**Daman and Diu e-Governance Society , UT Administration of Dadra Nagar Haveli& Daman Diu**


**RFP for "Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman project for the district of Daman"**


**[RFP No.: 07/Secy/Cum-Dir(IT)/2020/263]**

**issued by Daman and Diu e-Governance Society, Department of IT,**

**UT Administration of Dadra and Nagar Haveli and Daman and Diu**

# Contents

# Disclaimer

The information contained in this Request for Proposal document (the "RFP") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of the UT Administration of Dadra Nagar Haveli and Daman Diu(referred to as the UT Administration )or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP Document and such other terms and conditions as the UT Administration may prescribe in this behalf, has been prepared and issued by UT Administration solely to assist prospective Bidders in making their decision of whether or not to submit a bid.

This RFP Document is not an agreement and is not an offer or invitation by UT Administration to any party. As mentioned above, the purpose of this RFP document is to provide the Bidder with information to assist in the formulation of their proposals. This RFP document does not purport to contain all the information each Bidder may require. This RFP document may not be appropriate for all persons, and it is not possible for the UT Administration, their employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP document. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this RFP document and where necessary obtain independent advice from appropriate sources.

The UT Administration, or their employees and advisors make no representation or warranty and shall incur no liability under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment for any loss, damage, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP Document or otherwise including the accuracy, reliability or completeness of the RFP Document or any assessment, assumption, statement or information contained therein or deemed to form part of the RFP Document or arising in any way at this stage of the Bidding Process.

The designs, drawings, technical data and any other information if provided in this RFP document are only indicative and do not imply and shall not be deemed to imply any current or future representation, promise or warranty, express or implied, on the part of UT Administration or their employees or advisors, as to the accuracy, reliability or completeness of the information contained herein or in any document or information, whether written or oral, made available to a Bidder, whether or not the aforesaid parties know or should have known of any errors or omissions or were responsible for its inclusion in or omission from this RFP document.

This RFP document is provided for information purposes only and upon the express understanding that such parties will use it only for the purpose set forth above.

The information and statements made in this RFP Document have been made in good faith. Interested parties should rely on their own judgments in participating in the said Project. Any liability of any nature whatsoever, whether resulting from negligence or otherwise howsoever caused, arising from reliance of any Bidder upon the statements and information contained in this RFP Document is accordingly expressly disclaimed.

This RFP Document has not been filed, registered or approved in any jurisdiction. Recipients of this document should inform themselves of and observe any applicable legal requirements. Information

provided in this RFP Document to the Bidders is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. UT Administration, or their employees and advisors accept no responsibility for the accuracy or otherwise for any interpretation of law expressed herein.

UT Administration may, in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP Document. Any change to the RFP Document will be notified through mail. No part of this RFP Document and no part of any subsequent correspondence by the UT Administration, its employees and advisors shall be taken either as providing legal, financial or other advice or as establishing a contract or contractual obligation. Contractual obligations would arise only if and when definitive agreements have been approved and executed by the appropriate parties having the authority to enter into and approve such agreements. UT Administration reserves the right to reject all or any of the Proposal submitted in response to this RFP Document at any stage without assigning any reasons whatsoever and the issue of this RFP Document does not imply that UT Administration is bound to select a Bidder.

All Bidders are responsible for all costs and expenses incurred by them when evaluating and responding to this RFP Document in connection with or relating to or in making their Proposal including any negotiation or other costs incurred by them thereafter. All such costs and expenses will remain with the Bidder and DDeGS, or their employees and advisors shall not be liable in any manner whatsoever for the same or for any other costs or expenses incurred by a Bidder in preparation or submission of its Proposal, regardless of the conduct or outcome of the Bidding Process. UT Administration may, in its sole discretion, proceed in the manner it deems appropriate which may include deviation from its expected evaluation process, the waiver of any requirements, and the request for additional information. Unsuccessful Bidders will have no claim whatsoever against UT Administration or their employees and advisors.

# GLOSSARY

| Terms | Meaning |
|---|---|
| BG | Bank Guarantee |
| BoQ | Bill of Quantity |
| BEC | Bidders Evaluation Committee |
| CC | Command Centre |
| CCTV | Closed Circuit Television |
| DD | Demand Draft |
| DDeGS | Daman and Diu e-Governance Society |
| EMD | Earnest Money Deposit |
| GST | Goods and Service Tax |
| HD | High Definition |
| HDD | Hard Disk Drive |
| HOD | Head of Department |
| IP | Internet Protocol |
| ICT | Information Communication and Technology |
| IT | Information Technology |
| INR | Indian Rupee |
| LoI | Letter of Intent |
| MP | Mega Pixel |
| NVR | Network Video Recorder |
| OEM | Original Equipment Manufacture |
| PB | Peta Bite |
| PBG | Performance Bank Guarantee |
| PQ | Pre-Qualification |
| PSU | Public Sector Undertaking |
| RFP | Request for Proposal |
| SI | System Integrator |
| SLA | Service Level Agreement |
| UT Administration | UT Administration of Dadra Nagar Haveli and Daman Diu |
| SPV | Special Purpose Vehicle |
| TQ | Technical Qualification |
| ANPR | Automatic Number Plate Recognition |
| AMC | Annual Maintenance Contract |
| QCBS | Quality Cum Cost Based System |

| FPS | Frame per second |
|-----|------------------|
| FY | Financial Year |
| GoI | Government of India |
| GPRS | General Packet Radio Service |
| GPS | Global Positioning System |
| GUI | Graphical User Interface |
| ICMCC | Integrated City Management Control Centre |
| ICT | Information & Communication Technology |
| IRC | Indian Road Congress |
| ITMS | Intelligent Traffic Management System |
| DMC | Daman Municipal Corporation |
| ICCC | Integrated Command Control Centre |
| KPI | Key Performance Indicator |
| LOA | Letter of Award |
| MIS | Management Information System |
| MoHUA | Ministry of Housing & Urban Affairs |
| NIT | Notice Inviting Tender |
| PTZ | Pan Tilt Zoom |

# Notice Inviting Tender

**DDeGS, Daman**

**Notice for Inviting RFP for "Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman projectfor the district of Daman"**

**[RFP No.:_____]**

Bid for Selection of **Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman projectfor the district of Daman** is invited online on https://ddtenders.gov.in/from the bidder meeting the basic eligibility criteria as stated in the bid document.

| | |
|---|---|
| Bid Fee(Non-refundable) | **Rs. 20000** by Demand Draft or Banker's Cheque |
| EMD | Rs. 60,00,000 (Rupees Sixty lakhs only) whereby amount shall be in the form of Demand Draft / Bank Guarantee (BG) / FDR in favor of "Member Secretary, DDeGS", from a list of approved banks as per the format given in this Bid Document, with validity of 180 days from the date of Bid opening. |
| Last date to submit the Pre-Bid Queries | By email to ddegs-dd@nic.in on or before 23-04-2020, 16:00hrs |
| Pre-bid Conference | 24.04.2020 12.00 |
| Last Date of Submission of Bid | 11-05-2020 15.00 |
| Technical Bid Opening | 11-05-2020 16.00 |
| Technical Bid Submission (in HardCopy)along withEMD &Bid fee | In sealed envelope strictly by RPAD / Postal Speed Post On or before 11.05.2020 15.0 Registered Post with Acknowledge Due or Speed Post Only. |
| RFPDocumentAvailability | https://ddtenders.gov.in/ |

The right to accept/reject any or all bid(s) received is reserved without assigning any reason thereof.

# 1. Introduction

## 1.1.　　About Daman:

Daman is one of the three districts of the Union Territory of Dadra and Nagar Haveli and Daman and Diu on the western coast of India, surrounded by Valsad District of Gujarat state on the north, east and south and the Arabian Sea to the west. The district has an area of 72 square kilometres. Daman lies at the mouth of the Daman Ganga River. Major industries have units here. The closest railway station is Vapi (7 km). It is also famous for its beach, Portuguese colonial architecture, churches, and for the scenic beauty in the twin towns of Nani-Daman and Moti-Daman, which lie opposite each other across the Daman Ganga.

### 1.1.1 Daman and Diu e-Government Society (DDeGS):

The Daman e-Governance Society is a society under Department of Information Technology, Daman. The Society is registered under society Act 1860. The purpose of the society is the implementation of Information Technology and e-Governance Projects. DDeGS shall carry end to end responsibility for vendor selection, implementation and operationalization of various e-Governance and IT projects on behalf of UT Administration

The UT Administrationinvites sealed proposals for Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman project for the district of Daman. The System Integrator is proposed to be selected through an open, transparent and competitive bidding process, which is declared as the Successful Bidder in terms of this RFP Document.

1.1.2　The broad scope of work to be carried out by the System Integrator during the Contract Period are as below:

- Develop, supply, install, commission, integrate and implement the following solutions:

    i. Survey of the proposed Solution to access the requirement.
    ii. System Integration of CCTV Surveillance Network (including existing CCTV infrastructure of various departments/areas – Analog and Digital).
    iii. Red Light Violation Detection (RLVD)System
    iv. Automatic Number Plate Recognition (ANPR)System
    v. Speed Violation Detectionsystem
    vi. E-ChallanSystem
    vii. Implementation of Smart poles
    viii. Constructions of Fibre Optic Network.
    ix. Illegal Parking Detection System
    x. Dashboard - Web Portal and Mobile app
    xi. Undertake operation, maintenance and other incidental activities relating to the solution.

The detailed scope of work for the System Integrator is provided in Part 2 - Scope of Work and Requirement Specifications. The System Integrator shall have to comply with the Standards of Performance as provided in Part2.

1.1.3  An agreement ("Master Service Agreement") shall be executed between The UT Administrationor any Assigned entity as nominated by The UT Administrationand the Successful Bidder for the Project.

**1.1.4  Brief Description of Bidding Process**

The RFP document can be downloaded from website https://ddtenders.gov.in/The Technical Proposal and Price Proposal shall be submitted online as per the provisions of this RFP. Hardcopy of Technical Proposal also needs to be submitted in physical form to the UT Administration.

1.1.5  RFP document follows a two-step approach comprising:

- Qualification Phase: Technical evaluation of Bidders based on pre-qualification and Technical qualification criteria as set out in Section 3.1 and Section4.5.

- Proposal Phase: Price evaluation of Bidders who have been found to be technicallyqualified.

As a part of the bidding process, as physical submission, the eligible entities and interested parties are required to submit one envelope containing:

Packet 1: Technical Proposal including Bid Security & RFP Document Fee receipt.

Packet 2: Finance Proposal is requited to be submitted online ONLY through the e- Procurement portal https://ddtenders.gov.in/.

