# AMRUT, WEST BENGAL

## (Urban Development & Municipal Affairs Department, Government of West Bengal)

### ILGUS Bhavan : Block - HC : Sector - III : Bidhannagar : Kolkata - 700 106

## Notice Inviting e-Tender

**No. MA/AMRUT/2018/3/1**      **Dated : December 13, 2018**

E-tenders are invited by the **State Mission Director**, **AMRUT, West Bengal** for the under mentioned work, through electronic tendering (**e-tendering**) from eligible and resourceful agencies having sufficient credential and financial capability for execution of works of similar nature.

### Name of Work

Formulation and Digitization of GIS-based Master Plan, Integration of various citizen-centric service delivery based municipal e-govrnence services, Development of GIS/MIS dashboard for 125 Urban Local Bodies.

Tender ID : **2018_MAD_201482_1**

**Bid submission start date :** 14.12.2018 at 10:00 AM. **Bid submission end date :** 05.01.2019 up to 03:00 PM. Bid opening date : 05.01.2019 at 03:00 PM. For Tender document and other details please visit : **www.wbdma.gov.in** OR **http://wbtenders.gov.in** bidder may contact the above mentioned address during office hours of any working day.

Memo No: 751/MA/AMRUT/R-14(PT.1)/2016                     Date 13.12.18

# Notice Re-Inviting Expression of Interest
## Revised e-Tender Reference No – MA/AMRUT/2018/3/1
### Tender ID: …………………………………………….
**This is continuation to previous ID 2018_MAD_192150_1**

Notice inviting Expression of Interest from reputed Consulting firms or Consortium having experience and acumen in such work as noted hereunder from inception to completion of one Web GIS Portal complete in all respect for the works of Formulation and Digitization of GIS-based Master Plan, Integration of various citizen-centric service-delivery based municipal e-governance services, Development of GIS/MIS dashboard for last mile visibility, Development of GIS applications for decision support and key insights, Automating workflows, Developing Mobile App, information dissemination and post implementation maintenance and support complete in all respect for 125 Urban Local Bodies including 55 AMRUT cities as well as areas under 19 Urban Development Authorities in the State of West Bengal.

Detailed E.O.I. may be downloaded from the State e-tender portal https://wbtenders.gov.in and the Departmental website https://www.wbdma.gov.in/HTM/Muni_Tenders.htm

The last date of submission of E.O.I. online is 05.01.2019, 17.00 HRS.

SMD, AMRUT reserves the rights to cancel the E.O.I. without assigning any reasons

Sd/-
State Mission Director
AMRUT, West Bengal

# Revised e-Tender Reference No – MA/AMRUT/2018/3/1

The Bid Inviting Authority, the State Mission Director, AMRUT-West Bengal under the Department of Urban Development and Municipal Affairs, Govt. of West Bengal invites Expression of Interest (E.O.I) for the different works which is an integration of works as follows –

(i) Geo-database ground-truthing for AMRUT cities and GIS based map preparation and geo-database creation for non-AMRUT cities

(ii) Drone survey for specific use

(iii) GIS based Master Plan formulation for both AMRUT and non-AMRUT cities

(iv) GIS based portal development for 125 cities and MIS-GIS integration alongwith Mobile App & SMS alert system development which is to be deployed in the UD&MA Deptt

It should be understood that the system is not merely a GIS platform. The GIS based map and analytics is an important component of the system but the development of several application for providing citizen service and MIS for the municipal bodies is an equally important component under the ambit of the overall solution, UD&MA Deptt. is very keen that analytics and MIS covers the workflow, events, service delivery and process turnaround times in relation areas including but limited to the following:

- Public grievance Registration, Processing and Resolution
- Application for Trade License and issue thereof
- Birth & Death Registrations and issue of certificates
- Project Monitoring and controlling information
- Property holding database and tax collection
- Database on water bodies and parks
- Other citizen oriented applications

Transaction/workflow solutions are available for some of the above functionalities; they may require enhancements and modifications. For rest of the functions, such workflow application would need to be developed.

The envisaged solution should also have provision to interface with some future systems and solutions which may come up e.g.

- Integrated finance and accounting system (Government Resource Planning)
- SCADA/IoT system on drinking water distribution network for real time taking/prevention of events (leakage, disruptions etc)
- IoT and industrial automation in solid waste management
- IoT on environmental parameters such as $Co_x$, $NO_x$ etc.

This also include mandatory GIS works mentioned in State Action Plan under AMRUT as follows –

(i) Formulation (i.e. creation and updation) of GIS-based Master Plan of 125 Urban Local Bodies and 19 Development Authority in the state of West Bengal;

(ii) Design, Development and Commissioning of Web GIS Portal with provision for creation and updation of Geospatial data and create GIS-enabled Dashboard for Municipal utility planning for roads, drains, street lightings, parks, schools and offices etc. as well as integrate project planning and Decision Support System at the UD&MA Department

(iii) Develop Tools for Creation of the Master Plan Data (sector-specific MIS) and Tools for Zonal and Sectoral Land Use;

(iv)     Integration of all the existing applications and legacy databases developed by ULB's and integration of various citizen-centric service-delivery based municipal e-governance modules for providing citizen centric & other services (N.B. existing modules with necessary changes/modification and also new modules as and when developed, if required) and migrate legacy data in newly developed database.

(v)      Provide unified GIS and MIS dashboards with actionable Insights

(vi)     Provide platform for facility management like drinking water supply, sewerage system, storm water drainage & transport network

(vii)    Creating workflows for various functions of the Urban Local Bodies such as Financial Accounting System (FAS), Property Tax, Trade License, Birth & Death Registration, Building Permission, ULB and Development Authority Inventory, Payroll etc.

(viii)   Integrate with Existing, Future Application and other available Databases as per availability of such in form of municipal web portals, e-governance applications, any old or existing Stand alone systems, ULB ERP system, existing GIS-based data

(ix)     Utility & Asset Monitoring and Progress Monitoring system for timely monitoring of project progress and overall achievement

(x)      Develop channels for citizens to interact with UD & MA Department like WhatsApp or equivalent, SMS, Emails, web forms etc.

(xi)     Designing and Developing a Common Mobile App for all citizen services from UD & MA Department.

(xii)    Build facility to generate and propagate alerts, messages and intimations to citizens, and departmental officers.

(xiii)   Continuous service providing by a set of trained manpower during the post-preparation period of Master planning

(xiv)    Provide operation, maintenance and support for a period of 24 (Twenty-Four) months from the date of Commissioning

The Expression of Interest is invited by the Bid Inviting Authority, the State Mission Director, AMRUT-West Bengal, from reputed Consulting firms or Consortium having experience and acumen in such work as noted below in the eligibility as depicted hereunder for participating in the Bid from inception to completion of portal as per Expression of Interest complete in all respect

| | | |
|---|---|---|
| **1.** | **Name of Work:** | Request for Expression of Interest for the works of Formulation and Digitization of GIS-based Master Plan, Integration of various citizen-centric service-delivery based municipal e-governance services, Development of GIS/MIS dashboard for last mile visibility, Development of GIS applications for decision support and key insights, Automating workflows, Developing Mobile App, information dissemination and post implementation maintenance and support complete in all respect for 125 Urban Local Bodies including 55 AMRUT cities as well as areas under 19 Urban Development Authorities in the State of West Bengal |
| **2.** | **Location of Work** | State of West Bengal in 125 Urban Local Bodies, 19 Urban Development Authorities under Department of Urban Development and Municipal Affairs, Govt. of West Bengal |
| **3.** | **Bidder's Eligibility** *(NOTE: Please also refer the Corrigendum in Annexure in reference to earlier RFP)* | ● The bidder can be **a single entity or a consortium**. The lead company should be **more than 50% shareholder** of the consortium, AND<br><br>● The entity/bidder OR all of the entity/bidder in the consortium must be ISO certified and either a Company registered in India specified under Companies Act 1956-2013/ Society registered under Societies Registration Act, 1860/ Trust registered under Indian Trusts Act, 1882/ Partnership Firm registered under Limited Liability Partnership Act, 2008 OR research institute/educational institute/universities etc. AND<br><br>● The entity/bidder OR all the entity/bidder should have completed remaining in business for the last 3 years as on date of publishing of this E.O.I.<br><br>● Only those entity/bidder should apply whose audited **turnover is not less than Rs. Five Crores for any 3 years of being in business (which may not be consecutive)** must apply. For consortium, Lead firm must possess more than 50%of the eligible financial criterion, AND<br><br>● Only those entity/bidder who in the **last 3 years have handled assignments related to providing total GIS solution which includes Design and Development of GIS Web Applications, GIS Database Creation, GIS Field Survey etc.** in the Public Sector for Central or State or Multilateral Agencies or ULB, in the below categories with experience of executing at least 2 assignments in each category (i.e. total of 10)<br>     o Survey and GIS tool map layer and attribute creation,<br>     o Cloud/web hosted GIS server setting, commissioning |

and dashboard,

- o Workflow and process automation for State or Central Govt organizations.
- o Drone and/or High Resolution Satellite Images and DGPS survey based Base-map creation.
- o Linking of GIS with MIS and citizen centric e-governance modules

● Relevant Work Completion Certificates or Demonstration of Live Links or Work orders along with payment certificate issued by competent authority

International job experience certificate may be produced but preference will be given to work experience in India and job done for clients at PSU, Central & State government

Work completion certificate or any other proof in support of work done has to be produced on company letter head. Also producing of ongoing work certificate will be considered but for that, copy of proof of job contract should be submitted

- **Eligibility for Bidders for software and web portal development along with mobile App, SMS alert system and allied works:**

In case of single bidder for software and web portal development, ISO certification and OEM certificate should be produced as per E.O.I. The company may be international but should mention Indian project experience as per E.O.I. The successful agency is also expected to inform about an office setup in Kolkata within 30 days of obtaining Work order.

Preference will be given to those bidders who have handled at least one assignment from each of (i) Survey and GIS tool map layer and attribute creation, (ii) Cloud/web hosted GIS server setting, commissioning and dashboard, (iii) Workflow and process automation for State or Central Govt organizations. (iv) Drone and High Resolution Satellite Images and DGPS survey based Base-map creation (v) Linking of GIS with MIS and citizen centric e-governance modules.

The web portal development, the software integration, the mobile App development etc. will be done under the supervision of the UD&MA Deptt. directly. If not COTS, there will be no requirement to deploy anything at the ULB offices, but training for handling given to end users at the UD&MA Deptt and all ULBs etc. is required. The detail of such training will be mentioned in RFP.

- **Eligibility for Bidders for Master Plan formulation:**

Bidder should have completed at least Master Plan formulation for three separate towns in India. Preference will be given to such Bidders who have obtained contract of at least one GIS based Master Plan of one city in India. However, the requirement of different surveys required for Master Planning (need-based) and specification of those will be detailed in RFP. **Horizon Year:** The updation of Master Plan should be as per statutory provisions of West Bengal Municipal Act and other acts pertaining to Municipal Corporations and West Bengal Town and Country (Planning and Development) Act.

- **Eligibility for Drone Agency within the Consortium:**

- Drone technology being a new technology, Drone agency may not require to submit document proof of any completed projects. Document proof of ongoing projects may be taken into account.

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| **4.** | **Documents to be Submitted** *(NOTE: Please also refer the Corrigendum in Annexure in reference to earlier RFP)* | • **Average annual turnover of the bidder and each of the participant of the consortium** over any three financial years of remaining in business certified by a practicing Chartered Accountant |
| | | • **Office address of each of the bidder/participant of consortium, & Local Address in Kolkata (as required)** |
| | | • **Work Experience of last 3 years** mentioning at least **2 relevant assignments of each category of above mentioned 5 sets of works** |
| | | ●**Statement of legal capacity** (Refer "SLC" in Annexure III in the Section – B) |
| | | ●**Entity's Incorporation/Registration** Certificate along with Commencement of Business Certificate, Partnership Deed, Trust Deed and the like as the case may be. Other documents required include Service Tax Registration No./GSTN, PAN & TAN No etc. |
| | | • **Documents in support of possessing sufficient trained manpower under company payroll** comprising qualified technical personnel such as Urban Planner/Resource Planner, Senior GIS professionals, Junior GIS professionals, Socio-Economic Planner, Programmer/System Developer with sound knowledge and experience in their relative fields |
| | | ●**Statement of any Indictment:** The bidder should not be under active prosecution for criminal offence, litigation, court receivership or similar proceedings. It may please be noted that non-provision of this declaration in this E.O.I **will lead to rejection** of the same. (Refer "SOI in Annexure V in Section B) |
| | |    o  Declaration that the Bidder or any of its staff had not been at any point of time **blacklisted** by any Government or its agencies or court of law or any other organization |
| | |    o  Brief of court / legal cases pending, if any |
| | | ●Lead firm shall possess support agreement/contract with GIS software license provider, the Original Equipment Manufacturers (OEMs) of IT/GIS software, including post-sales support activities for entire project duration (Implementation and O&M phase) |
| | | • **Brief write up on understanding of the Terms of Reference (ToR) (**write-up should not exceed 500 words) |
| **5.** | **Tendering Process** | • The current tendering process will be done on **two stage system**. In the first stage, Expression of Interest (E.O.I) to be floated, based on which, State Mission Directorate, AMRUT-West Bengal will prepare a list of most eligible companies (at least 3) |
| | | • In the second stage, the shortlisted companies will be requested to submit their Request for Proposal (RFP) which will include technical and financial proposals based on which the final selection will be |

|  |  | done, and contract will be awarded. |
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| 6. | **E.O.I Validity** | Expression of Interest (E.O.I) to be floated through e-tender. E.O.I submitted shall remain **valid up to 90 days** or till the time tendering authority announces list of the shortlisted agencies. |
| 7. | **Tenure of work** | Two years (**2 yrs**) |
| 8. | **Withdrawal of Bid:** | A Bid once submitted shall not be withdrawn within the validity period. |
| 9. | **Acceptance of Bid:** | ● State Mission Director, AMRUT-West Bengal reserves the right to accept or reject any or all E.O.Is without assigning any reason thereto.<br>● State Mission Director, AMRUT-West Bengal reserves the right to withdraw / cancel the bid process at any stage, to amend / modify any of the provisions of the E.O.I document without any liability of whatsoever nature. Since this is an e-tendering process, all the required documents are to be submitted/published through online only. AMRUT Directorate shall not entertain any other mode of submission (post/courier/fax etc.) of E.O.I other than e-tender mode. |
| 10. | **Intimation:** | ● The qualified Bidders will be notified through email of the acceptance of their Bid. If at any time during the evaluation process, AMRUT Directorate requires any clarification, they reserve the right to request such information from any or all of the agencies and the agencies will be obliged to provide the same within a reasonable timeframe.<br>● AMRUT Directorate will call for a **Power Point Presentation** on the E.O.I from any or all of the Bidders who intended to submit E.O.Is. |
| 11. | **Influence:** | Any attempt to exercise undue influence in the matter of acceptance of Bid is strictly prohibited and any Bidder who resorts to this will render their Bid liable to rejection. |
| 12. | **Name and Address of the Bid Inviting Authority and nodal officer of the work** | State Mission Director, AMRUT-West Bengal<br>Address: ILGUS Bhawan Campus, HC Block, Sector III, Salt Lake City, Kolkata-700106<br>Phone: +91 33 4601 7013; email: amrut.wb@gmail.com<br>Coordinating Officer:<br>Chandrajyoti Sen Majumder, IT-Specialist, AMRUT, West Bengal<br>Mob. 9836016212 |
| 13. | **Execution of work** | Bidders are liable to execute the service as mentioned in the Description of Assignment and Scope of Work. |
| 14. | **Evaluation:** | ● **Opening of E.O.I**: - E.O.Is will be opened by AMRUT Directorate electronically from the website using Digital Signature Certificate.<br>● Cover (folder) of statutory documents shall be opened first and if found in order, cover (Folder) for non-statutory documents will be opened. If there is any deficiency in the statutory documents the tender will summarily be rejected. |

- Decrypted (transformed into readable formats) documents of the non-statutory cover will be downloaded and handed over to the E.O.I evaluating Consultancy Evaluation and Review Committee (CERC).
- Scrutiny of E.O.I, evaluation of the same and recommendation thereafter will be made in the AMRUT Directorate by CERC.
- Pursuant to scrutiny, evaluation of the same and decision of the evaluation committee, the summary list of eligible bidders will be uploaded in the web portals.
- During the process of evaluation, the CERC may summon the bidders and seek clarification / information or additional documents or original hard copy of any of the documents already submitted and if these are not produced within the stipulated time frame, their E.O.Is will be liable for rejection.
- Any document has been found to be incomplete in content or attachments or authenticity shall not be considered for the purpose of qualification.

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| 15. | **Disqualifications:** | - An E.O.I that has been found to be incomplete in content or attachments or authenticity shall not be considered for the purpose of qualification.<br>- If any information is received by AMRUT Directorate after the Bidder has been qualified to receive the Request for Proposal, which would have entitled the AMRUT Directorate to reject or disqualify the relevant Bidder, the AMRUT Directorate reserves the right to reject the Bidder at the time or at any time after such information becomes known to the AMRUT Directorate. |
| 16. | **Special Terms and Conditions:** | - This notice constitutes no form of commitment on the part of the AMRUT Directorate other than to provide further information on the specific tasks to be undertaken as part of the E.O.I. Furthermore, this notice confers neither the right nor an expectation on any party to participate in the proposed process. Mere submission of E.O.I shall not entitle the participant for being shortlisted.<br>- The Entities/Bidders may only submit one Expression of Interest. If a bidder submits or participates in more than one Expression of Interest, all such Expression of Interest shall be disqualified.<br>- The Entity/Bidder shall bear all costs associated with the preparation and submission of the E.O.I and thereafter. AMRUT Directorate shall not, under any circumstances, be responsible or liable for any such costs, whether direct, incidental or consequential.<br>- Only the courts at Kolkata (with exclusion of all other courts) shall have the jurisdiction to decide or adjudicate on any matter, which may arise out of or in connection with the bidding procedure.<br>- Intending entity/bidder may download the tender document from the website https://wbtenders.gov.in directly by the help of Digital Signature Certificate & necessary documents through e-Filling, |

(scanned copy to be submitted) (Details of which has been narrated in Section A under "Instruction to Bidders"). E.O.I will be submitted concurrently duly digitally signed in the website https://wbtenders.gov.in as per Tender Schedule.

- Prospective Entities/Bidders shall note carefully the minimum qualification criteria before bidding.

- At any stage of bid process and before and issuance of the work order, the bid inviting authority may verify the credential & other documents with the original of the lowest bidder if found necessary. After verification, if it is found that such documents submitted by the lowest bidder is false or misleading; in that case, work order will not be issued in favor of the bidder under any circumstances and if issued it will be withdrawn with necessary consequences under law.

- Where an individual person holds a digital certificate in his own name duly issued to him against the company or the firm of which he happens to be a director or partner, such individual person shall, while uploading any tender for and on behalf of such company or firm, invariably upload a copy of registered power of attorney showing clear authorization in his favor, by the rest of the directors of such company or the partners of such firm, to upload such tender. The power of attorney shall have to be registered in accordance with the provisions of the Registration Act, 1908.

- Bidder would be at liberty to point out any ambiguities, contradictions, omissions etc. seeking clarifications thereof or interpretation of any of the conditions of the Tender documents before the State Mission Director, AMRUT-West Bengal and/or appropriate authority at the UD&MA Department of the Govt. of West Bengal in writing by 26.10.18, Friday prior to the Pre-Bid Meeting to be held on 29.10.18, Monday and beyond such period no representation in that behalf will be entertained by the Bid Inviting Authority.

- The Bid Inviting Authority reserves the right to have pre-Bid conference with the intending Bidders if deemed necessary depending upon the nature of clarifications sought from Bidders within stipulated deadline.

- E.O.I. documents should only be submitted online

- Any Corrigendum if required will only be uploaded in e-tender portal

**Date and Time Schedule:**

| Sl.No. | Particulars | Date and Time |
|---|---|---|
| A. | Date of uploading of E.O.I (Online Publishing Date) | **01.10.18, Monday, 12.00 hrs** |
| B. | Documents download/start date (Online) | **01.10.18, Monday, 16.00 hrs** |
| C. | Seek Clarification Start Date and End Date | **03.10.2018 Wednesday, 10.00 hrs To 26.10.18, Friday, 15.00 hrs** |
| D. | Date and time of Pre-Bid Meeting with the intending bidders In the office of the Change Management Unit, Kolkata Urban Service for The Poor (KUSP), Sector III, Salt Lake City | **29.10.18, Monday, 12.00 hrs** |
| E. | Bid submission starting (On line) | **14.11.18, Friday 10.00 hrs** |
| F. | E.O.I Submission closing (On line) | **05.01.19, 15.00 hrs** |
| G. | Bid opening date for E.O.I | **07.01.19, 15.00 hrs** |
| H. | Date of uploading list of shortlisted agencies for RFP preparation (online) | **To be notified** |

Sd/-
State Mission Director
AMRUT, West Bengal

**Terms of Reference**

## 1. Introduction

1.1 The purpose of Atal Mission for Rejuvenation and Urban Transformation (AMRUT) is to provide basic services (e.g. water supplies, sewerage, urban transport, develop green spaces and parks) to households and build amenities in cities which will improve the quality of life for all, especially the poor and the disadvantaged. The major components of the Mission are to (i) ensure that every household has access to a tap with assured supply of water and a sewerage connection; (ii) increase the amenity value of cities by developing greenery and well-maintained open spaces (e.g. parks); and (iii) reduce pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling). Besides these, the Mission has identified eleven major reforms. Urban Planning and City Level Plans and Preparation of Master Plan in GIS environments is one of them. Master Plans provide the basis for infrastructure provision, effective land use management and utilization, spatial growth management, enable project planning, and urban management.

