the Technical Proposal. You are suggested to present Approach and Methodology divided into the following sections:

- a) Solution Proposed
- b) Understanding of the project (how the solution proposed is relevant to the understanding)
- c) Technical Approach and Methodology
 - a. Hardware
 - b. Software
 - c. Cloud and Hybrid Cloud Mechanism.

Form 9: Proposed Work Plan

[illegible]

- 1 Indicate all main activities of the assignment, including delivery of reports (e.g.: inception, interim, and final reports), and other benchmarks such as Department approvals. For phased assignments indicate activities, delivery of reports, and benchmarks separately for each phase.
- 2 Duration of activities shall be indicated in the form of a bar chart.
- 3 All activities should meet the 8/80 criteria i.e should at least take 8 hours and a maximum of 80 hours.

Form 10: Curriculum Vitae (CV) of Key Personnel

General Information	
Current Designation / Job Title	
Name of the person	
Current Designation / Job Title	
Current job responsibilities	
Proposed Role in the Project	
Academic Qualifications: <ul style="list-style-type: none"> • Degree • Academic institution graduated from • Year of graduation • Specialization (if any) • Key achievements and other relevant information (if any) 	
Professional Certifications (if any)	
Total number of years of experience	
Number of years with the current company	
Past assignment details (For each assignment provide details regarding name of organizations worked for, designation, responsibilities, tenure) Prior Professional Experience covering: <ul style="list-style-type: none"> • Organizations worked for in the past: <ul style="list-style-type: none"> o Organization name o Duration o Designation Location(s) o Key responsibilities • Prior project experience <ul style="list-style-type: none"> o Project name o Client o Key project features in brief 	

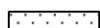
Form 11: Deployment of Personnel

N o	Name of Staff	Staff input in Months (in the form of a bar chart):													Total man- months propose
		1	2	3	4	5	6	7	8	9	1	1	1	n	Total
1															
2															
3															
N															
											Total				

- Professional Staff the input should be indicated individually; for Support Staff it should be indicated by category
- Months are counted from the start of the assignment.



Full time input



Part time input

Form 12: Manufacturers Authorization Form

[This MAF shall be provided by the OEMs of the COTS software and ICCC hardware products proposed]

No. Date:

To:

Systems Manager, IT Cell

Mumbai Metropolitan Region Development Authority (MMRDA),

IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),

Mumbai- 400051

Tel: 022-26597448

Email: ris.sm@mailmmrda.maharashtra.gov.in

Manufacturers Authorization Form

Dear Sir:

Ref: Your RFP Ref: [*] dated [*]

We who are established and reputable manufacturers / producers of _____
having factories / development facilities at (address of factory / facility) do hereby
authorize M/s _____ (Name and address of Agent) to submit a Bid,
and sign the contract with you against the above Bid Invitation.

We hereby extend our full guarantee and warranty for the Solution, Products and
services offered by the above firm against this Bid Invitation.

We also undertake to provide any or all of the following materials, notifications, and
information pertaining to the Products manufactured or distributed by the Supplier:

- a. Such Products as the Department may opt to purchase from the Supplier,
provided, that this option shall not relieve the Supplier of any warranty obligations
under the Contract; and
- b. in the event of termination of production of such Products:
 - i. advance notification to the Department of the pending termination,
in sufficient time to permit the department to procure needed
requirements; and
 - ii. Following such termination, furnishing at no cost to the Department,
the blueprints, design documents, operations manuals, standards, source
codes, created for this project and specifications of the Products, if
requested.

We duly authorize the said firm to act on our behalf in fulfilling all installations, Technical
support, and maintenance obligations required by the contract.

Yours faithfully,

(Name)

(Name of Producers)

Note: This letter of authority should be on the letterhead of the manufacturer and
should be signed by a person competent and having the power of attorney to bind the
manufacturer.

Form 13: Format for Joint Venture / Consortium Agreement

THIS JOINT VENTURE AGREEMENT is entered into on this theday of2024

AMONGST

1. company incorporated under the Companies Act, 1956 and having its registered office at (hereinafter referred to as the "First Party" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

2. a Company incorporated under the Companies Act, 1956 and having its registered office at (hereinafter referred to as the "Second Party" which expression shall, unless repugnant to the context include its successors and permitted assigns)

The above mentioned parties of the [FIRST AND SECOUND] PART are collectively referred to as the "Parties" and each is individually referred to as "Party"

WHEREAS,

Mumbai Metropolitan Region Development Authority represented by Government of Maharashtra having its head office at IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East), Mumbai-400051, in India (herein after referred to as the "Authority" which expression shall, unless repugnant to the context or meaning there of, include its administrators, successors and assigns) has invited proposals (the Applications") by its RFP No. . CA NO.02/MMRDA/IT CELL/SM/2024-25; dated (the "RFP") for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai (the "Project").

- A. The Parties are interested in jointly bidding for the project as members of a Consortium and in accordance with the terms and conditions of the RFP document and other bid document in respect of the Consultancy, and
- B. It is a necessary condition under the RFP document that the member of the Consortium shall enter into a joint Bidding Agreement and Furnish a copy there of with the Application

NOW IT IS HEREBY AGREED as follows:

1. Definitions and Interpretations

In this Agreement, the capitalized terms shall, unless the context otherwise require, have the meaning ascribed thereof under the RFP

2. Consortium

- a. The Parties do here by irrevocably constitute a consortium ("the Consortium") for the purposes of jointly participating in the selection process for the project
- b. The Parties hereby undertake to participate in the Bidding Process only through this Consortium and not individually and/ or through any other consortium constituted for this project, either directly or indirectly or through any of their Affiliates

3. Covenants

The Parties hereby undertaken that in the event the Consortium is declared the selected bidder and awarded the project, the Parties shall enter into a contract for project ("Contract") with the Authority and for performing all obligations as the bidder in terms of the Contract for the project

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below :-

- a. The First Party shall be the Members in Charges of the Consortium and shall have the power of attorney from all Parties for conducting all business for and behalf of the Consortium during the selection process for the project and until the Effective Date under the Contract;
- b. The Second Party shall be the associate partner

5. Joint and Several Liability

The Parties do hereby undertake to be jointly and severally responsible for all and liabilities relating to the project and in accordance with the terms of the RFP and the Contract, for the performance of the Contract.

6. Member in Charge or Lead Member

Without prejudice to the joint and several liabilities of all the Parties, each Party agrees that it shall exercise all rights and remedies under the Contract through the Bidder / Lead Member and the Authority shall be entitled to deal with such Bidder as the representative of all Members. Each Party agrees and acknowledges that:

- a. Any decision (including without limitation, any waiver or consent), action, omission, communication or notice of the Member in Charge on any matters related to the Contract shall be deemed to have been on its behalf and shall be binding on it. The Authority shall be entitled to rely upon any such action, decision or communication from the Member in Charge;
- b. Consolidated invoices for the service in relation to the project performed by all the Members shall be prepared and submitted by the Lead bidder and the Authority shall have right to release payment solely to the Lead bidder and the Authority shall not in any manner

be responsible or liable for the inter seal location of payments, works etc. among the parties

- c. Any notice, communication, information or documents to be provided to the bidder shall be delivered to the authorized representative of the bidder (as designated pursuant to the Contract) and any such notice, communication, information of documents shall be deemed to have been delivered to all the Parties.

7. Representation of the Parties

Each party represents to the other Parties as of the date of this Agreement that:

- a. Such Party is duly organizes, validly existing and in good standing under laws of its incorporation and has all requisite power and authority to enter into this agreement;
- b. The execution, delivery and performance by such Party of this Agreement has been authorized by all necessary and appropriated corporate or governmental action and a copy of the extract of the charter document and board resolution/ power of attorney in favor of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the party is annexed to this Agreement, and Will not, to the best of its knowledge:
 - i. Require any consent or approval not already obtained;
 - ii. Violate any Application Law presently in effect and having applicability to it;
 - iii. Violate the memorandum and articles of association, by-laws or other applicable organizational document thereof;
 - iv. Violate any clearance, permit, concession, grant, license or other governmental authorization, approval, judgment, order or decree or any mortgage agreement, indenture or any other instrument to which such Party Is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party ; or
 - v. Create or impose any lines, mortgages, pledges, claims, security interests, charges or Encumbrances or obligation to create a line, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;
- c. This Agreement is the legal and binding obligation of such Party, enforceable in accordance with its term against it; and
- d. There is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its affiliates is a Party that presently affects or which would have a material adverse effect on

the financial condition or prospects or business of such Party in the fulfillment of its obligation under this agreement

8. Authorized Representation

The parties agree that, who is employed with the Lead bidder, or his/her nominee shall be the authorized representative of the consortium, to do on behalf of the Consortium, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of the Consortium's proposal for an the project including but not limited to signing and submission of all application, proposal and other document, participating in pre-bid and other conferences and providing information/ responses to the authority, representing the consortium in the matters before the authority, signing and execution of all contracts and undertakings consequent to acceptance of the consortium's proposal and generally dealing with the Authority in all matters in connection with or relating or arising out of the Project.

9. **Termination** This Agreement shall be effective from the date hereby and shall continue in full force and effect until the Effective Date under the Contract, in case the project is awarded to the Consortium. However, in case the Consortium is not selected for award of the project, the Agreement will stand terminated upon intimation by the Authority that it has not been selected and upon return of the EMD by the Authority.

10. Miscellaneous

- a. This Joint Bidding Agreement shall be governed by laws of India.
- b. The Parties acknowledge and accept that this Agreement shall not be amended by the Parties without the prior written consent of the Authority

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERD THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED & DELIVERED

For and on behalf of MEMBER IN- CHARGE by:
PART by

SIGNED, SEALED & DELIVERED

For and on behalf of SECOND

by

Name:

Designation:

Address:

Name:

Designation:

Address:

In Presence of:

1.

2.

Form 14: Form of Certificate Confirming Receipt of All Bid Addenda/Corrigendum

To,

Date: -

Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

Subject: Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai

Ref:

Dear Sir,

This is to certify that we, M/s. (Name of the Company) have received all Bid Addenda to Bid as listed below:

1. Addendum No.
2.
3.
4.

Name of signatory:

Capacity of signatory:

Name and address of applicant

Form 15: Form of Certificate Confirming Submission of All Documents of Financial Package in the Technical Bid with Prices Left Blank

To,

Date: -

Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

Subject: Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai

Ref:

Dear Sir,

1. This is to certify that the copy of all the documents of Financial Bid, submitted with the Technical Package, is a True Copy of the Financial Bid with prices left blank.
2. It is further certified that there are no additional comments, remarks, deviations, terms and conditions in our Financial Bid and even if it is there, it shall be treated as NULL and VOID and stand unconditionally withdrawn without any financial implications.

Name of signatory:

Capacity of signatory:

Name and address of applicant

Form 16: Form of Certificate Confirming Careful Examination of All the Contents of Bid Documents and Signing of All Pages of Bidder's Proposal

To,

Date: -

Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

Subject: Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai

Ref:

Dear Sir,

This is to certify that we, M/S [*Name of the Applicant] have carefully examined all the contents of the Bid Documents including Bid Addenda (if any) and all the pages of our proposal have been signed and stamped.

Name of signatory:

Capacity of signatory:

Name and address of applicant

Form 17: Format Pending Litigation & Arbitration

(Each Bidder must fill out this form if so required to describe any pending litigation or arbitration formally commenced against it.)

To,

Date: -

Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

Subject:

Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai.

Ref:

Dear Sir,

This is to certify that M/s_____ have
Choose one of the following:

- ☐ No pending litigation and arbitration.
- ☐ Following list of all pending litigations and arbitrations against M/s_____ (Mention name of Bidder/each member of JV/Consortium).
- | Year | Matter in Dispute | Value of Pending Claim |
|------------------------------------|-------------------|------------------------|
| in INR Equivalent | Value of Pending | |
| Claim as a Percentage of net worth | | |

Name of signatory:

Capacity of signatory:

Name and address of applicant

Note :-

1. In Case of JV/ Consortium, the undertaking shall be submitted by each member of the JV/Consortium
2. The Undertaking shall be signed by authorized signatory of the tenderer or constituent member in case of JV / Consortium.

Form 18: Format for Scope of Work Compliance Undertaking

To,

Date: -

Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

Subject: Selection of System Integrator (SI) for Design, Development, and
Implementation of Regional Information System for Mumbai Metropolitan Region and
Urban Observatory at MMRDA, Mumbai

Ref:

Dear Sir,

We hereby confirm that our offer is fully complaint:

1. With the scope of work detailed in Bid Specifications.
2. With the specification mentioned in the Bid document

Name of signatory:

Capacity of signatory:

Name and address of applicant

Form 19: Certificate for Annual Turnover

TURNOVER

(To be submitted duly signed by Statutory Auditor of the Bidder on its letter head; to be provided for all members of the Consortium, as applicable)

S. No	Years	Turnover from IT services in INR (Indian Rupees)
(1)	(2)	(3)
1	2023-24	
2	2022-23	
3	2021-22	
Average Annual Turnover		(A+B+C)/3

****Audited & Certified by Statutory Auditor, Balance Sheet and Profit & Loss account statement of the Bidder for each of the last 3 audited financial years (Financial years 2021-22, 2022-23 & 2023-24) as above shall be submitted as supporting evidence. The appointment letter of Statutory Auditor by the Bidder shall be enclosed.***

All International bidders participating in the e-tendering process are required to duly apostille all their documents from the Indian Embassy of their home country. Apostillation of the documents should be in accordance to the Hague Convention 1961 (<https://mea.gov.in/apostille.htm>). Due to COVID-19 Pandemic and partial working of various Indian embassies, the Apostillation of the documents is relaxed for the submission. However, the Successful Bidder will have to get the necessary Apostillation of the documents done and submit the same to MMRDA before the Work Order is issued.

Form 20: Certificate for Net Worth

NET WORTH

(To be submitted duly signed by Statutory Auditor of the Bidder on its letter head; to be provided for all members of the Consortium, as applicable)

S. No	Years	Net worth in INR (Indian Rupees)
(1)	(2)	(3)
1	2023-24	
2	2022-23	
3	2021-22	

***Audited & Certified by Statutory Auditor, Balance Sheet and Profit & Loss account statement of the Bidder for each of the last 3 audited financial years (Financial years 2021-22, 2022-23 & 2023-24 as above shall be submitted as supporting evidence. The appointment letter of Statutory Auditor by the Bidder shall be enclosed.**

All International bidders participating in the e-tendering process are required to duly apostille all their documents from the Indian Embassy of their home country. Apostillation of the documents should be in accordance to the Hague Convention 1961 (<https://mea.gov.in/apostille.htm>). Due to COVID-19 Pandemic and partial working of various Indian embassies, the Apostillation of the documents is relaxed for the submission. However, the Successful Bidder will have to get the necessary Apostillation of the documents done and submit the same to MMRDA before the Work Order is issued.

In Case of JV/ Consortium, the certificate shall be submitted by each member of the JV/Consortium

Form 21: Format for Performance Security

To,
Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

WHEREAS:

_____ name and address of Applicant] (hereinafter called “the Applicant”)
and

In Charge Information Technology Cell, MMRDA, Bandra Kurla Complex, Bandra (E),
Mumbai, Maharashtra (the “Authority”) have entered into an agreement (the
“Agreement”) for Selection of System Integrator (SI) for Design, Development, and
Implementation of Regional Information System for Mumbai Metropolitan Region and
Urban Observatory at MMRDA, Mumbai in the state of Maharashtra, subject to and in
accordance with the provisions of the Agreement. (A) The Agreement requires the
Applicant to furnish a Performance Security for due and faithful performance of its
obligations, under and in accordance with the Agreement, during the {Implementation
Period/ Defects Liability Period and Maintenance Period} (as defined in the Agreement)
in a sum of Rs ***** Cr.

(B) We,Through our branch at (The “Bank”) have
agreed to furnish this bank guarantee (hereinafter called the “Guarantee”) by way of
Performance Security. NOW, THEREFORE, the Bank hereby, unconditionally and
irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful
performance of the Applicant obligations during the {Implementation period /Defects
Liability Period and maintenance period} under and in accordance with the Agreement,
and agrees and undertakes to pay to the Authority, upon its mere first written demand,
and without any demur, reservation, recourse, contest or protest, and without any
reference to the Applicant, such sum or sums up to an aggregate sum of the Guarantee
Amount as the Authority shall claim, without the Authority being required to prove or to
show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General
Manager in the MMRDA that the Applicant has committed default in the due and faithful
performance of all or any of its obligations under and in accordance with the Agreement
shall be conclusive, final and binding on the Bank. The Bank further agrees that the
Authority shall be the sole judge as to whether the Applicant is in default in due and

faithful performance of its obligations during and under the Agreement and its decision that the Applicant is in default shall be final and binding on the Bank, notwithstanding any difference between the Authority and the Applicant, or any dispute between them pending before any court, tribunal, arbitrators or any other Authority or body, or by the discharge of the Applicant for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Applicant and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Applicant before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfillment and/or performance of all or any of the obligations of the Applicant contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Applicant, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Applicant or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfillment, compliance and/or performance of all or any of the obligations of the Applicant under the Agreement.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the guaranteed amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on ****\$ unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or unit it is released earlier by the Authority pursuant to the provisions of the Agreement. Signed and sealed this day of 20..... at SIGNED, SEALED AND DELIVERED For and on

behalf of the Bank by: (Signature) (Name) (Designation) (Code Number) (Address)

NOTES:

1. The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.

2. The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch

Form 22: Format of Declaration for Bidders for Works under Rule 144 (xi) in the General Financial Rules (GFRs), 2017.