**Hard copy of the Finance Proposal is NOT to be submitted.**

1.1.6  The UT Administrationreserves the right to reject any Proposal in case the hardcopies of Packet 1 as set out in clause 1.2.2 above are not received by due date and time for hard copy submission as mentioned in the NIT.

1.1.7  In case of any discrepancy between Technical Proposal submitted physically (hard copies) and Technical Proposal submitted online, the Technical Proposal submitted online shall be taken into consideration for bid evaluation.

1.1.8  Technical Proposal of the Bidders will be opened to check their eligibility to participate, to test their responsiveness, bid security and other such compliances and further to evaluate the technical capability and financial capability in accordance with the criteria set out in this RFPDocument.

1.1.9  Price Proposal of only those bidders who are found technically qualified shall be opened.

1.1.10  Details of the schedule of Bidding Process is provided in NIT.

# 2. Instruction to Bidders

## 2.1  Definitions

2.1.1   In this RFP Document, the following words and expressions shall, unless repugnant to the context or meaning thereof and unless the document so specifically provides, have the meaning hereinafter respectfully assigned to them:

(a) "**Bidder**" means an eligible entity that submits a proposal in terms of this RFP Document.

(b) "**Bidding Process**" shall mean the single stage competitive bidding process with two envelops system comprising (i) the Technical Proposal and (ii) the Price Proposal for selecting System Integrator for Implementation of Integrated Command Control Centre (ICCC) Solutions in Daman as part of theProject.

(c) "**Go-Live**" shallmean

   i. Successful deployment, commissioning and UAT of the ICCC application and other solution modulesimplemented.
   ii. Procurement, deployment and commissioning of the hardware items and desired connectivity at the identified locations required to support the functioning of ICCC modules/components.
   iii. Acceptance/Sign-off from The UT Administration/Daman Traffic Police or its constituted committees or representatives.

(d) "**System Integrator**" shall mean the bidder selected through tender process for Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman project for the district of Daman as per the requirements set out in thisRFP.

(e) "**The UT Administration**" shall mean The UT Administration of Dadra Nagar Haveli & Daman Diu.

(f) "**Letter of Award**" shall mean the letter issued by The UT Administration to the SuccessfulBidder.

(g) "**Project**" shall mean design, development, testing, procurement, deployment, commissioning, integration and operation & maintenance of all components of Safe Daman Project in Daman.

(h) "**Project site**" or "**Project location**" shall mean the locations mentioned in the RFP where proposed ICCC equipment/devices as described in the RFP or as decided by UT Administration, are physicallylocated.

(i) "**Proposal**" shall mean the documents received by The UT Administration from an interested party who is eligibleto submit its proposal in response to this RFP Document for the Project.

(j) "**RFP Document**" shall mean the documents set out in Clause 2.7 including all the Appendices, Annexures and Schedules thereof and any amendments thereto made in accordance with the provisions contained in thisdocument.

(k) "**Successful Bidder**" shall mean the Bidder selected for award of the contract for Implementation of Safe Daman Project inDaman.

Any other term(s), not defined herein above but defined elsewhere in this RFP shall have the meaning(s) ascribed to such term(s) therein and shall be deemed to have been included in this Section.

## 2.2    Scope of Proposal

2.2.1 The UT Administrationinvites proposals from eligible entities having the requisite technical and financial capabilities ("**Proposal**").

2.2.2 The Proposals would be evaluated on the basis of the evaluation criteria set out in this Request for Proposal (RFP) Document (hereinafter referred to as the "**Evaluation Criteria**") in order to identify the Successful Bidder for providing the services envisaged under the Master Service Agreement for theProject.

2.2.3 Terms used in this RFP Document which have not been defined herein shall have the meaning recognised thereto in the draft Master Service Agreement or the Scope of Work and Requirement Specifications.

2.2.4 Pursuant to the release of this RFP Document, The UT Administration shall receive Proposals, prepared and submitted in accordance with the terms set forth in this RFP Document and other documents provided by The UT Administration pursuant to this RFP Document including annexure/ Appendix hereto (collectively referred to as the "**Bid Documents**"), as modified, altered, amended and clarified from time to time by The UT Administration.

2.2.5 This RFP Document and all attached documents are and shall remain the property of The UT Administration and are transmitted to the Bidders solely for the purpose of preparation and the submission of their respective Proposals in accordance herewith. Bidders shall not use it for any purpose other than for preparation and submission of their Proposals. The UT Administration will not return any Proposal or any information provided along therewith

2.2.6 The statements and explanations contained in this RFP Document are intended to provide an understanding to the Bidders about the subject matter of this RFP Document and shall not be construed or interpreted as limiting, in any way or manner whatsoever, the scope of services, work and obligations of the Successful Bidder to be set forth in the Master Service Agreement or The UT Administration right to amend, alter, change, supplement or clarify the scope of service and work, the Master Service Agreement to be awarded pursuant to the RFP Document including the terms thereof, and this RFP Document including terms herein contained. Consequently, any omissions, conflicts or contradictions in the Bid Document are to be noted, interpreted andapplied appropriately to give effect to this intent and no claim on that account shall be entertained by The UT Administration.

2.2.7 Bidders may note that The UT Administration will not entertain any material deviations from the RFP Document at the time of submission of the Proposal or thereafter. The Proposal to be submitted by the Bidders will be unconditional and the Bidders would be deemed to have accepted the terms and conditions of the RFP Document with all its contents including the terms and conditions of the draft Master Service Agreement. Any conditional Proposal is liable for outright rejection.

2.2.8 Conditional or incomplete proposals are liable to be treated as non-responsive and, therefore may be rejected at the sole discretion of The UT Administration.

## 2.3    Eligible Bidders

2.23.1    The Bidders eligible for participating in the Bidding Process shall be as follows:

(a)    A business entity incorporated in India under the Companies Act, 1956/2013, or a partnership firm registered under the Indian Partnership Act, 1936 or the Limited Liability Partnerships Act, 2008,or

(b)    A consortium of business entities, where the Lead Member is a business entity incorporated in India under the Companies Act, 1956/2013 or partnership firm registered under the Indian Partnership Act, 1936 or the Limited Liability Partnerships Act, 2008 and the other member(s) is incorporated in India under the Companies Act, 1956/2013 or a partnership firm registered under the Indian Partnership Act, 1936 or the Limited Liability Partnerships Act, 2008 or equivalent law(s) in the country of jurisdiction of the entity("**Consortium**").

2.23.2    Proposal submitted by a Consortium must comply with the following additional requirements:

(a)    the number of members in the Consortium would be limited to Two (2) including the LeadMember;

(b)    Any Bidder applying individually or as consortium member shall not be entitled to submit another Proposal either individually or as a member of any other consortium, as the case maybe.

(c)    the Proposal should contain the information required in respect of eachmember;

(d)    members of the Consortium shall nominate one member as the LeadMember;

(e)    an entity who has submitted Proposal for Project in its individual capacity or as part of a Consortium cannot participate as a member of any otherConsortium;

(f)    the members of the Consortium shall execute a Power of Attorney for Lead Member of Consortium as per the format enclosed at **Appendix 6: Format for Power of Attorney for Lead Member**;and

(g)    the members of the Consortium shall enter into a Memorandum of Understanding (MoU), as per the format provided under **Appendix 7: Format for Memorandum of Understanding for Consortium** for the purpose of submission of theProposal.

The MoU should, *inter alia*,

i.    convey the intent of the Lead Member to enter into the Master Service Agreement and subsequently carry out all the responsibilities in terms of the Master Service Agreement;
ii.    clearly outline the proposed roles and responsibilities of each member of the Consortium;
iii.    include a statement to the effect that all members of the Consortium shall be liable jointly and severally for the Project in accordance with the terms of the Master Service Agreement;and
iv.    clearly refer to the Project for which the arrangement ismade.

The MoU signed by all members should be submitted with the Proposal. The MoU should be specific to the Project and should contain the above requirements, failing which the   Proposal shall be considerednon-responsive.

2.23.3 A Bidder or member of Consortium who has earlier been barred by The UT Administration or any entity of Government of India or any state government or central government / department / agency in India from participating in Bidding Process shall not be eligible to submit a Proposal, if such bar subsists as on the Proposal Due Date.

Notwithstanding anything stated elsewhere in these documents, The UT Administration shall have the right to seek updated information from the Bidders to confirm their continued eligibility. Bidders shall provide evidence of their continued eligibility in a manner that is satisfactory to The UT Administration. A Bidder may be disqualified if it is determined by The UT Administration at any stage during the process that the Bidder will be unable to fulfil the requirements of the Contract or if a bidder fails to continue to satisfy the eligibility criteria. Supplementary information or documentations may be sought from Bidders at any time and must so be provided by such bidders within a reasonable timeframe as stipulated byThe UT Administration.

## 2.4 Number of Proposals

2.4.1 Each Bidder shall submit only one (1) Proposal in response to this RFP Document. Any entity, which submits or participates in more than one Proposal will be disqualified.

## 2.5 Proposal Preparation Cost

2.5.1 The Bidder shall be responsible for all the costs associated with the preparation of its Proposal and its participation in the bidding process. The UT Administration will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of bidding.

## 2.6 Verification of Documents

2.6.1 The UT Administration reserves the right to verify all statements, information and documents submitted by the Bidders in response to the RFP Document. Failure on the part of The UT Administration to undertake such verification shall not relieve the Bidders of their obligations or liabilities hereunder nor will it affect in any manner any of the rights of The UT Administrationhereunder.

## 2.7 Contents of RFP Document

2.7.1 The RFP Document consists of three Parts as listed below and would include any addenda issued in accordance with Clause 2.9.1.

| Part 1 | Instructions to Bidders |
| --- | --- |
| | Draft Master Service Agreement |
| Part 2 | Scope of Work and Requirement Specifications |

## 2.8    Clarifications by Bidders

2.8.1    Bidders requiring any clarification on the RFP Document may notify The UT Administration in writing or by facsimile/ e-mail within such date as specified in the NIT.

2.8.2    The UT Administration shall endeavour to respond to the questions raised or clarifications sought by the Bidders. However, The UT Administration reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this clause shall be construed, taken or read as compelling or requiring The UT Administration to respond to any question or to provide any clarification.

2.8.3    The UT Administration may also on its own, if necessary, issue interpretations and clarifications to all Bidders. All clarifications and interpretations issued by The UT Administration shall be deemed to be part of the Bidding Documents if the same is in writing. Verbal clarifications and information given by The UT Administration or their employees, advisors or representatives shall not in any way or manner be binding onThe UT Administration.

## 2.9    Amendment of RFP Document

2.9.1    At any time prior to the Proposal Due Date, The UT Administrationmay, for any reason whatsoever, whether at its own initiative or in response to clarifications requested by a Bidder, modify the RFP Document by issue of Addenda.