1.2 Planning response in India has generally not been able to keep pace with the rate of urbanization and formation of towns. As per information obtained from State Town & Country Planning Departments (STPD), only 24% of towns and cities have statutory master plans.

1.3 The number of urban settlements in India is witnessing relatively rapid growth and the percentage of India's population living in urban areas is expected to increase to nearly 40% by 2026 and cross 50% by 2051. This means that a larger number of settlements, as well as a larger percentage of population, has to be planned for urgently to ensure economic growth of the nation and well-being of the people.

1.4 In the State of West Bengal, the work initiative for Master plan formulation for 125 Urban Local Bodies including 55 AMRUT cities is to be taken up in clusters. In this regard, State Mission Directorate, AMRUT-West Bengal under UD&MA Department is the State Nodal Agency (SNA) for implementing the scheme in West Bengal and will work in coordination with the Chief Town Planner, UD&MA Dept.

1.5 The work of GIS portal development, MIS-GIS integration, Mobile Application & SMS alert service preparation and allied software development will be a separate work which will be entrusted to single bidder which may be a single agency or consortium known as the System Integrator Agency. This bidder would be required to bid for GIS & Master Plan formulation work for at least one cluster. The other two works, namely, the GIS based map preparation and geo-database creation and the Master Plan formulation will be offered in clusters. These clusters would consist of one or more towns and Development Authorities based upon geographical proximity to each other. Only one Single entity/consortium per cluster for the two works of GIS based map preparation and geo-database creation & Master Plan formulation works will be allowed. There will be a single point of progress reporting to the UD&MA Deptt. and this will the Systems Integrator Agency.

1.5.1 **Platform of GIS works:** The platform of GIS based map preparation and geo-database creation can be open source or any available standard platform. **Supply of High Definition Satellite Imagery:** The HDSI will be acquired by the UD&MA Dept. The NRSC already committed to supply geo-database created on base map prepared upon COMSAT-II satellite imagery for the 55 AMRUT cities. For the remaining non-AMRUT cities, state will supply satellite imagery as per availability to the lowest bidder for each cluster as and when required.

**Drone Imagery and its requirement:** As per the understanding, Drone survey is required for specific purposes like, pothole identification and black-spot management, unused Govt. land identification for future planning, identification of slums and such unplanned growths/settlements etc. in specific regions of the cities. The drones, as per requirements which may be mentioned in RFP at a later stage, will be used only as per DGCA standardisation. The

cost for Drone survey and integration of such maps on GIS base-maps would be indicated separately for each cluster.

1.6     Accordingly, the State Mission Directorate, Government of West Bengal proposes to undertake the exercise of GIS based Master Plan formulation for the following 125 Urban Local Bodies and 19 Urban Development Authorities.

| SN | Name of Town/Urban Local Body | Category | Population Census 2011 | Area (Sq. KM) | Status under the Project | Development Authority |
|---|---|---|---|---|---|---|
| 1 | Kolkata Municipal Corporation | MC | 44,96,694 | 202.00 | KMA, AMRUT | KMDA |
| 2 | Bidhannagar Municipal Corporation | MC | 6,18,358 | 65.76 | KMA, AMRUT | KMDA |
| 3 | South Dum Dum Municipality | A | 4,03,316 | 17.50 | KMA, AMRUT | KMDA |
| 4 | Panihati Municipality | A | 3,77,347 | 19.38 | KMA, AMRUT | KMDA |
| 5 | Kamarhati Municipality | A | 3,30,211 | 10.90 | KMA, AMRUT | KMDA |
| 6 | North Dum Dum  Municipality | A | 2,49,142 | 26.45 | KMA, AMRUT | KMDA |
| 7 | Baranagar Municipality | A | 2,45,213 | 7.12 | KMA, AMRUT | KMDA |
| 8 | Dum Dum Municipality | C | 1,14,786 | 9.73 | KMA, AMRUT | KMDA |
| 9 | Barasat Municipality | A | 2,78,435 | 34.50 | KMA, AMRUT | KMDA |
| 10 | Madhyamgram Municipality | B | 1,96,127 | 21.56 | KMA, AMRUT | KMDA |
| 11 | Habra Municipality | C | 1,47,221 | 21.81 | KMA, AMRUT | KMDA |
| 12 | North Barrackpore Municipality | C | 1,32,806 | 13.60 | KMA, AMRUT | KMDA |
| 13 | Basirhat Municipality | C | 1,25,254 | 22.50 | KMA, AMRUT | KMDA |
| 14 | Ashokenagar-Kalyangarh Municipality | C | 1,21,592 | 20.50 | KMA, AMRUT | KMDA |
| 15 | Bongaon  Municipality | C | 1,08,864 | 14.27 | KMA, AMRUT | KMDA |
| 16 | New Barrackpore Municipality | D | 76,846 | 6.89 | KMA, AMRUT | KMDA |
| 17 | Baduria Municipality | D | 52,493 | 22.00 | Non-KMA, Non-AMRUT | |
| 18 | Gobardanga Municipality | D | 45,377 | 13.50 | Non-KMA, Non-AMRUT | |
| 19 | Taki Municipality | D | 38,263 | 13.00 | Non-KMA, Non-AMRUT | |
| 20 | Bhatpara Municipality | A | 3,83,762 | 33.96 | KMA, AMRUT | KMDA |
| 21 | Naihati Municipality | A | 2,17,900 | 11.55 | KMA, AMRUT | KMDA |
| 22 | Barrackpore Municipality | C | 1,52,783 | 10.61 | KMA, AMRUT | KMDA |
| 23 | Halisahar Municipality | C | 1,24,939 | 8.96 | KMA, AMRUT | KMDA |
| 24 | Kanchrapara Municipality | C | 1,20,345 | 9.07 | KMA, AMRUT | KMDA |
| 25 | Titagarh Municipality | C | 1,16,541 | 3.40 | KMA, AMRUT | KMDA |
| 26 | Khardah Municipality | C | 1,08,496 | 6.87 | KMA, AMRUT | KMDA |
| 27 | Garulia Municipality | C | 85,336 | 5.38 | KMA, non-AMRUT | KMDA |
| 28 | Howrah Municipal Corporation | MC | 10,77,075 | 64.55 | KMA, AMRUT | KMDA |
| 29 | Maheshtala Municipality | A | 4,48,317 | 44.18 | KMA, AMRUT | KMDA |
| 30 | Rajpur-Sonarpur Municipality | A | 4,24,368 | 49.90 | KMA, AMRUT | KMDA |
| 31 | Uluberia Municipality | A | 2,22,240 | 34.10 | KMA, AMRUT | KMDA |
| 32 | Budge Budge Municipality | D | 76,837 | 9.06 | KMA, non-AMRUT | KMDA |
| 33 | Baruipur Municipality | D | 53,128 | 9.50 | KMA, non-AMRUT | KMDA |
| 34 | Diamond-Harbour Municipality | D | 41,802 | 10.36 | Non-KMA, Non-AMRUT | |
| 35 | Pujali Municipality | D | 37,047 | 8.32 | KMA, non-AMRUT | KMDA |
| 36 | Joynagar-Mazilpur Municipality | E | 25,922 | 6.00 | Non-KMA, Non-AMRUT | |
| 37 | Kharagpur Municipality | B | 2,07,604 | 321.00 | Non-KMA, AMRUT | MKDA |
| 38 | Haldia Municipality | B | 2,00,827 | 109.65 | Non-KMA, AMRUT | HDA |
| 39 | Midnapore Municipality | C | 1,69,264 | 18.36 | Non-KMA, AMRUT | MKDA |
| 40 | Contai Municipality | C | 92,226 | 17.25 | Non-KMA, Non-AMRUT | DSDA |
| 41 | Tamluk Municipality | D | 65,306 | 17.86 | Non-KMA, Non-AMRUT | |
| 42 | Jhargram Municipality | D | 61,712 | 21.40 | Non-KMA, Non-AMRUT | |
| 43 | Panskura Municipality | D | 57,932 | 17.04 | Non-KMA, Non-AMRUT | |
| 44 | Ghatal Municipality | D | 54,591 | 7.76 | Non-KMA, Non-AMRUT | |

| SN | Name of Town/Urban Local Body | Category | Population Census 2011 | Area (Sq. KM) | Status under the Project | Development Authority |
|----|-------------------------------|----------|------------------------|---------------|--------------------------|-----------------------|
| 45 | Egra Municipality | E | 30,148 | 17.00 | Non-KMA, Non-AMRUT | |
| 46 | Chandrakona  Municipality | E | 23,629 | 16.58 | Non-KMA, Non-AMRUT | |
| 47 | Ramjibanpur Municipality | E | 19,611 | 15.83 | Non-KMA, Non-AMRUT | |
| 48 | Khirpai Municipality | E | 16,384 | 11.65 | Non-KMA, Non-AMRUT | |
| 49 | Kharar Municipality | E | 12,118 | 10.00 | Non-KMA, Non-AMRUT | |
| 50 | Siliguri Municipal Corporation | MC | 5,13,264 | 41.90 | Non-KMA, AMRUT | SJDA |
| 51 | Darjeeling Municipality | A | 1,18,805 | 7.43 | Non-KMA, AMRUT | |
| 52 | Jalpaiguri Municipality | C | 1,07,341 | 12.98 | Non-KMA, AMRUT | SJDA |
| 53 | Cooch Behar Municipality | D | 77,935 | 8.29 | Non-KMA, Non-AMRUT | CDA |
| 54 | Alipurduar Municipality | D | 65,232 | 9.75 | Non-KMA, Non-AMRUT | |
| 55 | Kalimpong Municipality | C | 49,403 | 9.17 | Non-KMA, Non-AMRUT | |
| 56 | Dhupguri Municipality | D | 44,719 | 14.90 | Non-KMA, Non-AMRUT | |
| 57 | Kurseong Municipality | D | 42,446 | 5.05 | Non-KMA, Non-AMRUT | |
| 58 | Dinhata Municipality | D | 36,124 | 4.55 | Non-KMA, Non-AMRUT | |
| 59 | Mal Municipality | E | 25,218 | 8.00 | Non-KMA, Non-AMRUT | |
| 60 | Mathabhanga Municipality | E | 23,890 | 4.00 | Non-KMA, Non-AMRUT | |
| 61 | Tufanganj Municipality | E | 20,998 | 2.49 | Non-KMA, Non-AMRUT | |
| 62 | Haldibari Municipality | E | 14,404 | 11.00 | Non-KMA, Non-AMRUT | |
| 63 | Mirik Notified Area Authority | E | 11,513 | 6.50 | Non-KMA, Non-AMRUT | |
| 64 | Mekliganj Municipality | E | 9,127 | 3.88 | Non-KMA, Non-AMRUT | CDA |
| 65 | Raiganj Municipality | B | 1,83,612 | 10.76 | Non-KMA, AMRUT | |
| 66 | English Bazar Municipality | B | 2,05,521 | 13.25 | Non-KMA, AMRUT | |
| 67 | Balurghat Municipality | C | 1,51,299 | 10.56 | Non-KMA, Non-AMRUT | |
| 68 | Old Malda Municipality | D | 84,012 | 3.24 | Non-KMA, Non-AMRUT | |
| 69 | Gangarampore Municipality | D | 56,217 | 10.29 | Non-KMA, Non-AMRUT | |
| 70 | Islampore Municipality | D | 54,340 | 11.40 | Non-KMA, Non-AMRUT | |
| 71 | Kaliaganj Municipality | D | 53,530 | 11.67 | Non-KMA, Non-AMRUT | |
| 72 | Buniyadpur | D | 46,236 | | Non-KMA, Non-AMRUT | |
| 73 | Dalkhola Municipality | D | 36,930 | 15.95 | Non-KMA, Non-AMRUT | |
| 74 | Berhampore Municipality | B | 1,95,223 | 31.42 | Non-KMA, AMRUT | |
| 75 | Domkal | C | 96,949 | | Non-KMA, Non-AMRUT | |
| 76 | Dhulian Municipality | C | 95,706 | 6.25 | Non-KMA, Non-AMRUT | |
| 77 | Jangipore Municipality | C | 88,165 | 8.20 | Non-KMA, AMRUT | |
| 78 | Bolpur Municipality | D | 80,210 | 13.13 | Non-KMA, Non-AMRUT | SSDA |
| 79 | Suri Municipality | D | 67,864 | 9.47 | Non-KMA, Non-AMRUT | PDA |
| 80 | Rampurhat Municipality | D | 57,833 | 16.32 | Non-KMA, Non-AMRUT | TRDA |
| 81 | Kandi Municipality | D | 55,632 | 12.97 | Non-KMA, Non-AMRUT | |
| 82 | Jiaganj Azimganj Municipality | D | 51,790 | 11.66 | Non-KMA, Non-AMRUT | |
| 83 | Sainthia Municipality | D | 44,601 | 16.00 | Non-KMA, Non-AMRUT | |
| 84 | Murshidabad Municipality | D | 44,019 | 17.25 | Non-KMA, Non-AMRUT | |
| 85 | Nalhati Municipality | D | 41,534 | 7.85 | Non-KMA, Non-AMRUT | |
| 86 | Dubrajpur Municipality | D | 38,041 | 16.83 | Non-KMA, Non-AMRUT | BKDA |
| 87 | Beldanga Municipality | E | 29,205 | 3.29 | Non-KMA, Non-AMRUT | |
| 88 | Asansol Municipal Corporation | MC | 11,52,443 | 326.48 | Non-KMA, AMRUT | ADDA |
| 89 | Durgapur Municipal Corporation | MC | 5,66,517 | 154.20 | Non-KMA, AMRUT | ADDA |
| 90 | Burdwan Municipality | A | 3,14,265 | 26.30 | Non-KMA, AMRUT | BDA |
| 91 | Bankura Municipality | C | 1,37,386 | 19.06 | Non-KMA, AMRUT | |
| 92 | Purulia Municipality | C | 1,21,067 | 14.00 | Non-KMA, AMRUT | |
| 93 | Katwa Municipality | D | 81,615 | 8.53 | Non-KMA, Non-AMRUT | |

| SN | Name of Town/Urban Local Body | Category | Population Census 2011 | Area (Sq. KM) | Status under the Project | Development Authority |
|---|---|---|---|---|---|---|
| 94 | Bishnupur Municipality | D | 67,783 | 22.01 | Non-KMA, Non-AMRUT | |
| 95 | Kalna Municipality | D | 56,722 | 6.90 | Non-KMA, Non-AMRUT | |
| 96 | Memari Municipality | D | 41,451 | 9.00 | Non-KMA, Non-AMRUT | |
| 97 | Gushkara Municipality | D | 35,388 | 17.00 | Non-KMA, Non-AMRUT | |
| 98 | Sonamukhi Municipality | E | 29,085 | 11.65 | Non-KMA, Non-AMRUT | |
| 99 | Raghunathpur Municipality | E | 25,561 | 13.00 | Non-KMA, Non-AMRUT | |
| 100 | Dainhat Municipality | E | 24,397 | 10.36 | Non-KMA, Non-AMRUT | |
| 101 | Jhalda Municipality | E | 19,544 | 4.00 | Non-KMA, Non-AMRUT | |
| 102 | Krishnagar Municipality | C | 1,53,062 | 15.96 | Non-KMA, AMRUT | |
| 103 | Santipur Municipality | C | 1,51,777 | 25.88 | Non-KMA, AMRUT | |
| 104 | Nabadwip Municipality | C | 1,25,543 | 11.66 | Non-KMA, AMRUT | |
| 105 | Kalyani Municipality | C | 1,00,575 | 30.19 | KMA, AMRUT | KMDA |
| 106 | Chakdah Municipality | C | 95,203 | 15.36 | Non-KMA, Non-AMRUT | |
| 107 | Ranaghat Municipality | D | 75,365 | 7.72 | Non-KMA, Non-AMRUT | |
| 108 | Gayeshpur Municipality | D | 58,998 | 22.63 | Non-KMA, Non-AMRUT | |
| 109 | Haringhata | E | 32,315 | 36.00 | Non-KMA, Non-AMRUT | |
| 110 | Birnagar Municipality | E | 30,799 | 6.00 | Non-KMA, Non-AMRUT | |
| 111 | Taherpur Notified Area | D | 20,894 | 2.01 | Non-KMA, Non-AMRUT | |
| 112 | Coopers' Camp Notified Area | E | 18,843 | 1.50 | Non-KMA, Non-AMRUT | |
| 113 | Serampore Municipality | B | 1,81,842 | 17.60 | KMA, AMRUT | KMDA |
| 114 | Hooghly Chinsurah Municipality | B | 1,77,259 | 17.29 | KMA, AMRUT | KMDA |
| 115 | Chandannagar Municipal Corporation | MC | 1,66,867 | 22.03 | KMA, AMRUT | KMDA |
| 116 | Uttarpara-Kotrung Municipality | C | 1,59,147 | 11.71 | KMA, AMRUT | KMDA |
| 117 | Rishra Municipality | C | 1,24,577 | 6.48 | KMA, AMRUT | KMDA |
| 118 | Baidyabati Municipality | C | 1,21,110 | 12.09 | KMA, AMRUT | KMDA |
| 119 | Champdany Municipality | C | 1,11,251 | 6.59 | KMA, AMRUT | KMDA |
| 120 | Bansberia Municipality | C | 1,03,920 | 9.07 | KMA, AMRUT | KMDA |
| 121 | Bhadreswar Municipality | C | 1,01,477 | 8.28 | KMA, AMRUT | KMDA |
| 122 | Dankuni Municipality | C | 94,936 | 19.50 | Non-KMA, Non-AMRUT | |
| 123 | Konnagar Municipality | D | 76,172 | 4.67 | Non-KMA, Non-AMRUT | |
| 124 | Arambagh Municipality | D | 66,175 | 34.75 | Non-KMA, Non-AMRUT | |
| 125 | Tarakeswar Municipality | E | 30,947 | 3.88 | Non-KMA, Non-AMRUT | TDA |

| | | | |
|---|---|---|---|
| 1 | Kolkata Metropolitan Devlopment Authority | 11 | GangasagarBakkhali Development Authority |
| 2 | Asansol Durgapur Development Authority | 12 | TarapithRampurhat Development Authority |
| 3 | Burdwan Development Authority | 13 | FurfuraSarif Development Authority |
| 4 | DighaShankarpur Development Authority | 14 | Bakreswar Development Authority |
| 5 | Haldia Development Authority | 15 | Patharchapuri Development Authority |
| 6 | Jaigaon Development Authority | 16 | Mukutmonipur Development Authority |
| 7 | Midnapore Kharagpur Development Authority | 17 | Tarakeswar Development Authority |
| 8 | Siliguri Jalpaiguri Development Authority | 18 | Changrabandha Development Authority |
| 9 | SriniketanShantiniketan Development Authority | 19 | Gajoldoba Development Authority |
| 10 | Newtown Kolkata Development Authority | | |

**1.6.1 The Mouza maps and area information in concern of the above all may be acquired commercially from Department of L&LR and RR (http://banglarbhumi.gov.in), and also Central Govt. offices of Additional Surveyor General (Eastern Zone) and Directorate of Census Operation-West Bengal**

**1.7 Description of the Assignment for the Software Implementing Agency (SIA) who will remain the Single point of contact with the state for the whole work**

The Government of West Bengal intends to set-up a state-of-the-Art GIS infrastructure to create Web GIS based Portal to support the creation of Master Plan according to the standard mentioned in AMRUT Sub-scheme Guideline (document available at https://amrut.gov.in/writereaddata/AMRUT-SubScheme_Guideline.pdf) as well as develop a workflow for interaction between different stakeholders- Town Planners, Consultants, Chief Town Planners and public. It also intends to create a Common Rule Based Master plan data model for the state, defining all the attributes of the Master plan.

The Portal and all relevant desktop applications/tools need to be physically visited and deployed in the UD&MA Department, at the office of the Bid Inviting Authority, and that of the Chief Town Planner and other relevant offices under the Department. The High Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferably required to create high-resolution drone data which will be uploaded on the portal. Also there should be tools to upload updated image and also compare the new image with the old ones. Also there should be provision so that the Web GIS can also use Google and/or Bing map platforms which will be helpful in case satellite images are not available or available in portions.

The successful Bidder/Consultant/Consortium partner with authentication must physically visit and deploy and demonstrate workings and using of the portal/tools/app and other software in computers/mobiles all through the support period as per agreement entered with the Bid Inviting Authority.