(To be submitted on the Letterhead of the Bidder)

Date: dd/mm/yyyy

To,

**Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra
(East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in**

Ref: RFP Reference No.

Subject: Request for Proposal (RFP) to Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai.

Dear Sir,

1. We, M/s _____ having our registered office at _____ (referred to as the "Bidder") are desirous of participating in the Tender Process in response to your captioned RFP and in this connection we hereby declare, confirm and agree as under:

- a. We, the Bidder have read and understood the contents of the Office Memorandum & the Order (Public Procurement No.1) both bearing no. F.No.6/18/2019/PPD of 23rd July 2020 issued by Ministry of Finance, Government of India on insertion of Rule 144 (xi) in the General Financial Rules (GFRs) 2017 and the amendments & clarifications thereto, regarding restrictions on availing/procurement of goods and services, of any Bidder from a country which shares a land border with India and / or sub-contracting to contractors from such countries.
- b. In terms of the above and after having gone through the said amendments including in particular the words defined therein (which shall have the same meaning for the purpose of this Declaration cum Undertaking), we the Bidder hereby declare and confirm that:

Cases	Tick Mark	Authorized Signature
Case 1. We, the Bidder are not from such a country which shares a land border with India, in terms of the said amendments to GFR, 2017		

Cases	Tick Mark	Authorized Signature
Case 2. We, the Bidder are from such a country and has been registered with the Competent Authority i.e. the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade, as stated under Annexure I to the said Office Memorandum / Order and we submit the proof of registration herewith.		

(*Tick and Sign on the case whichever is applicable)

- c. We, the Bidder agree and undertake that if the contract is awarded to us, we shall not sub-contract or outsource the contract and / or any part thereof unless such subcontract/ outsourcing is permitted by MMRDA India in writing, in which case we shall not sub-contract or outsource the work to a contractor from such countries, unless such contractor is registered with the Competent Authority and proof of same is obtained.
2. We, the Bidders hereby confirm that we fulfil all the eligibility criteria as per RFP and are not ineligible from participating in the Tender in view of the above Office Memorandum and Order. We also agree and accept that if our declaration and confirmation is found to be false at any point of time including after awarding the contract, MMRDA shall be within its right to forthwith terminate the contract/ bid without notice to us and initiate such action including legal action against us. MMRDA shall also be within its right to forfeit the security deposits provided by us and also recover from us the loss and damages sustained by MMRDA on account of the above.
3. **This declaration cum undertaking is executed by us through our Authorized signatory/ies after having read and understood the Office Memorandum and Order (Public Procurement No.1) both bearing F.No.6/18/2019/PPD of 23rd July 2020 of Ministry of Finance, Department of Expenditure, Public Procurement Division, Government of India including the words defined in the said order (reproduced hereunder) which shall have the same meaning for the purpose of this Declaration cum Undertaking.**

Definitions

"Bidder" for the purpose of this Order (including the term 'tenderer', 'Bidder' 'vendor' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of Bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.

"Tender" for the purpose of this Order shall include other forms of procurement, except where the context requires otherwise.

"Bidder from a country which shares a land border with India" for the purpose of this Order means:

- a) An entity incorporated, established or registered in such a country; or
- b) A subsidiary of an entity incorporated, established or registered in such a country; or

- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d) An entity whose beneficial owner is situated in such a country; or
- e) An Indian (or other) agent of such an entity; or
- f) A natural person who is a citizen of such a country; or
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

"Beneficial owner" for the purpose of above shall be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation—

- a. "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership or entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 4. Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

"Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons."

Thanking you,

Yours faithfully,

Signature of Authorized Signatory (with official seal)

Date:

Name:

Designation:

Address:

Telephone & Fax:

E-mail address:

Appendix II: Financial Proposal Template

Form 1: Covering Letter

To,

Systems Manager, IT Cell

Mumbai Metropolitan Region Development Authority (MMRDA),

IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),

Mumbai- 400051

Tel: 022-26597448

Email: ris.sm@mailmmrda.maharashtra.gov.in

Ref: Your Request for Proposal Document No CA NO.02/MMRDA/IT CELL/SM/2024-25

Tender Title: Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai

Dear Sir,

1. With reference to your RFP document dated *** **, I/we, having examined the Bidding Documents and understood their contents, hereby submit my/our BID for the aforesaid Project. The BID is unconditional.

2. I/ We acknowledge that the Authority will be relying on the information provided in the BID and the documents accompanying the BID for the selection of the Contractor for the aforesaid Project, and we certify that all information provided in the Bid are true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the BID are true copies of their respective originals.

3. The BID Price has been quoted by me/us after taking into consideration all the terms and conditions stated in the RFP, draft Agreement, scope of the work and technical specifications, our own estimates of costs, and after a careful assessment of the site and all own the conditions that may affect the project cost and implementation of the project.

4. I/ We acknowledge the right of the Authority to reject our BID without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.

5. In the event of my/ our being declared as the Selected Bidder, I/we agree to enter into an Agreement in accordance with the draft that has been provided to me/us prior to the BID Due Date. We agree not to seek any changes in the aforesaid draft and agree to abide by the same.

6. I/ We shall keep this offer valid for (in words) days from the BID Due Date specified in the RFP.

7. I/ We hereby submit our BID online on the e-procurement portal for undertaking the aforesaid Project in accordance with the Bidding Documents and the Agreement.

Yours faithfully,

Date: (Signature, name and designation of the

Place: Authorised Signatory)

Name & seal of Bidder / Lead Member.....

Form 2: Financial Proposal To be filled and Uploaded by Bidder

Bill of Quantities:

Sl. Nr.	Description / Activity	Qty	Unit	Rate/ Unit	Item Cost	Remarks
		A		B	C=A*B	
CAPEX						
1.	COTS Software.					
	1. Desktop Image Processing and Photogrammetry Software As per the specifications mentioned in Appendix IV, Item B.	3	Licenses			
	2. Desktop 3D Globe Client Viewer Application software As per the specifications mentioned in Appendix IV, Item C.	5	Licenses			
	3. Enterprise GIS (2D/3D) Software for Web with failover. (Active-Passive) As per the specifications mentioned in Appendix IV, Item D.	1	License			
2.	Hardware.					
	Workstations (Any branded system with latest Intel Processor 128GB RAM, 8TB HDD)	10	Nos			
	Servers (Any branded system with latest Intel Processor 256GB RAM, 16TB HDD)	5	Nos			
	100TB Storage	1	Nos			
	Urban Observatory System (As per the specifications given in Appendix-IV, Section 1.3)	1	Nos			
3.	Cloud Charges (One Year)	1	Year			
RIS DEVELOPMENT COST						
4.	Development and Customisation of Complete Web Based and GIS-Based Regional Information System:	1	Lumpsum			
	Citizen Portal	1				
	Department Portal	1				
	Mobile application	1				
MAPPING SERVICES						
5.	Collection of the existing data and creation of common GIS base map and geo database for MMR region and making it web ready.	632800	Hectares			

Sl. Nr.	Description / Activity	Qty	Unit	Rate/ Unit	Item Cost	Remarks
		A		B	C=A*B	
	Hosting of datasets on the Developed Enterprise Geospatial RIS Application on Cloud.	632800	Hectares			
	Data Collection, Acquisition From MMRDA & their stakeholders & Integration of Spatial & Non-Spatial data.	632800	Hectares			
	Training					
6.	Training for MMRDA and Other Relevant Stakeholders	100	Nos			
Total CAPEX Cost						
	OPEX (After 1 Year of Implementation) Read the OPEX requirement at Appendix-IV Section 1.3					
1.	AMC of web & Mobile application (Citizen Portal)-Quarterly	1	Year			
2.	AMC of Web & Mobile application (Department Portal)	1	Year			
3.	GIS Cell- 5 Resources Quarterly billing	1	Year			
4.	Hosting of datasets & Enterprise Geospatial Application on Cloud Quarterly billing	1	Year			
5.	AMC Software Quarterly Billing	1	Year			
6.	Periodic CERT-IN Certification, Per Year	1	Year			
7.	Cloud Charges (One Year)	1	Year			
Total OPEX Cost						
Total Value "TVP" of the Project = CAPEX + OPEX						

Note: MMRDA Reserves the right to issue the work order to the whole or partial items in the above BoQ. MMRDA has already defined scope of work & BOQ for the project, However, for the successful completion of the project, if anything need, same should incorporated and factorise while submitting financial proposal.

Optional Item

Bidder shall quote for the technical resources per month cost. This cost is for the reference of MMRDA only and will not be part of commercial evaluation.

Sl. Nr.	Description / Activity	Qty	Unit	Rate/ Unit	Item Cost	Total Price (INR)
1.	Project/GIS Manager		Month(s)			
2.	Deputy Team Leader / GIS Managers		Month(s)			
3.	Data Team Co-ordinator		Month(s)			

Sl. Nr.	Description / Activity	Qty	Unit	Rate/ Unit	Item Cost	Total Price (INR)
4.	Deputy Data Team Co-ordinator		Month(s)			
5.	GIS QA Lead		Month(s)			
6.	GIS DBA		Month(s)			
7.	Lead GIS Data Analyst		Month(s)			
8.	Deputy GIS Data Analyst		Month(s)			
9.	Urban Expert		Month(s)			
10.	Jr. Testing Engineer		Month(s)			
11.	Field Technical Support Engineer		Month(s)			

OPEX (Post support and maintenance charges for 2nd and 3rd year After Go-Live) Read the OPEX requirement at Appendix-IV Section 1.3			
		Units	Total Price (INR)
1.	2 nd Year post Go-Live	1	
2.	3 rd Year post Go-Live	1	
Total OPEX Cost for Year 2 & 3 Post- Go Live			

Note: GST would be applicable as per the applicable prevailing rate. All the other charges should be factorized.

Appendix III: Template for PBG

PERFORMANCE SECURITY DOCUMENT TEMPLATE:

To,
Systems Manager, IT Cell
Mumbai Metropolitan Region Development Authority (MMRDA),
IT Cell, 5th Floor, MMRDA Old Building, Bandra-Kurla Complex, Bandra (East),
Mumbai- 400051
Tel: 022-26597448
Email: ris.sm@mailmmrda.maharashtra.gov.in

WHEREAS:

_____ name and address of Applicant] (hereinafter called “the Applicant”)

and

In Charge Information Technology Cell, MMRDA, Bandra Kurla Complex, Bandra (E), Mumbai, Maharashtra (the “Authority”) have entered into an agreement (the “Agreement”) for Request for Proposal (RFP) for Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai, subject to and in accordance with the provisions of the Agreement.

(A) The Agreement requires the Applicant to furnish a Performance Security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the {Implementation Period/ Defects Liability Period and Maintenance Period} (as defined in the Agreement) in a sum of Rs ***** Cr.

(B) We,Through our branch at (The “Bank”) have agreed to furnish this bank guarantee (hereinafter called the “Guarantee”) by way of Performance Security. NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Applicant obligations during the {Implementation period /Defects Liability Period and maintenance period} under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Applicant, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of General Manager in the MMRDA that the Applicant has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the

Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Applicant is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Applicant is in default shall be final and binding on the Bank, notwithstanding any difference between the Authority and the Applicant, or any dispute between them pending before any court, tribunal, arbitrators or any other Authority or body, or by the discharge of the Applicant for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Applicant and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Applicant before presenting to the Bank its demand under this Guarantee.

5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfilment and/or performance of all or any of the obligations of the Applicant contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Applicant, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Applicant or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Agreement or for the fulfilment, compliance and/or performance of all or any of the obligations of the Applicant under the Agreement.

7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the guaranteed amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on **** unless a demand or claim under this Guarantee is made in writing before expiry of the Guarantee, the Bank shall be discharged from its liabilities hereunder.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement. Signed and sealed this day of 20..... at SIGNED, SEALED AND DELIVERED For and on behalf of the Bank by: (Signature) (Name) (Designation) (Code Number) (Address)

NOTES:

1. The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
2. The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

ANNEXURES TO THE RFP

Annexure 1 Regarding Furnishing of Bank Guarantee

Following points are to be considered while furnishing Bank Guarantees for MMRDA:

- Bank Guarantee from Nationalized Banks only should be furnished. Under no circumstances, Bank Guarantees from Co-operative Banks should be accepted. As per MMRDA policy, BG from Axis bank is not accepted as valid.
- As per RBI guidelines, all Bank Guarantees should be issued by the issuing bank through SFMS mode. For the purpose, the bank details in respect of MMRDA for opening Bank Guarantee through SFMS mode are as follows:

(Bank Guarantee to be issued in the name of MMRDA)

Bank Name: Bank of Maharashtra
Branch: Kalanagar, Bandra (East)
A/c No: 60259778998
IFSC Code: MAHB0000164

- BG Should be payable at any branch in Mumbai
- Beneficiary for Bank Guarantee: MMRDA
- List of Banks:

Nationalized Banks:

State Bank of India	Allahabad Bank
Andhra Bank	Bank of Baroda
Bank of India	Bank of Maharashtra
Canara Bank	Central Bank of India
Corporation Bank	Indian Bank
Indian Overseas Bank	Oriental Bank of Commerce
Punjab & Sind Bank	Union Bank of India
UCO Bank	

Scheduled Commercial Banks:

HDFC Bank	ICICI Bank
IndusInd Bank	Kotak Mahindra Bank
Yes Bank	DCB Bank Ltd

Annexure 2 : E-Tendering Guidelines for MMRDA

1. The Selection Process will be conducted by way of e-tendering. In order to participate in the Selection Process, the Bidder must procure a digital signature certificate (Class III) and register on the <https://mahatenders.gov.in>. Public Procurement Portal using its digital signature. A digital signature certificate may be procured from a registered certifying Authority as stipulated by Controller of Certifying Authorities, Government of India.
2. For getting clarity and to know the detailed procedure for registration in the [Maha tender portal](https://mahatenders.gov.in), for Bid Submission and any other guidelines Bidders are requested to follow instructions and manual given in the following link: <https://mahatenders.gov.in/nicgep/app>
3. All the tender documents are available on website www.mahatenders.gov.in to the bidders.
4. For successful registration of DSC on e-Procurement website <https://www.mahatenders.gov.in> the tenderer must ensure that he/she should possess Class-III DSC issued by any certifying authorities approved by Controller of Certifying Authorities, Government of India, as the e-Procurement website <https://www.mahatenders.gov.in> is presently accepting DSCs issued by these authorities only. The Department shall not be held responsible if the Bidder tries to submit his/her e-Bid at the last moment before end date of submission but could not submit due to DSC registration problem. No manual offers sent by Post/Fax or in person shall be accepted against e-tenders even if these are submitted on the firm's letterhead and received in time. All such manual offers shall be considered as invalid offers and shall be rejected summarily without any consideration.
5. Affixing of digital signature at any one place in the bid document while submitting the bid shall be deemed to mean acceptance of the terms and conditions contained in the bid document as well as confirmation of the bid offered by the bidder which shall include acceptance of special directions/terms and conditions incorporated, if any
6. The Bidder should click "Encrypt" next for successfully encrypting and uploading of required documents. During the above process, the e-Bid documents are digitally signed using the DSC of the tenderer and then the documents are encrypted/locked electronically with the DSC's of the bid openers to ensure that the e-Bid documents are protected, stored and opened by concerned bid openers only.
7. The Bidders are encouraged to visit the Mahatender Portal to acquaint themselves with the process of submitting their Proposals online.
8. In order to participate in an e-Tender, the registered bidders need to follow the steps given below:
 - i. Open the e-Tendering application by clicking the link available in 'e-Tendering' section [of https://www.mahatenders.gov.in](https://www.mahatenders.gov.in)
 - ii. Download the 'Browser Settings' document and carry out the necessary settings and root certificates installation as mentioned in the document. Please note that the computer user should have administrative rights to the computer to be able to work with e-Tendering application.
 - iii. Login to the application with your credentials and follow the instructions given in the document 'User Manual for Vendors– Bidding Process' which is available in the 'e-Procurement' section of <https://www.mahatenders.gov.in>.