2.9.2    In order to afford the Bidders reasonable time in which to take an Addendum into account, or for any other reason, The UT Administrationmay, at its own discretion, extend the Proposal Due Date.

2.9.3    The UT Administrationmay in its sole discretion and without assigning any reason modify, alter or amend all or any part of the schedule of Bidding Process by issue of addendum to the RFP Document.

## 2.10   Pre-Bid Meeting

2.10.1 To clarify and discuss issues with respect to the RFP Document, a Pre-bid meeting will be held as per details provided inNIT.The pre bid meeting may be held through video conference. Thos who wish to participate in the aforesaid meeting must send their email address before two days of meeting date as mentioned in the notice inviting tender so that the required link for the participation for VC can be sent.

2.10.2 Prior to the Pre-bid meeting, the Bidders may submit a list of queries and propose deviations, if any, in respect of the RFP Document. Bidders must formulate their queries and forward the same to The UT Administrationprior to the meeting in terms of schedule set out in NIT. The UT Administrationmay, as may be considered acceptable at its sole discretion, amend the RFP Document based on inputs provided byBidders.

2.10.3 The UT Administrationwill endeavour to hold the meeting as per schedule of Bidding Process. Any change in the schedule of Pre-bid meeting will be communicated by posting on e- Procurement website.

2.10.4 Attendance of the Bidders at the Pre-bid meeting is not mandatory. The UT Administrationwill endeavour to respond to all queries from all Bidders, irrespective of attendance of the Bidder in the Pre-bid meeting.

2.10.5 All correspondence / enquiries/ request for clarifications should be submitted to the following in writing by e-mail:

SUBJECT "Request for Proposal for **Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman projectfor the district of Daman**"

(The above subject should be mentioned on the subject-line of emails) ADDRESS:

DDeGS , The UT Administrationof Dadra Nagar Haveli and Daman Diu

Department of IT, 2nd Floor, Behind Post Office, Fort Area, Moti Daman - 396220

Email ID for Pre- bid Queries: ddegs-dd@gov.in

2.10.6 No interpretation, revision, or other communication from The UT Administrationregarding this solicitation shall be valid unless it is made in writing by UT Administration of DNH and DD (referred as UT Administration). The UT Administrationmay choose to send to all Bidders, written copies of The UT Administration responses, including a description of the enquiry but without identifying its source to all the Bidders.

2.10.7 Bidder shall submit all Pre-bid queries in the format as provided in **Appendix 1 : Format of Pre-Bid Queries**.

## 2.11 Miscellaneous – Other Provisions

2.11.1 The Bidding Process shall be governed by, and construed in accordance with, the laws of India and only the Courts at Daman shall have jurisdiction over all disputes arising under, pursuant to and / or in connection with the BiddingProcess.

2.11.2 The UT Administration, in its sole discretion and without incurring any obligation or liability, reserves the right to:

   (a) suspend and / or cancel the Bidding Process and / or amend and / or supplement the Bidding Process and / or modify the dates or other terms and conditions relatingthereto;

   (b) qualify or disqualify any Bidder and/or to consult with any Bidder in order to receive clarification or furtherinformation;

   (c) retain any information and/or evidence submitted to The UT Administration by, on behalf of, and / or in relation to anyBidder;

   (d) independently verify, disqualify, reject and / or accept any and all submissions or other information and / or evidence submitted by or on behalf of anyBidder;

2.11.3 It shall be deemed that by submitting the Proposal, the Bidder agrees and releases The UT Administration, its employees, agents, assigns and advisers, irrevocably, unconditionally, fully and finally from any and all liabilities for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and / or performance of any obligations hereunder, pursuant hereto and / or in connection herewith and waives any and all rights and / or claims it may have in this respect, whether actual or contingent, whether present or future.

## 2.12  Disqualification

2.12.1 Even if the Bidder meets the guidelines as set forth in this RFP Document, The UT Administration at its discretion can disqualify the Bidder, if the Bidder:

(a)  has been debarred/banned/blacklisted by any state or central government or government agency in India; or

(b)  has made misleading or false representation in the forms, statements and attachments submitted;or

(c)  or any of its constituents or its predecessor entity has a record of poor performance such as default in statutory compliances, consistent history of litigation / arbitration award against the Bidder / any of its constituents or financial failure due to bankruptcy, etc.;or

(d)  any of its key personnel such as Director/owners/partners etc. have a criminal history or have been convicted by any court of law for any criminal offences other than minoroffences.

2.12.2 Upon submission of the Proposal it would be deemed that the Bidder has prior to the submissionthereof:

(a)  made a complete and careful examination of the terms and conditions/ requirements, and other information set forth in this RFP Document and other BiddingDocuments;

(b)  received all such relevant information as it has requested fromThe UT Administration;

(c)  acknowledged and accepted the risk of any inadequacy, error or mistake in the information provided in any of the Bidding Documents or furnished by or on behalf of The UT Administration relating to any of the matters referred to in the Bidding Process including BiddingDocuments;

(d)  acknowledged and agreed that any inadequacy, lack of completeness or incorrectness of information provided in the Bidding Documents or ignorance of any of the matters referred to in the RFP, and any amendments thereof, shall not be a basis for any claim for compensation, damages, extension of time for performance of its obligations, loss of profits etc. from The UT Administration or a ground for termination of the Master Service Agreement;and

(e)  agreed to be bound by the undertakings provided by it under this RFP Document and in termshereof.

2.12.3 The UT Administration shall not be liable for any mistake or error or neglect by the Bidders in respect of

theabove.

2.12.4 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process and subsequent to the issue of the LoA and during the subsistence of the Master Service Agreement. Notwithstanding anything to the contrary contained herein or in the LoA or the Agreement, The UT Administration shall reject a Proposal, withdraw the LoA, or terminate the Agreement, as the case may be, without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process. In such an event, The UT Administration shall forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to The UT Administration towards, inter alia, time, cost and effort of The UT Administration, without prejudice to any other right or remedy that may be available to The UT Administration hereunder orotherwise.

2.12.5 Without prejudice to the rights of The UT Administration under clause 2.12.4 hereinabove and the rights and remedies which The UT Administration may have under the LoA or the Agreement, if Bidder is found by The UT Administration to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, or after the issue of the LoA or execution of the Agreement, such Bidder shall not be eligible to participate in any tender or RFP Document issued by The UT Administration during a period of five years from the date such Bidder, is found by The UT Administration to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

2.12.6 For the purposes of clauses 2.12.4 and 2.12.5 above, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) "corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of The UT Administration who is or has been associated in any manner, directly or indirectly with the Bidding Process or the LoA or has dealt with matters concerning the Agreement or arising there-from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of The UT Administration, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or (ii) engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LoA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the LoA or the Master Service Agreement, who at any time has been or is a legal, financial or technical adviser of The UT Administration in relation to any matter concerning thetender;

(b) "fraudulent practice" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding process;

(c) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person's participation or action in the BiddingProcess;

(d)    "undesirable practice" means establishing contact with any person connected with or employed or engaged by The UT Administration with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the BiddingProcess.

2.12.7 A Bidder shall not have a conflict of interest (the "Conflict of Interest") that affects the Bidding Process. Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, The UT Administration shall forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre- estimated compensation and damages payable to The UT Administration for, inter alia, the time, cost and effort of The UT Administration, including consideration of such Bidder's Proposal, without prejudice to any other right or remedy that may be available to The UT Administration hereunder or otherwise. Without limiting the generality of the foregoing, a Bidder shall be considered to have a Conflict of Interest that affects the Bidding Process,if:

(a)    such Bidder, or any constituent thereof, and any other Bidder or any constituent thereof have common controlling shareholders or other common ownership interest by any third party, whether direct or indirect, or such Bidder or any constituent thereof is holding paid up capital, directly or indirectly, in other Bidder or any constituent thereof. Provided that this disqualification shall not apply (a) in case of common controlling shareholding or other common ownership interest by anythirdparty,ifsuchshareholdingorownershipinterestinoneoftheBiddersis less than 5% of its paid up and subscribed capital, or (b) in case of the direct or indirect shareholding in a Bidder by the other Bidder on any constituent thereof if such shareholding is less than 5% of that other Bidder's paid up and subscribed capital. Provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in sub-section (72) of section 2 of the Companies Act, 2013; or

(b)    a constituent of such Bidder is also a constituent of another Bidder;or

(c)    such Bidder receives or has received any direct or indirect subsidy from any other Bidder, or has provided any such subsidy to any other Bidder;or

(d)    such Bidder has the same legal representative for purposes of this Proposal as any other Bidder;or

(e)    such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other's information about, or to influence the Proposal of either or each of the other Bidder.

## 2.13  Language

2.13.1  The Proposal and all related correspondence and documents shall be written in the English language. The supporting documents and printed literature furnished by the Bidder with the Proposal may be in any other language provided that they are accompanied by a true and correct translation into English and duly signed, stamped and certified by the Bidder to be true and correct. Supporting materials that are not translated into English shall not be considered for evaluation of the Proposal. For the purpose of interpretation and evaluation of the Proposal, the English language translation shall prevail.

## 2.14  Currency

2.14.1  The currency for the purpose of the Proposal shall be the Indian Rupee (INR).

## 2.15  Bid Security

2.15.1  Proposals shall be accompanied by a Bid Security for an amount equal to Rs. 50,00,000 (Fifty Lakh Rupees Only).

2.15.2  No relaxation of any kind in Bid Security shall be given to any Bidder.

2.15.3  The Bid Security shall remain valid for a period of 90 days beyond the Proposal Validity Period, and would need to be extended, if so, required by The UT Administration, for any extension in Proposal Validity Period.

2.15.4  The Bid Security shall be in the form of an irrevocable Bank Guarantee issued by a Nationalized Bank or a Scheduled Bank authorized to handle transactions of Government of India in India, in favour of "Member Secretary, DDeGS" valid at Daman, as per the format set out in **Appendix 11: Format of Bid Security**, drawn in favour of "Member Secretary, DDeGS" and payable at Daman.

The UT Administration shall not be liable to pay any interest on the Bid Security and the same shall be interest free. For avoidance of any doubt, 'Scheduled Bank' shall mean a Bank as defined under Section 2(e) of the Reserve Bank of India Act, 1934.

2.15.5  The Bid Security shall be returned to unsuccessful Bidders on signing of Agreement. The Bid Security, submitted by the Successful Bidder, shall be released:

(a)  upon furnishing a Performance Security for an amount mentioned in the Master Service Agreement;and

(b)  upon signing of the Agreement with the SuccessfulBidder.