The major components of the assignment as per direction of the Bid Inviting Authority and other competent authorities of the UD&MA Department of Govt. of West Bengal are:

1.7.1 Formulation (i.e. creation and updation) of GIS based Master Plan of 125 Urban Local Bodies and 19 Development Authorities for the State of West Bengal;

The Portal shall have the following functionalities in GIS for the Master Plan Creation:

i) The GIS/MIS Dash Board for the Chief Town Planner, GIS experts, Urban Planners, Engineers and IT experts to have an overview of all the towns in the city in terms of following. The Dashboard shall facilitate the Planners/Engineers/IT experts to allocate the towns to relevant planning personnel/executives for Master Plan creation.
   a) AMRUT town or not
   b) Master Plan existing or not
   c) The Landuse
   d) The population
   e) The projected population
   f) The Town location- Hill, Plains, Plateaus
   g) The type of town: educational, industrial, tourist, heritage etc.

ii. The GIS/MIS Dash Board for town planners/urban planners/engineers to see the status of their allocated towns in terms of above mentioned criteria.

iii. The Web Based Application shall have the catalogued AMRUT data model, which shall follow the cartographic rules mentioned as per AMRUT Guidelines and the specification of the layers as per the said Guidelines.

iv. Along with the layers specified in the AMRUT Guidelines the Rule based data model shall also have other GIS layers as part of data model like Demographic data, Population projection, Urban Sprawl, DEM, the natural topographic, drainage, Hypsographic, Lithological and Geological spatial data.

v. There are some forms need to be filled along with the Master Plan mentioned in the AMRUT Guidelines. These data shall be available on the portal in form of MIS data.

vi. There shall be Web Based Tools for updation of the Masterplan data at different levels from Super Admin to Admin to Nodal Agencies to Executing Authorities to Urban Local Bodies. The upgradation will be done as per their jurisdiction/role mapped.

vii. The UD & MA Mobile Apps to be created under this project should support field surveys of the Masterplan and Citizens feedback in the Masterplans.

viii. The Web based Application shall have tools for selection of best suitable land for different types of uses in Masterplan like residential, industrial, commercial etc. based on the Geographical layers.

ix. The Portal shall have a Workflow designed for Interaction between different stakeholders of the Master Plan preparation process including the Public, when the master plan is notified.

x. GIS Software must allow authority to implement a centrally managed GIS providing the advantage of lower cost of ownership through single, centrally managed, focused GIS (such as web-based) applications that can be scalable to support multiple users and saves the cost of installing and administering desktop applications on each user's machine

xi. The portal shall have provision to integrate the GIS master plan with the MIS and different citizen centric e-governance modules.

1.7.2 Design, Development and Commissioning of Web GIS Portal at the UD & MA Department for Zonal Plan Creation and Sector plan creation in a rule based 3D environment with advance functions such as network analysis, terrain analysis, 3D analysis, change analysis, etc. The Web GIS should be based upon standard development environment (could be either open source or based upon other standard commercially available off-the-shelf development environment), and consultant should make sure that necessary servers is accounted for the scalability of the solution as per the functionality in scope of work of 125 ULBs and 18 Development Authorities with provisions to integrate with any existing municipal portal and/or ULB-related ERP-based e-governance system as per requirement.

**Updation of Master Plan:**

**1.7.2.1** Updation of existing land use plan and notified Master Plan of city which includes demand assessment of infrastructure, employment, Residential development, commercial activities, industries etc., identification of issues, projected requirements, development strategy and draft proposals on the

GIS base map and sector-wise data analysis, to be done by the Consultant. The deliverables in the form of, Base maps, shape files, collected data from different sources, thematic maps specified, data analysis reports, draft plan document, etc. wherever required URDPFI Guidelines, 2014 may also be referred. In this regard, also, the Design and Standards document as prepared by TCPO, Govt. of India is required to be followed strictly. It is easily available in the URL https://amrut.gov.in/writereaddata/designandStandards_AMRUT.pdf

**1.7.2.2 Updating the Spatial Attributes Collection & Vetting of Base Map:** The State Mission Directorate will make available the draft base map of the city obtained from NRSC to the Consultant and the consultant should capture the high resolution imagery for value addition by collecting spatial attributes as per Design & Standards. The draft base maps are to be sent back to NRSC to incorporate the attributes collected by the consultants on GIS database and generate draft final base maps. NRSC, after incorporating spatial attributes, will send the final maps generated to the competent authority/ ULB/ STPD for vetting, after which the final base maps will be generated which will be used as an input for the master plan Updation. The satellite data prepared by NRSC is likely to start coming to the State Mission Directorate by the end of October, 2018 - December, 2018.

**1.7.2.3 Urban Database Creation**: Sector-wise data collection and data analysis report of 25 socio-economic and physical and others aspects are to be done by the Consultant. An indicative format is provided in the Design & Standards (copy annexed herewith). In addition, primary surveys such as land-use survey, traffic & transport survey, household surveys, etc. are required to be undertaken as required under the relevant acts.

1.7.3    Develop Tools for Creation of the Master Plan Data and Tools for Zonal Land Use and Sectoral Land Use; The consultant need to use the GIS software for Master plan Creation with edit Capabilities. Ownership (Lifetime Licenses) of these software needs to be transferred to the Department of Urban Development and Municipal Affairs, Government of West Bengal, after the completion of the Masterplan creation.

1.7.4    The GIS software must operate on Windows or equivalent platform, with industry standard RDBMS (viz. ODBC or equivalent) compliance, user-friendly GUI, preferably configurable with online help tool,

1.7.4    Bidirectional communication channels like Mobile APP (WBUDMA), WhatsApp or equivalent, Emails, SMS and Web forms to be provided for interactions with Citizens.

1.7.5    The System should able to integrate all the existing legacy databases,data centers and systems  being used by the department like property tax, Trade licenses, Birth and Death registrations of local Municipality and Others

1.7.6    The system should provide unified GIS & MIS Dashboard with Actionable Insights using Machine learning Algorithms and Analytics for all the ULBs, and for functionalities like Building Deviation, Green Cover, Road Bad Patches, Garbage littering etc

1.7.7    To design, and automate the workflows for various UD & MA departmental processes that will be used to enhance the services delivered to citizen

1.7.8    A Common mobile application will act as a one-stop solution to all the needs of a common citizen and the Department of UD&MA. The application will be used by

citizen for logging Grievances, Seeking access to services, Tracking the Grievances raised, and reporting feedbacks. Officials can use the applications for field Survey and tracking and monitoring Grievance redressal

1.7.9 Develop Alert/Notification (Proactive, Reactive and Informative) service which shall be used by officers to disseminate information to the citizen through SMS, Emails and WhatsApp (or equivalent)

## 1.8 Description of Assignment for Non-SIA GIS-based Master Plannin Agencies

**1.8.1 Ground truthing/vetting, by ULB, of Geo-database created by NRSC:** The Geo-database creation will be done by NRSC as per request sent vide our Memo No. 11/MA/AMRUT/R-14/2016 dated 08.01.18 where State Mission Director, AMRUT requested 0.5m stereo-pair COMSAT/ SuperView satellite imagery geo-database to be created as per benchmarks and scopes mentioned in the AMRUT GIS Design and Standards document.

*NRSC will be generating geo-database on the satellite imagery by generating DEM from stereo data, generating GCP from DGPS survey and cadastral layers by using ULB-level information. The NRSC supplied geo-database will contain administrative boundaries, planning boundaries, municipal boundaries and some other boundary information like Enumeration Block boundaries etc. and also demarcation of Hazard prone areas as per information available with NRSC. There will also be standard layers (including Roads, Rail, Bridges & Flyovers, Water bodies & Wetlands etc. and building footprints of Residential & Commercial & Industrial areas, Educational Institutes, Health services facilities, Central & Railways & State Govt. properties, Public & Semi-public facilities like Banks & ATMs, Offices, P.S., P.O, Jail, Libraries, Fire stations etc., Religious buildings, Recreational facilities like parks, gardens, gyms, stadiums, open-air mancha etc., Public utilities like WTP, STP, OHR, GLR, pumping stations, electric sub-station etc., SWM facilities, Radio/TV/Satellite/Mobile towers, Heritage spots, Slums, Waste lands, Vacant lands, Bus/Train/Tram/Taxi/Auto/Rickshaw stands & Jetty/Harbour etc., Traffic islands & medians, Village areas adjacent, Trees & Tree clad areas & Reserve/notified forests/green belts, Agricultural lands, Pastures & Grazing lands & Tea/Coffee plantation etc., Bird sanctuaries & Zoo, other areas like slaughter house, poultry, dairy, quarry, brick kiln, dams etc. Also all utility layers like Water Supply Network, Drainage Network, Sewage Network, Electricity Supply Network, Natural Gas Distribution Network database will be prepared from the data collected by ULBs) all based upon AMRUT Mission guideline.*

Quality Assurance and Quality Check (QA/QC) of the above shall be carried out at the ULB levels by the ULBs engineers, surveyors before final geo-referencing/ortho-rectification by NRSC. The in-progress, as well as external QA/QC team for the work therefore may also require domain experts from other parastatal agencies or private organizations which may be hired as and when required.

**1.8.2 Formulation of Master Plan:** Formulation of Master Plan of city as per --- Act which includes demand assessment, identification of issues, projected requirements, development strategy and draft proposals on the GIS base map and sector-wise data analysis, to be done by the Consultant. The deliverables in the form of base map, thematic maps specified, data analysis reports, draft plan document, etc. Urban and Regional Development Plans. Formulation and Implementation Guidelines (URDPFI) Guidelines, 2014 may also be referred.

**1.8.3 Spatial Attribute Collection & Vetting of Base Maps**: The State Mission Directorate will make available the draft base map of the city obtained from NRSC to the Consultant for value addition by collecting spatial attributes as per Design & Standards. The draft base maps are to be sent back to NRSC to incorporate the attributes collected by the consultants on GIS database

and generate draft final base maps. NRSC, after incorporating spatial attributes, will send the final maps generated to the competent authority/ ULB/ STPD for vetting, after which the final base maps will be generated which will be used as an input for plan formulation.

**1.8.4    Urban Database Creation**: Sector-wise data collection and data analysis report of 25 socio-economic and physical aspects is to be done by the Consultant. An indicative format is provided in the Design & Standards (copy annexed herewith). In addition, primary surveys such as landuse survey, traffic & transport survey, household surveys, etc. are required to be undertaken as required under the relevant acts.

**1.8.5    Formulation of Master Plan**

The horizon year for the draft master plan will be 2018-19.

The draft proposals will be in accordance with existing regional plans, district plans and will incorporate proposals of other departments such as Amritsar-Delhi-Kolkata-Industrial Corridor & East-West-Dedicated-Freight Corridor, East-Coast-Economic Corridor, Bengal Highway Corridor, Bangladesh-China-India-Myanmar Corridor, Kaladan Multi-modal Corridor, BIMSTEC Road Corridor, SAARC Highway & Railway Corridors, different SEZ under WBIDC & WBIIDC, "State Manufacturing Zones" in line with National Industrial and Manufacturing Zone (NIMZ) etc.

The draft master plan will specify the aims and objectives for the development of the city/ town. Contents of the draft master/ development plan document will be as per URDPFI Guidelines and statutory provisions of other Planing Act

**2.     Scope of Work**

The following are the main components under the scope. The scope of work is outlined below and is applicable for all the 125 ULBs and 18 Development Authorities.

2.1    **GIS based Map creation and commissioning into the GIS platform for all the 125 ULBs and 19 Development Authorities** should be done by the consultants. Consultant will validate the geo-referencing and ortho-rectification of these base maps.

   a. **Spatial attribute collection and vetting of Base Map** Base Maps for AMRUT cities will be provided by NRSC, and client will procure the base map for rest of the ULBs and Development Authorities from NRSC, or from other sources. The NRSC will provide a draft base map at 1:4000 scale using high resolution satellite data. To provide authenticity to the information provided by NRSC, value-addition of spatial features will be done through collection of attributes and the same will be vetted by ULBs/ STPD for further usage. The layer-wise spatial attributes as per the Performa given in Design & Standards will be collected from the field by the Consultant/ officials of concerned department and provided to NRSC for incorporation so that the draft final base map can be generated which can be used as input to the plan formulation. The prospective/vendors will be bound to collect and document the existing GIS data available with ULBs and other departments. So as there is no duplicity of work.

   b. High resolution drone data needs to be created by Consultant. The drone should be able to capture Z coordinate along with RGB, and have a minimum pixel resolution of 4 cm. Consultant should create ground DGPS points for geo-referencing, the density of DGPS points should be enough to maintain the geometrical and spatial correctness of the base map.

2.2    **Urban Database Creation:** Urban and socio-economic data is to be used to study the existing situation, identification of issues and formulation of proposals and projections.

While most of the data to be collected is secondary, some crucial data may be required to be collected from primary surveys. An indicative format for data collection is provided in the Design & Standards, which is to be modified as per the requirement of the West Bengal Town Planning and Development Act. Data analysis will be presented sector-wise, in the form of chapters in the draft Master Plan document. The final chapter structure of the Master Plan will be as per the requirement of the West Bengal Town Planning and Development Act. Creation of Map Layers and Digitization of Map Asset Attributes and details

a. Creation of Map layers like roads, drains, railways, parks etc as outlined in the master plan report from base map using desktop GIS tools
b. Databases to be created and surveys to be conducted – including land-use survey, socio-economic, traffic and transport and other surveys will be as per the requirement of the West Bengal Town Planning and Development Act.
c. Field Survey based collection of attribute data, parcel information and other map asset information. Collecting Property related information along with Geo-coordinates that will enable the computation of the property tax.
d. Creation of Master plan and updating it with horizon year 2033 details

**Updation of Master Plan FOR THE HORIZON YEAR 2033**
The master plan proposals will be in accordance with Existing, Regional plans and District plans, if any and will incorporate proposals of other departments of the state. The draft master plan will specify the aims and objectives for the development of the city. Contents of the draft master plan document will be as per and statutory provisions of the West Bengal Town Planning and Development Act. Zoning regulations, building rules and urban development policies of West Bengal government and wherever required the URDPFI Guidelines may be adopted.

Updating of urban master plan is a continuous process. The utilization of GIS based urban planning and subsequent services also need development, setting up and continuous service providing facilities to be carried out by a set of trained personnel. There is requirement of trained manpower that will run the GIS lab henceforth. Accordingly Technical/non-Technical personnel (such as, Urban Planner/Resource Planner, Socio-Economic Planner, IT Expert, Senior GIS Professional, Junior GIS Professional, Field surveyor etc.) will be required to be placed in the field-office,

The master plan report will include, but not be limited to, the following aspects:

i) Location, physiography, linkages, climate, regional setting
ii) Historical background
iii) Brief description of city, review of existing Master/ Development Plan, issues related to implementation of existing master plan as per URDPFI guidelines 2014
iv) Spatial growth of the town & direction, incorporation of new areas
v) Demographic data including population (urban/ rural, ward-wise, male &female), literacy rate, growth of population, workers and non-workers, occupational structure, etc shall be collected – as per current & past Census data.
vi) Road Network-existing and potential
vii) Rail network-existing and potential
viii) Other form of urban transport existing and potential
ix) Bridges and flyover existing and potentials

x)      Urban landuse and land cover details existing and potential

xi)     Building footprints and its use

xii)    Existing slums and facilities in it

xiii)   Trees and other green plantations

xiv)    Other landuse points like ATM, Meteorological stations, Dairy booths etc.)

xv)     Employment generating activities – existing and potential

xvi)    Industries–existing and potential, their nature, employment etc.

xvii)   Commercial activities including retail and wholesale business, warehousing and godowns, mandis, haat, rural markets, shopping malls, fee car parking etc.

xviii)  Government and semi government offices and government reserved areas.

xix)    Educational facilities (Govt. /Private) including universities, colleges(engineering, medical, arts, science, commerce, law, etc.), schools (higher secondary, secondary, middle, primary, nursery, etc.) vocational training centres, etc.

xx)     Medical facilities (Govt. /Private) including hospitals and nursing homes, diagnostic & pathology labs, dispensaries, primary health centres, veterinary, ayurvedic, homeopathic, etc.

xxi)    Social, cultural, sporting and other religious activity centres such as, hotels, resorts & restaurants, guest house, single screen cinema halls and multiplex, Theatres, crèche, old-age homes, gym, therapy clinic, golf course, race course, tennis club, boating clubs, spa and massage centres, video game centres, public libraries, ceremony houses, local temples, mosques, gurudwara, church, free medical check-up centres etc.

xxii)   Community facilities including toilet, cremation and burial grounds

xxiii)  Physical infrastructure – electricity, water supply, sewerage, solid waste management, telephone (including Cell towers, Wi-Fi Hotspots and public telephone booths), Gas distribution network etc.

xxiv)   Recreational facilities including parks, open spaces, mela grounds and playgrounds, stadiums, semi-public recreation, etc.

xxv)    Agricultural use including dairies, orchards, nurseries, reserved forests, etc.

xxvi)   Circulation network facilities including airport/railway stations and yards, road transport terminals, stands for buses and trucks, parking, etc.

xxvii)  Cadastral Layers

xxviii) Proposals/ commitments by Central/ State Government, concerned Local Body, development authority, etc.)

xxix)   All vacant lands under government ownership (non-built)

xxx)    All forest lands clearly depicting forest and any other Land Preservation Act

xxxi)   Places of tourist and heritage importance both natural and manmade including natural areas, fairs and festivals, etc.

xxxii)  Legislative and Institutional Framework, institutional structure – municipal bodies, development authority, urban improvement trust, etc.

xxxiii) Planning boundaries

xxxiv)  Municipal Boundaries

xxxv)   Other Boundaries like EB, UFS, Mining areas

xxxvi)  Action Plan, identification of projects and phasing, resource mobilization

All these layers shall be created in the format given in AMRUT Design and standards. The GIS software used for this purpose shall have capability of creating standard data model and shall have registration facilities especially for Cadastral Maps. The Desktop applications shall have full-fledged Editing capabilities as available in GIS Desktop. This is essential for the continuous use of the Masterplan by different departments and bodies under Urban Development& Municipal Affairs.

2.3    Collating and Preprocessing of data. Consultant should collate data collected under various ULBs and Development authorities and digitize them as necessary defined in the master plan details. Standardization of data into readable formats and structures is also necessary before uploading them into spatial and non-spatial database.

2.4    Setting up and commissioning of Geoportal and Geo Database with necessary hierarchy-based logins. Geoportal should be made available for all the 125 ULBs and 18 Development Authorities. The architecture needs to be designed to meet the performance with spatial, on spatial and various functional workflows of fully functional 125 ULBs and 18 development Authorities. If any license structure exists then it should be provided considering lifetime use, with unlimited number of users and unlimited number of layers, objects and interfaces by any ULBs, development Authorities or user within WB UD & MA

    I.    User friendly and scalable.
    II.    Intuitive to use.
    III.    Platform independent and responsive (should load on all device sizes laptops, Desktops, TV Screens, Mobile, Tablet etc)
    IV.    Ability to add any number of data layers
    V.    Ability to view any combination of the data layers present in the system.
    VI.    Data discovery
        a.    Simple and effective Data search
        b.    Federated Searching
    VII.    Ability to share data entered in the geoportal by way to web-services in real time.
    VIII.    Ability to seamlessly bring various spatial, non-spatial and big data into one platform and host various possible use cases
    IX.    Should deploy open sources and Big Data compliant databases to efficiently manage the large and continuously growing data.

2.5    Integration with existing system and legacy databases is required towards the vision of having one common online platform for all UD & MA applications and services. As a part of the scope the consultant will be required to integrate below types of existing e-governance systems Module and legacy databases.