- iv. Make payment of tender fee online and the same can be done by accessing 'Pay Tender Fees' option. By this one will be able to pay Tender fee through Payment Gateway. If the transaction is successful, the bidder can register his interest to participate. Without Registration one cannot participate in this Bid/Tender. Download all the documents by clicking the links Folder, which includes the bid documents along with other relevant information documents.
9. Pay EMD as per the instructions given in the Tender Notice and/or Bid Document and scan & upload the receipt of online payment of EMD.
10. The Bidders shall upload the soft copy/scanned copy of the completed Proposal on or before the specified time on the Proposal Due Date on the <https://www.mahatenders.gov.in> Public Procurement Portal. Proposals submitted by any other means including by post, fax, telex, telegram or e-mail shall not be entertained.
11. Proposal shall contain an index of submissions. Each page of the submission shall be initialed by the Authorized Representative of the Bidder as per the terms of the RFP. In case the Proposal is submitted on the document downloaded from the Official Website, the Bidder shall be responsible for its accuracy and correctness as per the version uploaded by the Authority and shall ensure that there are no changes caused in the content of the downloaded document. In case of any discrepancy between the downloaded or photocopied version of the RFP and the original RFP issued by the Authority, the latter shall prevail. In case of any discrepancy between the RFP documents uploaded on the <https://www.mahatenders.gov.in> Public Procurement Portal and the Official Website of the Authority, the former shall prevail.
12. While uploading the Proposal on the <https://www.mahatenders.gov.in> Public Procurement Portal, the Bidder must ensure that files containing the Proposal and scanned copies of the EMD are uploaded separately under the relevant heads in a PDF format. The Bidder shall be required to fill all mandatory forms and fields indicated in the <https://www.mahatenders.gov.in> Public Procurement Portal at the time of uploading its Proposal.
13. Upon submitting the Technical Proposals and the Financial Offers on the <https://www.mahatenders.gov.in> Public Procurement Portal, the Bidders must affix their digital signature to the Technical Proposal and the Financial Proposal.
14. The Bidders should ensure the legibility of the documents uploaded to the <https://www.mahatenders.gov.in> Public Procurement Portal.
15. The Bidder shall upload the Proposal sufficiently before the specified time on the Proposal Due Date to avoid any technical issues or malfunction in the network caused by heavy traffic of Bidders on the Proposal Due Date. The Authority will not be responsible for any failure, malfunction or breakdown of the electronic system of the <https://www.mahatenders.gov.in> Public Procurement Portal during the uploading process.
16. The Bidder should check the system generated summary of its proposal submission to confirm successful uploading of its Proposal.
17. All Proposals uploaded to the <https://www.mahatenders.gov.in> Public Procurement Portal will be encrypted and the encrypted Proposals can only be opened by the authorized representatives of the Authority at or after the specified time for opening of the Proposals.

18. Each Bidder shall also submit a hard copy of the original EMD, Power of Attorney, Joint Bidding Agreement, Sub-contractor Undertaking (if applicable) to the Authority, within two days from the opening of Technical Proposal.
19. It is clarified that the Bidder will not be required to submit a hard copy of its Financial Offer, and if a hard copy of the Financial Offer is submitted, then the Proposal submitted by such Bidder shall be rejected as being non-responsive.
20. The Bidder will contain no alterations, omissions or additions, unless such alterations, omissions or additions are signed by the authorized signatory of the Bidder/Lead Member. Any interlineations, erasures, or overwriting will be valid only if they are signed by the authorized signatory of the Bidder/Lead Member.
21. The hard copy of the EMD, Power of Attorney, Joint Bidding Agreement, Sub-contractor Undertaking (if applicable), etc. will be duly sealed in an envelope, which will be super-scribed as: " Selection of System Integrator (SI) for Design, Development, and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA, Mumbai"
22. The sealed envelope containing the EMD, Power of Attorney, Joint Bidding Agreement, etc., will clearly indicate the name, address and contact details of the Bidder. If the envelope is not sealed, marked and submitted as instructed in Chapter 2, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the envelope and consequent losses, if any, suffered by the Bidder.
23. The hard copy of the EMD, Power of Attorney, Joint Bidding Agreement, etc. will either be hand delivered or sent by registered post acknowledgement due or courier to the address provided in Chapter 1.
24. The Authority will not be responsible for any delays, loss or non-receipt of Proposals.
25. It is the responsibility of the Bidders to maintain their computers, which are used for submitting their bids, free of viruses, all types of malwares etc. by installing appropriate anti-virus software and regularly updating the same with virus signatures etc. Bidders should scan all the documents before uploading the same.

Annexure 3 Checklist for Bidders

Sr. No.	Particulars as per RFP Requirement	Template	Clause No. of the RFP	Page No	Tick Box
	Bid Preparation				
1)	Procurement of Class 2 DSC (Digital Signature Certificate)				
2)	Bidder Registration on MMRDA e-tendering Portal				
3)	RFP Download and Preparation				
	Envelope A – Eligibility Criteria				
4)	Tender fees - Online Payment through Mahatender Portal.				
5)	Covering Letter				
6)	EMD				
7)	Format for sending pre-bid queries				
8)	Financial Details of the Bidder				
9)	Turnover				
10)	Networth				
11)	Project Citation				
12)	Citation form for blacklisting				
13)	Format of Declaration for Bidders for Works under Rule 144 (xi) in the General Financial Rules (GFRs), 2017				
	Envelope B – Technical Proposal				
12)	Covering Letter				
13)	Summary of Projects				
14)	Project Citation				
15)	Approach & Methodology				
16)	Summary of Curriculum Vitae				
17)	Curriculum Vitae				
18)	Time Schedule				
19)	The Bidder shall ensure that the Technical Proposal is properly indexed, paged and referenced				
	Envelope C – Financial Proposal				
20)	Covering Letter				
21)	Summary of Financial Bid				
22)	Break up of Fees				
	Timelines				
23)	RFP Downloading as per the Schedule updated by MMRDA from time to time on Maha Tender Portal				
24)	RFP Submission as per deadline in RFP				
25)	RFP Control Transfer as per deadline in RFP				

Annexure 4: Office Memorandum under Rule 144 (xi) in the General Financial Rules (GFRs), 2017.

F. No-14/FD-II/2020- IFD
Government of India
Ministry of Housing and Urban Affairs
Finance Division

Nirman Bhawan, New Delhi
Dated: 24.11.2020

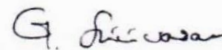
Office Memorandum

Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017.

Department of Expenditure vide OM No. 6/18/2019-PPD dated 23.7.2020 (copy enclosed) has informed that Rule 144 of the GFR 2017 entitled 'Fundamental principles of public buying' has been amended by inserting sub-rule (xi) which is as under:-

Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security' no procurement shall be made in violation of such restrictions.

2. All the concerned are requested to follow the same.


(G. Srinivasan)
Director(IFD)
Tel: 23062127

To,

1. AS(D), MoHUA.
2. All Joint Secretaries/JS&FA/EAs/OSD (UT)/CCA, MoHUA.
3. Vice Chairman, Delhi Development Authority (DDA) (vcdda@dda.org.in)
4. Chairman, Delhi Urban Art Commission (DUAC) (duac74@gmail.com)
5. Member Secretary, National Capital Region Planning Board (NCRPB) (ncrpb-ms@nic.in)
6. Director, National Institute of Urban Affairs (NIUA) (director@niua.org)
7. Secretary, Rajghat Samadhi Committee (gandhisamadhi@gmail.com)
8. Executive Director, Building Material & Technology Promotion Council (BMTPC) (ska@bmtpc.org)
9. Chief Executive Officer, Central Government Employees Welfare Housing Organisation (CGEWHO) (cgewho@nic.in).
10. Chief Planner, Town & Country Planning Organisation (cp-tcpo-mud@nic.in)
11. Dy. Controller, Stationery(Admn.), Government of India Stationery Office (dca.giso@nic.in).
12. Director, Department of Publication, New Delhi (acop-dep@nic.in).
13. Chairman & Managing Director, NBCC (India) Ltd.
14. CMD, Housing and Urban Development Corporation Ltd. (HUDCO) (mail@hudco.org)
15. CMD, Hindustan Prefab Limited (HPL) Jangpura, Near Rajdoot Hotel, New Delhi, Delhi 110014 (Tel: 011-43149800-899) (hindprefab@gmail.com).
16. DG, Central Public Works Department
17. Director, Directorate of Estates

18. Director, Directorate of Printing
19. Land & Development Officer, L&DO
20. Director, National Buildings Organisation (NBO)
21. MD, Delhi Metro Rail Corporation Ltd, (mdmetro@dmrc.org)
22. MD, Chennai Metro Rail Ltd. (md.cmrl@tn.gov.in)
23. MD, Rapid Metro, Gurugram (rajiv.banga@ilfsindia.com)
24. MD, Bangalore Metro Rail Corporation Ltd. (md@bmrc.co.in)
25. MD, Hyderabad Metro Rail Ltd. (nvsreddyiras@gmail.com)
26. MD, Lucknow Metro Rail Corporation Ltd (mdlucknowmetro@gmail.com)
27. MD, Jaipur Metro Rail Corporation Ltd (cmd.jmrc@gmail.com)
28. MD, Kochi Metro Rail Ltd (md@kmrl.co.in)
29. MD, Gujarat Metro Rail Corporation and Surat Metros (for Ahmedabad, Gandhi Nagar and Surat Metros), Gandhi Nagar (md@gujaratmetrorail.com).
30. MD, Maha-Metro Rail Corporation (for Nagpur and Pune Metros), Nagpur (md@mahametro.org)
31. MD, Mumbai Metro Rail Corporation Ltd, (md.office@mmrcl.com).
32. Metropolitan Commissioner, Mumbai Metropolitan Regional Development Authority (MMRDA) (mcmmrda@gmail.com)
33. MD, Kolkata Metro Rail Corporation Ltd, (md@kmrc.in)
34. MD, Amravati Metro Rail Corporation Ltd (nprkreddy@yahoo.co.in)
35. MD, Noida Metro Rail Corporation Ltd. (mmrcnoida@gmail.com)
36. MD, Madhya Pradesh Metro Rail Ltd. (metrorail@mpurban.gov.in)
37. MD, Patna Metro Rail Corporation Ltd. (ud.bihar@gmail.com)
38. MD, National Capital Region Transport Corporation Ltd.(NCRTC) (md.office@ncrtc.in)
39. MD, Mumbai Metro One Pvt. Ltd. (abhay.mishra@relianceada.com)
40. MD, L&T Metro Rail (Hyderabad) Ltd. (kvb.reddy@ltmetro.com)

Copy to: IT Cell for uploading on E-office

F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

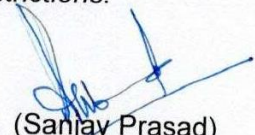
161, North Block,
New Delhi
23rd July, 2020

Office Memorandum

Subject: Insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017

Rule 144 of the General Financial Rules 2017 entitled 'Fundamental principles of public buying', has been amended by inserting sub-rule (xi) as under:

Notwithstanding anything contained in these Rules, Department of Expenditure may, by order in writing, impose restrictions, including prior registration and/or screening, on procurement from bidders from a country or countries, or a class of countries, on grounds of defence of India, or matters directly or indirectly related thereto including national security; no procurement shall be made in violation of such restrictions.


(Sanjay Prasad)
Joint Secretary (PPD)
Email ID: js.pfc2.doe@gov.in
Telephone: 011-23093882

To,
(1) Secretaries of All Ministries/ Departments of Government of India
(2) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

F.No.6/18/2019-PPD
Ministry of Finance
Department of Expenditure
Public Procurement Division

161, North Block,
New Delhi
23rd July, 2020

Order (Public Procurement No. 1)

Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017

Attention is invited to this office OM no. 6/18/2019-PPD dated 23rd July 2020 inserting Rule 144 (xi) in GFRs 2017. In this regard, the following is hereby ordered under Rule 144 (xi) on the grounds stated therein:

Requirement of registration

1. Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority, specified in **Annex I**.
2. This Order shall not apply to (i) cases where orders have been placed or contract has been concluded or letter/notice of award/ acceptance (LoA) has been issued on or before the date of this order; and (ii) cases falling under **Annex II**.

Transitional cases

3. Tenders where no contract has been concluded or no LoA has been issued so far shall be handled in the following manner: -
 - a) *In tenders which are yet to be opened, or where evaluation of technical bid or the first exclusionary qualificatory stage (i.e. the first stage at which the qualifications of tenderers are evaluated and unqualified bidders are excluded) has not been completed:* No contracts shall be placed on bidders from such countries. Tenders received from bidders from such countries shall be dealt with as if they are non-compliant with the tender conditions and the tender shall be processed accordingly.
 - b) *If the tendering process has crossed the first exclusionary qualificatory stage:* If the qualified bidders include bidders from such countries, the

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entire process shall be scrapped and initiated *de novo*. The *de novo* process shall adhere to the conditions prescribed in this Order.

- c) As far as practicable, and in cases of doubt about whether a bidder falls under paragraph 1, a certificate shall be obtained from the bidder whose bid is proposed to be considered or accepted, in terms of paras 8, 9 and 10 read with para 1 of this Order.

Incorporation in tender conditions

- 4. In tenders to be issued after the date of this order, the provisions of paragraph 1 and of other relevant provisions of this Order shall be incorporated in the tender conditions.

Applicability

- 5. Apart from Ministries / Departments, attached and subordinate bodies, notwithstanding anything contained in Rule 1 of the GFRs 2017, this Order shall also be applicable
 - a. to all Autonomous Bodies;
 - b. to public sector banks and public sector financial institutions; and
 - c. subject to any orders of the Department of Public Enterprises, to all Central Public Sector Enterprises; and
 - d. to procurement in Public Private Partnership projects receiving financial support from the Government or public sector enterprises/ undertakings.
 - e. Union Territories, National Capital Territory of Delhi and all agencies/ undertakings thereof

Definitions

- 6. "Bidder" for the purpose of this Order (including the term 'tenderer', 'consultant' 'vendor' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency, branch or office controlled by such person, participating in a procurement process.
- 7. "Tender" for the purpose of this Order will include other forms of procurement, except where the context requires otherwise.
- 8. "Bidder from a country which shares a land border with India" for the purpose of this Order means

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- a) An entity incorporated, established or registered in such a country; or
- b) A subsidiary of an entity incorporated, established or registered in such a country; or
- c) An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d) An entity whose *beneficial owner* is situated in such a country; or
- e) An Indian (or other) agent of such an entity; or
- f) A natural person who is a citizen of such a country; or
- g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

9. "Beneficial owner" for the purpose of paragraph 8 above will be as under:

- (i) In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person(s), has a controlling ownership interest or who exercises control through other means.

Explanation—

- a. "Controlling ownership interest" means ownership of, or entitlement to, more than twenty-five per cent of shares or capital or profits of the company;
- b. "Control" shall include the right to appoint the majority of the directors or to control the management or policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;

- (ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

- (iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

- (iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

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(v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

10. "Agent" for the purpose of this Order is a person employed to do any act for another, or to represent another in dealings with third persons.

Sub-contracting in works contracts

11. In works contracts, including turnkey contracts, contractors shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority. The definition of "contractor from a country which shares a land border with India" shall be as in paragraph 8 above. This shall not apply to sub-contracts already awarded on or before the date of this Order.

Certificate regarding compliance

12. A certificate shall be taken from bidders in the tender documents regarding their compliance with this Order. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

Validity of registration

13. In respect of tenders, registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwise than by tender, registration should be valid at the time of placement of order. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.

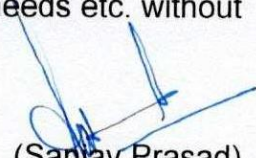
Government E-Marketplace

14. The Government E-Marketplace shall, as soon as possible, require all vendors/ bidders registered with GeM to give a certificate regarding compliance with this Order, and after the date fixed by it, shall remove non-compliant entities from GeM unless/ until they are registered in accordance with this Order.

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Model Clauses/ Certificates

15. Model Clauses and Model Certificates which may be inserted in tenders / obtained from Bidders are enclosed as **Annex III**. While adhering to the substance of the Order, procuring entities are free to appropriately modify the wording of these clauses based on their past experience, local needs etc. without making any reference to this Department.


(Sanjay Prasad)
Joint Secretary (PPD)
Email ID: js.pfc2.doe@gov.in
Telephone: 011-23093882

To

- (1) Secretaries of All Ministries/ Departments of Government of India for information and necessary action. They are also requested to inform these provisions to all procuring entities.
- (2) Secretary, Department of Public Enterprises with a request to immediately reiterate these orders in respect of Public Enterprises.
- (3) Secretary DPIIT with a request to initiate action as provided under Annex I
- (4) Chief Secretaries/ Administrators of Union Territories/ National Capital Territory of Delhi

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Annex I: Competent Authority and Procedure for Registration

- A. The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)*.
- B. The Registration Committee shall have the following members*:
- i. An officer, not below the rank of Joint Secretary, designated for this purpose by DPIIT, who shall be the Chairman;
 - ii. Officers (ordinarily not below the rank of Joint Secretary) representing the Ministry of Home Affairs, Ministry of External Affairs, and of those Departments whose sectors are covered by applications under consideration;
 - iii. Any other officer whose presence is deemed necessary by the Chairman of the Committee.
- C. DPIIT shall lay down the method of application, format etc. for such bidders as stated in para 1 of this Order.
- D. On receipt of an application seeking registration from a bidder from a country covered by para 1 of this Order, the Competent Authority shall first seek political and security clearances from the Ministry of External Affairs and Ministry of Home Affairs, as per guidelines issued from time to time. Registration shall not be given unless political and security clearance have both been received.
- E. The Ministry of External Affairs and Ministry of Home Affairs may issue guidelines for internal use regarding the procedure for scrutiny of such applications by them.
- F. The decision of the Competent Authority, to register such bidder may be for all kinds of tenders or for a specified type(s) of goods or services, and may be for a specified or unspecified duration of time, as deemed fit. The decision of the Competent Authority shall be final.
- G. Registration shall not be granted unless the representatives of the Ministries of Home Affairs and External Affairs on the Committee concur*.
- H. Registration granted by the Competent Authority of the Government of India shall be valid not only for procurement by Central Government and its agencies/ public enterprises etc. but **also for procurement by State Governments and their agencies/ public enterprises etc. No fresh registration at the State level shall be required.**

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- I. The Competent Authority is empowered to cancel the registration already granted if it determines that there is sufficient cause. Such cancellation by itself, however, will not affect the execution of contracts already awarded. Pending cancellation, it may also suspend the registration of a bidder, and the bidder shall not be eligible to bid in any further tenders during the period of suspension.
- J. For national security reasons, the Competent Authority shall not be required to give reasons for rejection / cancellation of registration of a bidder.
- K. In transitional cases falling under para 3 of this Order, where it is felt that it will not be practicable to exclude bidders from a country which shares a land border with India, a reference seeking permission to consider such bidders shall be made by the procuring entity to the Competent Authority, giving full information and detailed reasons. The Competent Authority shall decide whether such bidders may be considered, and if so shall follow the procedure laid down in the above paras.
- L. Periodic reports on the acceptance/ refusal of registration during the preceding period may be required to be sent to the Cabinet Secretariat. Details will be issued separately in due course by DPIIT.