2.15.6  The Bid Security shall be liable to be forfeited and Proposal shall be liable to be rejected in the following cases:

(a)  If the Bidder withdraws its Proposal except as provided in Clause 2.22.1;or

(b)  If the Bidder modifies or withdraws its Proposal during the interval between the Proposal Due Date and expiration of the Proposal Validity Period;or

(c)  If the Bidder fails to accept the LoA within the stipulated time period as provided in Clause 4.10.1; or

(d)  In case of the Successful Bidder, if it fails to sign the Master Service Agreement within the specified time limit or any extension thereof;or

(e)  In case of the Successful Bidder, if it fails to furnish the Performance Security within the specified

time limit prescribed in the LoA;or

(f)   If any information or document furnished by the Bidder turns out to be misleading or untrue in any material respect; or

(g)   If a Bidder engages in a corrupt, fraudulent, coercive, undesirable or restrictive practice as specified in Clauses 2.12.4 to 2.12.6 of thisITB.

## 2.16  Validity or Proposal

2.23.1  The Proposal shall indicate that it would remain valid for a period not less than 180 days from the Proposal Due Date (hereinafter "**Proposal Validity Period**"). The UT Administration reserves the right to reject any Proposal that does not meet this requirement.

2.23.2  Prior to expiry of the Proposal Validity Period, The UT Administration may request that the Bidders extend the period of validity for a specified additional period. A Bidder may refuse to comply with the request without forfeiting its Bid Security. A Bidder agreeing to the request will not be allowed to modify its Proposal but would be required to extend the validity of its Bid Security for the period of extension and comply with Clause 2.15 of this document in all respects. A Bidder refusing to comply with the request shall not be eligible to participate in the Bidding process and his Proposal shall not be considered and his Bid Security released.

## 2.17  Bidder's Responsibility

2.17.1  The Bidder is expected to examine carefully the contents of the Bidding Documents. Failure to comply with the requirements of Bidding Documents will be at the Bidder's own risk.

2.17.2  It would be deemed that prior to the submission of Proposal, the Bidder has:

(a)   made a complete and careful examination of requirements and other information set forth in the BiddingDocuments;

(b)   received all such relevant information as it has requested from The UT Administration;and

(c)   made a complete and careful examination of the various aspects of the Draft Master Service Agreement including but not limitedto:

  i.    all matters that might affect the Bidder's performance under the termsof the Bid Documents;
  ii.   a diligent scrutiny and is in conformity with the terms and conditions of the draft Master ServiceAgreement;
  iii.  clearances required to be obtained under the draft Master Service Agreement;and
  iv.   applicable laws and regulations in force inIndia.

2.17.3  The UT Administration shall not be liable for any mistake or error or neglect by the Bidder in respect of the above.

## 2.18 Format and Signing of Proposal

2.18.1 Bidders shall provide all the information as required / can be inferred from this RFP Document and in the specified formats. The UT Administration reserves the right to reject any Proposal that is not in the specified formats.

2.18.2 The Proposal should be submitted in Three packets:

- Tender Fee, EMD and Pre-qualification criteria

- Technical bid and Demonstration

- Financial bid

| # | Documents Type | Document Format |
|---|---|---|
| **Tender Fee, EMD Detail & Pre-Qualification- Envelope –A** | | |
| 1. | Tender Fee | Scanned copy of Online Tender Fee payment receipt |
| 2. | EMD | Scanned copy of Online EMD Payment |
| 3. | Pre-qualification | As per the format mentioned against the respective eligibility criteria clause. |
| **Technical Qualification Documents and Demonstration- Envelope –B** | | |
| 4. | Technical Bid and Demonstration | As per the format mentioned against the respective eligibility criteria clause |
| **Financial Bid – Envelope –C** | | |
| 5. | Financial Bid | As per the format mentioned |

The Bidder should ensure that all the required documents, as mentioned in this RFP/ bidding document, are submitted along with the bid and in the prescribed format only. Non- submission of the required documents or submission of the documents in a different format/ contents may lead to the rejection of the bid proposal submitted by the Bidder.

The Bids shall be submitted in three Packets

**Packet 1:** Tender Fee, EMD Detail and Pre-qualification criteria

This Packet shall carry a cover with text "**Packet 1: Pre-qualification**" written/printed on it. Bid Security (bank guarantee as per **Appendix 11**) in prescribed form need to be provided in accordance with the provisions set out in theRFP.

(a) Covering Letter as per **Appendix 2** stating the Proposal ValidityPeriod.

(b) Format for Pre-Qualification Checklist as per **Appendix3**.

(c) Details of Bidder together with supporting documents required as prescribed in **Appendix4**.

(d)  Power of Attorney for Signing of the Proposal as prescribed in **Appendix 5**.

(e)  In case of consortium, Power of Attorney for Signing of Proposal for Lead Member as per **Appendix6**.

(f)  In case of consortium, Memorandum of Understanding as per **Appendix 7**.

(g)  Project Citations executed by the Bidder in the past together with certificates etc. as prescribed in **Appendix8**.

(h)  CA/StatutoryAuditorCertificateforongoingprojectsasperformatin**Appendix 9**.

(i)  Non-Blacklisting affidavit as per format provided at **Appendix10**.

(j)  Proposed Solution as per structure provided in **Appendix 13**.

(k)  CV as per format in **Appendix14**.

(l)  Certificate of Incorporation of the Bidder under Companies Act, 1956 or 2013 issued by Registrar of Companies or Certificate of commencement of business in case of public limited company or Partnership Deed, as applicable.

(m)  Supporting documents as per requirement of Clause 3.1 and Clause 4.5 of RFPDocument.

(n)  Details of GST Registration No., PAN No. and valid bank account. Bidder should submit supporting documents asproof.

(o)  Manufacturer's Authorisation Form as per format in **Appendix15**.

(p)  Compliance to Requirement (Technical / Functional Specifications) of proposed solutions, as per **Appendix20**.

(q)  Unpriced BoQ with Make and Model no., as per **Appendix21**.

(r)  No Deviation Certificate, as per **Appendix22**.

(s)  Project Credential Summary, as per **Appendix23**.

**Note:** All pages of aforesaid document shall be duly signed by Authorized Representative of the Bidder. This Packet (Hardcopy) shall carry a cover with text "Packet 1-Tender Fee, EMD Detail and Pre-qualification criteria" written/printed on it.

**Packet :2 Technical Bid and Demonstration shall be superscripted as:**

Technical Bid shall be submitted in physical form in original in one copy and another in PDF format shall be uploaded on https://ddtenders.gov.in/duly digitally signed. The bids not received online will be rejected. If there are any discrepancies between online submission and hard copy submission, online bid will prevail.

Note: Demonstration will be part of the technical evaluation. However, no documents need to be submitted in this envelope for the demonstration purpose. The evaluation sheet will be shared with the Bidder during the time of demonstration.

**Packet :3** FINANCIAL BID **(To be submitted onlineonly)**

Financial bid shall contain only the duly filled in final financial bid format as in Clause 15 duly signed and stamped by authorized signatory and covering letter duly signed by the authorized signatory and stamped on the letter head of the Bidder and it should be uploaded online only.

2.18.3 The Proposal shall be typed or printed in indelible ink and the Bidder shall initial each page. All the alterations, omissions, additions, or any other amendments made to the Proposal shall be initialled by the person signing the Proposal. All pages of the Proposal must be seriallynumbered.

# 2.19 Sealing, Marking and Submission of Proposal

2.19.1 The Bidders will submit the Proposal online and also in single hard copy in single envelope **excluding Packet -3 (Price Proposal)** through Hand Delivery or RPAD/Speed Post only, the details for which are specified below.

2.19.2 **Online Submission**

Bidder(s) shall upload the soft copies of its entire Technical Proposal consisting of scan copies of Bid Security & RFP Document Fee receipt, Eligibility and Qualification details/ Technical submissions & all other documents, certificates etc. as required under the terms of the RFP;

2.19.3 **Registration:**

Bidders are required to register themselves in the e-Procurement portal. The process of enrolling is given on e-Procurement portal - https://ddtenders.gov.in/.

2.19.4 **Digital Signature:**

Digital Signature Certificate of Class 2 or Class 3 categories issued by a licensed Certifying Authority (CA) needs to be obtained for use on the e-Tendering Portal. The e-Procurement portal has user manuals with detailed guidelines on enrolment and participation in the online biddingprocess.

2.19.5 **General Guidelines for OnlineSubmission**

a   E-tendering process willbeconductedthroughhttps://ddtenders.gov.in/the e-Procurement portal of Government of Daman.

b   To participate in e-tendering, the intending participants shall register themselves in the website ofhttps://ddtenders.gov.in/Detail information for registration and submission of offers through e-tendering processareavailable inthewebsitehttps://ddtenders.gov.in/. Bidders are advised to go through the FAQs, guidelines, instructions, manuals, policies, system setting procedures etc. as provided in the e-Procurementportal.

c    Tender form and relevant documents will not be sold /issued manually from offices.

d    The date and time for online submission of envelope shall be strictly followed in all cases. The bidder should ensure that their tender is submitted online before the expiry of the scheduled date and time. No delay on account ofany cause will be entertained. **Tender(s) not submitted online will not be entertained.**

e    If for any reason, any interested bidder fails to complete any online stages during the complete tender cycle, The UT Administration shall not be responsible for that and any grievance regarding that shall not beentertained.

f    Tender shall consist of two Packets i.e., Technical Proposal in Packet-1 & Price Bid in Packet-2 through e-Tendering procedure only onhttps://ddtenders.gov.in/portal.

g    The Bids offer must be submitted along with document(s) as per the guidelines given in tender document by e-Tendering procedureonly.

h    The documents uploaded in the technical bid will be scrutinized by the Technical Evaluation Committee as per the document asked in the tender notice and tender document. The decision of the Tender Evaluation Committee shall be final in thisregard.

i    Bank Gurantee for the purpose of bid security should be scanned and attached to the tender during submission. The originals should be submitted to the department before tenderopening.

j    For any query related to e-Tendering process, the e-Procurement Helpdesk can bereached.

2.19.6 **Hard copy submission**

The Bidder(s) shall also submit 1 (one) original set of the Technical Proposal (together with originals/ copies of documents required to be submitted along therewith pursuant to this RFP) as per Clause 2.18.2 and the instructions given below.

2.19.7 The Bidder shall seal the **"Packet 1: Technical Proposal"** in separate envelopes, duly marking the envelopes as **"Packet 1: Technical Proposal"** respectively. These envelopes shall then be sealed in an outer envelope.