    I.    Integration with existing Property Tax & Assessment system
    II.    Birth, Death, Cremation Registration
    III.    Trade License Enlistment Accounting
    IV.    Building Plan Administration& Building Permission system
    V.    Water Works Management System
    VI.    Payroll
    VII.    Financial Accounting System Module
    VIII.    Public Grievance & Redressal System
    IX.    Infrastructure Management System
    X.    ULB Information System
    XI.    Ward Wise Management System
    XII.    Health System
    XIII.    School Information System

XIV.   Admin Module

XV.   Other ULBs or Municipalities system

XVI.   Other Input channels

XVII.   Existing UDMA App

2.6   Unified GIS and MIS Dashboard with Actionable Insights using Analytics and Machine Learning Algorithms will be made available for all the ULBs, however as not all ULBs will have data initially, so necessary provisions and facilities needs to be given to link and commission the dashboards for these ULBs or Development Authorities as and when the data is available for them. Some of the Dashboards Modules will be as below

2.6.1.1   Property Tax & Water Charges

2.6.1.2   Show the total amount collected across the State

2.6.1.3   The target covered & the deviation from last year

2.6.1.4   ULB wise, % of Tax collected/coverage

2.6.1.5   Monthly Trend of cumulative Property/Water Taxes Collections

2.6.1.6   Query functionality (District, ULB, Ward, Locality, Assessment)

2.6.1.7   Dashboard View

i.   Collections

ii.   District Wise summary, Drill down to ULB

iii.   DCB

iv.   Transactions/Type of water connection

v.   Top & Bottom performers

vi.   Defaulters

2.6.2   Public Grievance Redressal

2.6.2.1   Show the status and types of complaints across the ULBs, Wards.

2.6.2.2   Open complaints outside SLA

2.6.2.3   Top 10 Open Complaints (Categorized)

2.6.2.4   District Wise number of complaints (% of complaints within & Outside SLA)

2.6.2.5   Query functionality (District, ULB, Ward, Locality, Assessment)

2.6.2.6   Dashboard View

i.   Grievance Dashboard (Top 10 complaint types and Open/Closed)

ii.   District Wise summary, Drill down to ULB

iii.   SLA Dashboard

iv.   Complaints Dashboard

v.   Source of complaints getting raised

vi.   Citizen Satisfaction

2.6.3   Building Compliance

2.6.3.1   Drone based assessment

2.6.3.2   Query functionality (District, ULB, Ward)

2.6.3.3   Building Compliance in GIS and 3D visualization view

2.6.3.4   Categorization of Buildings being fully compliant, Building or Height Deviation, Unauthorized, To be surveyed

    2.6.3.5 Information such as (Owner name, Building ID, Contact Information etc.) pertaining to each building

    2.6.3.6 Swipe functionality to compare with past recorded data

    2.6.3.7 Dashboard View

      i. Unauthorized Construction, addition, deviation

      ii. Deviation corrected

      iii. No deviation

      iv. Others

  2.6.4 Water Supply

    2.6.4.1 ULB grade (in terms of quality, quantity and sources) of water supply across the State

    2.6.4.2 Water supply Network Construction Material & Type

    2.6.4.3 Diameter of Pipes in Network

    2.6.4.4 Dashboard

      i. Connections coverage

      ii. Annual & Monthly Targets, Achievement, % Achievement

      iii. Water supply & quality Monitoring

      iv. Tank Deliveries Monitoring

  2.6.5 Road Quality and potholes

    2.6.5.1 Monitor Road Quality through Citizen reported Data

    2.6.5.2 Identify pot holes and bad patches of road using Machine learning and Artificial Intelligence algorithms

    2.6.5.3 Classification of Road

      i. Construction material type (Asphalt, WBM & Concrete)

      ii. Road type (National& State Highways, Roads & Streets)

    2.6.5.4 Query functionality (District, ULB, Ward)

    2.6.5.5 Dashboard

      i. Total Road Network Length covered

      ii. Road Construction Progress Monitoring

      iii. Road Quality

  2.6.6 Black Spot/garbage dump monitoring

    2.6.6.1 Drone based assessment

    2.6.6.2 Machine Learning & Artificial Intelligence based classification of Garbage/Black spots

    2.6.6.3 Integration of Drone data with manually surveyed data

    2.6.6.4 Query functionality (District, ULB, Ward)

    2.6.6.5 Dashboard

      i. Total % Blackspots per sq. km

      ii. Total % Blackspots cleaned during drone assessment

      iii. Ranking based on % of blackspots

      iv. Categorization of Blackspots (Desiltination of drains, Removal of Debris, Stagnation of Water)

  2.6.7 Green Cover Index

2.6.7.1 Automatic identification and classification of vegetation through geospatial data

2.6.7.2 Calculation of index at various Ward and ULB level

2.6.7.3 Tracking of new plantations and depletion of green cover

2.6.7.4 Query functionality (District, ULB, Ward)

2.6.7.5 Dashboard

    i. Targets ( Annual, Monthly, Achievement)

    ii. Categorization based on Green Space Index

    iii. Monitoring percentage Green coverage

2.6.8 Water Body and encroachment

2.6.8.1 Query functionality (District, ULB, Ward)

2.6.8.2 Dashboard

    i. Encroached Area

    ii. % Encroached

2.6.9 Others

2.7 Function Related Workflow Modules for automating the processes for departments for specific functions.

2.7.1 Property and Land Tax - UD & MA department and some Municipalities have operational property tax assessment and collection system. The Module shall integrate with these existing systems and allow the citizen to:

    i. Knowing Dues, and assessment details

    ii. Pay Tax Current, Due and Advance.

    iii. File new assessment request

    iv. Raise necessary alerts to user and administration under non-compliance

2.7.2 Public Grievance Redressal system -

    i. Accept Grievances from multiple channel like SMS, WhatsApp, Emails, specific UD&MA App, Paper based etc.

    ii. Track progress of grievance

    iii. Automatic SLA assignment

    iv. Escalations to functionaries as applicable

    v. Communicate with citizen on status

2.7.3 Garbage and Black spot management

    i. Automatic identification using geospatial data and citizen requests

    ii. workflows for cleaning and maintenance

    iii. communication to citizens.

    iv. Garbage tracking and management for Garbage Truck.

    v. Garbage dump yard monitoring

        1. Citizen based feedback

        2. Direct observance

        3. IoT based feedback on 20 locations

4.   Trigger Workflow for dumpyard cleaning

2.7.4   Birth and Death certificate Management will integrate with existing system and legacy database and allow citizen, officers and others to

i.   Register the details of Birth and Death

ii.   upload the documents, Pay the requisite charges

iii.   Track Status through ticket Number

iv.   Request for modification

v.   Issue e-certificates.

2.7.5   Financial Accounting - Integration with existing systems and workflows.

i.   Payment and receipt of all services like property tax, trade license fee, building Plan fee.

ii.   Generate and view / Print  Cash Book, Income Expenditure, Receipt Payment, Ledger, Trial Balance, Balance Sheet (follow as West Bengal ULB  Accounting Manual and as per West Bengal Municipal ( Finance and Accounting) Rule 1999)Create and publish Income expenditure, balance sheet, other financial state act based analytics

iii.   Integration with other modules

2.7.6   Automated Road Quality and Potholes identification

i.   Create workflows to handle the bad roads and potholes identified through machine learning or citizen feedback

ii.   Assess quality of work done through drone data or citizen feedback.

2.7.7   Building Permission Management System

i.   Apply for new permission

ii.   Apply for occupancy Certificate

iii.   Identify deviations through Geospatial Data

iv.   Trigger workflow to respective ULB staff for corrective action

v.   file for regularization

vi.   Pay Dues (Normalization fees, charges etc.)

2.8   One Common App for WB UD & MA, with a single sign-on role based access specification for the users of the platform. Information flow is two ways from User to the department and from Department to the User

i.   for reporting Grievances

ii.   for seeking access to any services

iii.   for seeking status on service or ticket raised

iv.   for reporting feedbacks

v.   for field survey and updates

vi.   others

2.9   Provision for Disseminating alerts, notifications and information from the municipality to the users on various important parameters or events in vernacular language

i.   SMS

ii.   WhatsApp or equivalent

iii.   E-mails

2.10    Infrastructure sizing: Bidder needs to assess and compute infrastructure requirement considering all the functionalities as outlined in the scope and for 125 ULBs and 18 Development Authorities. Bidder needs to further assess the data-space requirement considering all the layers, base maps and non-spatial data from various application for all 125 ULBs and 18 development authorities.

2.11    Training and Capacity Building
   i.   Training of the Trainers
   ii.  Workflow
   iii. System training
   iv.  Vernacular
   v.   easy visualization

2.12    Operation, Maintenance and support post commissioning for two years.

2.13    Key Functional and Technical specifications of the Web Based Applications, platforms and Databases are as follows:

- Database should be capable of maintaining data history, version management and conflict detection.

- Database should support database check in – check out / replication functionalities hence maintaining the parent child relationship of Master Database.

- Software should support Geodata service and Geometry service through WFS/WMS.

- Software should support Cloud Environments like Amazon Web Services (AWS) or Microsoft Azure or such other equivalent

- GIS system should be capable to manage maps, satellite images, GIS data of various points of interest information, infrastructure and assets etc.

- It should provide access to free Online 2D, 3D, Street, Base map, imagery Services for location reference.

- GIS system should have a portal for administration that lets administrators to add, update, manage and maintain city GIS data and user management, Content Sharing and capability to build various GIS applications

- Software should have option to create pre-configured dynamic dashboards which can easily be configured hence minimizing customization.

- Should be capable of Content Management (like, manages content locations and marks relevant content as Authoritative) and Organization User Management (e.g. User can manage all aspects of inviting and managing User, including adding to groups and resetting passwords) for Managing content for different projects and role based access management.

- The software should support Open Geospatial Consortium (OGC) Services such as WMS, WFS, WCS, CSW, INSPIRE, and GeoJSONetc along with GML, KML, etc.

- The bidder should submit Manufacturer's Authorization Form (MAF) from Original Equipment Manufacturer (OEM) of the software.

- The software should support all types of raster formats and services like ERDAS IMAGINE, ENVI, PIX, DTED, DEM, CEOS, JPEG, JP2, PNG, GeoTIFF, & Web

Coverage Service (WCS, OGC standard), Web Map Service (WMS), OGC standard. Also it should support Tile layer from Vector and Raster layers for better performance and fast accessibility through WMTS or equivalent.

- The Software should be able to import / export data from / to various formats like .dwg, ,dxf, .dgn, .shp (shape files), coverage file, .mif (MapInfo), .mdb (GeoMedia), .gml, .kml, .gpx. , Geo PDF GeoJSON, interlis, GeoRSS/SqlLite etc. Also the proposed software should have function to import / export tabular data such as .xlsx/ .csv/ .dbf, etc.

- Software should allow users to export results to various file formats like EMF, BMP, TIFF, JPEG, PDF, etc

- The proposed software should support HRSI (High Resolution Satellite Imagery) and low resolution satellite images (panchromatic & multispectral) such as IKONOS, Quick bird, Geoeye, Worldview, CARTOSAT, EROS, LISS-IV, LISS-III, AWIFS, RISAT-1, KALPANA-1, INSAT3A, INSAT3D, PROVA-V, and/or in generic raster formats like TIFF, GEOTIFF, JPG etc.

- The software should support image format such .tif, geotiff, .img, .pix, .hdr, .h4, .h5, DTED, DEM, CEOS, .jpeg, etc. Also preferably, the software should also support LiDAR data file format such as *.las/ *.isd/ *.pcg etc.

- The GIS server should be highly scalable

- Software/Application should support deployment in clustered environments: Active-Active, Active-Passive; should be highly available

- The software should provide open API to visualize the published Services

- Should support multiple numbers of Editing and Viewing by desktop, web browser and mobile clients.

- Server application should record various service statistics, such as total requests, average response time, and timeouts, and reports this information in Manager console for better monitoring and performance optimization of services

- Should have Web Editing Application Functionalities like simultaneous Feature editing, isolated editing in separate layers, Undo/Redo operations, snapping by layer, snapping to new geometry, settable snapping, modify, merge, split operations, specify an Exact X, Y location, modify and create attribute values, maintain attribute values through defined rules etc.

- Should support server-side geo-processing tasks

- The server should have the capability to query across multiple map services.

- Should support to centrally managed data, models, tools, maps, and applications

- The database should support Replication across multiple commercial databases in connected and disconnected environments

- 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.)

- Software should support a Service Oriented Architecture (SOA) (GIS on the enterprise service bus).

- It should have ready to use web based geoportal/Apps for Field, Office, community and Application developers.

- 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.

- System tools can analyse patterns and aggregate data in the context of both space and time -Space-time (spatiotemporal) analysis using time slider over web.

- Server Software should support Dynamic map service/WMS

- Server Software should support Geocoding service/ OGC OpenLS (Open Location Service). Server Software should support OGC map service and OGC WMS, WFS, CSW services along with OGC compliance certificates.

- Server Software should support Geo-processing service and run custom geo-processing models/WPS

- Software should support Token model authentication and the built-in User Store/LDAP

- Should have built in user management along with Active Directory and LDAP

- "Should support the option to use Enterprise Logins -

- Integrate with a SAML 2.0 Identity Provider (IdP) or LDAP to provide Web Single Sign On"

- Software should support to encrypt data-in-transit by enabling HTTPS

- Log events of interest such as who is publishing services for the Logging and Auditing purposes.

- Software should have a comprehensive toolset to design and edit urban layouts with streets, blocks and parcels. Street constructions such as roundabouts or block subdivisions are controlled via parametric interfaces.

- Software should Support Easy-to-use editing tools for the quick sketching and texturing of 3D building models. The 3D geometries can be efficiently saved back to the File Geodatabase/ GIS database.

- Software should Support Rules files are authored and modified in the Label Rule Editor. The scripting editor includes features such as syntax highlighting and command completion.

- Software should Support integration with 3D/CAD applications, GIS platform supports the well-known formats OBJ/DXF/DWG. The exporter can collect textures into a single folder for easy re-use and sharing with other tools.

- Software should Support import of Street networks and footprints of real world cities from OpenStreetMap into GIS platform in shapefile format. This allows for a quick generation of urban surroundings based on existing streets or building footprints

- Software should Support Importing GIS data, such as streets, building footprints and parcels, into GIS platform from either File Geodatabase (.gdb) or

Shapefile (.shp) format. Feature attributes can also be imported and used to drive the procedural rules.

- Software should Support scenes can be published directly on the web for sharing 3D models, analysis results, or design proposals with decision makers or the public.

- Software should Support Export and import of 3D layers through open formats.

- Software should integrate 3D polygons for the buildings, and be able to compute the built-up area, building height, offset from the road and compare against the property information in a parcel to check compliance.

- Software should be able to Support machine learning algorithms on various drone and satellite-based imageries and detect various point and areas of interest. System should be able to foster deep learning and convoluted neural network-based algorithms.

- Software should Support seamless integration with external data centres, so as to bring near Real time view in the Geo-portal. It should be able to catalog spatial and non spatial data and make accessible over web through REST interfaces.

- Software should Support various open source databases to manage spatial and non-spatial data. It should host Bigdata architecture like CASSANDRA/POSTGRESQL/ORACLE.

- Software should Support Import and export of data in Google's Keyhole Mark-up Language (.kml/.kmz) allows for the exchange of geo-referenced preferably 3D (or 2D) models with tools such as any GIS platform or Google Earth

- GIS Software should be capable to View and create maps, manage satellite images, GIS data of various points of interest information, infrastructure and assets etc.

- GIS Software should provide access to free Online 2D, Street, Basemap, imagery Services for location reference over geoportal in web.

- The software should support feature data (Point, line, polygon) as input data type and tabular data. It should be able to connect to spatial database like Oracle/POSTGRESQL/SQLSERVER directly without using any library/software

- Thematic classifications like: Single symbol, Unique value, Match to predefined style, Graduated colours or symbols, Proportional symbols, Dot density mapping and/or Chart mapping including pie and bar chart and/or Bivariate and multivariate data rendering.

- The software should have Elevation data Display facility like TIN Contour with Index Contours, DEM - Hillshade with Sun Position Control, DEM-Shaded Relief Using Hillshade and Elevation, Terrain Contour with Index Contours, Terrain Face, Aspect, Elevation, Slope

- Should support 2D animations with time series data support and historical play back of event data over web.

-  Features should support file attachments, which should provide a flexible way to store additional information in any format related to your features.

- Software should have inbuilt tools to Display Real-Time Location Points from a GPS Receiver, Dynamically Center the Map on the Current GPS Point and Store GPS points in a Log File

- Create group layers from multiple data sources including vector overlays on top of raster data.

- Software should have the capability to do Spatial references including the ability to customize and save the custom settings.

- Custom file type support to view specific files should be available

- Set display projection of map using predefined or custom parameters (includes specifying geographic coordinate system or datum) and/or should allow re-projection into different projection system over web application

- Spatial adjustment tools including: Rubber sheeting, Transformation, Edge matching transfer Attributes.

- On-the-fly joins between different database tables

- Create statistics & various statistical operations, viz. create charts and reports, Sort tables by multiple attributes, populate values based on expression, Summarize data.

- Should be able to plot data on the map directly from the tables.

- Import/Export metadata/data should be supported

- The software provider should host World level free Online 2D, 3D, Street and topographic Basemap Services for geo-portal.

- Should be able to operate on Windows Vista, and Windows 7, 8, 10 with upgraded packs.

- Should have the capability to web enable the GUI based workflows and models without any customization

- Should support publishing and encryption of GIS maps for the purpose of Viewing and Querying GIS data by multiple royalty free GIS data readers

- Software should have the facility of time slider user interface controls to visualize temporal data

- Should support python scripting language for development of customized workflow

- Software should be able to provide an Emerging/hotspot analysis

- Software should be able to create an address locator that supports auto complete functionality and publish it as a geocode service or OGC OpenLS (Open Location Service).

- Software should allow you to play live streams of MISB compliant video or video files in your map without any customization.

- Software should be capable to Create SQLite Database/ Geopackage database.

- Software should have capability to Splits an input dataset by unique attributes or interactively

- Should have tool to Split an input data by unique attributes or interactively

- Should support rule-based Symbology and cartographic representations of map entities.

- Should be able to store spatial Data in industry standard RDBMS Format

- 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 and publish those query layers through GIS server software.

- Reshape and Move a Feature to Align One Specified Point with Another (Warp), Resize a Feature Symbol by Resizing Its Bounding Box, Orient a Symbol to a Specific Angle.

- On-the-fly automatic labelling, multi-labelling, interactive labelling, rotation of labels from an attribute field, interactive label placement, predefined label styles & finally save labels as a data layer

- The software also should support simultaneous editing by multiple users and long transactions capabilities with advanced rule-based editing in standard databases (either open source or COTS databases)

- Software should Calculates distance and additional proximity information between the input features and the closest feature in another layer and tool should be there to write results to a new stand-alone table and supports finding more than one near feature using buffer.

- Software should have tool to compute the intersection between two layers and cross-tabulates the area, length, or count of the intersecting features.

- Software licensing should be there or at least optimised to base upon all available cores of physical servers


**Note:   Hardware BoM regarding server cores etc will be tendered separately in separate RFP**

**3.      Deliverables, Time Line and Payment Schedule**

**3.1** The time schedule for various milestones to be achieved as under:

| Sl. No. | Stage Report | No. of Copies | No. of Days | Cumulative no. of Days | Payment Schedule |
|---|---|---|---|---|---|
| i) | Procurement Design Development and commissioning of Web Based Application for GIS based Master Plan Plan under AMRUT Project | 1 | Upto 90 Day from Date of Award | | Details to be provided in RFP |
| ii) | Inception Report | 10 + soft copy | Upto 15 from date of award | 15 | Details to be provided in RFP |
| iii) | Spatial attribute collection and vetting of Base Maps | 10 + soft copy | 100 from date of approval of Inception Report# | 115 plus processing time* | Details to be provided in RFP |
| iv) | Data Analysis Report | 10 + soft copy | 120 from date of approval of Base Map# | 235 plus processing time* | Details to be provided in RFP |
| v) | Projected Requirements, Issues & Potentials | 10 + soft copy | 45 from date of approval of Data Analysis Report | 280 plus processing time* | Details to be provided in RFP |

| Sl. No. | Stage Report | No. of Copies | No. of Days | Cumulative no. of Days | Payment Schedule |
|---|---|---|---|---|---|
| vi) | Draft Master Plan | 25 + soft copy | 60 from date of approval of Projected Requirements, Issues & Potentials | 340 plus processing time* | Details to be provided in RFP |
| Vii) | Final Master Plan | 25 + soft copy | 60 from the date of receiving feedback from the Client | 400 plus processing time** | Details to be provided in RFP |
| Viii) | Drone and DGPS based base Map | 3 + Soft copy | 100 from date of approval of Inception Report# | 115 plus processing time* | Details to be provided in RFP |
| ix) | Design of Technical Architecture, DB Schema, and Interfacing details. | | Upto 90 Day from Date of Award | 105 plus processing time* | Details to be provided in RFP |
| x) | Unified MIS / GIS Application Details with Mock-ups | | 200 from date of approval of Inception Report# | 215 plus processing time* | Details to be provided in RFP |
| xi) | Workflow functional details | | 220 from date of approval of Inception Report# | 235 plus processing time* | Details to be provided in RFP |
| xii) | Machine learning and AI based Modules | | 150 from date of approval of Inception Report# | 165 plus processing time* | Details to be provided in RFP |
| xiii) | UDMA App functional requirement with mock-ups | | 120 from date of approval of Inception Report# | 235 plus processing time* | Details to be provided in RFP |
| xiv) | Dissemination layers to inform citizen, stakeholders | | 150 from date of approval of Inception Report# | 265 plus processing time* | Details to be provided in RFP |
| xv) | Training and Capacity Building | | 220 from date of approval of Inception Report# | 235 plus | Details to be provided in RFP |

*Note:\*All are tentative. Processing time is the time between submission of the stage report and issue of the minutes for approval/ modification of the same and would be about 30 days.*

*The period between the submission of stage report and its processing would not be included in the period of assignment.*

*#The Client will ensure that the total period for completion for the assignment does not exceed 24 months. The State Government may change the duration of time allotted for various stages as per size of the city.*

*\*\*10 copies will include one copy each for TCPO &MoHUA, SUDA, Asansol Municipal Corporation, Howrah Municipal Corporation & Kolkata Municipal Corporation, 2 copies each for the Planning Department under UD&MA Dept. and State Mission Directorate (AMRUT); 20 copies includes separate copies for ULBs and also copies for TCPO, MoHUA, SUDA, UD&MA Dept. & AMRUT Directorate.*

3.2 The Consultant will be required to make a presentation before the Consultancy Evaluation & Review Committee (CERC) within a week of submission of each of the above reports. The observations/ suggestions of CERC will be incorporated in the next stage of submission. The period between the submission of Draft Master Plan and direction given to prepare Final Master Plan would not be included in the period of assignment for remuneration purposes.

3.3 The payment will become due on approval of the stage reports and on raising of bills/ invoice by the consultant after the approval of the stage report. The processing time of the payment will be 45 days for final payment and 30 days for all other payments.

**4. Support by Consultant after approval of Final Master Plan**

4.1 After approval of Final Master Plan, the Consultant will provide support for two year from the date of approval of Final Master Plan for the plan approval process, workshops, discussions and making presentations to various agencies/ departments, incorporating modifications if any, as and when required by the client for the publication of Master Plan. Client will also support at the time of public objections.

4.2     Regarding implementation of GIS based web portal, deployment and demonstration will be required by physically visiting each of the concerned offices. Regarding handhold training for the GIS based software, the Consultant will provide 4-weeks trainings to all concerned in maximum 2-phases during its support period when the Master Plans will be deployed via the GIS based software in the UD & MA Department.

4.3     Annual Maintenance for the GIS based software product will be up to three years after which the software AMC may be renewed as per requirement. During these three years the Consultant is required to make available sufficient numbers of domain experts preferably at the client space to address different problems and issues.