[*Note:

- i. In respect of application of this Order to procurement by/ under State Governments, all functions assigned to DPIIT shall be carried out by the State Government concerned through a specific department or authority designated by it. The composition of the Registration Committee shall be as decided by the State Government and paragraph G above shall not apply. However, the requirement of **political and security clearance as per para D shall remain and no registration shall be granted without such clearance.**
- ii. Registration granted by State Governments shall be valid only for procurement by the State Government and its agencies/ public enterprises etc. and shall not be valid for procurement in other states or by the Government of India and their agencies/ public enterprises etc.]

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Annex II: Special Cases

- A. Till 31st December 2020, procurement of medical supplies directly related to containment of the Covid-19 pandemic shall be exempt from the provisions of this Order.
- B. *Bona fide* procurements made through GeM without knowing the country of the bidder till the date fixed by GeM for this purpose, shall not be invalidated by this Order.
- C. *Bona fide* small procurements, made without knowing the country of the bidder, shall not be invalidated by this Order.
- D. In projects which receive international funding with the approval of the Department of Economic Affairs (DEA), Ministry of Finance, the procurement guidelines applicable to the project shall normally be followed, notwithstanding anything contained in this Order and without reference to the Competent Authority. Exceptions to this shall be decided in consultation with DEA.
- E. This Order shall not apply to procurement by Indian missions and by offices of government agencies/ undertakings located outside India.

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Annex III

Model Clause /Certificate to be inserted in tenders etc.

(While adhering to the substance of the Order, procuring entities and GeM are free to appropriately modify the wording of the clause/ certificate based on their past experience, local needs etc.)

Model Clauses for Tenders

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose *beneficial owner* is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The *beneficial owner* for the purpose of (iii) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.
Explanation—
 - a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;

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- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. *[To be inserted in tenders for Works contracts, including Turnkey contracts]* The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Model Certificate for Tenders (for transitional cases as stated in para 3 of this Order)

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."

Model Certificate for Tenders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the

"/

Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”

Model Certificate for Tenders for Works involving possibility of sub-contracting

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”

Model Certificate for GeM:

“I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this vendor/ bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this vendor/ bidder fulfills all requirements in this regard and is eligible to be considered for procurement on GeM. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]”

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Appendix - IV: Detailed Specification & Compliance Sheet

1.1 Detailed Specifications for RIS GIS Software

Bidders are to use the COTs software wherever necessary and customize/add additional features as per the following specifications.

- A. Desktop Image Processing and Photogrammetry Software – 3 Licenses
- B. Desktop 3D Globe Client Viewer Application software – 5 Licenses
- C. Enterprise GIS (2D/3D) Software for Web with failover - 1 License

Wherever applicable, SI would be supplied with the ESRI GIS software packages for the operation of the RIS system from MMRDA. Bidder needs to incorporate the following technical specifications in their overall RIS deployment.

Sl. No.	Functional Requirement	Compliance YES/ NO	Remarks
A. Desktop GIS data creation and management			
1.	The software should be able to manage and utilize Spatial Bookmarks, coupled with the utilization of Map templates, to standardize maps, ensuring a cohesive and streamlined approach.		
2.	The software should advocate creation of shortcuts to store symbology for displaying features, allowing interactive transparency adjustments across all layers for enhanced visualization.		
3.	The software should directly support interactive multi series grid pie charts and histograms for effective data classification.		
4.	The software should offer a range of thematic classifications, including single symbol, unique value, match to predefined style, graduated colors or symbols, proportional symbols, dot density mapping, and comprehensive chart mapping, encompassing pie, donut, and bar charts, as well as accommodating bivariate and multivariate data rendering.		
5.	The COTS software should provide the capability to generate a series of thematic maps, allowing control over sublayers through a radio button interface.		
6.	Should support rule based Symbology, and cartographic representations of map entities along with the capability of uses script-based logic to construct complex 3D objects and textures from simple geometries to display point, polygon, or multipatch features.		
7.	The software must provide robust support for both 2D and 3D animations, incorporating time series data functionality and enabling the historical playback of event data, with a interactive time slider.		
8.	The software must possess the capability to support symbol effects, allowing dynamic alterations to feature geometry for symbolization purposes only, without affecting the underlying feature geometry. These symbol effects should encompass functionalities such as the addition of control points, arrowheads, localizer feather,		

	offset, offset hatch, reverse, tapered polygon, and similar attributes.		
9.	The software should feature advanced visualization capabilities for images, including thematic classes, individual band settings, color maps, as well as controls for contrast and brightness adjustments.		
10.	The software should include location rectification options for images, facilitating seamless georeferencing of existing scanned images. Additionally, it should provide a downloadable report that comprehensively details the transformation process, control points, and total RMS error information.		
11.	The software should offer support for georeferencing ancillary data formats, including DWG, Rvt, IFC, and IFC 4.3.		
12.	Export graphics to: Enhanced Metafile (EMF), Windows bit map (BMP), Encapsulated PostScript (EPS), Tagged image file format (TIFF), Layered Portable document format (PDF), Joint Photographic Experts Group (JPEG), Computer graphics metafile (CGM), Adobe Illustrator (AIX), Graphic Interchange Format(GIF), Scalable Vector Graphic (SVG), Truevision Graphics Adaptor(TGA) etc. and the formats other than JPEG, BMP, PNG should be able to support color model like CMYK.		
13.	Features should support file attachments, which should provide a flexible way to store additional information in any format related to your features. For example, if you have a feature representing a building, you could use attachments to add multiple photographs of the building taken from several angles, along with PDF files containing the building's deed and tax information.		
14.	Software should have inbuilt tools to Display Real-Time Location Points from a GPS/GNSS Receiver, Dynamically Center the Map on the Current GPS Point and Store GPS points in a Log File. The software should provide an accuracy buffer depicting the likelihood of the device being in the same location.		
15.	The software should feature a customizable user interface, allowing users to personalize the look and feel through functionalities such as drag-and-drop for rearranging tools and toolbars, support for both light and dark modes for the application theme, and the ability to dock toolbars for enhanced user flexibility.		
16.	The software should incorporate an automatic backup mechanism for unsaved projects to ensure recovery options, and prompt users to restore from the backup upon reopening the project for enhanced data protection and continuity.		
17.	The software should seamlessly integrate with the anti-aliasing feature of graphic card hardware to enable		

	superior rendering quality for intricate or jagged geometrical features.		
18.	The software should include an option to synchronize the graphics engine output with the vertical refresh rate of the monitor, mitigating the occurrence of torn-edge effects by ensuring simultaneous screen updates across all regions.		
19.	Create layers from supported data sources including coverage feature classes; shapefiles; CAD, TIN, raster, and databases storing geographical features; or tables containing x, y coordinates.		
20.	Create group layers from multiple data sources including vector overlays on top of raster data.		
21.	Software should support documentation/Metadata management and should allow generation of reports of browsable schemas in various formats like excel, JSON, HTML or PDF. It should also allow import and export of metadata.		
22.	Set display projection of map using predefined or custom parameters (includes specifying geographic coordinate system or datum). On-the-fly re-projections and transformations of the Layers should be supported		
23.	There should be a facility to Interactively Measure Distances(Aerial, Projection and Surface distances.) , Areas and Feature Using Any Units, Including Custom Units in Planar and geographic co-ordinate system		
24.	There should be options in software to create user defined custom keyboard shortcuts for ease of editing workflows. The software should have predefined keyboard shortcuts for most of the user interactions.		
25.	Software should have the capabilities to manage GIS Data, view item metadata, preview spatial data and tables, manage styles, create thumbnail images of datasets and all associated files from a single Tree View application.		
26.	Edit multiple layers simultaneously with multiple undo/redo operations.		
27.	Software should have capabilities to view and calculate the statistics for a field on single click directly from the attribute table, where the user can explore, visualize, clean, format, prepare and interact with statistics of the data according to its integer value, Date and Time. It should also allow to populate the values based on expressions.		
28.	Feature construction tools including: Point-and-click feature location with mouse, Streaming locations with mouse, x, y coordinate input with keyboard coordinate input with keyboard.		
29.	Feature edits tools including: Move, rotate, delete, copy, and paste, Reshape, Split and trim, Divide into N-parts or		

	into specified intervals, Vertex editing (add, delete, and move), etc.		
30.	Snap to vertex, endpoint, midpoint, or along the edge of features & layer wise snapping .		
31.	The software should have options like Rubersheeting, Transformation, Replace or reshape, for spatial adjustment workflows		
32.	UNICODE enables global text handling, supporting diverse languages and scripts seamlessly within the GIS environment for accurate representation and compatibility.		
33.	The software provider should host World level free Online 2D and 3D Street, navigation and topographic Basemap Services with different themes		
34.	Should have Comparison options to compare Feature, File, Raster, Table and TIN data		
35.	Should be able to operate on Windows 10 & 11		
36.	Should have the facility to interactively change brightness, contrast, transparency, Dynamic Range Adjustment, set resampling method - Nearest neighbour, bilinear interpretation, and Cubic convolution of the raster datasets.		
37.	Should support publishing and encryption of GIS maps for the purpose of Viewing and Querying GIS data by multiple royalty free GIS data readers also protect sensitive spatial data from unauthorized access and ensure the confidentiality and integrity of the information whenever there is a web GIS system		
38.	the software should have the capability to web enable the GUI based workflows and models without any customization		
39.	Software should be able to Generate three-dimensional surfaces on-the-fly from attributes and create real world surface features such as buildings with web enablement of the 3 d models with out any customizations.		
40.	Should support python scripting language for development of customized Workflows with the help of integrated python notebook with in COTS which should support open python libraries along with inbuilt library for all other COTS GIS tools.		
41.	Should provide complete geoprocessing history in project pane for testing and/or audit purpose.		
42.	Should have the out of the box tools for mining any space time patterns. This may include space time cube creation and visualization, time pattern analysis, forecasting of time series, etc		
43.	Software should be capable of authoring the layers with time information , enabling temporal visualization, analysis, and understanding of time-based patterns.		

44.	Neighbourhood Explorer is a capability that allows you to configure, visualize, and refine conceptualizations of spatial relationships		
45.	Software should have a provision for generation of time bound database license, for the database which stores geographic data. This license should enforce export and time restrictions to the database data you send to clients or other agencies		
46.	Software should be capable to connect to SQLite Database and Geopackage for spatial analysis and maps display. It should also extend the capability by creating a SQLite database from the COTS itself.		
47.	Software should be able to create an address locator that supports autocomplete functionality, and publish it as a geocode service.		
48.	Software should have capability to Splits an input dataset by unique attributes		
49.	Software should be able to provide an Emerging hotspot analysis by identifying the trend change and spotting new , growing or declining hot and cold spots.		
50.	Should be able to store spatial Data in industry standard RDBMS		
51.	Should allow you to define a spatial query against SQL spatial types in a spatial database to create a layer (query layer) that can be viewed and queried in GIS Software.		
52.	On-the-fly automatic labelling, multi-labelling, interactive labelling, rotation of labels from an attribute field, interactive label placement, predefined label styles & finally saves labels as a data layer. It should also support label sizing depending on the scales.		
53.	Software should provide Raster handling tools like contrast, brightness, transparency, gamma stretch, dynamic range adjustment, ignore background value, nadir top-up, contrast stretch, display resampling method, zoom to raster resolution, swipe layer, and flicker layer		
54.	Should have inbuilt Geo-spatial data management software along with inherent RDBMS so that multiple users can access the same object oriented Geo-spatial data		
55.	Should be able to control & create rule based topology for the spatial database.		
56.	Software should able to establish and manage fields to store Coordinate Geometry (COGO) measurements, facilitating the automatic population of COGO measurements derived from the geometry of a feature through the inverse process.		
57.	Software should have cartographic features like align Marker to Stroke or Fill, Calculate Grid Convergence Angle, Calculate Line Caps, Calculate Polygon Main		

	Angle, Create Overpass, Create Underpass, Set Representation Control Point at Intersect,		
58.	Set Representation Control Point by Angle.		
59.	Software should have a mosaic tool box with the images supported from different sensors. It should have option to create customised scripts with in predefined script framework for Mosaic dataset.		
60.	Software should have advance cartographic tools like Simplify Building, and Create Cartographic Partitions		
61.	Software should have the cartographic option like simplify polygon		
62.	The software should seamlessly function within the viewing window to perform single-click operations for tools such as Clip, Mask, Composite, and Mosaic		
63.	Interactive symbol composer along with custom SVG or PNG symbols can be done		
64.	Should have tools to creates Thiessen polygons from point features		
65.	The software should be equipped with advanced analysis tools, specifically featuring functionalities such as Frequency analysis and Polygon Neighbours.		
66.	Software should have advance analysis tools like Erase, Identity, Point Distance, Symmetrical Difference.		
67.	The software must compute distances and additional proximity details between input features and the nearest feature in another layer. It should also include a tool to record these results in a new standalone table, supporting the identification of multiple nearby features.		
68.	Software should support oriented imagery layer by default and it should be able to show datasets from oblique drone images, mobile photos of street level imagery and close range inspection images.		
69.	Software should directly support industry popular Building Information Models like CAD, Revit, IFC etc. and should be able to make it location aware.		
70.	Desktop user should get access to inbuilt connector for a hosted Web GIS portal available as SaaS during project tenure, where if required they should be able to publish their maps and other GIS data, and make that accessible to everyone without any additional deployment.		
71.	Software should have India specific solutions built-in which should be ready to use after deployment		
72.	India specific solutions should be grouped as per application area, and made specifically considering governance and citizen centric application areas such as Urban, utilities and disaster management		
73.	India specific solutions shall also be available in application areas of environmental and ecological studies such as forestry, agriculture, atmospheric data analysis, wildlife and environmental analysis		

74.	Software should have India specific solutions for application areas of earth resources such as Mining and petroleum.		
75.	India specific authoritative datasets should have content ranging from broad ranging administrative boundaries to fine-tuned demographic data about citizens in these administrative units.		
76.	Authoritative datasets available with software should cover environmental details like Energy Resources, Fresh Water, Habitat, Land Cover, Weather and Climate		
77.	Software should come bundled with authoritative map data on infrastructure related to Agriculture, Businesses, Transportation and Utilities		
78.	Software should have India specific crime record datasets available for one or more preceding years.		
79.	Software shall have Rural facilities datasets specific to India		
80.	Software shall come bundled with SDG indicators of India from verified sources for one or more preceding years.		
81.	Authoritative datasets available with software should cover environmental details like Energy Resources, Fresh Water, Habitat, Land Cover, Weather and Climate		
82.	Software should be capable of maintaining data history, version management and conflict detection/resolution. Should support database check in – check out /replication functionalities, hence maintaining the parent child relationship of Master Database. GIS desktop must have version/audit trail capability for multiple user editing and tracking of the editing work done by various users. GIS database administrator must have capability for resolving any conflicts that may have occurred due to multiple users editing on data. There should be a complete mechanism to error handling, conflict detection and resolution while submitting the final data to GIS database.		
83.	Should be able to create Space Time Cube which takes potentially very large point datasets and builds a multidimensional data structure for analysis.		
84.	User should get access to inbuilt connector for a hosted Web GIS portal available as SaaS during project tenure, where if required they should be able to publish their maps and other GIS data, and make that accessible to everyone without any additional deployment.		
85.	Software should be able to create link charts of interconnected objects or nodes to discover patterns and trends. user should be able to carry out path analysis, which includes finding the shortest path or all the paths between the nodes. It should find centrality and highlights the nodes that are the most connected. Neighbourhood detects all the nodes that are in the defined		