2.19.8 Price Proposal as per the format set out in needs **to be submitted online** only.

2.19.9 Technical Proposal envelope shall indicate the name and address of the Bidder. All the envelopes shall clearly bear the following identification:

"**Proposal for Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman project for the district of Daman**"

Submitted by

"(Name, Address and Contact Phone No. of the Bidder)"

The above envelope shall be addressed to:

ATTENTION OF: Member Secretary, DDeGS , The UT Administration of DNH & DD,

ADDRESS:Department of IT, Behind Post Office,2nd Floor, Fort Area, Moti Daman,  396220.

2.19.10  If the envelope is not sealed and marked as instructed above, the Proposal may be deemed to be non-responsive and would be liable for rejection. The UT Administrationassumes no responsibility for the misplacement or premature opening of such Proposal.

## 2.20  Proposal Due Date

2.20.1  Proposals shall be submitted on or before the Proposal Due Date and time mentioned in the NIT to the address provided in Clause 2.19.8 in the manner and form as detailed in this RFP Document. For the purposes of this RFP Document, the "**Proposal Due Date**" shall mean the time and date for submission of the Proposal as set out in the NIT. Proposals submitted by facsimile transmission or telex or email will not beacceptable.

2.20.2  The UT Administration, at its sole discretion, may extend the Proposal Due Date by issuing an Addendum in accordance with Clause 2.9.

## 2.21  Late Proposals

2.21.1  Any Proposal received by The UT Administrationafter the prescribed deadline (Proposal Due Date as mentioned in NIT) will be summarily rejected.

## 2.22  Modification and Withdrawal of Proposals

2.22.1  A Bidder may withdraw its Bid or re-submit its Bid (technical and/ or financial) before the Proposal Due Date as per the instructions/ procedure mentioned at e- Procurement portal. No Proposal shall be modified or withdrawn by the Bidder after the Proposal Due Date.

2.22.2  Bids withdrawn shall not be opened and processed further.

## 2.23  Confidentiality

2.23.1  Except as provided therein, information relating to the examination, clarification, evaluation and recommendation for the shortlisted Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional adviser advising The UT Administration in relation to or matters arising out of or concerning the Bidding Process. The UT Administration will treat all information submitted as part of Proposal in confidence and will take all reasonable steps to ensure that individuals having access to such material treat the same in confidence. The UT Administration will not reveal any such information unless it is ordered to do so by a court or by any statutory, regulatory or Government authority or agency that has legal jurisdiction to require its disclosure or unless it is

necessary to do so in order to enforce or assert any claim, right or privilege of The UT Administration or to defend any claim, action or proceedings againstThe UT Administration.

## 2.24  Clarifications sought by The UT Administration

2.24.1  To assist in the process of evaluation of Proposals, The UT Administration may, at its sole discretion, ask any Bidder for any clarification on or with respect to its Proposal. The request for clarification and the response shall be communicated by Letter/Fax/Email. The Bidder in such cases would need to provide the requested clarification / documents promptly and within one (01) day of such communication, or such time frame as given by The UT Administration for the same, to the satisfaction of The UT Administration. It is in the interest of the bidder to provide reply within the timeframe failing which The UT Administration may not accept the said information and no change in the substance of the Proposal would be permitted by way of such clarifications.

## 2.25  Cost of RFP Document

2.25.1  The non-refundable cost of the RFP Document as specified in the NIT, needs to be paid online on the e-procurement Portal https://ddtenders.gov.in/.

## 2.26  Right to Vary Quantity

2.26.1  At the time of award of contract or during the Contract Period, the quantity of goods, works, scope or services originally specified in the bidding documents may be changed by The UT Administration by a written order to the System Integrator. It shall be without any change in the unit prices or other terms and conditions of the Bid and the bidding documents.

2.26.2  If The UT Administration does not procure any line item(s) as specified in the Bill of Materials for procurement or procures less than the quantity specified in the RFP Document due to change in circumstances, the bidder shall not be entitled for any claim or compensation except otherwise provided in the bidding document.

2.26.3  Repeat orders for extra items or additional quantities may be placed on the rates and conditions given in the contract. Delivery or completion period may also be proportionally increased on mutually agreedterms.

2.26.4  The UT Administration may choose to procure additional material for any of the line item specified in Bill of Materials of the quantities per line item during the Contract Period. The successful Bidder shall hold the same prices quoted herewith.

2.26.5  Payment for additional quantities for line items shall be made on pro-rata basis as per unit rates mentioned in the bid. The unit rates quoted by bidder shall be valid for the Contract Period. Thereafter, the unit rates may be escalated based on mutually agreedterms.

2.26.6 At the time of procurement, the System Integrator may propose product with same or higher specification. The right to choose the vendor for additional quantities at any point during the Implementation or O&M phase rests with The UT Administration.

## 2.27  Right to Amend Project Scope

2.27.1 The UT Administration retains the right to amend the Project Scope without assigning any reason at any time during the Contract Period. The UT Administration makes no commitments, express or implied, that the full scope of work as described in this RFP will be commissioned.

2.27.2 The UT Administration, may at any time, at its sole discretion defer the implementation of certain components of the project as per its requirements. Appropriate time extensions (but no cost extensions) shall be provided in case of delay owing to deferment by The UT Administration.

## 2.28  Site Visit

2.28.1 The Bidder may wish to visit and examine the site or sites and obtain for itself, at its own responsibility and risk, all information that may be necessary for preparing the bid and entering into the Contract. The costs of visiting the site or sites shall be at the Bidder's ownexpense.

2.28.2 The UT Administration will arrange for the Bidder and any of its personnel or agents to gain access to the relevant site or sites, provided that the Bidder gives The UT Administration adequate notice of a proposed visit of at least three (3) days. Alternatively, The UT Administration may organize a site visit or visits concurrently with the pre-bid meeting, as specified in the RFP. Failure of a Bidder to make a site visit will not be a cause for its disqualification.

2.28.3 No site visits shall be arranged or scheduled after the deadline for the submission of the Bids and prior to the award of Contract.

## 2.29  Sub-Contracting

2.29.1 Any service agreement or sub-contract by the System Integrator may be entered into only with prior approval of The UT Administration. However, the responsibility to meet Standards of Performance will continue to be that of the System Integrator.

## 2.30  Insurance

2.30.1 The bidder will be required to undertake the insurance for all components of the Project which has been procured under this RFP.

## 2.31  Eligible Goods and Services, and OEM Criteria

2.31.1  For purposes of this clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, transportation, supply, installation, integration, and testing, commissioning, training, and initial maintenance.

2.31.2  The Bidder shall quote specific make and model of OEM, for each of the goods. Providing more than one option shall not be allowed. All goods quoted by the bidder must be associated with item code and names and with printed literature describing configuration and functionality. Any deviation from the printed specifications should be clearly mentioned in the offer document by the Bidder.

2.31.3  All the OEMs for major product or technology quoted (such as ICCC, Traffic Junction Surveillance camera/equipment, smart pole with PTZ camera,RLVD, camera/equipment, ANPR camera/equipment, SVD camera/equipment etc.) should have authorized presence in India either directly or through channel partner(s) as on the date of release of RFP.

2.31.4  The OEM for all active components should give a declaration that products or technology quoted/proposed shall not reach end-of-life for a minimum of 5 Years from the date of Last Date of Bid Submission and end of support for minimum of 5 years from the date ofGo-Live.

2.31.5  The OEM for Traffic Junction Surveillance System, PTZ, RLVD, ANPR and SVD cameras should have minimum installation base of at least 1000 cameras in India in the last 3 years.

2.31.6  Each of the proposed OEMs should either have existing capability and infrastructure to provide 24x7 technical support in India across the year, or should provide an undertaking that they would establish the requisite infrastructure and capability to provide 24x7 technical support in India across the year, on emerging a winner in this bidding process, within 3 months of issue of Letter of Award.

2.31.7  Bidder must quote products in accordance with above clause "Eligible goods and related services".

2.31.8  Adequate supporting documents pertaining to the above points, along with a summary compliance table, should be submitted in the technical proposal.

# 3. Pre-Qualification Criteria

## 3.1 Pre-Qualification Criteria

The Technical Proposals of the Bidders shall be evaluated for meeting the eligibility and pre-qualification criteria based on the parameters listedbelow:

| Sr. No. | Requirement Parameter | Pre-Qualification Criteria | Supporting Documents Required |
|---------|----------------------|---------------------------|-------------------------------|
| 1. | Legal Entity | The Sole Bidder or the Lead Member, in case of a consortium, must be a business entity incorporated in India under the Companies Act, 1956/2013 or partnership firm registered under the Indian Partnership Act, 1936 or the Limited Liability Partnerships Act, 2008. | Copy of Certificate of Incorporation / Registration or partnership deed asapplicable. |
| | | In case of a consortium Max 2 companies are allowed in a consortium including lead bidder. The other Member of the consortium should be incorporated as per (a) above or equivalent law(s) in the country of jurisdiction of the entity subject to Clause 2.3.2. | Power of Attorney for Lead Member of Consortium as per the format enclosed at **Appendix6** |
| | | The Sole Bidder / all members in case of a consortium should be registered | Copy of GSTRegistration Certificate. |

| Sr. No. | Requirement Parameter | Pre-Qualification Criteria | Supporting Documents Required |
|---|---|---|---|
| | | with GST in India. | |
| 2. | Annual Turnover | The Sole Bidder / Lead Member of the Consortium should have cumulative annual turnover of INR 100 Crore over the last 3 audited financial years (2016-17, 2017-18 and 2018-19).<br><br>For the purpose of this criterion, annual turnover of only the bidding entity will be considered. Annual turnover of any parent, subsidary, associated or other related entity will not be considered. In case of consortium, the turnover of prime bidder will be considered. | Audited and Certified copies of Balance Sheet and Profit/Loss Account of last 3 Financial Years i.e. 2016-17, 2017-18 and 2018-19<br><br>• Statutory auditor's/CA's certificate clearly specifying the annual turnover for the specified years. |
| 3. | Net Worth | The Sole Bidder / Lead Member shall have positive net worth as on 31-Mar-2019.<br>The Consortium partner should also have positive net worth as per the last audited Financial Year (2018-19).<br>For the purpose of this criterion, net worth of only the bidding entity will be considered. net worth of any parent, subsidary, associated or other related entity will notbe considered. | Audited and Certified Balance Sheet of the Financial Year 2018-19 should be enclosed.<br><br>Certificate from the Statutory auditor/ CAclearly specifying the net worth of the firm for the last Financial Years for consortium Partner. |
| 4 | Project Experience | 1. Sole Bidder or Any Member in case of Consortium **should have successfully completed one single work of minimum Rs. 20 Crores in any or all or any combination** of the following are | Completion Certificate issued & signed by the competent authority of the client entity onletterhead |