5.      **Procedure for Monitoring & Review of the Assignment**

The Consultant's work will be monitored and reviewed by a Review Committee under the Chairmanship of Director, State Mission Directorate, Govt. of West Bengal. The composition of the Committee will be as follows:

Director (SUDA), Secretary (MED), Chief Engineer (KMDA-Water Supply), Chief Engineer (MED), State Mission Director (AMRUT), Chief Town Planner of UD&MA Dept, Director-General (KMDA), Finance Officer (SUDA) and other concerned officers of AMRUT and also other officials, experts chosen by the Bid Inviting Authority as and when required.

**NOTE:  The consultants shall submit each of the above-mentioned deliverables as per the schedule mentioned above. This will be followed by a presentation to the CERC within a week, wherein, the CERC members shall give their comments and suggestions in the form of feedback. Subsequently, the consultant will incorporate all such comments and suggestions in their next stage report.**

# Section – A

## INSTRUCTIONS TO BIDDERS

### I. General Guidance for e-tendering

Instructions/ Guidelines for bidders for electronic submission of the tenders have been annexed for assisting them to participate in e-tendering.

### II. Registration of Bidder

Any bidder willing to take part in the process of e-tendering will have to be enrolled and registered with the Government e-procurement system, by logging on to https://wbtenders.gov.in The bidder is to click on the link for e-tendering site as given on the web portal.

### III. Digital Signature certificate (DSC)

Each bidder is required to obtain a Class-II or Class-III Digital Signature Certificate (DSC) for submission of tenders, from the service provider of the National Information's Centre (NIC) or any other bonafide service provider on payment of requisite amount. Details are available at the Website stated in Clause II of Instructions to Bidders. DSC is given as a USB e-Token.

### IV.
The consulting firms/agencies can search and download E.O.I and other tender Documents electronically from computer by logging on to the website mentioned in Clause-II above using the Digital Signature Certificate. This is the only mode of collection of Tender Documents.

### V. Submission of E.O.I

E.O.Is are to be submitted through online to the website stated in Clause II in one folder at a time before the prescribed date and time using the Digital Signature Certificate (DSC).The documents to be uploaded should be virus scanned copy duly Digitally Signed. The documents will get encrypted (transformed into non readable formats).

The E.O.I should contain scanned copies of the following further two covers (sub folders):

        **A.   Statutory Cover Containing**
1. **Prequalification Document**
      i.  Qualification Application (Section – B: Annexure-I)
2. **Technical Document (To be filled, scanned and uploaded as multiple page scanned file)**
   - Financial Statement (Section – B: Annexure-II)
   - Statement of Legal Capacity (Section – B: Annexure-III)
   - Details about the Bidder(Section – B: Annexure-IV)

   **NOTE:** Bidders must ensure that the Email id provided in the Registered Office Address is the same with which they have registered at the e-procurement portal (https://wbtenders.gov.in).

   - Statement of Any Indictment (Section – B: Annexure-V)

   **Note:** The bidder should not be under active prosecution for criminal offence, liquidation, court receivership or similar proceedings. It may please be noted that non provision of this declaration in this E.O.I **will lead to rejection** of the same.

   - Declaration that the Bidder or any of its / their staff had not been at any point of time **blacklisted** by any Government or its agencies or court of law or any other organization
   - Brief of **court / legal cases** pending, if any.
   - Project Experience in last three years (see the format in Section – B: Annexure-VI)

        **B. Non-Statutory Cover Containing / My Space**
1. **Certificates: GSTN,** Service Tax Registration No., PAN No. and TAN No. **(Scanned copies to be provided)**

2. **Organisation Details:** Registration details along with the composition of Board of Directors or details of lead partner or governing authority or trust as the case may be. It is to be noted that depending upon the legal nature of the bidder, the corresponding documents need to be submitted.

3. **Credentials:** Details of work experience in the last 3 years as per table provided in Section – B: Annexure VII along with **documentary evidence (The documents should be properly indexed)**.

**Note:**

   a. Bidders are required to give details of only those projects which have been mentioned in Annexure-VI :Project Experience in the last three years

   b. Bidders **MUST** ensure that **name and sequence of projects remains the same** as given in Annexure-VI: Project Experience in the last three years.

   c. **Bidders must ensure that p**age limit is restricted to maximum of one (1) page per project.

4. Brief write up on understanding of the Terms of Reference (ToR).

**Note:** The write up should be concise and must **not exceed more than 500 words.**

5. Details of Manpower: **Documents in support of possessing sufficient trained manpower**

Intending Bidders should upload above documents as per following folders in My Document:

**NOTE: Bidder must ensure that they upload documents in black and white & resolution (DPI) of the scanned document should not exceed 300.**

Table 1 List of Documents to be uploaded in My Documents (Non-Statutory Folder)

| | | | |
|---|---|---|---|
| **E-tendering System of Government of West Bengal** | | | |
| **Bidder Document Sub Category Master** | | | |
| **Sl. No.** | **Category Name** | **Sub Category Name** | **Sub Category Description** |
| A. | CERTIFICATES[Every folder corresponds to one single file (multiple page scanned file) and the file size should not be more than 1 MB] | A1. CERTIFICATES | 1. Service Tax Registration No.<br>2. PAN No. and TAN No, GSTN |
| B. | COMPANY DETAILS [Every folder corresponds to one single file (multiple page scanned file) and the file size should not be more than 1 MB] | B1.COMPANY DETAILS 1 | 1. Certificates of incorporation and commencement of business highlighting registration details as is applicable to the legal status of the bidder<br>2. Composition of Board of Directors or details of lead partner or governing authority or trust as the case may be, as is applicable to the legal status of the bidder |
| C. | CREDENTIAL[Every folder corresponds to one single file (multiple page scanned file) and the file size should not be more than 1 MB] | C1. CREDENTIAL 1 | 1. Project Experience in last 3 years (Please refer Annexure VII) |
| | | C1. CREDENTIAL 2 | 1. Work Completion Certificates or work order along with the payment certificate issued by competent authority for the projects mentioned. [For completed projects, provide payment certificate in case work completion certificate is not available] |
| D. | DECLARATION | DECLARATION 1 Write up on Understanding | 1. Brief write up on understanding of the Terms of Reference (ToR) |

| | E-tendering System of Government of West Bengal | | |
|---|---|---|---|
| | **Bidder Document Sub Category Master** | | |
| **Sl. No.** | **Category Name** | **Sub Category Name** | **Sub Category Description** |
| | | TOR(Not exceeding 500 words) | 2. Details of Manpower: Documents in support of possessing sufficient trained manpower |

**Note: - Failure of submission of any of the above mentioned documents will render the tender liable to summarily rejected.**

**All Corrigendum & Addendum Notices, if any, have to be digitally signed & uploaded by the contractor in the Declaration Folder of My Documents.**

## VI. Evaluation of E.O.I

- **Opening of E.O.I**
  - E.O.Is will be opened electronically from the website using Digital Signature Certificate.
  - Decrypted (transformed in to readable formats) documents will be downloaded and handed over to the officials for evaluation.
- **Evaluation:**
  - Cover (sub-folder) of statutory documents shall be opened first and if found in order, cover (Folder) for non-statutory documents will be opened. If there is any deficiency in the statutory documents the tender will summarily be rejected.
  - Copy of the power-point presentation as shown
  - Scrutiny of E.O.I and PPT document and recommendation thereafter will be made by SMD AMRUT.
- **Uploading of summary list of technically qualified bidders-**
  - Pursuant to scrutiny, evaluation of the same and decision of the evaluation committee, the summary list of eligible bidders will be uploaded in the web portals.
- During the process of evaluation, the committee may summon the bidders and seek clarification / information or additional documents or original hard copy of any of the documents already submitted and if these are not produced within the stipulated time frame, their E.O.Is will be liable for rejection.
- Any document has been found to be incomplete in content or attachments or authenticity shall not be considered for the purpose of qualification.
- If any information is received by SMD AMRUT after the bidder has been qualified to receive the Request for Proposal which would have entitled SMD AMRUT to reject or disqualify the relevant Bidder, SMD AMRUT reserves the right to reject the Bidder at the time or at any time after such information becomes known to SMD AMRUT.
- Bidders not satisfying the requisite qualification criteria specified in the above sections are not eligible.

# Section – B

# <u>ANNEXURES</u>

### Annexure-I: Q*ualification Application*

*(To be written on the letterhead of the Applicant)*
From:
……………………………………….
……………………………………....
To
The State Mission Director,

AMRUT,

ILGUS Bhawan, HC Block,

Sector III, Salt Lake City,

Kolkata - 700106,

West Bengal, India.


**Subject: Submission of E.O.I for the works of Formulation and Digitization of GIS-based Master Plan, Integration of various citizen-centric service-delivery based municipal e-governance services, Development of GIS/MIS dashboard for last mile visibility, Development of GIS applications for decision support and key insights, Automating workflows, Developing Mobile App, information dissemination and post implementation maintenance and support complete in all respect for 125 Urban Local Bodies including 55 AMRUT cities as well as areas under 18 Urban Development Authorities in the State of West Bengal**

Sir,

This is with reference to the tender dated …………….2018 inviting Expressions of Interest for the works of Formulation and Digitization of GIS-based Master Plan for 125 ULBs and 18 Urban Development Authorities. As specified in the E.O.I, having examined the Statutory, Non statutory documents, I /we hereby submit all the necessary information and relevant documents for evaluation. The application is made by me / us on behalf of_____ in the capacity_____duly authorized to submit the E.O.I.We believe that we satisfy the eligibility criteria set out in relevant sections of the E.O.I Document.

We propose to submit our E.O.I as_____ (insert full name of Applicant Agency)

We declare that we have not been convicted by a Court of law or indicted or adverse orders passed by a regulatory authority against us which would adversely impact our ability to manage the project if awarded or which relates to a grave offence that outrages the moral sense of the community.

We also declare that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our sister concerns .

We further declare that no investigation by a regulatory authority is pending either against us or against our sister concerns or against our CEO or any of our Directors/Managers/ employees.

We hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statements are true and correct and complete. I/We have furnished all information and details necessary for E.O.I and have no further pertinent information to supply.

We understand that:

(a) Bid Inviting and Accepting Authority/ SMD-AMRUT can amend / modify the scope of this project.

(b) Bid Inviting and Accepting Authority/ SMD-AMRUT can reject any or all bids without assigning any reason. And also withdraw or cancel the bid process at any stage without any liability of whatsoever nature therefore.

I/We shall be glad to receive further communication on the subject.

<div align="right">Yours faithfully,</div>

**Enclosure: e-filing:-**

<div align="right">Authorized Signatory</div>

1. Statutory Document

2. Non- Statutory Document

Date of Submission
Signature of applicant agency including title and capacity in which application is made

**Annexure-II: Financial Statement**

**1.**Name of Applicant Agency:

**2.** Summary of revenue generated on the basis of the audited financial statement of the last three financial years.

|  | 2015-16 (Rs. In Crore) | 2016-17 (Rs. In Crore) | 2017-18 (Rs. In Crore) |
|---|---|---|---|
| Annual Revenue |  |  |  |

Average Annual Turnover is XXXX (Rs in Crore)

Signed by a Practicing Chartered Accountant

Name:

Membership No.:

Name of the Bidder with Seal

Date_____

Note: This form is required to be certified by a practicing Chartered Accountant

## Annexure-III: Statement of Legal Capacity

*(To be forwarded on the letterhead of the entity submitting the E.O.I)*


Reference No._____                                Date _____

To

The State Mission Director,

AMRUT,

ILGUS Bhawan, HC Block,

Sector III, Salt Lake City,

Kolkata - 700106,

West Bengal, India


**Subject: Submission of E.O.I for the works of Formulation and Digitization of GIS-based Master Plan, Integration of various citizen-centric service-delivery based municipal e-governance services, Development of GIS/MIS dashboard for last mile visibility, Development of GIS applications for decision support and key insights, Automating workflows, Developing Mobile App, information dissemination and post implementation maintenance and support complete in all respect for 125 Urban Local Bodies including 55 AMRUT cities as well as areas under 18 Urban Development Authorities in the State of West Bengal**


Sir,

This is with reference to the advertisement dated …………..2018 inviting Expressions of Interest for the works of Formulation and Digitization of GIS-based Master Plan for 125 ULBs and 18 Urban Development Authorities.

We have read and understood the contents of the Invitation for E.O.I and the advertisement and pursuant to this hereby confirm that:

- We satisfy the eligibility criteria laid down in the E.O.I.
- We have agreed that _____ (insert individual's name) will act as our representative and has been duly authorized* to submit the E.O.I.


Yours faithfully,


Authorised Signatory

For and on behalf of (Name of the agency)

*Please attach a true copy of the Letter of Authorization / Board resolution certified by the authorized Signatory for the individual bidding company.*

**Annexure –IV: Details about the Bidder (For Lead and Consortium firms)**

**1.**      Name of applicant agency/consulting firms:

**2.**      Registered Office Address:

Telephone No.:

Fax No. :

E mail#:

Website:

**3.**      Kolkata Office Address (if any):

Telephone No.

Fax No. :

E mail:

**4.**      District Office Address (if any):

Telephone No:

Fax No. :

E mail:

**5.**      Name of the Contact Person for this assignment:

Designation:

Address:

Telephone No. :

Cellphone No.:

E mail:

Fax No. :

Note: Application covers Proprietary Firm, Partnership, Limited Company or Corporation,


Signature of applicant including title

and capacity in which application is made.


# Bidders must ensure that the Email id provided in the Registered Office Address is same with which they have registered at the e-procurement portal (https://wbtenders.gov.in)

## Annexure-V: Statement of any Indictment

*(By any Income Tax, Sales Tax, Customs and Excise Authorities and other Regulatory Authorities)*

*(To be forwarded on the letterhead of the interested entity submitting the E.O.I)*

Date:

To
The State Mission Director,

AMRUT,

ILGUS Bhawan, HC Block,

Sector III, Salt Lake City,

Kolkata - 700106,

West Bengal, India


We solemnly declare that there has been no conviction by a court of law or indictment or adverse order or investigation or charge sheet by an agency of the Government, any income tax, sales tax, customs, excise authorities and other regulatory authorities including but not limited to Reserve Bank of India (RBI) and Securities Exchange Board of India (SEBI) against us or our Promoter Group, {except as stated below:}

1.

2.

3.

.

.

.


We have not been declared ineligible by the Government of India or any State/UT/Local Government for corrupt and fraudulent practices or blacklisted by them.


Yours faithfully,


Signature(s) of Applicant(s)

Seal of applicant Name:

Designation:

---

## Annexure VI: Project Experience in the Last 3 Years

**Please categorize all the projects into four broad heads given in the table below and mark a tick (✓) for each of the projects.**

| Sl. No. | Name of Project/Assignment and year of completion (write 'ongoing' in case of ongoing project) | Lead firm / Consortium firm | Categories | | | | | Project Location |
|---|---|---|---|---|---|---|---|---|
| | | | Experience in Formulation of GIS based Master Plan (A) | | | | | |
| | | | Survey and GIS tool map layer and attribute creation | Cloud/web hosted GIS server setting, commissioning and dashboard | Workflow and process automation for State or Central govt organizations | Drone and HRSI and DGPS survey based base map creation | Linking of GIS with MIS and citizen centric e-governance modules | |
| 1. | | | | | | | | |
| 2. | | | | | | | | |
| 3. | | | | | | | | |
| 4. | | | | | | | | |
| - - - - - so on. | | | | | | | | |

**(Bidders MUST maintain the same name and sequence in "detailed project experience" in Annexure B No. I)**

**Annexure VII: Detailed Work Experience in the Last 3 Years**

*(Bidders MUST maintain the same name and sequence of projects as it has been given Annexure A. No. VI)*

| | |
|---|---|
| **Assignment name:** | **Approx. value of the contract (in current Rs):** |
| **Country:** | **Location within Country:** |
| **Name of Client:** | **Total No of person-months of the assignment:** |
| **Address of Client:** | **Approx. value of the services provided by your firm under the contract (in current Rs.):** |
| | **No of person-months provided by your firm:** |
| **Start date (month/year):**<br><br>**Completion date (month/year):** | **No of professional person-months provided by the Consortium partners or the Sub-Consultants:** |
| **Name of Consortium partner or sub-Consultants, if any:** | |
| **Name of Senior Staff involved from your firm and positions held in this project:** | |
| **Narrative description of project in brief:** | |
| **Description of actual services provided by your firm in the assignment:** | |
| **Whether the assignment is completed or continuing:** | |
| **Explanation on how it meets the eligibility criteria:** | |

**Annexure VIII-A: Corrigendum of Reference**
Tender ID: 2018_MAD_192150_1

**Eligibility for the Bidders**

A. Since use of drone technology in public domain is a recent activity, Agency participating only for the scope of "Drone based survey and related data processing" will be exempted from the below Criteria. This agency can furnish provisional financial documents.

   "Bidder or each of the consortium Bidders should be in business for last 3 years."

   However other members of the consortium still need to fulfil the above criteria.

B. Single Bidder or Consortium participating for "System Integrator Agency" will be required to meet all the eligibility criteria except as relaxed above.

C. Single Bidder or Consortium participating for "Multiple GIS & Master planning Agencies" works should meet the below eligibility criteria, and should have done at-least one assignment from each of below
   · Survey and GIS tool map layer and attribute creation,
   · Drone and High-Resolution Satellite Images and DGPS survey-based Base-map creation.
   · Bidder should have completed at least Master Plan formulation for three separate towns in India. Preference will be given to such Bidders who have obtained contract of at least one GIS based Master Plan of one city in India.

D. An agency participating in "System Integrator Agency" works can be part of only one consortium, however they can participate in multiple clusters within "Multiple GIS & Master Planning Agencies" as single entity or as a part of only one consortium.

E. Ongoing projects with valid contract agreement document and/or completed projects will be given same weightage for eligibility evaluation

**Drone Survey**

Drone Survey is a mandatory in the scope of work, that will be used for specific requirements. Drone survey is required in the cluster of both "System Integrator Agency" and for "GIS & Master Planning agencies"

## Annexure VIII-B: Corrigendum of Reference
## (Based upon Pre-bid Queries resolved)
Tender ID: 2018_MAD_192150_1

The Bid Inviting Authority, in reference to above Tender ID regarding E.O.I. on GIS works under AMRUT, in addition or in modification to certain clauses mentioned under Description of Assignments under Terms of Reference and Scope of Work, Bidder's Eligibility and Documents to be Submitted, likes to state that the authority has agreed upon certain changes in the E.O.I. document on the basis of threadbare discussions that took place in the Pre-Bid meeting with the agencies on 02.11.2018 in presence of the Principal Secretary, UD&MA Deptt, Govt. of West Bengal

It may be kindly noted that, the work is an integrated work of three as follows –

(v)   Geo-database ground-truthing for AMRUT cities and GIS based map preparation and geo-database creation for non-AMRUT cities

(vi)   GIS based Master Plan formulation for both AMRUT and non-AMRUT cities

(vii)   GIS based portal development for 125 cities and MIS-GIS integration alongwith Mobile App & SMS alert system development which is to be deployed in the UD&MA Deptt

It should be understood that the system is not merely a GIS platform. The GIS based map and analytics is an important component of the system but the development of several application for providing citizen service and MIS for the municipal bodies is an equally important component under the ambit of the overall solution, UD&MA Deptt. is very keen that analytics and MIS covers the workflow, events, service delivery and process turnaround times in relation areas including but limited to the following:

- Public grievance Registration, Processing and Resolution
- Application for Trade License and issue thereof
- Birth & Death Registrations and issue of certificates
- Project Monitoring and controlling information
- Property holding database and tax collection
- Database on water bodies and parks
- Other citizen oriented applications

Transaction/workflow solutions are available for some of the above functionalities; they may require enhancements and modifications. For rest of the functions, such workflow application would need to be developed.

The envisaged solution should also have provision to interface with some future systems and solutions which may come up e.g.

- Integrated finance and accounting system (Government Resource Planning)
- SCADA/IoT system on drinking water distribution network for real time taking/prevention of events (leakage, disruptions etc)
- IoT and industrial automation in solid waste management
- IoT on environmental parameters such as $Co_x$, $NO_x$ etc.

**Clustering of work:**

System Integrator agency: The work of GIS portal development, MIS-GIS integration, Mobile Application & SMS alert service preparation and allied software development will be a separate work which will be entrusted to single bidder which may be a single agency or consortium known as the System Integrator Agency. This bidder would be required to bid for GIS & Master Plan formulation work for at least one cluster.

Multiple GIS & Master Planning Agencies: The other two works, namely, the GIS based map preparation and geo-database creation and the Master Plan formulation will be offered in clusters. These clusters would consist of one or more towns and Development Authorities based upon geographical proximity to each other. Only one Single entity/consortium per cluster for the two works of GIS based map preparation and geo-database creation & Master Plan formulation works will be allowed.

There will be a single point of progress reporting to the UD&MA Deptt. and this will the Systems Integrator Agency

**Platform of GIS works:**

The platform of GIS based map preparation and geo-database creation can be open source or any available standard platform.

**Supply of High Definition Satellite Imagery:**

The HDSI will be acquired by the UD&MA Dept. The NRSC already committed to supply geo-database created on base map prepared upon COMSAT-II satellite imagery for the 55 AMRUT cities. For the remaining non-AMRUT cities, state will supply satellite imagery as per availability to the lowest bidder for each cluster as and when required.