	neighbourhood and which neighbours are shared between two nodes.		
86.	Software should have the facility of time slider user interface controls to visualize temporal data on desktop application		
87.	Software should have facility of sharing a GIS database for temporary use by other stakeholders and implement a license on the GIS database so that receiver should not be able to use it after designated duration.		
88.	Desktop software should have spatial modelling relationship toolsets such as colocation analysis, exploratory analysis, geographically weighted regression analysis, local bivariate relationships, OLS and Multiscale Geographically Weighted Regression. Tool should also support tools to perform simple 2D advection-dispersion modelling of groundwater flow and constituents in groundwater.		
89.	The software should be able to manage and utilize Spatial Bookmarks, coupled with the utilization of Map templates, to standardize maps, ensuring a cohesive and streamlined approach.		
B. Desktop Image Processing and Photogrammetry Software			
90.	Should have geographical connectivity of files across multiple views opened in a single UI.		
91.	Should support for raster formats like XML, ECW, MrSID, img, tiff, jpeg, shp and other image and GIS data formats should be present; GeoTIFF, JPEG2000, , TIFF, Sensor Support: Cartosat, IRS (fast & super structure)		
92.	ResourceSat-1 (Fast & Super Structured), ResourceSat-2 (HDF5), EO-1 ALI (HDF4), Landsat 8 (OLI & TIRS), Landsat, Sentinel-2, QuickBird, Worldview 1 – 2 & 3, GeoEye, IKONOS, ALOS AVNIR, ALOS PRISM, ASTER, SPOT(5,6,7)PB, RESOURCESAT RPC, ALOS RPC, WORLD VIEW RPC, RAPIDEYE.		
93.	Should support SAR image from different satellites : RADARSAT-2, RSM, TerraSAR-X, TanDEM-X, COSMO-SkyMed, RISAT-2, KOMPSAT-5, ALOS PALSAR-2, Sentinel-1, PAZ, StriX-1, Capella, ICEYE and SICD formatted data.		
94.	Should have edge enhancement and convolution option for RADAR data. The software must have tool to detect incidence angle and look direction of RADAR scene.		
95.	Smooth visualization of images more than 20GB in size		
96.	Compress large images without visual loss in ECW and JPEG2000		
97.	Should have integrated and profile viewing of point clouds; extraction of DTM and DSM from point cloud data; RGB-encode, edit, filter, merge, and split point cloud data.		
98.	Should support virtual mosaic of imagery; Image stitching utility with seam line and colour correction facility; colour		

	correction facility should have more than one algorithm like image dodging, illumination equalization, colour balancing etc. and should offer automatic and manual mode of correction. Should support direct read of Sentinel-2 data in the software. The software should support direct read of WorldView-4 imagery from Digital Globe, including the ability to orthorectify the imagery.		
99.	Fast Polynomial rectification of images; single frame Ortho-rectification of images based on orbital push broom and RPC model.		
100.	Should have Batch processing facility; Parallel batch processing facility;		
101.	Should support different customized band ratio; software should have the facility to modify all indices based on requirement. The software must have separate hyperspectral Image processing tools like anomaly detection, target detection, material mapping etc. along with spectral comparison facility.		
102.	Should support creation of rule-based classification tree and its execution and material of interest-based subpixel classification. The software must have facility for Supervised and unsupervised classification. Classification algorithms based on machine learning should be supported in the software. The software should support Live-link with Google Earth Pro for cross checking the ground reality.		
103.	Should support graphical spatial modeling using different raster and vector operator in the same graphical user interface. Should have nearest neighbor based Pan-Sharpen techniques available in spatial model. The software should support atmospheric correction.		
104.	Should support preview of raster, point cloud data in spatial modeling for analysis of intermediate results while creating the models.		
105.	Should have Hyperspectral Analysis tools: Material Identification, Material Mapping, Target Detection.		
106.	Should have spectral Analysis methods : Spectral Angle Mapper, Spectral Correlation Mapper, Constrained Energy Minimization, Orthogonal Subspace Projection.		
107.	Should have feature based and grid based change detection technique from high resolution data. Should be capable of opening an image based on algorithms and dynamic changes must be seen while changing the histogram parameters.		
108.	Should be able to detect changes based on probability, zone, addition, subtraction and combination of both.		
109.	Should have radiometry and algorithm-based change detection tool with automatic raster to vector conversion facility.		

110.	Should be capable of ortho-rectification of RADAR images and extracting DTM from stereo RADAR imagery.		
111.	Should be capable to identify changes in temporal SAR images to make change detection of urban areas		
112.	Should have Machine Learning based Image Classification models: Random Forest, K-NN, SVM, CART.		
113.	Should have Deep Learning based Object Detection and Semantic Segmentation for pixel classification		
114.	Should have option for Augment Object detection training data and access the accuracy of Object detection.		
115.	Should have options to refine Deep learning models instead of retraining these models again to save time e.g refine object detection, semantic segmentation trained models		
116.	Should have Deep learning based Point Cloud data classifier.		
117.	Software should support Classify ground, buildings & extract building footprints using point cloud data.		
118.	Software should send map view directly to Ms-office PowerPoint, Word, JPEG and GeoPDF.		
119.	Should be capable of ortho-rectification of Stereo images and extracting DTM from stereo imagery.		
120.	Should be capable of managing images, terrain files, and feature files for photogrammetry projects.		
121.	Should be capable of handling RPC information from commercially available satellites like WorldView, QuickBird, CartoSat, FormaSat, Planet, Pleiades etc.		
122.	Should be capable of Visual display of project status. Should supports numerous horizontal and vertical datums		
123.	Software should support ground control Point Measurement capabilities.		
124.	Should work with both stereo and monoscopic hardware.		
125.	Should have automatic tie point generation for photogrammetry projects.		
126.	Should have simultaneous processing of multiple orthos in one go for entire project.		
127.	Should have distributed processing across network using distributed computing.		
128.	Software should output DTM from stereo images in Raster DEMs, TINs, and RGB or FCC encoded Point cloud		
129.	Software should output DTM from stereo images in Raster DEMs, TINs, and RGB or FCC encoded Point cloud		
130.	Software should support unlimited number of model windows		
131.	Software should interactively edit DTM's.		

132.	Software should support dynamic display of contours, mass points, break-lines and TINs on images for better editing. Terrain display updates on the fly as editing is done.		
133.	Software should support 3D mouse/tracking devices :TopoMouse USB 3D Hand Controller, Z/I Mouse, Stealth Z, S2-Z, USB versions, Immersion 3D Mouse etc.		
134.	Should be able to view DTM as 3D surface; Should have drape facility of raster, vector and annotation on 3D surface; should have facility of fly through over 3D.		
135.	Should have semiautomatic georeferencing and edge matching tool for satellite images.		
136.	Should have Advanced change Analysis on satellite and Aerial images.		
137.	Should have radiometry and algorithm-based change detection tool with automatic raster to vector conversion facility.		
138.	Should have change Filters to Eliminate Unwanted Changes		
C. Desktop 3D Globe Client Viewer Application software			
139.	Bidder is requested to propose a desktop based software for use on powerful workstations and Software tools should have powerful 3D globe visualisation. The software should be high performance easy to use with Ribbon Interface and robust and provide all the necessary tools that together provide a package that's complete, powerful and easy to use. Tools for authoring the 3D scenes, easy-to-use tool for editing, analysing, annotating and publishing photo-realistic interactive 3D environments so generated. The following are the features required for the required software.		
140.	I. Environment Effects		
141.	The Environment Effects have to be provided for the appearance of the real world environment in the 3D Window. Provide controls for the horizon distance, fog color, as well as the sun and moon display. The sun, moon and sun flare objects should be displayed and positioned based on a given date, time and time zone.		
142.	II. Navigation Map Window		
143.	A two-dimensional Navigation Map window that should provide quick and easy navigation through the entire terrain. It should display the location and direction view of the camera. The Navigation Map window should offer a simple mechanism to integrate file-based maps or connect to BING or GOOGLE Maps (with subscription) into the application.		
144.	III. Presentation Tool to be provided		
145.	Presentation capabilities should be provided to record a presentation in which you navigate through the 3D World, showing or hiding objects on the terrain, following		

	dynamic objects, displaying messages and performing different operations. Ability to create a route either by flying through the terrain recording an exact route or by adding each waypoint separately.		
146.	For each step in the presentation, ability to display the map in the state you want:		
147.	· Current camera position and extent.		
148.	· Visibility of raster layers.		
149.	· Visibility of feature layers.		
150.	· Visibility of map items (objects, groups).		
151.	· Visibility of Over Ground and Underground Utilities/		
152.	· Popup messages and captions.		
153.	· Set environment variables such as underground mode and system time.		
154.	Ability to edit and to set step timings and transitions and modify step sequence. Presentations should be played back according to the transitions set in the Presentation Editor. Ability to Auto-play, advancing from step to step automatically.		
155.	IV. Terrain Opacity		
156.	Ability to set the opacity of the terrain in the 3D View. The opacity is defined as a percentage, where 100% is opaque and 0% is transparent. When the opacity is other than 100% (opaque) objects that are submerged in the terrain become visible through it which should allow us to see what is underground.		
157.	V. Underground Navigation		
158.	The software should allow the underground navigation mode to explore the subsurface of the terrain. Navigate under the terrain's surface and through buildings.		
159.	VI. Measurement Tools Required		
160.	Software should provide a robust set of tools for measurement and terrain analysis.		
161.	· Display the exact location and elevation of any point in the 3D World, and additional information about objects.		
162.	· Display the horizontal distance, elevation difference and slope angle between two or more points in the 3D View.		
163.	· Display the aerial distance, elevation difference and slope angle between two or more points in the 3D View.		
164.	· Display the elevation difference between two points in the 3D View.		
165.	· Display the measurement of the horizontal projection of an area in the 3D View.		
166.	· Display a visual marker for the existence of a line of sight between two points.		
167.	· Mark all the visible segments, within a field of view, from a given viewing point to create a polygonal Viewshed.		

168.	Ability to create a topographic map that portrays differences in terrain elevation by connecting points of equal elevation with contour lines or by coloring terrain according to varying altitudes. The contour palettes and/or contour lines can be applied to a specified rectangular area, or to the entire terrain.		
169.	Ability to create a slope map on the terrain that can show degree (steepness)and/or aspect (direction). The terrain should be colored according to degree of slope, and arrows display the direction of the slope. The color map and arrows should be applied to a specified rectangular area or to the entire terrain.		
170.	Tool for the land area covered by water in different water flooding scenarios. The result of the flood analysis process is a set of polygons showing the flooded areas.		
171.	Ability to do the Volume Analysis to Analyze the amount of terrain removed or added by a way of Modifying Terrain objects.		
172.	Display the terrain elevation profile along a path.		
173.	Display the best path between two locations on the terrain with slope limits as constraints.		
174.	Ability to create Threat Dome and Display the visible volume from a given point on the terrain with a specified scan field and elevation angle.		
175.	VII. Shadow Analysis		
176.	A Shadow Analysis tool has to be provided to calculate the shadow cast from buildings and 3D objects in a given radius based on the sun's position. The sun is positioned according to the time, date and time zone you set using the Date and Time controls. The shadows should be dynamically update when the system date and time is changed.		
177.	IIIIV. Extract Subset Terrain to the Local Machine		
178.	Ability to be provided to make subset of data from the server and make local copy for disconnected viewing and analysis. Ability to distribute on CD/DVD with password protection.		
179.	X. GPS Tracking		
180.	Ability to Create 2D or 3D objects and moves them according to position information, in NMEA format, that reads directly from a GPS or communication device through a USB or COM port or from a local or remote file. Ability to display the GPS-moving objects in a variety of 2D or 3D graphic representations, and add trace lines trailing the object routes.		
181.	XI. Duplicate Objects		
182.	Ability to create multiple instances of the same object along a broken line, or fill a closed polygon shape area. The tool should allow the user to set the basic graphic		

	representation of the object and the spacing between the instances.		
183.	XII. Drawing		
184.	Ability to create simple and/or customized objects including markers, free hand lines, and urban design elements (roads, junctions and traffic lights). The tool should allow you to create dashed and thick lines, simply and quickly add notes, draw freestyle lines by tracking the mouse pointer movements, and point to locations on the terrain using the virtual cursor.		
185.	XII. Build Power Line		
186.	Ability to create a power line by placing poles along a user-defined path and connecting them with power lines.		
187.	XIII. Build Pipe Line		
188.	Ability to create 3D pipe lines along a user-defined path over ground or underground.		
189.	XIV. Navigation Aid		
190.	Displays the Navigation Aid window for Navigation mode and target locator settings. The Navigation Aid tool locks the Client camera in 2D mode and continuously tracks the distance and direction to a specific target.		
191.	XV. Multiple Coordinate Systems		
192.	Software should provide option to display the Multiple Coordinate Systems and Indian Mil Grid Reference system on the globe.		
193.	XVI. Data Library		
194.	Set of predefined Graphic elements that one can add to project like 3D objects, 2D icons, textures and frames etc.		
195.	XVII. Snapshot		
196.	Ability to take a snap shot of the current 3D Window to a floating window so you can edit it in a Paint program before saving to image file.		
197.	XVIII. Lidar Data		
198.	Ability to take the airborne and ground(terrestrial) Lidar data / point cloud data from various formats to a unified, visualization and stream-optimized format for visualization. Should have the ability to display the point cloud		
199.	XIX. 3D Models		
200.	Ability to convert X files (Microsoft DirectX) into a set of 3D model files, with Level of Detail (LOD) and provide better performance for the Direct X models visualization. Software must read the .3DML and .MPT files.		
201.	XX. Timespan		
202.	Ability to restrict the visibility of data to a specific period of time. Timespans are usually used for data sets that appear in multiple locations (e.g., Placemarks moving along a path). The data associated with a timespan should be visible only when showing the time interval defined in the timespan tag.		

203.	XXI. Create Resolution Pyramid		
204.	Ability to display the standard raster files like .img and .tif file directly over the globe. Ability to generates a resolution pyramid for a raster layer source file.		
205.	XXII. Additional Features to be supported in the software.		
206.	The project editor that works on terrains served by the Server and (optionally) streamed by Server		
207.	· A professional station and also a publisher tool for creating projects that can be viewed anywhere over the network.		
208.	· Efficient in streaming terrain and data overlays over any network		
209.	· Provide all the tools necessary to create and publish rich 3D terrain visualizations		
210.	· Include interactive drawing tools to create and add geometric shapes user-defined objects buildings text bitmaps and animations on a 3D terrain model		
211.	· Ability to load standard online and offline GIS layers.		
212.	· Ability to save layers to GIS standard file formats like .SHP.		
213.	· Ability to communicate with external local and web applications using standard COM interface.		
214.	· Provide a robust set of tools for measurement and terrain analysis		
215.	· Support autopilot feature - create pre-defined routes for playback with		
216.	· Ability to control speed altitude and viewing angle using any combination of the mouse keyboard and Flight Control Panel		
217.	· Ability to creates movies as AVI or a set of frame files from a recorded flight path		
218.	· Take snapshots of the 3D window and saves them to external files		
219.	· Hyperlink feature links specific areas or objects to web pages, applications like Adobe PDF, Word DOC, PowerPoint and databases		
220.	· A publishing tool that exports scenes to Internet/Intranet users on demand.		
221.	· Provide improved level of security for local and remote users.		
222.	· Spatial Queries: Ability to perform a spatial query by selecting all features spatially related to a polygon, line, or point, or to an existing object. Ability to choose whether to include only features that entirely overlap with your selected or drawn geometry, or whether to include also those that partially intersect.		
223.	· Ability to define a buffer zone to include features within a certain radius of the selection.		
224.	· Spatial Operations: Ability to perform various spatial operations on the layer's features, including deleting		

	selected features, merging features into a single feature, creating a multipart feature, clipping one polygon from another, exploding a multi-part feature into its individual component features, and exporting selected features to a new file.		
225.	· Ability to have the Attribute Table Tool, you can search and filter the data in a map layer to obtain and display only the features and information you require. You can then display only the filtered data on the map or create a new layer that includes only this data.		
226.	· Creating New Feature Layers: Ability to define a layer type and attribute fields and create a feature layer directly from the software. The layer is to be saved to a local data source in Shape file format.		
227.	· Building Object: Ability to have a Building feature that allows one to add 3D models to the project by manually defining the geometry of the building rooftop and stretching it above the basic terrain, or by importing the rooftop geometry from external feature layers. Ability to define the shape of the roof as a flat surface, or as an angular surface. Ability to define the building geometry, assign fill color and texture from external files, or apply texture from the terrain to the roof and side walls.		
228.	· Dynamic Objects: Software needs to have a set of ground and air vehicles the user can add to the project by setting the route of a ground or air vehicle by manually placing way points in the 3D View.		
229.	· Terrain Modification Tools: Ability to change the elevation values of the terrain based on a polygon. The surface of the terrain is raised or lowered according to the elevation values of the polygon's points.		
230.	· Video on Terrain and Video Billboard: Software should play a video file either on a selected area of the terrain (Video On Terrain), or on a floating billboard (Video Billboard).		
231.	· Ability to connect to the Video Cameras installed at the Vital Installation Sites.		
232.	· Timespans: Ability to set timespans for groups and objects, limiting the display of the object or group on the terrain to the specified start and end time values. The software should have facility to adjust the time and date using some kind of time slider.		
233.	· Data Formats: The software should support the data formats like, .shp, .mdb(esri), .xls, .MIF, .Tab, .DGN, .DXF, .KML, .KMZ		
234.	· Ability to Import 3D Model and Support for 3D model formats like Microsoft Direct X (.x, .xpc), Multi-Resolution Model (.xpl, Open Flights (.flt, .fpc), Google Sketchup (.dae, .kmz), Collada format.		