| Sr. No. | Requirement Parameter | Pre-Qualification Criteria | Supporting Documents Required |
|---|---|---|---|
| | | as of CCTV/ANPR, RLVD/ SVD/ FRS/ e-chalan/ILPS **and** Laying of Optical Fiber Network systems with a minimum installation of 200 cameras in last 5 years.<br><br>OR<br><br>Should have **successfully completed 2 work of Rs. 10 Crores in any or all or any combination** of the following areas of implementation of CCTV/ANPR, RLVD/SVD/FRS/e-chalan **and** Laying of Optical Fiber Network systems with a minimum installation of 100 cameras in last 5 years. | |
| 5 | OEM Criteria (surveillance) | OEM should have presence in India from last seven years through direct or subsidiary as per company act with fully equipped repair and maintenance centre and toll-free number.<br><br>Products quoted should be of international repute & enlisted in the iHS report. The proposed OEM should be any of the top 10 OEMs from the last three years global IHS report for Network Security Cameras<br><br>The OEM for CCTV camera should have at least 300 employees on its payroll in India. This is to justify that CCTV OEM has made investment in India and is serious about its business in India which will ensure long term after sales support and spare support from the OEM. Bidder to produce documentary proof to establish the eligibility.<br><br>The MAC address of the IP cameras must be registered in the name of quoted OEM brand.<br><br><br>To ensure fair bidding, the proposed OEM should not have bid as a | • Copy of Certificate of Incorporation / Registration under Companies Act, , or partnership deed asapplicable.<br><br>• Self-certification by OEM<br><br><br><br>• HR Certificatementioning thenumber of resources<br><br><br><br>• Self-certification by OEM<br><br><br>• Self-certification by OEM |

| Sr. No. | Requirement Parameter | Pre-Qualification Criteria | Supporting Documents Required |
|---|---|---|---|
| | | lead/sole bidder or consortium partner or back end partner in any project. | |
| 6. | Undertaking on Blacklisting / barring | The Sole Bidder or the Lead Member and each member of the consortium, in case of a Consortium, should not have been black-listed / barred by any State / Central Government Department or Central /State PSUs as on Proposal Due Date. | Affidavit certifying non-blacklisting as per format given in Appendix 10. |
| 7. | Certifications | The Sole Bidder or any member of Consortium should possess any two (2) of the following Certifications which are valid at the time of bid submission:<br><br>• ISO 20000:2011 forIT Service Management<br><br>• ISO/IEC 27001:2013 for Information Security Management System<br><br>• ISO 9001 : 2015 for Quality ManagementSystems | Copies of the valid certificate in the name of theBidder. |
| 8. | Local Presence | The Sole Bidder or the Lead Member of consortium, in case of a Consortium, should have office in Daman/Vapi or should furnish an undertaking that the same would be established within 30 days of signing the contract if no local presence is there, if project is awarded. | Office address details with valid government document supporting the same.<br><br>**OR**<br><br>Undertaking from authorized signatory to open the local office within 30 days of signingthecontract,ifprojectis awarded. |

Note: Bidders need to ensure compliance to all the eligibility criteria points. Also, all the required documents should be properly annexed as indicated above along with an Index Page. Bidders meeting all eligibility criteria of Pre- Qualification Stage will be shortlisted for the Technical Qualification Stage.

**Note:**

(a)  In case the experience (Technical as well as Financial) shown is that of the bidder's parent / 100%

subsidiary /sister concern company/ Group companies having same parent ultimate, then the following additional documents are required:

- Certificate signed by the Company Secretary/statutory Auditor/2 Board of Directors of the bidder certifying that the entity whose experience is shown is parent/subsidiary/sister concern Company.

- Shareholding pattern of the bidding entity as per audit reports

- For an international project, if the original client certificate and other documents are in language other than English than a translated copy duly confirmed by the Authorised signatory of theBid/Proposal.

(b) For projects where contract value has been received in any currency other than Indian Rupees, than the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of release of the RFP document shall be used for conversion of amount in foreign currency to Indian Rupeesequivalent.

(c) An OEM / Product Company can be part of multiple bids, if participating only as the solution provider for the respective Product / Solution. An OEM can be part of multiple bids as OEM /sub-contractors.

# 4. Evaluation Methodology
## 4.1 General

4.1.1 The Bidder must possess the technical know-how and the financial wherewithal that would be required to successfully provide the services sought by The UT Administration, for the entire contract duration. The Bidder's Bid must be complete in all respects, conform to all the requirements, terms and conditions and specifications as stipulated in the Bid Document.

4.1.2 The UT Administration will appoint a Tender Evaluation Committee (TEC) to scrutinize and evaluate the prequalification of bidders, technical and commercial bids received. The TEC will examine the Bids to determine whether they are complete, responsive and whether the Bid format conforms to the Bid Document requirements. The UT Administration may waive off any informality or nonconformity in a Bid which does not constitute a material deviation according to The UT Administration.

4.1.3 The technical bid of only those bidders shall be opened which meet all the criteria of the pre-qualification criteria mentioned in **Section 3.1** as per format provided in **Appendix 3**.

4.1.4 There should be no mention of bid prices in any part of the Technical Proposal. The Proposal is liable to be rejected if any price bid is included in the technical Proposal.

## 4.2    Opening of Proposal

4.2.1    The UT Administration shall open the envelope labelled "**Packet 1: Technical Proposal**" on the Proposal Opening Date as mentioned in NIT, or at an appropriate time on the extended date for submission of Proposals as may be notified.

4.2.2    In the event of the Proposal Opening Date being declared a holiday for The UT Administration, the Proposals shall be opened at the same time on the next working day.

4.2.3    Any Proposal not accompanied with valid Bid Security in the acceptable form as per Clause **2.15** will be summarily rejected by The UT Administration as being non-responsive.

4.2.4    The UT Administration will subsequently examine and evaluate the Proposals in accordance with the provisions set out in this Section.

4.2.5    To facilitate evaluation of Proposals, The UT Administrationmay, at its sole discretion, seek clarifications in writing from any Bidder regarding its Proposal.

## 4.3    Test of Responsiveness

4.3.1    Prior to evaluation of Proposals, The UT Administrationwill determine whether each Proposal is responsive to the requirements of the RFP Document. A Proposal shall be considered responsive if it satisfies all the criteria stated below:

    (a)    It contains the information and documents as requested in the RFPDocument.

    (b)    It mentions the Proposal Validity Period as set out in Clause2.16.1.

    (c)    It is accompanied by the Bid Security as set out in Clause2.15.1.

    (d)    It provides the information in reasonable detail. ("Reasonable Detail" means that, but for minor deviations, the information can be reviewed and evaluated by The UT Administration without communication with the Bidder). The UT Administration reserves the right to determine whether the information has been provided in reasonabledetail.

    (e)    There are no inconsistencies between the Proposal and the supportingdocuments.

    (f)    It does not affect in any substantial way the scope, obligations, quality, specifications, standards, rules, controls and performance of theProject.

    (g)    It does not contain anycondition.

4.3.2    Bidders are expected to submit proposals complete in all respects. All the required documents and details must be included. In the absence of the same, leading to material deviation or reservation, the Proposal is liable to be rejected.

4.3.3    A material deviation or reservation is one:

- which affects in a substantial way, the scope, quality, and / or performance of the services under the Master Service Agreement,or

- whichlimitsinasubstantialway,inconsistentwiththeRFPDocument, The UT Administration rights or the Bidder's obligations under the Master Service Agreement, or

- which would affect unfairly the competitive position of other Bidders presenting substantially responsivebids.

4.3.4   The UT Administration reserves the right to reject any Proposal which in its opinion is non-responsive and no request for modification or withdrawal shall be entertained by the UT Administration in respect of such Proposals.

## 4.4   Evaluation of Proposals

4.4.1   The Proposals shall be evaluated by Tender Evaluation Committee (TEC) of The UT Administration. The UT Administration may appoint any external agency/ consultants, if required, for evaluation of bids.

4.4.2   The evaluation of the Proposals shall be carried out in the following two stages:

- Stage I - Evaluation of Pre-Qualification and Technical Proposals of theBidders.

- Stage II - Evaluation of Price Proposals of the Bidders who have qualified in Stage I evaluation.

4.4.3   In each stage of evaluation, the respective Proposals shall be first checked for responsiveness with the requirements of the RFP Document. The UT Administration reserves the right to reject the Proposal of a Bidder if the contents of the Proposal are not substantially responsive with the requirements of this RFPDocument.

4.4.4   In Stage I of Proposal Evaluation, the Proposals submitted by the Bidders shall be checked for valid Bid Security, meeting the eligibility and pre-qualification criteria specified in the RFP document and other technical evaluation criteria set out in RFP document.

4.4.5   In Stage II, the Price Proposals of the Bidders who have qualified in the Stage I evaluation would be opened and evaluated as per the criteria set out in the RFP Document.

## 4.5   Evaluation of Technical Proposals

4.5.1   The Technical Proposals of only such Bidders shall be evaluated whose Proposals have been found to be substantially responsive as per Clause 4.3.

4.5.2   Only those Bidders who meet all the Eligibility Criteria as set out in Section 2.3 and Pre-qualification criteria as set out in Section 3.1 shall be considered for further evaluation of their Technical Proposals.