**Drone Imagery and its requirement:**

As per the understanding, Drone survey is required for specific purposes like, pothole identification and black-spot management, unused Govt. land identification for future planning, identification of slums and such unplanned growths/settlements etc. in specific regions of the cities. The drones, as per requirements which may be mentioned in RFP at a later stage, will be used only as per DGCA standardisation. The cost for Drone survey and integration of such maps on GIS base-maps would be indicated separately for each cluster.

**Way of collecting information and stages of reporting:**

Mouza maps and legacy data will be collected by successful bidder from different authorities, the payments and authorizations etc. will be taken care of by the UD&MA Deptt. The survey and legacy data related reporting should come through ULB Chairman/Executive Officer or equivalent authority. Other information will be directly available from appropriate authority.

**Licensing and software related issue:**

The product should be intellectual property based product and it will work as a permanent license and AMC will be required only after implementation. In case of Software or App related any information, no specific preference will be given to either of Commercial or Open GIS platform. Any file type or other specification mentioned in E.O.I. should therefore be read in the line of "those mentioned and equivalent".

**Eligibility for all Bidders:**

Bidder or each of the consortium Bidders should be in business for last 5 years. Considering the 5 yrs of its existence, the turnover of 5.00 Cr. or more for the bidder may be produced for 3 years which may not be consecutive years.

International job experience certificate may be produced but preference will be given to work experience in India and job done for clients at PSU, Central & State government

Work completion certificate or any other proof in support of work done has to be produced on company letter head. Also producing of ongoing work certificate will be considered but for that, copy of proof of job contract should be submitted

**Eligibility for Bidders for software and web portal development along with mobile App, SMS alert system and allied works:**

In case of single bidder for software and web portal development, ISO certification and OEM certificate should be produced as per E.O.I. The company may be international but should mention Indian project experience as per E.O.I. The successful agency is also expected to inform about an office setup in Kolkata within 30 days of obtaining Work order.

Preference will be given to those bidders who have handled at least one assignment from each of (i) Survey and GIS tool map layer and attribute creation, (ii) Cloud/web hosted GIS server setting, commissioning and dashboard, (iii) Workflow and process automation for State or Central Govt organizations. (iv) Drone and High Resolution Satellite Images and DGPS survey based Base-map creation (v) Linking of GIS with MIS and citizen centric e-governance modules.

The web portal development, the software integration, the mobile App development etc. will be done under the supervision of the UD&MA Deptt. directly. If not COTS, there will be no requirement to deploy anything at the ULB offices, but training for handling given to end users at the UD&MA Deptt and all ULBs etc. is required. The detail of such training will be mentioned in RFP.

**Eligibility for Bidders for Master Plan formulation:**

Bidder should have completed at least Master Plan formulation for three separate towns in India. Preference will be given to such Bidders who have obtained contract of at least one GIS based Master Plan of one city in India. However, the requirement of different surveys required for Master Planning (need-based) and specification of those will be detailed in RFP.

**Horizon Year:** The updation of Master Plan should be as per statutory provisions of West Bengal Municipal Act and other acts pertaining to Municipal Corporations and West Bengal Town and Country (Planning and Development) Act.

**Eligibility for Drone Agency within the Consortium**:

Drone technology being a new technology, Drone agency may not require to submit document proof of any completed projects. Document proof of ongoing projects may be taken into account.

Sd/-
State Mission Director
AMRUT, West Bengal

**Annexure XI- Pre-Bid Replies**

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | 3. Bidder's Eligibility | We request UD&MA to kindly give some relaxation in this clause and amend it as below:<br>Only those entity/ bidder who in the last 3 years have handled assignments related to providing total GIS solution which includes Design and Development of GIS Web Applications, GIS Database Creation, GIS Field Survey etc. in the Public Sector for Central or State or Multilateral Agencies or ULB, in the below categories with experience of executing at least One (1) assignments in each category (i.e. total of 10) - Survey and GIS tool map layer and attribute creation, - Cloud/web hosted GIS server setting, commissioning and dashboard, - Workflow and process automation for State or Central Govt organizations. - Drone High Resolution Satellite Images and DGPS survey based Base-map creation.<br>Linking of GIS with MIS and citizen centric egovernance modules | Your suggestions are noted. However, details will be provided in RFP |
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | 1.6 Description of the Assignment | We assume that webGIS portal along with database has to be deployed on central site i.e. CTO office and Desktop application will have to be deployed at each ULB level to access the centrally located database. Kindly confirm | Yes |
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | 1.6.1 Formulation (i.e. creation and updation) of GIS based Master Plan of 125 Urban Local Bodies and 18 Development Authorities for the State of West Bengal; - Page No. 13 | We assume that all layers data shall be provided by the UD&MA and/or their line departments for the said purpose.<br>Kindly confirm.<br>Also share city level data availability for all the towns covered in the project. | To be provided during & after RFP as required |
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | 1.6.2 Design, Development and Commissioning of Web GIS Portal – Page No. 14 | We request UD&MA to kindly remove the requirement of 3D visualization since there is no 3D data preparation is in the scope hence there is no use case of this function. 3D data preparation and visualization will increase the project cost multiple times and it doesn't have that much utility for the ULBs/UD&MA | |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 1.6.2.2 Updating the Spatial Attributes Collection & Vetting of Base Map: - Page No. 14 | Do we need to update the base map provided by the NRSC after capturing the high resolution imagery and vetting the attributes or we have to prepare the final base map using the high resolution imagery acquired from the other source. Please Clarify | Ground truthing of NRSC base map for 55 AMRUT cities. Final base map with HRSI required for 75 Non-AMRUT cities |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.2 Urban Database Creation – Page No. 16 | Does agency need to perform door to door property assessment survey including internal property measurement using the mobile application and laser disto-meter under the engagement? | Legacy data will be shared. Door to door survey requirement detail will be given in RFP |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 1.6.2 Updation of Master Plan FOR THE HORIZON YEAR 2033 – Page No. 16 | Does bidder need to depute manpower for training in each ULB and UDAs covered under the EOI scope? | Yes. Details will be shared in RFP |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.2 Scope of Work: Updation of Master Plan - The master plan report will include, but not be limited to, the following aspects: - Page No. 17 | We assume that building footprint will be extracted from the HRSI data. Kindly confirm. | Yes. Details will be shared in RFP |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.2 Scope of Work: Updation of Master Plan -The master plan report will include, but not be limited to, the following aspects: - Page No. 17 | We assume that field survey will be required to collect the mentioned data since NRSC Satellite Image will not have all the data. Kindly confirm. | Yes. Details will be shared in RFP |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.3 – Page No. 18 | We assume that UD&MA will provide digital copy of available data to consultant. If not, Does consultant need to do scanning of old records also. Kindly confirm We suggest UD&MA to kindly make a provision in the RFP to nominate Nodal officer from the UD&MA side and town level Nodal officer to coordinate all such data collection activity. This will make execution process smooth | Your suggestion is noted |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.6  Unified GIS and MIS Dashboard - Page No. 19 | Query 1: We understand that Consultant has to make provision for integration of future/existing systems and the clause specify the name of such dashboard/modules which need to be integrated. Bidder does not need to develop the mentioned modules/dashboards. Kindly confirm our understanding. Query 2: Will there be single/identical system available in the each ULB level or each ULB may have different-different systems for the same application? Kindly clarify | Query1: May not required to be developed anew Query2: Single offline system in all ULB |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.6.3 – Page No. 20 | Drone based survey cannot be used to assess the building for the compliances/taxation. Hence, kindly revisit the requirement We request to remove the requirement of 3D visualization view since 3D data preparation and visualization will increase the project cost multiple times and it doesn't have that much utility for the ULBs/UD&MA | Your suggestions will be preferred. Detail will be given in the RFP |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.6.5 Road Quality and potholes – Page No. 20 | Kindly elaborate the requirement. Such analysis cannot be performed using the 1:4000 scale base map (as per EoI, UD&MA will provide NRSC base map of 1:4000 of AMRUT cities). Additionally, creation of pot holes and bad patches in the road is a continues process and it will require frequent data acquisition through low flying drones and doing drone assessment very frequently will not be economical and feasible for the project. Kindly revisit the requirement | In such cases Drone survey will be required |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.6.6 Black Spot/garbage dump monitoring – Page No. 21 | Drone based survey cannot be used to assess the black spot/garbage dumping. GIS can be used to map the object on the base map it cannot be used to do monitoring. To do machine learning and AI based analysis there must be a IoT device and system in place which will interact with the GIS system and perform the analysis/monitoring. We request UD&MA to revisit the requirement and specify it more clearly. | In such cases Drone survey will be required |
| 1. DARASHAW 2. Nascent Info Technologies Pvt. Ltd | 2.7 Function Related Workflow Modules for automating the processes for departments for specific functions – Page No. 21 | Does consultant need to develop the workflow for all existing applications mentioned under the clause? Kindly confirm | A workflow of an offline software is already available. |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | 2.7.5 Financial Accounting - Integration with existing systems and workflows. | Mentioned requirement is as good as creating a financial accounting management system from the scratch. Kindly revisit the requirement and clarify does consultant need to develop all such functionality/workflow in the unified application (front end) and existing application will be work as a back end system | Most of the functionalities are present in the existing non-functioning offline system built with earlier available technology |
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | 2.7 Function Related Workflow Modules for automating the processes for departments for specific functions. – Page No. 21 | Kindly elaborate or revisit the requirement as it is not feasible using from drone based assessment survey.<br>Does consultant need to develop and deploy state wide building plan approval system like "AUTODCR"? Which other ULB has developed. Kindly confirm | Your suggestions will be preferred. Detail will be given in the RFP |
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | 2.13 – 2.13 Key Functional and Technical specifications of the Web Based App Page No. 23,24,25,26 | Some of the functional and technical specifications mentioned for the Web based application are favoring proprietary OEM Software. Hence, In line with UD&MAs initiative to follow AMRUT guidelines, we request UD&MA to also follow Ministry of IT, GOI recommendation to adopt open source technology as per Ministry of IT, GOI for promoting the Open Source Solutions in the e-Governance systems in Govt. Departments on April 2015 and not provide any technical specifications of the platform, instead providing functional requirements as expected from the system.<br>Kindly refer link for the advisory:<br>http://egovstandards.gov.in/sites/default/files/Framework%20for%20Adoption%20of%20Open%20Source%20Software%20in%20e-Governance%20Systems.pdf<br>This specification is favoring proprietary OEM Software. We request UD&MA to kindly remove this requirement to allow other solutions to qualify. | Your suggestions will be preferred. Detail will be given in the RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | | Kindly specify the use case of each and every format like ERDAS IMAGINE, ENVI, PIX, DTED, DEM, CEOS, JPEG, JP2, PNG, GeoTIFF, & Web Coverage Service (WCS, OGC standard), Web Map Service (WMS), OGC standard mentioned in the requirement or make it generic<br>We assume that such functionality like import / export data from / to various formats like .dwg, ,dxf, .dgn, .shp (shape files), coverage file, .mif (MapInfo), .mdb (GeoMedia), .gml, .kml, .gpx. , Geo PDF GeoJSON, interlis, GeoRSS/SqlLite etc. Also the proposed software should have function to import / export tabular data such as .xlsx/ .csv/ .dbf, etc. can be achieved through conversion utility inbuilt in the platform. Kindly confirm<br>We request UD&MA to remove the statement "Also preferably, the software should also support LiDAR data file format such as *.las/ *.isd/ *.pcg etc." to make the specification generic in nature | Your suggestions will be preferred. Detail will be given in the RFP |
| 1. DARASHAW<br>2. Nascent Info Technologies Pvt. Ltd | | Nobody should be allowed to edit the data from web or mobile clients to maintain the sanctity of the database. Hence, this future should be removed from the requirement<br>This specification (i.e. The database should support Replication across multiple commercial databases in connected and disconnected environments) is favoring proprietary OEM Software. We request UD&MA to kindly remove this requirement to allow other solutions to qualify<br>We request to review the requirement and software should support Token model authentication through LDAP only.<br>All these functional and technical specifications (viz. Software should have a comprehensive toolset.. / Software should Support Easy-to-use editing tools.. / Software should Support integration with 3D/CAD applications) are favoring proprietary OEM Software. Hence, Inline with UD&MAs initiative to follow AMRUT guidelines, we request UD&MA to also follow Ministry of IT, GOI recommendation to adopt open source technology as per Ministry of IT, GOI for promoting the Open Source Solutions in the e-Governance systems in Govt. Departments on April 2015 and not provide any technical specifications of the platform, instead providing functional requirements as expected from the system | Your suggestions will be preferred. Detail will be given in the RFP |

| Company Name | Clause No | Queries | Replies |
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| 3. ESRI India | 1.6.2.2 Updating the Spatial Attributes Collection & Vetting of Base Map – Page No. 14 | What is the preferred mode of high resolution satellite imagery capture? | To be suggested by you |
| 3. ESRI India | 1.6.1 GIS Software must allow authority to implement a centrally managed GIS | Suggested that related activity will also require desktop GIS for maintaining redundancy of records at ULB level. | To be suggested by you |
| 3. ESRI India | 1.6.9 Develop Alert/Notification | Will these alerts include location/co-ordinates as well? | To be suggested by you |
| 3. ESRI India | 2.3 Collating and Preprocessing of data: Consultant should collate data collected | What is the amount of data available in digital formats? | A rough estimate will be given in the RFP |
| 3. ESRI India | 2.4 IX: Should deploy open sources and Big Data compliant databases to efficiently manage the large and continuously growing data | Would COTS open standard compliant databases be accepted as the part of solution? | Open standard compliant database/ technology solution will be accepted |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 3. Bidder's Eligibility | Input drone Image Type : Oblique or nadir based image ? | To be suggested by you |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 1.6  Description of the Assignment | As per RFP, the drone data is also get published and displayed in web portal. What is the accuracy level of Drone data for Creation of Base map? | To be suggested by you |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 2. Scope of Work | Vendor to conduct Drone Survey on all 125 ULBs & 18 DAs or to cover the areas where NRSC will not provide their satellite data. Need clear explanation on regards to capturing Z factor | Your suggestions will be preferred. Detail will be given in the RFP |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 2.5 Integration with existing system | Kindly Share the Specification ( platform and database) for existing application for better integration approaches Will your vendor be allowed to rework  based on outcome of fresh requirement analysis of non-functioning modules of its Municipal Application and will be open to develop new modules like PWD Module and IB Book Module that may be necessary for ULBs? | Details may be made available in RFP Will your vendor be allowed  to develop new modules |

| Company Name | Clause No | Queries | Replies |
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| 4. Scanpoint Geomatics Ltd<br>5. Protech Infosystems | 2.7.6 Automated Road Quality and Potholes identification | Will Drone data will comes in temporal pattern? | Your suggestions will be preferred. Detail will be given in the RFP |
| 4. Scanpoint Geomatics Ltd<br>5. Protech Infosystems | 2.8 One Common App for WB UD & MA | What is Mobile app operating system compatibility (ios/android) ? | Both Android and IOS |
| 4. Scanpoint Geomatics Ltd<br>5. Protech Infosystems | Page-2: iv) Integration of all the existing applications and legacy databases developed by ULB's and integration of various citizen-centric service-delivery based municipal e-governance modules | How we can get a list of existing applications and legacy databases developed by different ULBs and existing modules for citizen centric services | Details may be made available in RFP |
| 4. Scanpoint Geomatics Ltd<br>5. Protech Infosystems | Page-2: (viii) Integrate with Existing, Future Application and other available Databases as per availability of such ... | Please provide us list of planned future applications and existing ULB ERP systems | Details may be made available in RFP |
| 4. Scanpoint Geomatics Ltd<br>5. Protech Infosystems | 3. Bidder's Eligibility | Drone survey will be time consuming more over Operating and surveying via Drone in such massisve location could be difficult. Kindly look into it.<br>Will the bidder be allowed to submit credential on Drone Survey from Private Sector? | Drone survey will be solution for only particular services like black spot identification. Govt. experience will be preferred |
| 4. Scanpoint Geomatics Ltd<br>5. Protech Infosystems | 1.5.1 The Mouza maps | Procurement of Mouza Maps & area information by private parties from Government usually is not allowed. How AMRUT project office help the vendor to get such documents | Mouza maps may be procured by Dept. Agency may coordinate |
| 4. Scanpoint Geomatics Ltd<br>5. Protech Infosystems | 1.6.1 | What will be the approval process of Master plan document and Master Plan Data | Master Plan data to be confirmed with ULB. Master Plan final approval from UD&MA Dept. Pr. Secy. & if |

| Company Name | Clause No | Queries | Replies |
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| | | | required by MIC |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 1.6.1- vii | Whether consultant needs to cover each household or on sampling basis for collection of Citizens' feedback for Master Plans | Sampling. However, it will be mentioned in RFP |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 1.6.2 | How consultant will ensure that required Hardware and Software are in place | Hardware requirement will be acquired through Tender separately. Consultant is welcome to give suggestions |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 1.6.2.3 | What will be approval process for Socio Economic Data for each ULB | Legacy data will be shared. Approving authority will Chairman of ULB |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 2.7.3 (iv) | Whether consultant will be required to develop Separate software for Garbage tracking & Garbage Truck management and if so who will provide and approve specifications | There are 14 specific ULB service delivery modules which will be urgaded and made online at first. Details will be in RFP |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 2.7.7 | Are Separate software required for Building permission management system and if so who will provide and approve specifications | There are 14 specific ULB service delivery modules which will be urgaded and made online at first. Details will be in RFP |
| 4. Scanpoint Geomatics Ltd 5. Protech Infosystems | 3.1 Deliverable | Time schedule mentioned in document may not be adequate for the entire project. What is the process for time extension? | Your suggestion is noted |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 6. Transerve Technologies | 1.6.2. Pg-14 | 1. Kindly suggest the number of users in 125 ULBs & 18 dev. Authorities to plan the server architecture. 2. For integration with existing e-governance, kindly provide an indicative list of such running applications. | 1. 4 nos. users from each body, namely, Chairman/VC, EO/FO, AE/SAE, and IT/UP will be default users in ULBs; Chief Engineer/SE(Circle), AE, SAE will be in Dev. Auth. 2. 14 module list will be shared in RFP |
| 6. Transerve Technologies | 3. Bidders Eligibility, Pg-3 | We request the tender committee to review the financial criteria and scale down the average Turnover requirement to 2.5 Crores for the last three consecutive financial year (FY) to provide fair chance of participation and to receive more quality bids. | This is taken as a sugestion |
| 6. Transerve Technologies | 4. Work Experience of last 3 years mentioning at least 2 relevant assignments | We request the tender committee to consider the Work experience criteria with project execution and implementation for last 5 years | This is taken as a sugestion |
| 6. Transerve Technologies | 4. Office address of each of the bidder/participant of consortium, & Local Address in Kolkata (as required) | We request the tender committee to kindly consider an undertaking to setup Development office in Kolkata within 15 days once project is awarded and consider the same at evaluation stage, it will allow more quality bidders to participate in the bid. | This is taken as a sugestion |
| 6. Transerve Technologies | 1.6 Description of the assignment Also, there should be provision so that the Web GIS can also use Google and / or Bing map platforms which will be helpful in case satellite images are not available or available in portions. | The pricing of Google Map API has changed w.e.f. July 2018. Since the number of users and possible web hits are not available in the tender document, we request the authority to absorb the relevant cost on reimbursement basis. | Confirmed. Details may be made available in RFP |

| Company Name | Clause No | Queries | Replies |
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| 6. Transerve Technologies | 1.6 Description of the assignment High resolution drone data needs to be created by Consultant. | Kindly clarify the following: 1. Is the drone data required to be captured for the entire ULB area? 2. What is the frequency of drone data collected during the project duration? 3. Kindly confirm if the drone generated contours will be of 2- 5m interval. | 1. Yes. For certain features 2. & 3. To be suggested by you |
| 7. CyberSWIFT Infotech | Page-2: iv) Integration of all the existing applications and legacy databases developed by ULB's and integration of various citizen-centric service-delivery based municipal e-governance modules | We are assuming that we need to integrate the existing application with web GIS. Individual development of citizen-centric service-delivery based municipal e-governance modules are out of scope. API needs to be provided by the department for the integration. Please confirm | There are 14 specific ULB service delivery modules which will be urgraded and made online at first. Details will be in RFP |
| 7. CyberSWIFT Infotech | Page 2- (vi) Provide platform for facility management like drinking water supply, sewerage system, storm water drainage & transport network | Please clarify what is the exact requirement? | All are required |
| 7. CyberSWIFT Infotech | Page 2- (ix) Utility & Asset Monitoring and Progress Monitoring system for timely monitoring of project progress and overall achievement | Please clarify what is the exact requirement? Do you need mobile based application for field monitoring? What kind of utility and asset you want to monitor? Do you want to monitor physical as well as financial progress milestone wise? | Details may be made available in RFP |
| 7. CyberSWIFT Infotech | Page 2- (x) Develop channels for citizens to interact with UD & MA Department like WhatsApp or equivalent, SMS, Emails, web forms etc. | Please clarify what is the exact requirement? | Details may be made available in RFP |
| 7. CyberSWIFT Infotech | 1.6.4 - Description of the Assignment (Pg-15): Bidirectional communication channels like Mobile APP, WhatsApp or equivalent, Emails, SMS and Web forms to | Do you want to integrate all these with Web GIS Portal? Including WhatsApp? | Yes |