235.	Bidder should quote for web based private and public cloud solution that provides publishing, storing, and streaming services for all spatial data types including terrain, map, feature, full textured 3D Mesh, 3D buildings and LIDAR/UAV point cloud on a Globe over the web.		
236.	Should have a desktop authoring and publishing software with which projects can be made and published directly from the desktop tool.		
237.	All 2D/3D spatial data types should be streamed including imagery (MPT/TBP/WMS/WMTS), elevation (MPT/TBP/WMS/WMTS), feature (WFS/WFS-T), 3D Mesh (3DML, OGC 3D Tiles, Esri I3S/SLPK), point cloud (CPT, OGC 3D Tiles), project files and other resources.		
238.	Ability to upload Individual geospatial layers and complete projects that can be directly uploaded and published to the web server from client application, thus streamlining your workflow and eliminating the need for any server-side login after initial installation.		
239.	Software through a single publishing operation, data should be made ready for consumption by client software: Desktop, Mobile, tablets and as well as standard geospatial applications through OGC Services.		
240.	The server should have a built-in complete user access control system allows easy management of users, groups, and administrative roles controlling the server-side storage and client-side read/write permissions.		
241.	Publishing and Cataloguing Services: Server should support both client-side and server-side publishing with automatic and manual extraction of metadata & geospatial information and advanced client-side search options.		
242.	Direct Uploading: Server should have a workflow, enabling user to upload and publish individual geospatial layers and complete projects to the web server directly from client. Through a single publishing operation, data is made ready for consumption by all clients as well as other OGC clients.		
243.	OGC Compliance: Server should stream raster, and feature data to any application that reads the standard OGC WFS, WFS-T, WMS, and WMTS protocols.		
244.	Support for WFS-T (Web Feature Service-Transactional), remote clients can edit feature layers and save changes to the data source.		
245.	Server should be able to stream 2D and 3D layers to esri enterprise server in their native formats, 3D mesh layers as I3S/SLPK, Imagery and elevation using WMS or WMTS protocol, Feature layers using WFS protocol.		
246.	Software Must have streaming photos option for photo inspection with option geolinking the features inside the		

	raw photo to the 3D model from Drone Photographs for inspecting Infrastructure.		
247.	Software should support 3D Tiles Point Cloud Styling for Web point cloud service and should expose point cloud layers and their attribute information as OGC 3D Tiles (with Batch Table). The attribute information should be used to style the point cloud (e.g., point size, color, or visibility) based on attribute (scalar) values.		
248.	The Platform should be capable to show the data using globe Visualization, should be capable to provide data decision support and Real Time Spatial Data Analysis(ability to draw slope vectors on the terrain to see the water logging in an area in real time on the web).		
249.	Walk through and indoor fly through. Underground visualisation to store and visualize underground utility features surveyed by instruments like GPR.		
250.	The Client should support Windows, Android and IOS devices. Web software should have online features like measurement, 3D analysis, Viewshed, shadow analysis for Smart City Solar roof viability analysis, CCTV placement analysis, etc live over the web browser.		
251.	Server should support hosting of multiple virtual servers ("sites") on a single server. These virtual sites should provide complete separation between customer layers and allow management and administration of the sites by the customer's admin users. Each site should be distinct and separate, with its own URL and its own data sources, layers, groups/users, settings, aliases, statistics, site administrator, etc.		
D. Enterprise GIS (2D/3D) Software for Web with failover			
252.	Software should support geometry and geographic data		
253.	Should be capable of maintaining data history, version management and conflict detection.		
254.	Should support database check in – check out / replication functionalities hence maintaining the parent child relationship of Master Database.		
255.	Software should have inbuilt utility for checking availability of server software updates/patches		
256.	Software should support Feature service (read-only)		
257.	Software should support Cloud Environments like Amazon Web Services (AWS) or Microsoft Azure		
258.	Software should support deployment on-premises on physical hardware, in a private cloud using VMware or other virtualization technologies, or in the cloud using an Infrastructure as a Service provider (IaaS) such as e.g. Amazon Web Services, Microsoft Azure, IBM SoftLayer, etc.		
259.	The GIS server should be highly scalable		
260.	It should support deployment in cluster environment		

261.	The software should provide open API for developers to build custom web mapping applications. (ex: JavaScript)		
262.	Should support multiple number of Editing and viewing by desktop, web browser and mobile clients.		
263.	Server application should record various service statistics, such as total requests, average response time, and timeouts, and reports this information in Server Manager for better monitoring and performance optimization of services.		
264.	Should have Web Editing Application Functionalities like simultaneous data service editing, isolated editing in separate versions, Undo/Redo operations, snapping by layer, snapping to new geometry, settable snapping, modify, merge, split features, specify an Exact X,Y location, modify and create attribute values, maintain attribute values through defined rules (Domain) etc.		
265.	Should support server side geoprocessing tasks		
266.	The server should have the capability to query across multiple map services.		
267.	Should have Centrally managed data, models, tools, maps, and applications		
268.	It should provide a web publishing wizard so that users can publish websites without the need to programming.		
269.	Should support Tile layer from Vector and Raster layers for better performance and fast accessibility		
270.	Server based GIS should Support any client and device including mobile, smart clients, web browsers (Internet Explorer, Google Chrome and Firefox), applications and desktop applications.		
271.	The Server software should support Replication across multiple commercial databases in connected and disconnected environments		
272.	The application should provide an out-of-the-box, configurable mobile application that allows dynamic query and update server data remotely. The mobile application should be able to integrate with GPS devices.		
273.	Server should be able to support read-only site mode. (This is intended to disable publishing new services and blocks most administrative operations during production.)		
274.	Software should support a Service Oriented Architecture (SOA) (GIS on the enterprise service bus).		
275.	It should have ready to use apps for Field, Office, community and Application developers.		
276.	Should support standard Web server / application server like IIS, Apache, Tomcat, Web Sphere, Web logic etc		
277.	Server based GIS Software should offer server-based analysis and geoprocessing. This should include vector, scripts, and tools; and synchronous processing.		

278.	Should support Open Geospatial Consortium (OGC) and open web services: including Map, WMS, WFS, WCS, WMTS, WPS, KML and GeoJSON		
279.	Software should support creation of a geographic database, managing geographic database, load spatial data into geographic database.		
280.	Software should allow unlimited viewers to view the publicly shared content		
281.	Software should allow at least 30 users to create, edit and modify the content published on it		
282.	Should have out of the box Web Application Functionalities like pan, zoom, identifying features on a map, measure distance, interactive north arrow, magnification window, overview window, find place, query attribute, search attribute, editing, geo-processing tasks, adding base maps etc.		
283.	Should support browser-based access for viewing, editing and analysing of Geo-Spatial Data		
284.	Software should allow character-by-character auto-complete suggestions to be generated as a user types an address in a client application for Geocoding of addresses		
285.	Server Software should support Limited Error Raster Compression (LERC) for image service caches.		
286.	Server administrator should be able to prevent unauthorized users from accessing cached pages by disabling of caching of service related information by the web browser		
287.	Software should allow to export data from the feature service to database which contains geographic data or SQLite database using custom clients.		
288.	software should support to automatically generate diagrams and manage physical and logical network, Access, create, update, and edit Schematic Diagrams		
289.	System tools can analyze patterns and aggregate data in the context of both space and time -Space-time (spatiotemporal) analysis		
290.	Server Software should support Dynamic map service		
291.	Server Software should support Visualize 3D spatial content		
292.	Server Software should support Cached service – Map, Image		
293.	Server Software should support Geocoding service		
294.	Server Software should support Geoprocessing service and run custom geoprocessing models		
295.	Support for databases containing geographic layers and Query layers - Amazon RDS for Microsoft SQL Server or Amazon RDS for PostgreSQL, IBM DB2 or Informix Microsoft Azure SQL Database or Microsoft SQL Server Oracle, PostgreSQL		

296.	Server Software should support Big Data File Shares like Apache Hadoop HDFS, Apache Hive, Local File Shares (CSV, Shapefile)		
297.	Server Software should support Raster File Share like - AWS S3, Microsoft Azure Storage, Local File Shares		
298.	GIS Server Software should support for Query Layers: ALTIBASE, Dameng, IBM Netezza, SAP HANA, SQLite and Teradata		
299.	Authoritative datasets should have content ranging from broad ranging administrative boundaries to fine tuned demographic data about citizens in these administrative units.		
300.	The software should provide access to free Online 2D, 3D, Street, Base map, imagery Services for location reference out of the box without any added cost or requirement of license.		
301.	Cross platform support/Platform agnostic - The GIS application server and database servers must be supported on Windows platform. COTS GIS Server software should support standard Web server / application server like IIS, Apache, Tomcat, Web Sphere, Web logic etc.		
302.	Integrations & OGC compliance – The software should provide open API & SDKs for developers to build/extend custom web mapping applications. (eg: Qt, .NET, Java, JavaScript, Kotlin, Swift, Unity Maps, Unreal Engine Maps). This must support Open Geospatial Consortium (OGC) and open web services: including Map, WMS 2.0, WFS 2.0, WCS, WMTS, WPS, KML, Geo JSON, I3S for rendering of 3D data, OGC API - Features - Part 1: Core 1.0, OGC API - Features - Part 2: Coordinate Reference Systems by Reference 1.0, WCS 2.0 Interface Standard-Core: Corrigendum 2.0.1, WCS 2.0 Interface Standard - XML/POST Protocol Binding Extension 1.0.0, WCS Interface Standard - Interpolation Extension 1.0		
303.	WCS Interface Standard - CRS Extension 1.0, WCS Interface Standard - Range Subsetting Extension 1.0.		
304.	The proposed web GIS software should be deployable in the cloud, leveraging cloud computing services provided by third-party providers such as Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform (GCP), IBM SoftLayer, RailTel etc. It should have a provision to support microservices and support to orchestration environments like Kubernetes.		
305.	Web Editing Application Functionalities like simultaneous Feature editing, isolated editing in separate versions, Undo/Redo operations, snapping by layer, snapping to new geometry, settable snapping, modify, merge, split features, specify an Exact X, Y location, modify and create attribute values, maintain attribute values through		

	defined rules (Domain) etc. should be supported by the GIS system.		
306.	GIS system should support connections to Amazon Simple Storage Service (S3) buckets, Microsoft Azure Blob Storage containers, Microsoft Azure Data Lake Storage Gen2, Alibaba Cloud Object Storage Service (OSS) buckets, Google Cloud Storage Service (GCS) buckets, WebHDFS, MinIO, and Ozone Object Storage Service buckets.		
307.	Web GIS application must easily integrate & embed with Microsoft Office application like excel, power point etc. for management and administrators as an out of the box functionality.		
308.	· Bidder should quote for web based private and public cloud solution that provides publishing, storing, and streaming services for all spatial data types including terrain, map, feature, full textured 3D Mesh, 3D buildings and LIDAR/UAV point cloud on a Globe over the web. Should have a desktop authoring and publishing software with which projects can be made and published directly from the desktop tool.		
309.	· Ability to upload Individual geospatial layers and complete projects that can be directly uploaded and published to the web server from client application, thus streamlining your workflow and eliminating the need for any server-side login after initial installation. Software through a single publishing operation, data should be made ready for consumption by client software: Desktop, Mobile, tablets and as well as standard geospatial applications through OGC Services.		
310.	· The server should have a built-in complete user access control system allows easy management of users, groups, and administrative roles controlling the server-side storage and client-side read/write permissions.		
311.	· Publishing and Cataloguing Services: Server should support both client-side and server-side publishing with automatic and manual extraction of metadata & geospatial information and advanced client-side search options.		
312.	· Direct Uploading: Server should have a workflow, enabling user to upload and publish individual geospatial layers and complete projects to the web server directly from client. Through a single publishing operation, data is made ready for consumption by all clients as well as other OGC clients.		
313.	· OGC Compliance: Server should stream raster, and feature data to any application that reads the standard OGC WFS, WFS-T, WMS, and WMTS protocols. Support for WFS-T (Web Feature Service-		

	Transactional), remote clients can edit feature layers and save changes to the data source.		
314.	· The Platform should be capable to show the data using globe Visualization, should be capable to provide data decision support and Real Time Spatial Data Analysis(ability to draw slope vectors on the terrain to see the water logging in an area in real time on the web). Walk through and indoor fly through. Underground visualisation to store and visualize underground utility features surveyed by instruments like GPR.		
315.	· The Client should support Desktop and Mobile devices. Web software should have online features like measurement, 3D analysis, Viewshed, shadow analysis for Smart City Solar roof viability analysis, CCTV placement analysis, etc live over the web browser.		

1.2 Detailed Specifications for ICCC Component

Video Wall Specification				
Sr.No	Specification Item	Detailed Specification Description	Compliance Yes/No	Remark
1	Display Wall Screen Size	70" (diagonally) with Laser Light Source complete configuration with covered base		
2	Configuration	5 columns x 3 rows		
3	Total Dimension of the video wall	7750 mm X 2616 mm		
4	Projection Technology	LASER DLP based Rear Projection		
5	Total resolution of Video wall	Minimum wall resolution of video wall should be 120 Mega Pixel		
6	Screen to Screen Gap	≤ 0.2 mm		
7	Brightness of engine	Min 2200 Lumens		
8	Brightness Uniformity	Minimum 95 %		
9	Dust Prevention	Should be IP6X certified. Test certificate should be submitted as proof along with technical bid submission		
10	Light Source Lifetime	Normal mode: 60,000 hours; Eco mode: 80,000 hours		
11	Remote	IR remote control should also be provided for quick access		
12	Inputs	1 no. of Display Port, DVI and HDMI each		
13	Screen Support	Screen should be minimum 3 layers with a Hard Backing to prevent bulging		
14	Heat Dissipation	Less Than 1400 BTU/h – Normal mode		
15	Power	Dual Redundant and Hot Swappable Power Supply. This should be built inside the cube for fail safe operation with cooling features		
16	Eco mode	Less than 350 Watt		
17	Safety Certification of power supply	Power supply should be CE, CB certified		
18	Cooling Inside Cube	Any advanced cooling mechanism and Cooling mechanism should not have any hazardous liquid.		
19	Remote management through IP	Remote management through IP for parameter adjustment. Should be able to control & monitor individual cube, multiple cubes.		
20	Access	Rear only		
21	Pixel clock Source Redundancy	Min 162 MHz or higher to ensure flicker less display		

		System should able to switch to secondary input if primary input is not available.		
		System should also automatically switch back to primary input from secondary input as soon as the primary input is available again.		
22	Cube Depth	Cube Depth - 550 ±5 % mm		
	Operating conditions			
23	Temperature	10°C-40°C 50°F-105°F		
24	Humidity	Up to 80% non-condensing		

Pre-Qualification Criteria for Video Wall

1. All features and functionality should be certified by the OEM.
2. The Display Modules, Display Controller & Software should be from a single OEM.
3. Only those OEM's would be considered who also manufacture the Projection/Optical engine as well apart from the whole cube. Companies claiming to be OEM's but not manufacturing their own Projection/Optical engines shall not be considered
4. As on date OEM should have more than 2000+ of DLP laser cubes working in India with negligible failure rate.
5. OEM Certifications: -BIS,
6. The OEM should have the ISO certificates on or before the date of tender (ISO 9001:2015, ISO/IEC 20000-1:2011 for LMS & ISO 27001),
7. The OEM should have registered in India from last 10 years, The OEMs should have minimum five own service centers in India since last 5 years, OEM should have at least one manufacturing plant in India and operational,
8. The OEM should have experience of deployed minimum 2000 cubes in last 5 years

Sr. No.	Parameter	Required Parameters	Compliance YES/ NO	Remarks
Sending Card/ Video Wall Controller				
S. No.	Parameter	Required Parameters		
1	Features	LED display controller with supports 8x HDMI inputs and 8x Ethernet outputs, supports multiple layout and 8 different contents should be viewed at the same time(It should be from the same OEM or It should be from reputed brand)		
2	Display controller	Controller to be able to control video wall cubes		
3	Controller & Display	Controller should be having BIS and CE certification		
4	Architecture	The controller should be based on the latest architecture		
5	Platform	Windows Xeon Quad core 3 Ghz or Core i7 3Ghz above		
6	Processor	Intel Xeon		
7	HDD	500 GB or higher		

8	RAM	32 GB		
9	Chassis Type	19" Rack mount industrial chassis		
10	Network	2 Network Ports		
11	Resolution Support for Outputs	Should support total video wall resolution		
12	Inputs	Controller to be able to control cubes (Min. 5 input and 18 output)		
13	Ticker	There should be a possibility in the Controller to create user defined multiple tickers. It should also be possible to place these tickers anywhere on the wall		
14	Scalability	The system should be able to add additional inputs as required in the future		
15	Control	The system should have the capabilities of interacting (Monitoring & Control) with various applications on different network through the single Operator Workstation. It shall be possible to launch layouts, change layouts in real time using Tablet		
16	Keyboard & Mouse Extension	Keyboard and Mouse along with mechanism to extend them to 20 Mtrs. operator desk from display controller to be provided		
17	Redundancy	Redundant Hot Swappable HDD in RAID 0/ RAID 1/ RAID 5 Configuration Redundant Hot Swappable Power Supply		
18	Others	The Video Wall and the Controller should be of the same make to ensure better performance and compatibility		
19	OEM Certification			
20	OEM Capability			
20x optical Zoom Camera				
S.N O	Parameter	Specifications		
1	Sensor	The camera sensor should be 1/2.8 inch high quality 2MP HD CMOS sensor or better.		
2	White Balance	The camera should have an Option of Auto or Manual White Balance.		
3	Gain	The camera should have an auto Gain Control		
4	Back Light Compensation	The camera should have a selectable Back-light compensation		
5	Noise Reduction	2D & 3D or better		
6	S/N ratio	The camera should have a S/N Ratio of >55db.		
7	Zoom	The camera should have a 20x optical zoom and 16xdigital zoom or better		