4.5.3   The Technical Proposals of the Bidders shall be evaluated based on the Technical Evaluation Framework as listed in the Table below:

(a) **Technical EvaluationFramework:**

| Sr. No. | Technical Eligibility Criteria | Maximum Marks | Supporting Documents Required |
|---|---|---|---|
| **(A)** | *Bidder financials and technicality* | **30** | |
| 1. | The Sole Bidder or Lead Member of the Consortium should have minimum average annual turnover of INR 100 Crore over the last 3 audited financial years (2016-17, 2017-18 and 2018-19)<br><br>• More than 200 Crore = 10Marks<br>• >150 to 200 Crore = 5Marks<br>• >=100 to 150 Crore = 2.5Marks | 10 | Certificate from the Statutory Auditor clearly specifying the annual turnover for the specified years |
| 2. | Sole Bidder / Any member of Consortium should have experience of **successfully completing** any work related to CCTV/ANPR/RLVD/SVD/e-chalan systems in last 3 years)<br><br>Rs. 10 Crore – Less than Rs. 15 Crore – 10 Marks<br>Rs. 15 Crore - Less than 20 Crore – 15 Marks<br>Rs. 20 Crore or more– 20 Marks | **20** | Completion Certificate issued & signed by the competent authority of the client entity on letterhead. |
| **(B)** | *OEM Selection* | **20** | |
| 3. | OEM should Special Experience of completing any or all of following – RLVD/SVD in India. One Single project Value should<br><br>Less than 3cr – Not Eligible<br>Rs. 3 Crore to less than Rs. 5 Crore – 2.5 Marks<br>Rs. 5 Crore to less than Rs. 10 Crore – 5 Marks<br>Equal to or above Rs. 10 Crore – 10 Marks | **10** | Completion Certificate issued & signed by the competent authority of the client entity on letterhead. |
| 4. | OEM should have Experience of Completed ANPR Projects in India.<br> Less than Rs.<br>Less than- 1 Cr – Not eligible<br>1Crore – 2.5 Marks<br>Rs. 1 Crore – Rs. 2 Crore - 5 Marks | **10** | Completion Certificate issued & signed by the competent authority of the client entity on letterhead. |

| Sr. No. | Technical Eligibility Criteria | Maximum Marks | Supporting Documents Required |
|---|---|---|---|
| | More than Rs. 2 Crore – 10 Marks | | |
| **(C)** | **Technical Proposed Evaluation based on presentation and Demonstration of the solution** | **30** | |
| **5.** | Complete & clear understanding of the project & proposed solution architecture including minimum following components but not limited only: <br>1) Conceptual Design, Hardware & softwaresolution architecture – 5 marks <br>2) Integration architecture & mechanism – 5marks <br>3) Security mechanism & architecture – 5 marks <br>4) Products & software selection criteria – 3marks <br>5) Quality assurance Plan – 2 marks | **20** | |
| 6 | Demonstration of the solution | **10** | |
| **(E)** | ***Proposed Key Personnel*** | **20** | |
| 7. | Project Manager | **8** | CV to be submitted as per Appendix 14 Format for CV of Key Personnel as per RFP. |
| 8. | Solution Architect | **4** | |
| 9. | Intelligent Traffic Management Expert | **4** | |
| 10. | Network Expert | **4** | |
| 11. | **Total Marks** | **100** | |

**Note:**

□ For global projects, original client certificate and other documents shall be duly verified and signed by Statutory Auditor. The same shall be submitted with the biddocument.

□ For projects where fee has been received in any currency other than Indian Rupees, than the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of technical bid opening shall be used for conversion of amount in foreign currency to Indian

Rupeesequivalent.

☐ Projects executed for bidder's own or bidder's group of companies shall not beconsidered.

☐ Financial Proposals of only those bidders will be opened who scores equal to or more than 75 (seventy-five) marks in TechnicalEvaluation.

- The Bidders shall make a presentation to the Authority/ Committee appointed by the Authority to supplement their bids which include the following:

    o Approach & Methodology including Project Experience

    o Proposed Solutions

    o Manpower – Technical Resources

    o Proof of Concept of proposed solution

- The Authority envisages to share proof of concept / technical demonstration to evaluate the technology & system performance for getting city business outcome; During the Demonstration/Proof-of-Concept (PoC) at technical evaluation stage, the Evaluation Committee will give special attention to verify the quality, robustness and appropriateness of the proposed Solutions/Equipment. If any brand / products are found un-suitable, Bidder may get disqualified or may be asked to replace the product with better products, meeting the tender requirements, without any change in commercial bid. Bidder may demonstrate local setup or existing deployments over network/cloud.

- The Authority will notify the date and venue for conducting such proof of concept / technical demonstration to the prospective bidders.

**Note:**

i. All the technically qualified bidders will be notified to participate in Commercial Bid opening process

ii. For an international project if the original client certificate and other documents are in language other than English than a translated copy duly confirmed by the Authorised signatory of theBid/proposal.

iii. For projects where contract value has been received in any currency other than Indian Rupees, than the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of release of the RFP document shall be used for conversion of amount in foreign currency to Indian Rupees equivalent.

- A certificate from the bidder's statutory auditor/ chartered accountant certifying the relationship between the bidder and the company whose experience is being shown along with the percent of voting shares under common control.

- A letter of support from the company whose experience is being shown undertaking that it will provide necessary technical/financial support to the bidder in implementation of the project.

The UT Administration reserves the right to contact the competent authority of the client to verify the project credentials submitted by theBidders.

(a) **Key personnelcriteria:**

The System Integrator shall provide adequate number of personnel, each responsible for a specific role within theproject.Following table indicates the minimum qualification required for Key positions for evaluation for this project.

However, the System Integrator shall independently estimate the teams size required to meet the requirements of service Levels as specified as part of this RFP Document.

| Sr. No. | Role of Resource | Maximum Marks | Other Requirement |
|---|---|---|---|
| 1 | Project Manager | 4 | a) Educational Qualification: BE/B. Tech/MCA with MBA/MS/M. Tech. or equivalent = 1.0Marks BE / B. Tech / MCA = 0.5Mark <br><br> b) Certification: PMP / Prince 2(P) Certification = 1 Mark <br><br> c) Work experience in the capacity of Project/Program Manager in ICT implementation Projects: >=10 years = 1.0Marks >=8 and < 10 years = 1.0Mark <br><br> d) Project/Program management Experience in ICT implementation Project (Command Control Centre/Intelligent Integrated Traffic Management System/Smart Parking Management System) > 3 Projects = 1.0Marks 2 – 3 Projects = 0.5Mark |

| 2 | Solution Architect | 2 | a) Educational Qualification:<br>BE / B. Tech with MS/M. Tech. or equivalent = 1.0Mark<br>BE / B. Tech / MCA = 0.5Mark<br><br>b) Work experience in the capacity of Solution Architect:<br>>=10 years = 1.0Mark<br>>=7 and <10 years = 0.5Mark |
| 3 | Intelligent Traffic Management Expert | 2 | a) Educational Qualification:<br>Post-Graduation in Transportation or equivalent=1.0 Marks<br>Graduation in Transportation or equivalent = 0.5Mark<br><br>b) Work experience as ITMS / Transportation expert:<br>>=9 years = 1.0Marks<br>>=6 and <9 years = 0.5Marks |
| 4 | Network Expert | 2 | a) Educational Qualification:<br>BE / B. Tech with MS/M. Tech. or equivalent = 0.5Mark<br>BE / B. Tech / MCA /MS =0.25 Mark<br><br>b) Certification :<br>Any in Network Administration= 0.5 Mark<br><br>c) Work experience in the capacity of Network Expert:<br>>=9 years = 1.0Mark<br>>=6 and <9 years = 0.5Mark |

4.5.4   For an entity claiming experience for an activity for technical evaluation, only those projects would be considered where such entity was either the sole project executant or was responsible for implementation of the respective component of the Project.

4.5.5   The Bidders are advised that their Technical Proposals should be concise and precise and should contain only the relevant information.

4.5.6   Technical Proposal Presentations: The Bidders may be required by The UT Administration to make a presentation to The UT Administration at a date, time and venue decided by The UT Administration. In case, The UT Administration decides to invite Bidders for presentation, the Bidders will be required to present their Technical Proposals in the presentation ensuring that all aspects are covered properly and adequately.

4.5.7   The UT Administration may conduct Bidder-specific meeting(s) with individual Bidders to clarify aspects

of the Bidder's Technical Proposal that require explanation in the opinion of The UT Administration.

4.5.8    The marks secured based on evaluation of the Technical Proposal as outlined above shall be the technical score of the Bidder ("**Technical Score**").

## 4.6    Evaluation of Price Proposal

4.6.1    The Price Proposals of all Bidders who have scored minimum 70 marks in Technical Evaluation will be opened at a date and time notified by The UT Administration, in the presence of the Bidders' representatives who choose to attend. The Bidders' authorised representatives who are present shall be required to sign and record their attendance.

4.6.2    Proposal of the Bidders would be evaluated on the basis of the "**Total Proposal Price**" quoted in the Price Proposal.

4.6.3    Price Proposals determined to be substantially responsive will be checked for any errors. If there is any discrepancy in the Price Proposal, it will be dealt as per the following:

(a)    If, in the price structure quoted for the required goods/services/works, there is discrepancy between the unit price and total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the The UT Administration there is an obvious misplacement of the decimal point in the unit rate, in which case the total cost as quoted will govern and the unit rate corrected. Arithmetic errors will berectified.

(b)    If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall becorrected.

(c)    If there is a discrepancy between words and figures, the amount in words shall prevail.

(d)    If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of The UT Administration, the bid is liable to be disqualified.

(e)    Any omission in filling the columns of "units" and "rate" or pertaining to the Taxes/levies, duties as applicable etc. other than applicable GST, shall deemed to be treated as inclusive in the total projectcost.

The amount stated in the Price Proposal will be adjusted in accordance with the above-mentioned points for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount of bid, his bid will be rejected, and the Bid Security shall be forfeited.

4.6.4    The Bidder who has quoted the least Total Proposal Price shall be ranked as L1 Bidder and similarly other bidders shall be ranked.

4.6.5    **The CAPEX price quoted should not be more than 80% of overall value of the Total Price Proposal. The quantities given in online price bid are for the purpose of evaluation of price bids**

only. **The UT Administration may change the quantities of any component at the time of signing of the Contract or any time during the Contract Period. The Bidder shall note that the UT Administration has the right to vary the quantity as mentioned in the Price Bid BOQ. Nothing extra shall be paid for increase/decrease in the quantities in the Price Bid BOQ. Rate quotes shall be for completing the item in all respects and as perprojectrequirement.TheBiddershouldnotethatactualsuccessfullyexecuted quantity shall be paid as per terms and conditions of Bid Document. If the UT Administration does not procure any subject matter of procurement or procures less than the quantity specified in the bidding documents due to change in circumstances, the bidder shall not be entitled for any claim or compensation. The Opex price is being asked for 5 years (excluding 6 months of implementation phase).**

## 4.7  Award Criteria

Quality and Cost based Selection (QCBS) method shall be used for evaluation of the bids, asper the formula given below

The scores will be calculated as:
$Bb = 0.7*Tb + (0.3) * (Cmin/Cb * 100)$
Where,

$Bb$ = overall score of bidder under consideration (calculated up to two decimal points)
$Tb$ = Technical score for the bidder under consideration
$Cb$ = Price quoted by the bidder under consideration
$C min$ = Lowest price among the financial proposals under consideration

4.7.1    The bidder achieving the highest overall score will be invited for negotiations for awarding the contract. In case of a tie where two or more bidders achieve the same highest overall score, the bidder with the higher technical score will be invited first for negotiations for awarding the contract. In case of a tie on the technical scores and highest overall scores, the $Cb$ will be calculated to the third place of decimal and the bidder with lesser $Cb$ will be invited for negotiations for awarding the contract Notifications

4.7.2    The UT Administration will notify the Successful Bidder by a Letter of Award (LOA) in the format set out in **Appendix 17** ("Draft Letter of Award") that its Proposal has been accepted.