| Company Name | Clause No | Queries | Replies |
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| | be provided for interactions with Citizens. | | |
| 7. CyberSWIFT Infotech | Page 2 (xii) Build facility to generate and propagate alerts, messages and intimations to citizens, and departmental officers. | Please clarify what is the exact requirement? What kind of alerts, messages and intimations to citizens, and departmental officers please clarify. We request you to accept the assignments at least forthe last 5 years. | Details may be made available in RFP |
| 7. CyberSWIFT Infotech | 3. Bidder's Eligibility | Also, we are requesting you to allow ongoing projects & for that, kindly allow payment advice or bank statement note of payment received with respective work orders. As in Page 39 Annexure VI: Project Experience in the Last 3 YearsName of Project/Assignment and year of completion (write'ongoing' in case of ongoing project)" has been mentioned As you are allowing the work orders for Multilateral Agencies, will you accept work orders for Public Limited companies/big corporates? We are requesting you kindly make the clause from "Drone and High-Resolution Satellite Images and DGPSsurvey-based Base-map creation" to "Drone or High-Resolution Satellite Images and DGPS survey-based Base-map creation". | This is taken as a sugestion. Details may be shared in RFP |
| 7. CyberSWIFT Infotech | 3. Bidder's Eligibility: Average annual turnover of the bidder and each of the participant of the consortium over the last three financial years (2015-16,2016-17 and 2017-18) certified by a practicing Chartered Accountant | Request you to consider provisional balance sheet for the year 2017-18. | This is taken as a sugestion. Details may be shared in RFP |
| 7. CyberSWIFT Infotech | 3. Bidder's Eligibility: Office address of each of the bidder/participant of consortium, & Local Address in Kolkata (as required) | What kind of document we need to submit for Address proof documents at Kolkata. | Company local address documents' verified copy |

| Company Name | Clause No | Queries | Replies |
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| 7. CyberSWIFT Infotech | 3. Bidder's Eligibility: Declaration that the Bidder or any of its staff had not been at any point of time blacklisted by any Government or its agencies or court of law or any other organization | What document we need to submit:Self-declaration in company's letter head or in Non-Judicial Stamp Paper with Notary? | Self-declaration in letter head |
| 7. CyberSWIFT Infotech | 1.4 In the State of West Bengal, the work initiative for Master plan formulation for 125 Urban Local Bodies including 55 AMRUT cities is to be taken up as a single work or inclusters. | Whether you want to make different cluster as per region? What is the basis for making of the cluster? Distribution of cluster is one of the major challenges which needs to be finalized first. Please look into it. | No clustering has been thought of. However, you may suggest this which will be considered in RFP |
| 7. CyberSWIFT Infotech | 1.5.1 The Mouza maps and area information in concern of the above all may be acquiredcommercially from Department of L&LR and RR (http://banglarbhumi.gov.in), and also Central Govt.offices of Additional Surveyor General (Eastern Zone) and Directorate of Census Operation-West Bengal | Are Digitization, Stitching &geo-referencing of Mouza Maps, a part of the scope for all the cities & development authorities? Or NRSC is preparing? Please confirm. In which format NRSC will Provide the Base Map; .shp or in Geo-Pdf? Is NRSC will provide the shape file as per AMRUT data model? | NRSC will give geo-referrenced base maps for 55 AMRUT cities. For 75 Non-AMRUT cities State will provide imagery and base maps to be prepared by Agency |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | As we know that Base map has been prepared by NRSC for AMRUT Cities. What about the other Municipalities? Is the Base map available with them or we need to prepare the base map for Non – Amrut Cities & Development Authorities? | You will be expected to prepare Base maps |

| Company Name | Clause No | Queries | Replies |
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| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Is the DEM & Contour map will be generated by NRSC? If not what is the procedure you are looking for; through total station survey or through stereopair image (who will provide the image)? | DEM will be given by NRSC for 55 AMRUT cities whose ground truthing to be done by Agency. For Non AMRUT cities, Agency will suggest |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | The land use maps, & other maps may available with the Development authorities or municipalities in different format like CAD (Geo-referenced/non-geo-referenced), GIS (.shp file), Paper drawing etc. | Landuse maps available |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Kindly share your view regarding the scope of the work for GIS mapping for Non-Amrut cities & Development authorities? | TCPO guideline will be followed |

| Company Name | Clause No | Queries | Replies |
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| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | The scope should include the Followings: | |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Purchasing of Satellite Image (0.5m or Better Resolution) Ortho Rectified. How old Satellite image you will accept? Or you can do a New Tasking for current satellite image? | Satellite image as available with Dept. will e used |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Geo-referencing of Satellite Image | Details may be made available in RFP |

| Company Name | Clause No | Queries | Replies |
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| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | DEM & Contour generation (topographical survey or from stereopair image please suggest) | Details may be made available in RFP |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Development of Base map from Satellite Image/Landuse map preparation & Ground Verification & attribute collection including Building Footprint Digitization | Details may be made available in RFP |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Property Survey /Household survey, Photo Capturing & Geo-Tagging with Attribute data collection & verification of Property MIS data (given by the ULBs). Measurement of the building would be out of scope as they may not allow us to do so. | Details may be made available in RFP |

| Company Name | Clause No | Queries | Replies |
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| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Point of Interest collection with attribute considering 15 points as per sq.km. | Details may be made available in RFP |
| 7. CyberSWIFT Infotech | 1.6 Description of Assignment: The High-Resolution Satellite Imagery and/or Base Maps received from NRSC will have to be uploaded in the portal by the bidders/Consultant and they are also preferablyrequired to create high-resolution drone data which will be uploaded in portal. | Utility Network mapping (Electrical utility upto HT level, Drainage, Storm Water Drainage Line, Water Pipe line, Sewerage line, GAS if any) from secondary data like drawing, CAD map & others given by ULBs | Details may be made available in RFP |
| 7. CyberSWIFT Infotech | 1.6.1 vii. The UD & MA Mobile Apps to be created under this project should support field surveys of the Masterplan and Citizens feedback in the Masterplans. | Shall we need to build the app for Android only or in iOS also?<br>Who will provide the Existing Land use plan? What will be the format of this plan; CAD (Geo-referenced/non-geo-referenced), GIS (.shp file), Paper drawing etc? How old the data is? | Both Android and IOS Landuse maps will be provided by Dept & Dev. Authortiies<br>Details will be available in RFP |