8	AI Feature	The camera should have AI feature like Group Framing, Humonoid Tracking		
9	Interface	The camera should have a standard Video Output and should support HDMI/DVI and 3G-SDI Ports so that Camera can be integrated with standard End Points. Apart from that , It should have native USB 3.0 support along with HDMI/DVI support so that it can also be connected with Software based VC Solution.		
10	RJ-45	It should have atleast 1 RJ-45 Port for IP Camera functions.		
11	Signal Support	The camera should support 1080p@60fps		
12	Control Port	The camera should have an RS 232 in and out port for Communication		
13	Presets	The camera should have at least 250 Position Presets		
14	Field Of View	The camera should have 60.7 Degree or better field of view		
15	Pan Range	The camera should have a Pan Rotation Angle of -170 degrees to +170 Degrees or better		
16	Tilt Range	The camera should have a Tilt Rotation Angle of -30 degrees to + 90 degrees or better		
17	Accessory	The camera should be supplied with IR remote control as an included accessory.		
18	AI Feature	The camera should have AI feature like Group Framing, Humonoid Tracking and Target Tracking		
19	Certifications	It should have BIS, CE, FCC, RoHS& CB/UL.		
20	OEM Factory	OEM should have Manufacturing Unit/ Factory in India and factory should be registered under Factory Registration act of India.		
21	OEM Certifications	The OEM must have valid ISO 9001:2015,ISO 45001:2018 ISO 27001:2013 and ISO 14001:2015 Certified Company. (Related certificate copy required).		
Soft video conferencing Codec with Touch Panel				
SL No	Parameter	Specification		
1	PC Type	Windows based compute device with support of all video conferencing software		
2	Aspect Ratio	It should support 16:9 Aspect ratio		
3	Dual Display	Should support three Display		
4	CPU	Intel® Core™ i5-1135G7 Processor 11th Generation		

5	WiFi	Support		
6	Bluetooth	Support		
7	HDMI Out	3 Nos, 4K@60Hz		
8	HDMI In	1 Nos, 4K@60Hz		
9	LAN	1x HUB, 1x POE and 1x Internet(1 × 10/100/1000M Self-adaptive)		
10	Audio	1(Headphone)		
11	TYPE-C	1 (with display function)		
12	USB 2.0/USB 3.0	USB 3.0x3,USB 2.0 x1		
13	RAM	8 GB or more		
14	Storage	256 SSD or more		
15	Operation Temperature	0°C~40°C or better		
16	Operation Humidity	10%~90% non-condensing or better		
17	Storage Temperature	-20°C~60°C or better		
18	Storage Humidity	5%~95% non-condensing or better		
19	Certifications	CE,FCC and RoHS		

POE Based Touch Panel

1	Touch Panel	It should be supplied with 10.1-inch touch screen, compatible with all video conferencing programmes as InVC, MS Teams, Zoom, Webex, and Google Meet. One HDMI input for sharing content from an external laptop, and two USB 2.0 ports. Both touch panel and compute device should be from same OEM and it should have BIS certificate		
2	Certifications	BIS,CE,FCC and RoHS		

Channel Pro Audio DSP

S.N	Parameter	Specifications		
1	Type	12-channel audio processor		
2	Mic Inputs	It Should have 8 or more Microphones input interface with phoenix connector.		
3	Line inputs Type-1	It Should have 2 Line input interfaces, usually for the local audio source, i.e., DVD, laptop, etc. phoenix connector.		
4	Line Inputs Type-2	It Should have 2 Line input interfaces, usually for AEC reference signal input, phoenix connector.		
5	Line Outputs Type-1	It Should have 2 Line output interfaces, usually for the external recording device, phoenix connector.		
6	Line Outputs Type-2	It Should have 2 Line output interfaces, usually for AEC signal output, phoenix connector.		
7	Line Outputs Type-3	It Should have 2 Line output interfaces, usually for external amplifier or active loudspeaker for remote and local audio playback, phoenix connector.		

8	Other Ports	It should have at least one Wireless microphone input, 3.5mm audio connector on it or headphone interface, 3.5mm connector.		
9	Control Port	It should have 1xRS232 for connected to the control terminal, phoenix connector		
10	ETHERNET	It should have at least one Ethernet port for Configuration/control interface, RJ45 connector.		
11	USB/Stereo 3.5mm Interface for Soft calls	It should have at least one USB2.0/Stereo 3.5mm type A interface, supports bidirectional audio data transmission, can be more convenient to integrate into the OPS or PC as a sound card application		
12	Software	It should support software to achieve special features like Acoustic Echo Cancellation configuration, NLP(Nonlinear Processing) Setting, Noise Reduction Setting, AGC(Automatic Gain Control) Setting, Dereverberation Setting, High-Pass Filter Setting, Low-Pass Filter Setting, Parameter Equalizer Setting, Leveller Setting, Auto Mixer Setting, Level Control Setting, Matrix Mixer Setting		
13	Ceiling Microphone	Each microphone should have Pick up radius: 10m Max It should be supplied with 4 ceiling microphones right from day 1		
14	Certifications	CE,FCC and RoHS		
Wireless Microphone System				
S.N	Parameter	Specifications		
	Receiver			
1	Wireless Microphone System	It should be supplied with 1 Wireless Handheld and 1 lapel microphones		
2	Out Put	The receiver should have 1 number mixed Output		
3	Frequency Band	The Microphones & Receiver should work on UHF frequency band.		
4	Frequency Response	It should have a frequency response of 40Hz to 17000 Hz or better.		
5	Antennas	It should have as 2x Antennas		
6	Interface	It should have 1x output port as 6.3mm phono type.		
7	Mount	It should have 1 Rack unit hight with ability to mount in rack.		
8	Power	It should be supplied with 12 VDC power adapter.		
Hand Held Transmitter				
9	RF Output Power	10mW (Max)		

10	Carrier Frequency Range	600-699MHZ		
11	Modulation Mode	FM		
12	Microphone Element	Dynamic, Cardioid		
13	Frequency Response	50-15,000HZ		
14	Current Consumption	< 150m		
15	Controls	POWER ON/OFF switch,		
Body Pack Transmitter Specification				
16	RF Output Power	10mW (Max)		
17	Carrier Frequency Range	600-699MHZ		
18	Modulation Mode	FM		
19	Microphone Element	Condenser Mic		
20	Frequency Response	50-15,000HZ		
21	Current Consumption	< 150m		
22	Controls	POWER ON/OFF switch, Volume control		
Audio Amplifier				
S.N	Parameter	Specifications		
1	Gain Control	The system should have the facility to control the gain of microphone.		
2	Indicator	The system should have LED indicator for status.		
3	Frequency Response	The Frequency response should be 20Hz – 20000 Hz.		
4	Amplifier Type	The system should be Class-D type digital amplifier with Bass, trebleEqualizer.		
5	Channel	It should have 2 channel stereo output		
6	Power	The Amplifier should have 200 Watts at 8 Ohms		
7	Ports	The amplifier should have USB port for integrating with Laptop, PC & similar inputs.		
8	Channel	The Amplifier should be inbuilt with 2 channel mixer from day 1. Amplifier & mixer should come as single unit.		
10	Line Input	It should have Line Inputs as 1 x 2RCA		
11	Line Output	It should have Line Outputs as 1 x 2RCA		
12	Mic Input	It should have 2x phoenix Microphone Inputs with separate gain controller		
13	Unbalanced Input	It should have 1 Unbalanced Microphone 6.5mm Phono Input with gain controller		
14	RS232 port	Amplifier should have 1 X RS232 port for controlling		
15	Form Factor	The system should be standard 19 inches Rack Mountable or better.		

16	Certification	CE,FCC and RoHS		
Wall Mount Speakers				
S.N	Parameter	Specifications		
1	Enclosure Material	The system should be made of ABS Plastic		
2	Woofer type	The system should have polypropylene cone woofer		
3	Woofer size	The system should have woofer size of 5.25" or higher		
4	Tweeter type	The system should have Titanium dome type Tweeter		
5	Tweeter size	The system should have Tweeter size of 1" or higher		
6	Frequency response	It should have frequency bandwidth 90HZ – 20 kHz		
7	Impedance	It should have impedance of 8 ohms or higher		
8	SPL (Sound Pressure Level)	It should have SPL of 90dB or higher		
9	Power (RMS)	It should have 50 watts or higher Power (RMS)		
10	Connectors	It should have 1 (one) pair metal binding terminal type connectors		
11	Type of Mounting	It should be wall-mounting or higher		
12	Dual axis Mounting	It can be mounted vertically or horizontally in both axis		
Cloud Based Video Conferencing Software				
1	The solution should be user friendly to allow non-technical staff to manage on their own a video conferencing session with a minimum learning time			
2	It should be possible to conduct point to point, multipoint to multipoint or any combination of both on internet bandwidth ranging from 256 Kbps to 1Mbps with video resolution of minimum SD to HD and frame rate up to 30 fps, depending on internet bandwidth available at remote office locations.			
3	The solution should support Installation (software versions) on off-the-shelf computer hardware and run over any broadband network			
4	The solution should have the capability to monitor and continuously adjust its resolutions during meetings as network speeds and quality fluctuates without dropping calls.			
5	Solution should support lower video resolution (below SD) if internet bandwidth falls below 256 kbps			
6	Connecting a user at low video resolution should not affect the resolution of other users.			
7	System should allow display of video in multiple options wherein user can select any option. User should be able to choose a suitable video layout (2 or 3 or 4 or many video frame) on their screen (Laptop/desktop) during VC.			
8	User should be able to choose only active video layout during VC (Only active speakers video will be seen in larger frame)			

9	The solution should support VP8, VP9/H.264 or above protocol for conducting point to point and multipoint to multipoint VC			
10	It should be possible to remote control video and audio of client (video on/off, mic mute/unmute) from central administration server.			
11	It should be possible to add any new client (user) during the ongoing VC.			
12	It should be possible to remove any client user during the on going VC			
13	It should be possible to lock the VC room, for preventing entry of any unknown users			
14	It should be possible to conduct point-point, multipoint-Multipoint VC involving soft clients (installed in laptop/desktop/iOS, Android devices), hardware clients			
15	VC solution should display site location/user id over video of each location for user identification, in English/local language			
16	VC solution should allow for client to share presentation/data (ppt, ms word, ms excel, pdf etc) on real time basis along with live video during VC (point-point and point-multipoint) It should be possible to show Video and content in different parts of the same display			
17	VC solution should allow maximum of 4 clients at the same time to share presentation/data (ppt, ms word, ms excel, pdf etc) on real time basis along with live video during VC (point-point and point-multipoint)			
18	VC solution should allow clients privacy as right to enable and disable their video and audio under HIPAA ACT			
19	VC Solution should provide white labelling provision to create branding on the video meetings.			
20	<p>VC solution should provide the option to the meeting host to enable his multiple cameras connected to the system of maximum 4 at the same time during the meeting.</p> <p>a. The VC Software should support 6 Active Video Inputs / Cameras from Single Client. All Cameras must be active at the same time and simultaneously be visible on screen.</p> <p>b. Cloud Video Platform should be Telepresence enabled and should give Option to Connect up to 6 Displays at each location. In Each Display there should be a choice to see from 1 to 9 Videos. One display should be dedicated for active Speaker and One for Presentation. Through touch control Application user should be able to change no of Videos in each display from 1-9 instantly.</p>			
21	Meeting Interface	<p>The meeting interface should provide:</p> <p>Whiteboard Sharing tool</p> <p>Drawing tool</p> <p>List of joined participants</p> <p>Screen Sharing- sharing of desktop/application/whiteboard/Document Share/Video Sharing</p> <p>Full screen option</p>		

		Recording of meeting session Meeting participants control Text Chat for messaging It should support breakout rooms Picture in Picture		
22	Authentication of Registered Users	It should be possible to authenticate users before allowing them to join VC.		
23	VC from Mobile devices (Smart Phone, I- Pad etc)	Client should be able to conduct VC from smart phone and ipad. Client software should be installable in smart phone and i- pad. Client software installed on smart phone and iPad must ensure encryption of video and data presented to central server of VC solution.		
24	Additional Features	It has scheduling based System with Simply sending a VC Link to users for Joining Call.		
		It has Multiple Camera feature		
		It has Voice activated Switching Layout		
		Bandwidth Optimization is much better and advanced		
		It can Support 4K Resolution		
		It should support Participants to join as webinar where webinar users should be able to ask questions through Chat. It should also have direct integration with YouTube to live webcast it to YouTube channel.		
Additional Compliances Specific to ICCC System				
1. The Video Wall OEM shall have established office in India from more than 15+ Years. (Valid Certificate of incorporation required) and shall have direct technical support staff and office in Maharashtra for immediate technical support. Official HR documentation Required.				
2. The Video Wall OEM supplier shall have valid ISO 9001:2015,ISO 45001:2018, ISO 27001:2013 and ISO 14001:2015 Certified Company. (Related certificate copy required).				
3. The Video wall OEM shall be DSIR Recognised. (Related certificate copy required).				
4. The devices like Active LED, PTZ camera, Audio Digital Signal Processor, Compute Device, Amplifier, Microphones, Speakers and Video conferencing software should be from same OEM in order to avoid integration issues.				
5. Manufacturer authorization: The Bidder/SI quoting for this RFP shall produce a Manufacturers Authorization Form (MAF)/Certificate with OEM details such as name, designation, address, e-mail Id and Phone No. required to be furnished along with the tender.				
6. Only OEMs with a manufacturing unit in India possessing a valid and latest factory license, certified quality processes audited & acknowledged by QCI (through On-Site/Virtual Assessment) and recognized domestic R&D Facility will be eligible. (Factory License, OEM Assessment Report (Abridged) and Recognition Letter for in-House R&D by QCI and DSIR				

respectively or Government of India recognized certification authority to be submitted along with MII Declaration).		
7. Bidder shall also provide the video conferencing solution integrated with Command and Control Center along with requisite Audio Video system including but not limited to mic, camera, speaker etc. The solution should be capable of upto 25 connection across locations.		

1.3 Detailed Specifications for Hardware

A) Server Specification

S. No.	Parameter	Description	Complied (Yes/No)	Remarks
1	Make & Model	(Specify)		
2	Market position	The OEM for the proposed server must be in Leaders quadrant in the last two Gartner's report of "Magic Quadrant for Modular Servers" & should have been one of the top three server vendors (by market share revenue in IDC or Gartner report) in any of the previous 2 quarters		
3	Form Factor	Max. 1U rack mounted with sliding rails		
4	Configured CPU	2* 32 Cores Latest Gold Series with clock speed of 2.0 GHz or better and with 60 MB cache or better		
5	Memory slots	Up to 16 x DDR5 RDIMMs		
6	Memory configured	256 GB populated RDIMMs 4800 MT/s		
7	Disks supported	Up to 8 x 2.5-inch SAS/SATA Hard Drives		
8	Disks configured	2* 480GB SSD SATA Read Intensive 6Gbps 5* 3.84TB SSD Drive		
9	RAID Controller	HW RAID Card.		
10	I/O slots	Up to 3 PCIe Gen4 slots (1 x16 Gen4 + 2 x8 Gen4)		
11	Ethernet ports	1 * Dual Port 10GbE BASE-T, 2 x 1GbE LOM		
12	Fibre Channel Ports	2* 32 Gbps FC Ports		
13	Certification and compliances	Microsoft Windows Server, Hyper-V, VMWare, Red Hat Enterprise Linux (RHEL), SUSE Linux Enterprise Server (SLES)		
14	Power Supply	Platinum rated redundant Hot plug Power Supplies with hot plug fans		

15	Management integration	Support for integration with Microsoft System Center, VMware vCenter, BMC Software		
16	Power & temperature	Real-time power meter, graphing, thresholds, alerts & capping with historical power counters. Temperature monitoring & graphing		
17	Pre-failure alert	Should provide predictive failure monitoring & proactive alerts of actual or impending component failure for fan, power supply, memory, CPU, RAID, NIC, HDD		
18	Configuration & management	<ul style="list-style-type: none"> • Real-time out-of-band hardware performance monitoring & alerting • Agent-free monitoring, driver updates & configuration, power monitoring & capping, RAID management, external storage management, monitoring of FC, HBA & CNA & system health • Out-of-band hardware & firmware inventory • Zero-touch auto configuration to auto deploy a baseline server configuration profile 		
19	Management (continued)	<ul style="list-style-type: none"> • Automated hardware configuration and Operating System deployment to multiple servers • Zero-touch repository manager and self-updating firmware system • Virtual IO management / stateless computing • Support for Redfish API for simple and secure management of scalable platform hardware • Server management software should support upto 8000 devices in a single instance 		
20	LCD panel	Should display system ID, status information and system error error code followed by descriptive text. LCD		

		background should light up in different colours during normal system operation & error conditions.		
21	Server security	Should have a cyber resilient architecture for a hardened server design for protection, detection & recovery from cyber attacks		
		Should provide effective protection, reliable detection & rapid recovery using: - Silicon-based Hardware Root of Trust - Signed firmware updates - Secure default passwords - Configuration and firmware drift detection - Persistent event logging including user activity - Secure alerting - Automatic BIOS recovery - Rapid OS recovery - System erase		
		Configuration upgrades should be only with cryptographically signed firmware and software		
		Should provide system lockdown feature to prevent change (or “drift”) in system firmware image(s) & prevent malicious modification of server firmware		
22	Intrusion alert	Intrusion alert in case chassis cover being opened		
23	Warranty	The vendor should provide three years warranty with 24 x 7 x 365 support. Faulty drives will be retained and will not be returned to the OEM. Server & Storage solution provided should be from the same OEM		

B) Storage Specification

S.No.	Technical Specifications of Hybrid Unified array	Complied (Yes/No)	Remarks
1	The proposed array should have minimum dual active-active controllers with NSPoF architecture & 99.999% availability.		
2	The proposed array should be an unified storage supporting block and file services natively or by providing addon gateway/controllers in redundant configuration. It should be possible to configure the entire capacity in any combination of block and file.		
3	Proposed storage should also support NDU software upgrade.		
4	Offered storage shall be based upon latest generation Intel CPUs and shall be supplied with at-least 12 numbers of CPU cores.		
5	Cache: Proposed storage shall have minimum 128 GB DRAM cache In case NAS capabilities are not built-in and are supplied through additional/external hardware/gateways, additional 128 GB Memory should be supplied across redundant NAS controlles. To maintain performance in the event of a controller failure, the system shall keep write cache enabled.		
6	SSD extended cache: Storage system should have capability to configure at-least 500GB of hot swappable extended cache using high speed & high endurance SSDs enabled for both read and write I/Os. In case offered product do not have this capability, 256 GB system DRAM cache across controllers to be provided from day one.		
7	Front-end Ports: The proposed storage array should configured with 4 x 16Gbps FC ports. System should also support 10 GbE ports which are capable delivering iSCSI, NFS, CIFS/SMB, sFTP etc.		
8	Backend Connectivity: Offered Storage Should be configured with at-least 4 numbers of 12Gbps SAS backend ports across Dual controllers.		