| Company Name | Clause No | Queries | Replies |
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| 7. CyberSWIFT Infotech | 1.6.2.1 Updation of existing land use plan and notified Master Plan of city which includes demand assessment of infrastructure, employment, Residential development, commercial activities, industries etc., identification of issues, projected requirements, development strategy and draft proposals on the GIS base map and sector-wise data analysis, to be done by the Consultant. | Is existing Land Use map preparation & geo-referencing & Updation is a part of the scope for non-Amrut towns & Development Authorities? | Yes |
| 7. CyberSWIFT Infotech | 1.6.2.2 Updating the Spatial Attributes Collection & Vetting of Base Map | How old the Map is? What will be the format? CAD (Geo-referenced/non-geo-referenced), GIS (.shp file), Paper drawing etc. Other than Amrut Cities, are the maps available with NRSC as we know NRSC is preparing maps for Amrut Cities only? If not, who will provide the maps for other cities or it is the scope of the work for the consultant? What is the exact scope for Survey Please clarify & include in the scope in the EoI for better understanding? Please clarify & provide the exact scope of the work for Survey &Spatial Attributes Collection & Vetting of Base Map. Who will do the final vetting; NRSC or consultant. What will be done for Non-Amrut Cities & Development Authorities What kind of land-use survey you are looking for as NRSC is preparing the Land Use map. We need to collect the attribute of the layers only or we need to prepare the land use map | Details will be available in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 7. CyberSWIFT Infotech | 1.6.2.3 Urban Database Creation: | What kind of traffic & transport survey you require? Please clarify. Also, please provide town wise number of households to be surveyed & the approximate field / questionnaire to be captured. | Details will be available in RFP |
| 7. CyberSWIFT Infotech | 1.6.5 Description of the Assignment | We are assuming all these kinds of database and documents (property tax, Trade licenses, Birth andDeath registrations) are in digital format & no Data entry activities for these documents include in scope of work. We will just integrate these to the Web GIS Application. As per this clause we are assuming department will give us the base map for all the cities & development authorities. Please confirm. | Yes |
| 7. CyberSWIFT Infotech | 2.1 a. Spatial attribute collection and vetting of Base Map | What is "draft base map"? Is NRSC will prepare the map for non-Amrut cities & development Authorities also? If NRSC is preparing the base map from High Resolution Satellite Image, so what is the usability of Drone data, kindly clarify. | Repititive questions. May be discussed on table |
| 7. CyberSWIFT Infotech | There is requirement of trained manpower that will run the GIS lab henceforth. Accordingly, Technical/non-Technicalpersonnel (such as, Urban Planner/Resource Planner, Socio-Economic Planner, IT Expert,Senior GIS Professional, Junior GIS Professional, Field surveyor etc.) will be required to beplaced in the fieldoffice. | Field office in that case is not required. The work is considering inhouse & field work both. For that, field officer will be present in the working hours & the inhouse persons can do the work at bidder's project office in Kolkata. One Lab can be setup in the Department for Monitoring the total work. Monitoring & verification of the total work will be done by the person who would be directly from UD department. | Your suggestions will be preferred. Detail will be given in the RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 7. CyberSWIFT Infotech | 2.6 Unified GIS and MIS Dashboard with Actionable Insights using Analytics and Machine Learning Algorithms will be made available for all the ULBs, however as not all ULBs will have data initially, so necessary provisions and facilities needs to be given to link and commission the dashboards for these ULBs or Development Authorities as and when the data is available for them. | We are assuming that we need to pull the data from the respective application through API and only show the data in dashboard. Individual application development is out of scope. Please confirm. | Repitive questions. May be discussed on table |
| 7. CyberSWIFT Infotech | 3.1 Data Delivery & Approval | We are assuming data & maps & updated master plan will be submitted to the UD department directly & UD department is responsible for the approval of the same. ULB /DA wise submission will not happen. UD department will appoint at-least one nodal officer ULB/DA wise who will help us during the survey & mapping work & other related activities related to the project only. As this is a huge work which may not be completed within the schedule time which has been mentioned. All the work is linked together and any delay in any stage will reflect in the next step. We are requesting you kindly rethink on the timeline part. | Maps to be verified with individual ULBs. Dept. will approve next Concern over timely completion is expected to beprofessional committment of Agency |
| 7. CyberSWIFT Infotech | Extension of the EoI Submission Date | As it is a huge work & the documentation needs to prepare a lot & also the scope of the work is not very clear, we are requesting you kindly extend the EoI submission date by at least 15 days. Your approval in this regard will be appreciated. | Not Applicable |
| 7. CyberSWIFT Infotech | Annexure-V: Statement of any Indictment | Please clarify that we need to sign the Annexure V by any Income Tax, Sales Tax, Customs and Excise Authorities and other Regulatory Authorities? Is this possible? Or you can allow self-attested copies? | Discuss on table |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 7. CyberSWIFT Infotech | 3. Bidder's Eligibility: The bidder can be a single entity or a consortium | Can one company do the consortium with multiple companies? Please confirm the same.<br>Though this is e tender, but do we have to submit some original document physically?  Like Consortium Agreement, Annexure-II, Annexure-V, any declaration in Non-Judicial Stamp Paper. | No<br>Discuss on table |
| 7. CyberSWIFT Infotech | 3. Bidder's Eligibility: The entity/bidder OR all the entity/bidder in the consortium must be ISO certified | The clause can be "The entity/bidder OR all of the entity/bidder in the consortium must be ISO certified and either lead or partners must have latest ISO Certificate for Software Development & GIS Both." | Discuss on table |
| 8. PricewaterhouseCoopers Pvt. Ltd | 1.6  Description of the Assignment | Could you please confirm the area of interest to create High Resolution drone data and what is frequency to updated the data in the proposed portal | Area will be suggested in RFP. Frequency to be sugested by you |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.6.4 Water Supply | Could you please confirm that the department have water network in digital GIS Format. If yes could you please confirm the currancy. | Not available |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.5 Integration with existing Systems | Out of 17 applications / modules mentioned in section 2.5 are readily available for integration with the proposed web GIS portal. | 14 offline modules of ULB service delivery prepared but non-functional are available at SUDA |
| 8. PricewaterhouseCoopers Pvt. Ltd | Terms of Reference | Could you please confirm whether the whole work of 125 ULB including 55 AMRUT cities will be assigned to single service provider / Vendor or multiple vendors. Kindly confirm | Yes. Preferrably. |
| 8. PricewaterhouseCoopers Pvt. Ltd | 1.5.1  The Mouza maps | could you please provide the details of volumes such as no of mouza maps are available and what will the cost of each mouza map for all ULBs, it will help us to arrive better cost estimations. | Aproximately 1200 Mouzas of 55 AMRUT cities available. Arrangements |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 8. PricewaterhouseCoopers Pvt. Ltd | 1.6.1  Formulation | we assume that all these layers of attribute data will be provided by the department through single point of contact or do we need to collect from different department individually. Kindly confirm | May be collected centrally |
| 8. PricewaterhouseCoopers Pvt. Ltd | 1.6.2.2  Updating the Spatial Attributes Collection & Vetting of Base Map: | 1. Do we need to procure high-resolution imagery seperately or department has already procured the same. kindly confim<br>2. what is resolution of the satellite imagery<br>3. what will be the time line (no of days) or cut off date for NRSC to provide updated base map back to service provider / consultant. Kindly confirm time lines | 1. Department has the imagery. To collect from Dept itself<br>2. 1:4000 or as per standard required.<br>3. Details will be given in RFP |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2. Scope of Work | what is the proposed DGPS observation time for each GCP point and how many points are required across AoI. Kindly provide the details | Details may be provided in RFP |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.2  Urban Database Creation | What is the source of socio-economic data and who is responsible to provide the data to consultant or consultant need to procure on his own. Kindly confirm | ULB will provide Legacy data |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.2  Urban Database Creation | Could you please provide the sample form of property survey to understand no. of attribute data required to collect from the house owner during contact survey | Details may be provided in RFP |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.3 Collating and Preprocessing of data | Kindly confirm whether department will provide single point of contact of all ULB to collect and collate data from different ULBs or consultant needs to contact individual ULB spoc for data. | To be collected individually from ULBs |
| 8. PricewaterhouseCoopers Pvt. Ltd | 1.6.5 | 1. How many such integration touchpoints are there?<br>2. What is the exact scope of integration here?<br>3. Will the respective UD/MA applications expose interfaces to be integrated from the proposed platform? | Details may be provided in RFP |
| 8. PricewaterhouseCoopers Pvt. Ltd | 1.6.7 | To design, and automate the workflows for various UD & MA departmental processes.. Could you please elaborate on the requirement | Details may be provided in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.5 Scope of Work | Does it mean all the services currently provided by UD & MA applications are also required to be provided through the proposed Portal and Mobile App? | Yes. Details will be in RFP |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.10 Infrastructure sizing:: | 1. Will the application be a centralized application shared across UD/MA or it is required to be separately hosted for each UD/MA? 2. Will the application be hosted over DC or Cloud? 3. If the application has to be hosted over DC, we assume that the server space in DC would be provided by the department. Is that a correct understanding? | To be suggested by Agency. |
| 8. PricewaterhouseCoopers Pvt. Ltd | 1.6.6 | How will the data be collected for functionalities like. "Building Deviation, Green Cover, Road Bad Patches, Garbage littering etc" for dashboard reporting purpose? | Through survey and legacy data available in ULB |
| 8. PricewaterhouseCoopers Pvt. Ltd | 2.13 2.13 Key Functional and Technical specifications of the Web Based App | We assume that we would need to only integrate and enable LDAP/ active directory Authentication & authorization if it is already present in the system. | Scope of work may vary. Details will be in RFP |
| 8. PricewaterhouseCoopers Pvt. Ltd | User information | How many number of GIS users will access the proposed WebGIS portal for feature editing in Web? | 4 nos. users from each body, namely, Chairman/VC, EO/FO, AE/SAE, and IT/UP will be default users in ULBs; Chief Engineer/SE(Circle), AE, SAE will be in Dev. Auth. |
| 8. PricewaterhouseCoopers Pvt. Ltd | High-availability | What are the high-availability requirements of the system | Details may be provided in RFP |
| 9. Excel Geomatics | Page 2 ; (ii) Design, Development and Commissioning of Web GIS Portal with provision for creation and updation of Geospatial data | 1.As per the AMRUT guideline, Web GIS is not the part of AMRUT cities. Can this be treated as seprate module? 2. Since many of the companies have resources capable of developing WebGIS? Will their CVs be considered for qualification in case the company doesn't have such Web-GIS projects directly? | This is taken as a sugestion. It may be considered in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 9. Excel Geomatics | Page 2; (iii) Develop Tools for Creation of the Master Plan Data (sector-specific MIS) and Tools for Zonal and Sectoral Land Use | 1. Since many of the companies have resources capable of Sector-specific MIS? Will their CVs be considered for qualification in case the company doesn't have such projects directly? | This is taken as a sugestion. It may be considered in RFP |
| 9. Excel Geomatics | 3. Bidder's Eligibility | Will the companies who worked as a sub-contractor for the main company can be considered qualified? | Each of the consortium partners to be reviewed as per eligibility criteria given |
| 9. Excel Geomatics | 4. Documents to be submitted | Request you to allow joint venture with International company for World Class Master planning. | This is taken as a sugestion. It may be considered in RFP |
| 9. Excel Geomatics | 2.2 ( c) | We feel that the GPS aided field survey for any purpose should be sufficient for qualification. Kindly consider. | This is taken as a sugestion. It may be considered in RFP |
| 10. Stesalit Systems Limited | 3. Bidder's Eligibility Page 3 | We understand that evaluation of project completion and execution in last 3 years shall be equally evaluated. Kindly confirm. | Yes |
| 10. Stesalit Systems Limited | 1.6 Description of the Assignment Page 12 | Kindly confirm that the high resolution satellite imagery that has been taken as a platform to create the base maps by NRSC is available | It will be made available after obtainin. Details will be shared in RFP |
| 10. Stesalit Systems Limited | 1.6.2.2 Updating the Spatial Attributes Collection & Vetting of Base Map Page 14 | We understand that procurement of High Resolution Satellite Imagery and/or Base Maps from NRSC shall be the done by the client | Yes |
| 10. Stesalit Systems Limited | 1.6.1 Formulation (i.e. creation and updation) of GIS based Master Plan | Kindly state the platform for development of the app, Android/IOS/both? Also, is it envisioned that citizens can access the master plan in the app for giving feedback? Kindly state the format for citizens feedback on app (in the form of text comments/ geosketch) | Both. To be suggested. Details will be in RFP |
| 10. Stesalit Systems Limited | 1.6.1 Formulation (i.e. creation and updation) of GIS based Master Plan | Kindly specify which type of users shall have access to this tool? | To be suggested by Agency. |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 10. Stesalit Systems Limited | 1.6.1 Formulation (i.e. creation and updation) of GIS based Master Plan | Shall the required infrastructure to implement the web GIS solution be provided by the client? | Yes. Hardware will be purchased. GIS cell will be in place |
| 10. Stesalit Systems Limited | 1.6.2.3 Urban database creation Page 15 | Kindly define the no of primary surveys for cost estimation purpose | To be suggeted by Agency. |
| 10. Stesalit Systems Limited | 1.6.2 Updation of Master Plan | "The system should provide unified GIS & MIS Dashboard with Actionable Insights using Machine learning Algorithms and Analytics for all the ULBs, and for functionalities like Building Deviation, Green Cover, Road Bad Patches, Garbage littering etc"- What is the scope of this module. | Details may be provided in RFP |
| 10. Stesalit Systems Limited | 2. Scope of Work Page 16 | Kindly elaborate the requirement of drone data creation. Also, we understand that the requirement from the consultant is a one-time drone data creation at the time of baseline assessment and a system architecture to support further future analysis decision making based feeded drone data / customer inputs. No drone data needs to be created by the consultants more than once. Kindly provide a density of DGPS points or at least a range at this stage for a uniform platform for all consultants | Details may be provided in RFP |
| 10. Stesalit Systems Limited | 2.6.9 Others Page 21 | What will fall in others category? | |
| 10. Stesalit Systems Limited | 2.7.3 Garbage and Black spot management | IOT sensors will be procured and installed by the departments or the consultants? | To be suggested. Details will be in RFP |
| 10. Stesalit Systems Limited | 2.2 Urban Database Creation | We understand that all the master plan report will be generated on the desktop GIS application and it will be reflected on the web portal- Please confirm | To be suggested. Details will be in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 10. Stesalit Systems Limited | 7. Tenure of work Two years (2 yrs) 2.12 Operation, Maintenance and support post commissioning for two years 4.3 Annual Maintenance for the GIS based software product will be up to three years after which the software AMC may be renewed | Kindly clarify the envisioned timeframe for this project | As mentioned in EOI. Details will be in RFP |
| 11. Avineon India | 1.6.1 Formulation (i.e. creation and updation) of GIS based Master Plan of 125 Urban Local Bodies and 18 Development Authorities for the State of West Bengal | vii) Please let us know, how many Mobile Apps needs to be created. Kindly list down the high level functionalities of Mobile App. X) Please let us know the number of concurrent users expected for Web and desktop applications. Xi) Please list down the existing/proposed MIS and e-goverance modules of 125 ULBs and 18 Development Authorities | No. of Users - 4 nos. users from each body, namely, Chairman/VC, EO/FO, AE/SAE, and IT/UP will be default users in ULBs; Chief Engineer/SE(Circle), AE, SAE will be in Dev. Auth. Rest of the details may be in RFP |
| 11. Avineon India | 1.6.2 Design, Development and Commissioning of Web GIS Portal Commissioning of Web GIS Portal at the UD & MA Department for Zonal Plan Creation and Sector plan creation in a rule based 3D environment with advance functions | We understand Web GIS Portal will be centralized one. No need to develop different Web GIS Portal to different departments. Please confirm. Expectation of 3D environment, 3D Analysis means 3D data is available with you or need to be collected/created as part of this project. Kindly clarify. | Portal will be a single entity. Sugestions otherwise may be give. 3D environment to be created by Agency if no otherwise sugestion is there from them |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 11. Avineon India | 1.6.2.2 Updating the Spatial Attributes Collection & Vetting of Base Map: The State Mission Directorate will make available the draft base map of the city obtained from NRSC to the Consultant and the consultant should capture the high resolution imagery | Will "Collection of spatial attributes" involve Field survey. Please clarify. If satellite data prepared by NRSC for 125 ULBs and 18 Development Authorities is not available during the execution of this project, Bidder will execute project with the available data only. Is this acceptable? | Legacy data is there with ULB<br>Satellite data available with Dept.<br>Details may be shared in RFP |
| 11. Avineon India | 1.6.3 Develop Tools for Creation of the Master Plan Data and Tools for Zonal Land Use and Sectoral Land Use; The consultant need to use the GIS software for Master plan | Lifetime Licenses are not applicable in software Industry. There are following options<br>Option 1: perpetual licenses.<br>Licenses will be permanent. But product upgrades and product support charges need to be paid annually.<br>Option 2: Term based. Only applicable 1 year. Needs Annual renewal to use software.<br>Please let us know which option you prefer and how long you need these licenses. | This is taken as a sugestion. It may be considered in RFP |
| 11. Avineon India | 1.6.4 The GIS software must operate on Windows or equivalent platform, with industry standard RDBMS (viz. ODBC or equivalent) compliance, user-friendly GUI, preferably configurable with online help tool | We understand UDMA has a Property Tax payment application. Expectation is to build one common mobile application for all 125 ULBs and 18 Development Authorities to interact with citizens. Please confirm. | UD&MA possess the data structure of an offline non-functional Property Tax module with no online payment option available. |
| 11. Avineon India | 1.6.5 The System should able to integrate all the existing legacy databases, data centers & systems being used by the department like property tax, Trade licenses, Birth /Death registrations of local ULB | Please list down the existing legacy databases, data centers and systems being used by each of 125 ULBs and 18 Development Authorities separately which needs to be integrated. | Details may be provided in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 11. Avineon India | 1.6.6 The system should provide unified GIS & MIS Dashboard with Actionable Insights using Machine learning Algorithms and Analytics for all the ULBs, and for functionalities like Building Deviation, Green Cover, Road Bad Patches, Garbage littering etc. | We understand one unified GIS & MIS Dashboard with Actionable Insights using Machine learning Algorithms and Analytics for all the 125 ULBs for functionalities listed. Please confirm our understanding. | Confirmed |
| 11. Avineon India | 2.4 Setting up and commissioning of Geoportal and Geo Database with necessary hierarchy-based logins. Geoportal should be made available for all the 125 ULBs and 18 Development Authorities. The architecture needs to be designed to meet the performance with spatial<br>I. User friendly and scalable.<br>IV. Ability to add any number of data layers<br>V. Ability to view any combination of the data layers present in the system.<br>VI. Data discovery<br>a. Simple and effective Data search<br>b. Federated Searching<br>VII. Ability to share data entered in the geoportal by way to web-services in real time. | Please provide following details for 125 ULBs and 18 development Authorities. number of users,<br> number of data layers,<br>objects and interfaces | No. of Users - 4 nos. users from each body, namely, Chairman/VC, EO/FO, AE/SAE, and IT/UP will be default users in ULBs; Chief Engineer/SE(Circle), AE, SAE will be in Dev. Auth. Rest of the details may be in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 11. Avineon India | 2.5 Integration with existing system and legacy databases is required towards the vision of having one common online platform for all UD & MA applications and services. As a part of the scope the consultant will be required to integrate below types of existing egovernance systems Module and legacy databases. | Is this list applicable to all 125 ULBs and 18 development Authorities? If not provide the list for each. | Applicable for all |
| 11. Avineon India | 2.6 Unified GIS and MIS Dashboard with Actionable Insights using Analytics and Machine Learning Algorithms will be made available for all the ULBs, however as not all ULBs will have data initially, so necessary provisions and facilities needs to be given to link and commission the dashboards for these ULBs or Development Authorities as and when the data is available for them. Some of the Dashboards Modules will be as below | If data for 125 ULBs and 18 Development Authorities is not available during the execution of this project, Bidder will execute dash boards with the available data only. Is this acceptable? | Yes acceptable |
| 11. Avineon India | 1.5.1 The Mouza maps and area information in concern of the above all may be acquired commercially from Department of L&LR and RR, and also Central Govt. offices of Additional Surveyor General | Please clarify the below :<br>1) Do we need to integrate the Mouza (Cadastral) maps into base map.<br>2) Do we need to purchase these from the department of L&R and RR or these will be provided along with the inputs.<br>3) Is the Cadastral data provided in vector or scan. | 1) Yes<br>2) No<br>3) Scan |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 11. Avineon India | 1.6.2.2 Updating the Spatial Attributes Collection & Vetting of Base Map | 1) We assume all the base map features will be available in the NRSC provided base map data and the vendor only add the attribute information from the survey. Please confirm.<br>2) For above point 1, if NRSC supply all the base map data vendor responsibility to add attributes/survey for the features provided in NRSC data. Please confirm.<br>3) For above point 1, If NRSC supply only few layers, please clarify the layers available in the NRSC data. So that we should know the layers to be digitized from the HRSI imagery. | NRSC base maps with all the mandatory layers available only for AMRUT cities. Rest to be prepared |
| 11. Avineon India | 2.1a Spatial attribute collection and vetting of Base Map (Pg 15) | Please clarify whether we need to purchase the base map from NRSC for other than 55 AMRUT cities.<br>Also clarify for AMRUT cities we doesn't need to do any graphical modification. | 1) No. State will acquire. You require to cordinate<br>2) No |
| 11. Avineon India | 1.6.2.2 Spatial attribute collection and vetting of Base Map | As we need to use the NRSC provided data, we assume imagery used for digitization of base map will be provided and this will be used for further activities. If we use the new georeferenced imagery NRSC data will not match with the new imagery. Please clarify. | Your suggestion may be considered. |
| 11. Avineon India | 2.1 - Scope of Work (a) The prospective/vendors will be bound to collect and document the existing GIS data available with ULBs and other departments. So as there is no duplicity of work. | Please clarify/confirm the below:<br>1) Please clarify the data/layers to be collected from ULBs.<br>2) We assume for all the cities data provided by ULBs in vector format. So there is no digitization involved. Please confirm.<br>3) Is the ULBs digitized data is in seamless format (with proper edgemaching).<br>4) ULBs existing data might be created using the old landbase/imagery. If we use the new imagery or the imagery used for base map creation (NRSC) then the ULBs data need to be modified against the new base map/imagery. Please confirm.<br>5) Please clarify do we need to do any modifications to ULBs data.<br>6) Is there any scanning involved while collecting the ULBs data. | 1) ULB Chairman, EO/FO and Engineer may be contacted<br>2) & 3) Vector data may not be available, so digitization may be required.<br>4) Your suggestion is welcome<br>5) Valid updation of information may be required<br>6) Scanning may be required |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 12. Albatross Software Services | General | Is there any connection with the existing plan available with ULBs with proposed application? In case yes , is there any commercial implication? | No. The new plans will have Horizon year 2033 |
| 12. Albatross Software Services | General | Will the structure for Smart City will it be followed? | GIS based Master Plan will follow GIS benchmarks given in TCPO approved RFP |
| 12. Albatross Software Services | General | What will be the database and application platform for the proposed system? | To be suggested by you |
| 12. Albatross Software Services | General | The data will be stored in centralized or decentralized? | Preferably centralized server based storage |
| 12. Albatross Software Services | General | Will the data collection, application development will be on-site or off-site? Will the cost of the same be included ? | Off-site will not be preferred. All inclusive cost to be given |
| 12. Albatross Software Services | General | Will there be any payment gateway used in the proposed application? | e-Governance applications such as property tax, building permission system should include payment gateway |
| 12. Albatross Software Services | General | The Mobile app developed will be in both version android & IOS? | Android version is the least requirement |
| 12. Albatross Software Services | General | Can any other type of base map be used other than obtained from NRSC? | Yes. Provisions should be kept to select between satellite imagery (or NRSC base maps) or BING or GOOGLE maps |
| 12. Albatross Software Services | General | In mobile app for logging grievance, seeking services the user will be validated by geo location? | To be suggested by you |
| 12. Albatross Software Services | General | How the integration of proposed application be done with existing applications? Through a link in the existing system or other? | Preferably the old system should get completely embedded. |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| | | | Rest to be suggested by you |
| 12. Albatross Software Services | General | How the data collection to be done? Through mobile app? | Physical data collection whereever possible with the help of ULB officials. Your proprietary Mobile App may be used as per your choice if available |
| 12. Albatross Software Services | General | Is there any scope for MSME company? | We will go by our company eligibility criteria given. Alterations depends upon approval from Pr. Secratary |
| 12. Albatross Software Services | General | What is meant by "The Lead company should be more than 50% shareholder of the consortium"? | There should be one Lead partner in the consortium of group of companies. If the consortium turnover annually comes to 5 crores, then turnover of the lead partner's should be more than 2.5 crores annually |
| 12. Albatross Software Services | General | Will provisional accounts for the financial year 2018-19 ne considered in last 3 years financial statement? | The audited accounts of 3 years, e.g. 2015-16, 2016-17, 2017-18 will be considered first as per criteria given |
| 12. Albatross Software Services | General | Is there any tender fee or EMD involve in this tender? | Not any in this E.O.I. |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 13. SkyGroup | 3. Bidder Eligibility | We request you to include 'Proprietorship firms' registered under relevant Acts in India as eligible bidder for the project.<br>We request you to change the ISO requirement as follows:<br>" any one partner of the consortium should be ISO certified"<br>We request you to allow international companies registered under relevant act in their respective countries as eligible bidders for the assignment. | |
| 13. SkyGroup | 2. Scope of work: Base map creation using high resolution satellite imagery as well as drone<br>Updation of Master Plan FOR THE HORIZON YEAR 2033 | The basemap of the AMRUT cities is already prepared by the NRSC. We request the client to clarify the data that is expected to be collected through drone survey which is useful for master plan preparation.<br>It is requested to keep the plan period till 2030 or 2035 in line with the general norm of master plan projects. | |
| 14. TCS | Annexure VI: Project Experience in the Last 3 Years | Drone and High Resolution Satellite Images and DGPS survey based Base-map creation. Pls confirm if both the credentials for DRONE and HRSI has to be included or either of them will do . We request you to consiuder either one. | Any or both may be used. Your sugestion is welcome |
| 14. TCS | Annexure –IV: Details about the Bidder (For Lead and Consortium firms) | Pls confirm if all the qualification credentials for 5(five) workstreams ( Experience in Formulation of GIS based Master Plan) should come from Lead bidder  and it's a mandatory requirement? | Yes should be there from Lead Bidder AT LEAST. Mandatory requirement |
| 14. TCS | 3. Bidder's Eligibility | Also confirm, if all five workstream are not staisfied by lead bidder, the same experience  to be satisfied by submitting credentails from Consortium partners? Is this a mandatory requirement? | Any of the Consortium partners is minimum mandatory requirement |
| 14. TCS | 3. Bidder's Eligibility | Pls confirm, if Global Credentials including India would be acceptable for qualification | National credentials will be given preferrence. Relevant AMRUT credentials will be given more preference |
| 14. TCS | Sec 2.13: Key Functional and Technical specifications of the Web Based Applications, platforms and Databases are as follows | Pls confirm what do you mean by "external data centre".  Pls confirm , if all the data (spatial and non spatial) to be uploaded on to this external data centre? | NIC data centre or other commercially viable options will be considered. Suggestions from you also welcome |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 14. TCS | Sec 2.13:Key Functional and Technical specifications of the Web Based Applications, platforms and Databases are as follows | Pls confirm all the GIS server software should be quoted for cloud based only. | Your suggestion may be considered. |
| 14. TCS | General | Please confirm what is the implementation time line. | 2 years. |
| 15. Hexagon-Intergraph | General | We request to arrange the presentation after EOI submission. Also, is this presentation a qualifying item for EOI submission and needs to be submitted along with EOI? | Your suggestion may be considered. |
| 15. Hexagon-Intergraph | 2.4 - Scope of Work: Should deploy open sources and Big Data compliant databases to efficiently manage the large and con tinuously growing data. | Our suggestion in respect to handle large data, it should also allow COTS databases to increase scalability, integrity and security like other proposed technology and to handle 125 ULB , 18 development authority database | Your suggestion may be considered. Details will be made available in RFP |
| 15. Hexagon-Intergraph | EOI has requested to integrate different public service application like Birth and Death certificate Management, Financial Accounting Integration with existing systems and workflows, Building Permission Management System | Are these applications already built or there is scope for development of these applications in this project? | Your suggestion may be considered. Details will be made available in RFP |
| 15. Hexagon-Intergraph | What is the existing server infrastructure setup? Will it be a physical infrastructure or cloud based? | Request you please provide details of existing infrastructure facility for understanding and planning. It will help to decide how much scaling needs to be implemented in the hardware setup to meet the project goals. | Details will be available in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 15. Hexagon-Intergraph | How many users will be simultaneously accessing the web application for viewing, editing and administrative tasks, based on different assigned roles. Details are required for future increase in application users to understand the scalability for the application. Will there be a public view access of the Web GIS application? | Concurrent access of the application across multiple roles requires a definitive number for Go live and future additions. This allows for designing a clear system architecture and load balancing environment. Also, Public viewing application will increase the number of hits into the application. Our suggestion is to have separate applications for public view and internal usage. | Your suggestion may be considered. Details will be made available in RFP |
| 16. URS Scott Wilson India | 3. Bidder's Eligibility –Page 3 | The bidder can be a single entity or a consortium. Please clarify no. of consortium partners allowed | Consortium can be as many as required rationally |
| 16. URS Scott Wilson India | 3. Bidder's Eligibility –Page 4 | Only those entity/bidder should apply whose audited turnover is not less than Rs. Five Crores for each of last 3 consecutive financial years (that is, 2015-16, 2016-17, 2017-18) must apply. Request to enhance the turnover of Lead Member to Rs. 50 Cr. and Consortium partner to Rs. 1 Cr / 2 Cr | May not be considered |
| 16. URS Scott Wilson India | 3. Bidder's Eligibility –Page 5 | Only those entity/bidder who in the last 3 years have handled assignments related to providing total GIS solution which includes Design and Development of GIS Web Applications, GIS Database Creation, GIS Field Survey etc. We request you to clarify the points. It is applicable for total Entity/ Lead Bidder/ Lead with JV Partner | Applicable for Single bidder (in absence of JV), or at least for the Lead Bidder |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 16. URS Scott Wilson India | 4. Documents to be Submitted – Page 4 | "Average annual turnover of the Lead bidder over the last three financial years (2015-16, 201617 and 201718) certified by a practicing Chartered Accountant" The clause may be amended as: The bidder should not be under active prosecution for criminal offence, litigation, court receivership or similar proceedings . It may please be noted that nonprovision of this declaration in this E.O.I will lead to rejection of the same. (Refer "SOI in Annexure V in Section B)  --Declaration that the Bidder or any of its staff had not been  at any point of time blacklisted by any Government or its  agencies or court of law or any other organization as on date --Brief of court / legal cases pending, | This may be considered in addition to the given clause |
| 16. URS Scott Wilson India | 4. Documents to be  Submitted – Page 5 | Statement of Legal Capacity | Details will be available in RFP |
| 17. Vassar Labs | 2.1- Scope of Work (a) | Please clarify the following: 1. What is the resolution of satellite data, which was used by NRSC for the base map preparation. 2.Base map provided by the NRSC is on 1:4000 scale hard copy which will be too small to collect attribute data as per the Proforma given in the Design & Standards of AMRUT. | Details will be available in RFP |
| 17. Vassar Labs | 2.1- Scope of Work (b) | 1. If base map is going to be generated by NRSC, what is the purpose of drone flying? 2. For drone flying, permission is to be obtained from DGCA and other authorities. Please confirm that this permission will be provided by UD & MA to the consultant. | 1. Drone survey whether required for specific work like blacl spot monitoring in certain areas may be suggested by you. Accordingly it may considered in RFP 2. UD&MA will write to competent authority. Liaisioning is expected from Agency |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 17. Vassar Labs | 2. Scope of Work | There is requirement of trained manpower that will run the GIS lab henceforth. Accordingly Technical/non Technical pers - onnel (such as, Urban Planner/Resource Planner, Socio Econ - omic Planner, IT Expert, Senior GIS Professional, Junior GIS Professional, Field surveyor etc.) will be required to be placed in the field office. Please clarify the number and qualification of this field staff | Details will be available in RFP |
| 17. Vassar Labs | 2. Scope of Work | Updation of Master Plan for the horizon year 2033. Master plan horizon year is to be 2041 to match with census. Please | Your suggestion is accepted. Details will be in RFP |
| 17. Vassar Labs | 2. Scope of Work | All the infrastructure mapping in the base map is done based on the secondary data of infrastructure provided by respective ULBs. No field survey is envisaged for detecting UG pipeline/cable network. Please confirm. | Legacy data and maps will be supplied as per availability. Field survey may not be required. If required, in such cases, it will be separately addressed |
| 17. Vassar Labs | 3. Bidder's Eligibility | The project scope defines preparation of master plan, whereas the eligibility criteria does not speak about master plan experience requirement. Please check. | Details will be available in RFP |
| 17. Vassar Labs | 3. Bidder's Eligibility | Relevant Work Completion Certificates or Demonstration of Live Links or Work orders along with payment certificate issued by competent authority Payment certificates are not issued to consultants. As such, this may please be excluded. | Equivalent documents may be considered |
| 17. Vassar Labs | 4. Support by Consultant after approval of Final Master Plan | Please check if the referred scope 4.1 should be carried out after approval of draft master plan. | You may suggest other scopes. As of now, this has been considered |
| 17. Vassar Labs | 1.6.2.1 Updation of existing land use plan and notified Master Plan of city which Includes... . sector wise data analysis, to be done - by Consultant. | Please clarify whether 125 ULBs and 18 development authorities have the Approved Master Plan | No |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 18. Oracle | Software/Application should support deployment in clustered environments: Active -Active, Active -Passive; should be highly available | Does it mean that both database and application servers need to support active-active clustering? | Yes. You may further advise |
| 18. Oracle | Should have built in user management along with Active Directory and LDAP | Active Directory is a LDAP directory offered by a specific OEM. Is it restricted to that OEM only? Should a standard-based LDAP system not be applicable here? | Yes it is applicable for all. Active Directory is named only as an example |
| 18. Oracle | Software should support to encrypt data-in-transit by enabling HTTPS | Is encryption required only for data in transit? Is it not required when data is in store - particularly for the sensitive data? | Yes. You may further advise |
| 18. Oracle | Software should support Cloud Environments like Amazon Web Services (AWS) or Microsoft Azure or such other equivalent | Does it indicate the complete GIS solution (or partially) could be hosted on public cloud? Would it be allowed to host in cloud data centers outside India? Does the cloud service provider need essentially to be empanelled in MEITY approved providers' list? | Cloud data of NIC has been planned by this Dept. You are welcome to give further advises |
| 18. Oracle | Integration with existing system and legacy databases | Could there be any specific information on how many systems to be integrated? Which would those systems be integrated at database level or application level or service level? | The details will be in RFP |
| 18. Oracle | The GIS software must operate on Windows or equivalent platform, with industry standard RDBMS (viz. ODBC or equivalent) compliance, user-friendly GUI, preferably configurable with online help tool | Does it mean that the GIS database system should run on Windows OS? What are equivalent platforms indicated here? | Windows OS |
| 18. Oracle | Software should be capable to Create SQLite Database/ Geopackage database | Could the relevance of these capabilities explained in details? | You may suggest in addition. However, the details will be in RFP |

| Company Name | Clause No | Queries | Replies |
|---|---|---|---|
| 18. Oracle | Hardware BoM regarding server cores etc will be tendered separately in separate RFP | Does it mean the GIS solution and related hardware infrastructure would be procured separately? If so, Would the converged system architecture (that engineers software with hardware to run a specific workload) be not considered at all? | Hardware will be separately procured taking into consideration the converged system architecture. That is why it will be procured after starting this process |
| 18. Oracle | No reference to Disaster Recovery plan | Disaster recovery plans on how to mitigate the risk of a site failure could be elaborated with indicative recovery objectives like RPO/RTO. | You may suggest in addition. However, the details will be in RFP |
| 18. Oracle | No reference to information security requirements | Although encryption for data in-transit has been indicate as a requirement, a larger plan for information security (applicable to this kind of project) needs to be articulated keeping in mind aspects like logical separation of duties for various kinds of privileged users, protection from unwarranted access from both external as well as internal sources etc. | The details will be in RFP |