9	Raid Level Support: The proposed array shall support raid level of 5, 6 and 1/0		
10	Capacity Requirement The storage array must be proposed and configured usable capacity with 100 TB usable capacity with 30TB usable on SSD and 70 TB usable on SAS using vendor's best practices for RAID. Entire asked capacity should be supplied as part of a pool with automated tiering across all tiers i.e. SSD, SAS and NL-SAS. Entire offered capacity should be evenly distributed across all offered controllers.		
11	Scalability: Offered Storage array shall support at-least 500 number of drives (min. 250 SSD disks and rest as SAS/NL-SAS disks) in same offered configuration of storage without any controller upgradation. Required hardware and software feature licenses to meet scalable capacity for all protocols should be offered on day one. Proposed array should also support single drive upgrades.		
Protocol Support & Data Services			
12	Must support industry standard Protocols like NFS, CIFS (SMB), FTP, FC and iSCSI and also support vVOLS.		
13	The proposed storage system must support Storage Analytics, Snapshots for block and file, Remote Replication (sync & async) for block and file & Data-at-Rest-Encryption features. Licenses for these features should be factored from day1.		
14	Efficiency & Data Reduction features: The proposed array should support enterprise class data services including - Thin Provisioning, Inline Compression & Deduplication for all flash pools. Storage should allow enable/disable of data services per application storage groups (single or group of LUNs). Data reduction must be supported on block (FCP, iSCSI) and file (CIFS, NFS) data		

15	Storage Resource Pooling: The proposed array should support mixing of different tiers of disk media like SSD, SAS and NL-SAS in single storage pool for both block and file. Single storage pool should be accessible to both controllers. Proposed storage should also support auto-balancing of capacity across new added disks to avoid any hot spots.		
16	Data Encryption: The proposed array must support storage controller based Data at Rest Encryption solution or SED based encryption to encrypt data on all drives. Solution should be supplied with embedded key management solution or external key management solution.		
17	Scalable File System: The proposed array must support traditional (user data) and transactional (VMware, Oracle) NAS use cases. Proposed storage solution must support creating multiple NAS servers for tenant isolation with each file system scalable upto 256TB.		
18	WORM Support: Storage shall have capability for protecting files from modification or deletion until a specified retention date to allows customers to create a permanent, unalterable set of files and directories and ensure the integrity of data. WORM capability should comply to SEC 17a-4(f) standards.		
19	Snapshot: Proposed storage solution should support snapshot creation using ROW (Redirect on write) algorithm. Storage arrays should have ability to use snapshot as writable volume. Proposed system should support snapshot scheduler. Proposed storage should allow snapshot replication with different retention for source and destination.		
20	The Storage System shall support Synchronous & Asynchronous Replication for both Block and File Protocols.		
21	Data Migration: Proposed storage should include tools for data migration from existing storage. Detailed compatibility list to be submitted for the same along with SOP.		

22	<p>Quality of Service: The proposed array should support QoS feature to limit the amount of IO (IOPS) or bandwidth (MB/s) a particular application can drive on the array.</p>		
Storage Management			
23	<p>Storage Management Software: The proposed array should be supplied with native Storage management software with Web based GUI capable of generating customized reports, real time monitoring, historical performance data for analysis and trending, capacity utilization monitoring. Proposed management software should support management of multiple storage system from single console</p>		
24	<p>Cloud Based Monitoring & Reporting: Proposed solution should also have cloud based monitoring and management tool with support for 2 years of historical reporting. Software should support monitoring and reporting multiple storage system, VMware environment and SAN switches. Required on-prem software and hardware should be included in the solution. Cloud based software should be accessible from any internet connected device with mobile application support for iOS and Android.</p>		
25	<p>Application Aware Automation & Orchestration: Proposed storage solution should include software to automate and orchestrate application/databases data management - including but not limited to MSSQL, Oracle, Exchange etc - to create application/database consistent copy for multiple use cases including data repurposing, off-host backup, Test/Dev, Reporting etc.</p>		
26	<p>VMware Integration: Proposed storage solution should support VMware VAAI, SRM, VASA, VVOLs and VMware cloud foundation for multi-cloud data mobility. Detailed document to be provided for the same. Proposed storage should include software to create VM consistent point-in-time copies with support for granular data restoration. Storage array should be certified with VMware Cloud Foundation (VCF) using FC and iSCSI protocols.</p>		

27	Simplified Management: Proposed Storage systems shall be simple to setup enabling installation in just a few minutes ; simple to use with an intuitive HTML5 interface with multiple VMware and Microsoft integrations; simple to service/support that includes a built-in self-service portal with features and capabilities that easily help IT generalists resolve issues faster;		
28	Data Archiving Support: Proposed solution should include software for policy based data archiving software to archive data from storage to secondary archival software. Software should support both NAS and Block level data archival to on-prem target or to public clouds. Details on supported targets to be submitted.		
SUPPORT			
29	Warranty: The vendor should provide Three years warranty with 24 x 7 x 365 support. Faulty drives will be retained and will not be returned to the OEM. Storage & Server solution provided should be from the same OEM		

C) SAN Switch

S.No.	Technical Specifications of SAN Switch - 2 QTY	Complied (Yes/No)	Remarks
1	24 port rack mountable SAN Switch loaded with 8 x 16 Gbps FC transceivers per switch.		
2	Proposed switch should support 768 Gbps end to end full duplex aggregate bandwidth.		
3	Switch fabric shall have a non-blocking architecture		
4	Trunking with up to eight 32 Gbps ports per ISL trunk		
5	Switch should support non disruptive Firmware upgrade		
6	ClearLink optics and cable diagnostics, link traffic/latency/distance; POST and online/offline diagnostics, FCping and Pathinfo (FC traceroute), frame viewer, port mirroring, optics,health monitoring, power monitoring.		
7	Centralised management, hardware and software zoning		

8	Warranty: The vendor should provide three years warranty with 24 x 7 x 365 support.		
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D) Workstations

SI No	Parameter	Required Parameters	Compliance Yes/No	Remarks
1	Processor	Intel® Core™ i9-14900K or higher processor or Intel® Core™ i7-14700K or higher processor		
		OPTION		
2	Chipset	Intel® W680 chipset		
3	RAM	2 x 32GB DDR5 nECC Memory & speed should be 4400MHz or better 4 DIMM slots, supporting up to 128 GB ECC / nECC DDR5 4800 MT/s		
4	BIOS	BIOS of the Workstation to have tool for Enhanced security features like self healing, regular checks.		
5	Drive Controllers	Integrated SATA controller with minimum 4 x 6Gbps ports & SATA Controller should support RAID 0,1 .		
6	HDD	1TB PCIe NVMe M.2 SSD Drive . System should support additional SATA & M.2 SSD drives .		
7	Optical Drive	DVD+/-RW drive		
8	Graphics Card	NVIDIA® RTX A2000 12GB Graphics with mDP TO DP Adaptor		
9	Keyboard and Mouse	Minimum 104 keys USB Keyboard and USB Optical Scroll mouse - Same make as that of the workstation		
10	Audio	High-Definition Integrated Audio with Internal speaker.		
11	Communications	Integrated GbE Controller		
12	Bays/Slot	1 x PCI Express Gen5 slot x16 1 x PCI Express Gen4 slot x4 1 x PCI Express Gen3 x1 3 x M.2 2280 Storage		
13	Ports	Minimum 10 USB Ports , out of which Minimum 2 x USB 3.2 Gen 2 (10 Gbps) Type-C ports , 2 x USB 3.2 Gen 2 (10 Gbps) ports and 2 x USB 2.0 (480 Mbps) ports , 1x RJ45 (10/100/1000 GBPS) port , 2 x Display Ports and 1 x UAJ port		

14	Operating System	Genuine Win 11 Pro 64 . All drivers required for proper integration of components should be supplied by the vendor. All latest drivers should be available to download from vendor's website. System should support for Red Hat® Enterprise Linux Desktop 8.3 or Higher		
15	Power Supply	Min 850 W wide-ranging, active Power Factor Correction, 92% Efficient EPEAT GOLD INDIA or Higher		
16	Additional Software	1. The hardware vendor should supply an automatic system performance tuning and monitoring software on Windows.		
17	Warranty	3 years onsite parts and labour warranty for system		
18	Vendor Status	The hardware vendor should be a reputed concern, having global presence in multiple countries. Vendor should have ISO certifications.		
19	Dust Filter	OEM should provide serviceable dust filter for avoid workstation failures due to dust and it should be connected into the workstation		
20	Certifications	Window OS and Linux Certification, EPEAT Gold India Registered, Energy Star, Leading ISV's		
21	Global Presence & Market leader	OEM should have global presence & Top 3 WS OEM certified by IDC or Gartner		
	ATC Points need to add while publishing tender.			
1	OS Certification: WINDOWS, Redhat & Ubuntu is required. Workstation OEM name & Model number should be available in respective website.			
2	Minimum 3 no's of M.2 slots should be available on motherboard for M.2 SSD HDD's.			

S.No.	Technical Specifications of Workstation	Complied (Yes/No)	Remarks
1.	Intel® Core™ i7-12700 (up to 4.9 GHz with Intel® Turbo Boost Technology, 25 MB L3 cache, 12 cores, 20 threads)		
2.	16 GB DDR5 4800 DIMM		
3.	Storage capacity: 1 TB SSD		
4.	Operating system: Windows 11		
5.	24" Monitor, Keyboard , Mouse		
6.	Graphics Card: MSI GeForce RTX 3050 Ventus 2X 6G OC Graphic Card - NVIDIA GeForce RTX 3050 GPU, 6GB GDDR6 96-bit Memory, 14 Gbps, PCI Express 4 Interface, Upto 1492 MHz, Dual Fan		

E) Monitor

SI No	Parameter	Required Parameters	Compliance Yes/No	Remarks
1	Panel Type	Anti-Glare, 23.8" in IPS LED backlight Wide-aspect (16:9)		
2	Micro-Edge Bezel	4-Sided		
3	Viewable Area (diagonal)	23.8		
4	Viewing Angle	Up to 178° H/ 178° V		
5	Contrast Ratio	1,000:1(Static)		
6	Response Rate	5 - 8 ms (GtoG) Minimum		
7	Brightness	250 (cd/m2) or better		
8	AMBIENT LIGHT SENSOR	Yes, auto brightness and color temperature adjustment		
9	COLOR GAMUT	<ul style="list-style-type: none"> • DCI-P3 85% • sRGB 100% • 16.7 million colors 		
10	Native / Maximum Resolution	1920 x 1080 @ 120 Hz		
11	Video Input Ports	<ul style="list-style-type: none"> • 1 x DisplayPort • 1 x HDMI • 1 x DisplayPort (Out) • 1 x USB-C upstream port • 2 x super speed USB 10Gbps • 1 x audio line-out port 		
12	Cables Shipped	Power cable, other Accessories		
13	Power Supply	Power supply should be Energy Star, EPEAT Gold certified and TÜV EYE COMFORT CERTIFICATION Minimum 4 Stars		
14	Height Adjustment	Should support		

15	Environmental Features	Monitor should be RoHS compliant.		
16	Security	Lock Ready		
17	Software	Optional Monitor should support software /utility that allows to adjust the display settings and save the configurations that are best suited environment		
18	Warranty	3 years comprehensive onsite.		
19	Make	Should be the same as workstation.		
20	Certification and Compliance	ENERGY STAR 8.0, EPEAT Gold, TCO 9.0		

1.4 Operation & Maintenance

1.	AMC of web & Mobile application (Citizen & Departmental Portal)		
2.	SI shall Continuously evaluate the performance and effectiveness of the RIS to identify areas for improvement during the O&M period and report to MC, MMRDA.		
3.	Set up of GIS Cell with minimum 5 Resources.		
4.	Operation and Maintenance period of the entire system for 1 year after Go-Live		
5.	Related Materials like Design & Development Manuals, Training Manuals etc. needs to be provided to the users		

*** End of the Document ***



एमएमआरडीए
MMRDA

MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

(A Government of Maharashtra Undertaking)

Plot Nos. C-14 & 15, Bandra-Kurla Complex, Bandra (E), Mumbai – 400 051.

Tel: 26590001/04. Fax: 91-022-26591264 Web: <https://mmrda.maharashtra.gov.in>

e-TENDER NOTICE

Name of Work : E-Tender for selection of System Integrator (SI) for Design, Development and Implementation of Regional Information System for Mumbai Metropolitan Region and Urban Observatory at MMRDA.

Bid Document Download		Last Date of online submission	Last date to send in requests for clarifications:
From (Date /Time)	To (Date /Time)		
19.07.2024 17.01 hrs (IST)	12.08.2024 17:00 hrs (IST)	12.08.2024 17:01 hrs (IST)	29.07.2024, at 17:01 hrs (IST)- Clarifications to be sent by email to the following address: ris.sm@mailmmrda.maharashtra.gov.in

Note: The e-RFP can be downloaded from e-tendering portal <https://mahatenders.gov.in/nicgep/app>. Any additional information, Corrigendum & help for uploading and downloading the e-bid, may be availed by contacting MMRDA's e-tendering service desk at the following id : support-eproc@nic.in or call us on 022-26597445.

For further information, if required you may please contacton **Telephone No.022-26597448**

Email: ris.sm@mailmmrda.maharashtra.gov.in

Date : 19.07.2024

Place : Mumbai

No. : IT Cell/2024

Sd/-
Metropolitan Commissioner
MMRDA

F. Ulami



एमएमआरडीए
MMRDA

मुंबई महानगर प्रदेश विकास प्राधिकरण

(महाराष्ट्र शासन अंगिकृत)

प्लॉट क्र. सी-१४ व १५, वांछे-कुर्ला संकुल, वांछे (पूर्व), मुंबई-४०००५१ दूरध्वनी : ०२२-२६५९०००१/०४
फॅक्स: ०२२-२६५९१२६४ वेबसाईट : <https://mmrda.maharashtra.gov.in>

ई- निविदा सूचना

कामाचे स्वरूप : मुंबई महानगर प्रदेश विकास प्राधिकरणात नागरी वेधशाळा स्थापित करणे व मुंबई महानगर प्रदेशाकरिता 'प्रादेशिक माहिती प्रणाली' (Regional Information System) ची रचना, विकास व अंमल बजावणी करण्यासाठी सिस्टिम इंटीग्रेटर (SI) ची निवड करणेकरिता विनंती प्रस्ताव.

निविदा विनंती प्रस्ताव डाउनलोड करण्याचा कालावधी		निविदा विनंती प्रस्ताव स्विकारण्याची अंतिम तारीख
तारीख व वेळ (पासून)	तारीख व वेळ (पर्यंत)	
१९.०७.२०२४ (दुपारी ०५.०१ वाजता)	१२.०८.२०२४ (सायंकाळी ५.०० वाजता)	१२.०८.२०२४ (सायंकाळी ५.०१ वाजता)
स्पष्टीकरणासाठी विनंत्या पाठवण्याची शेवटची तारीख: २९.०७.२०२४ १७:०१ वाजता स्पष्टीकरण खालील पत्त्यावर ईमेलद्वारे पाठवावे : ris.sm@mailmmrda.maharashtra.gov.in		

टिप: ई-निविदा विनंती प्रस्ताव, शुध्दीपत्रक व इतर माहिती <https://mahatenders.gov.in/nicgep/app> या संकेतस्थळावरूनच डाउनलोड करता येतील. ई- निविदा विनंती प्रस्तावा संबंधित सविस्तर माहिती आणि मदतीसाठी support-eproc@nic.in या ई-मेल किंवा दूरध्वनी क्र. ०२२-२६५९७४४५ वर संपर्क साधावा.

तसेच, या जाहिरातीकरिता आवश्यकता असल्यास या दूरध्वनी क्र. ०२२-२६५९७४४६,

ई-मेल : ris.sm@mailmmrda.maharashtra.gov.in वर संपर्क साधावा.

तारीख : १९/०७/२०२४,

ठिकाण: मुंबई

क्रमांक: माहिती तंत्रज्ञान कक्ष /२०२४

सही/-

महानगर आयुक्त

मुं.म.प्र.वि.प्राधिकरण

Signature
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