## 4.8  The UT Administration's Right to Accept or Reject Proposal

4.8.1    The UT Administration reserves the right to accept or reject any or all of the Proposals without assigning any reason and to take any measure as it may deem fit, including annulment of the bidding process, at any time prior to award of Contract, without any liability or obligation for such acceptance, rejection or annulment.

4.8.2    The UT Administration reserves the right to invite revised Price Proposals from Bidders with or without amendment of the RFP Document at any stage, without any liability or obligation for such invitation and

without assigning any reason therefor.

4.8.3     The UT Administration reserves the right to reject any Proposal at any stage if:

   (a)    the Bidder does not respond promptly and thoroughly to requests for supplementary information requested by The UT Administration for the evaluation of the Proposal; or

   (b)    one or more of the pre-qualification conditions has/have not been met by the Bidder;or

   (c)    the Bidder has made a material misrepresentation or such material misrepresentation is discovered at any time;or

   (d)    the Bidder engages in a corrupt, fraudulent, coercive, undesirable or restrictive practice

4.8.4     If such disqualification / rejection occurs after the Price Proposals have been opened and the Bidder securing highest Composite Score gets disqualified / rejected, then The UT Administration reserves the rightto:

   a)     consider the Bidder with next highest Composite Score as Preferred Bidder;or

   b)     take any such measure as may be deemed fit in the sole discretion of The UT Administration, including annulment of the BiddingProcess.

4.8.5     Proposals shall be deemed to be under consideration immediately after they are opened until such time that The UT Administration makes an official intimation of award/rejection to the Bidders. While the Proposals are under consideration, Bidders and/or their representatives or other interested parties are advised to refrain from contacting, by any means, The UT Administration and/or their employees/representatives on matters relating to the Proposals underconsideration.

4.8.6     In case it is found, after the issue of the LOA or signing of the Master Service Agreement or after its execution and during the subsistence thereof, that:

   (a)    one or more of the pre-qualification conditions have not been met by the Bidder; or

   (b)    the Bidder has made a material misrepresentation;or

   (c)    the Bidder has engaged in a corrupt, fraudulent, coercive, undesirable or restrictivepractice;

then the LOA or the Master Service Agreement, as the case may be, shall notwithstanding anything to the contrary contained therein or in this RFP Document, be liable to be terminated by a communication in writing by The UT Administration to the Successful Bidder without The UT Administration being liable in any manner whatsoever to the Successful Bidder. In such an event, The UT Administration shall forfeit Bid Security or Performance Security, as the case may be, without prejudice to any other rights or remedy that may be available to The UT Administration in this regard.

## 4.9 Acknowledgement of LOA and Execution of Master Service Agreement

4.9.1   Within seven (07) days from the date of issue of the LOA, the Successful Bidder shall accept the LOA and submit to The UT Administration the Letter of Acknowledgement in the format set out in **Appendix 18**.

4.9.2   The Successful Bidder shall execute the Master Service Agreement within fifteen (15) days of the issue of LOA or such time as indicated by The UT Administration.

4.9.3   The UT Administration will promptly notify other Bidders that their Proposals have been unsuccessful and their Bid Security will be released as promptly as possible upon signing of the Master Service Agreement with the Successful Bidder /receipt of Acknowledgement of LOA from the Successful Bidder.

## 4.10 Performance Guarantee and Additional Performance Guarantee

4.10.1  The Successful Bidder shall within fifteen (15) days of the issue of LOA or such time as indicated by The UT Administration furnish Performance Guarantee as per draft Master Service Agreement and in terms of LOA, by way of an irrevocable Bank Guarantee issued by a Nationalized Bank or a Scheduled Bank authorized to handle transactions of Government of India in India, in favour of "Member Secretary", The UT Administration", payable at Daman as required under the Master Service Agreement. For the avoidance of any doubt, 'Scheduled Bank' shall mean a Bank as defined under Section 2 (e) of the Reserve Bank of India Act,1934.

The Successful Bidder shall along with the Performance Guarantee provide to the Authority an irrevocable and unconditional guarantee from a Bank for a sum equivalent to Rs 30000000 (Rupees Three Crore Only) in the form as approved by the Authority (the "Additional Performance Guarantee") of the Agreement, to be modified, mutatis mutandis, for this purpose as security to the Authority if the Bid Price of the Selected Bidder is lower by more than 10% with respect to the estimated cost in total or item wise. Additional Performance Guarantee shall be calculated as under:

If the rate quoted by the bidder falls below 10% of the estimate rate, then the additional performance guarantee is to be required to be deposited. If the rate quoted by the bidder for an item of work is "x%" below estimate cost where x lies above 10%, the additional performance guarantee for that item of work is equal to (x-10)% of the estimate amount for that item of work. The total of additional performance guarantee for the whole work is the total of individual additional performance guarantee for each item of work calculated as above. Additional performance Guarantee will be required to be deposited in the form of unconditional bank guarantee from any Nationalised Bank/Scheduled Bank, in an approved format. The Bank Guarantee on instalment basis with lesser period validity shall not be accepted. This will be released only after satisfactory completion of the work without any interest. If the grand total quoted amount by a bidder is less than 75% (seventy five percent) of the total estimated cost put to tender, then such bids will be decided based on discretion of the Authority.

4.10.2  Failure of the Successful Bidder to comply with the requirements of Clause 4.11.1 shall constitute sufficient grounds for the annulment of the LOA, and forfeiture of the Bid Security. In such an event, The UT Administration reserves the right to:

a. consider the second ranked Bidder as Preferred Bidder provided it agrees to match the Total Proposal Price of the highest ranked Bidder if its Total Proposal Price is higher than that of the highest ranked Bidder. In case, the second ranked Bidder fails to match the above requirement or requirements of Clause 4.11.1, the next ranked Bidder shall be considered as Preferred Bidderprovided:

    i. its Price Proposal Value is lower than that of the Bidders ranked higher than it, or
    ii. agrees to match the lowest of the Total Proposal Prices of the Bidders ranked higher thanit.

The above process shall be reiterated until the identification of the Preferred Bidder or till the last ranked Bidder.

# Appendix 1: Format of Pre-Bid Queries

Bidder shall submit all pre-bid queries in MS excel in the following format.

| Request for clarification | |
|---|---|
| Name and Address of the organization submitting request | |
| Name and Position of person submitting request | |
| Contact details of the Organization/ Authorized Representative | |
| Tel: <br><br> Mobile <br><br> e:Fax: <br><br> E-mail: | |

| Sl. # | Reference (RFP Section, Clause and Page Number | Query Category | Provision in the RFP | Clarification Sought/ Suggestion |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| n | | | | |

- Bidders shall submit their queries only at the email ID as specified in NIT.

- **Query Category** – Bidder are required to submit their queries under the following categories:

  o General

  o Pre-Qualification criteria

  o Technical Evaluation Criteria

  o SLA

  o Specifications

  o BoM/BoQ

  o Legal/Contract Conditions

  o Others

☐ Queries not adhering to the specified format may not be considered

# Appendix 2: Format for Covering Letter

(On the letterhead of the Bidder)

To,                                                          Date_____

The Member Secretary ( DDEGS )
Office of the Director (IT),
2nd Floor, Behind Post Office
Fort Area, Moti Daman

**Sub: Proposal for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman**

Dear Sir,

We have read and understood the Request for Proposal (RFP) Document for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman. We hereby submit our Proposal for the captioned subject as per the following details:

1. We are enclosing and submitting herewith our Proposal in original, along with the information and documents as per the requirements of the RFP Document, for your evaluation and consideration.

2. The Proposal is unconditional.

3. All information provided in the Proposal and in its Appendices is true and correct.

4. We shall make available to Daman & Diu e-Governance Society ( DDEGS ) any

additional information it may find necessary or require to clarify, supplement or authenticate the Proposal within such time as may be prescribed by DDEGS.

5. We acknowledge the right of DDEGS to reject our Proposal without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.

6. We certify that we or any of our constituents or our predecessor entity have neither failed to perform on any contract, as evidenced by imposition of a penalty or a judicial pronouncement or arbitration award, nor been expelled from any contract nor have had any contract terminated for breach on our part nor have we or any of our constituents or our predecessor entity defaulted in complying with any statutory requirements.

7. We declare that:

   (a) We have examined and have no reservations to the Bid Documents, including the Addendum (if any) issued by DDEGS.

   (b) We have not directly or indirectly or through any agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice

   or restrictive practice, as defined in clause 2.12.5 & 2.12.6 of the RFP Document, in respect of any tender or request for proposal issued by or any agreement entered into with DDEGS or any other public sector enterprise or any government, Central or State; and

   (c) We hereby certify that I / we have taken steps to ensure that, in conformity with the provisions of clause 2.12.4 to clause 2.12.6 of the RFP Document, no person acting for us or on our behalf has engaged or will engage in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice.

   (d) We do not have any conflict of interest in accordance with Clause 2.12.7

   of the RFP Document..

8. We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Proposal that you may receive nor to invite the Bidders to submit Proposals for implementation of Intelligent Traffic Management System solutions in Daman, without incurring any liability to the Bidders, in accordance with Cause 2.11.2 of the RFP Document.

9. We declare that we satisfy and meet the requirements as specified in the RFP Document and eligible to submit a Proposal in accordance with the terms of this RFP Document.

10. We certify that we have not been convicted by a Court of Law or indicted or

adverse orders passed by a regulatory authority in any matter which could cast a doubt on our ability to undertake implementation of Intelligent Traffic Management System solutions in Daman, which relates to a grave offence that outrages the moral sense of the community.

11. We further certify that in regard to matters relating to security and integrity of the India, 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.

12. We undertake that in case, due to any change in facts or circumstances during the Bidding Process, we become liable to be disqualified in terms of the provisions of disqualification, we shall intimate DDEGS of the same immediately.

13. We hereby irrevocably waive any right which we may have at any stage at law or howsoever otherwise arising or accruing to challenge or question any decision taken by DDEGS in connection with the selection of the Bidder, or in connection with the Bidding Process itself, in respect of the above mentioned implementation of Intelligent Traffic Management System solutions in Daman and the terms thereof.

14. In the event of our being declared as the Successful Bidder, we agree to enter into a Master Service Agreement in accordance with the draft that has been provided to us as part of the RFP Document. We agree not to seek any changes in the aforesaid draft and agree to abide by the same.

15. We have studied all the RFP Document /Bidding Documents carefully and also surveyed the requirements for "Daman Netra" solutions and related services and other matters mentioned in the Bidding Documents including in Clause 2.12.2 and 2.17.2 of the RFP Document). We understand that, except to the extent as expressly set forth in the Master Service Agreement, I/we shall have no claim, right or title arising out of any documents or information provided to us by DDEGS in respect of any matter arising out of or concerning or relating to the Bidding Process including the award of work.

16. We undertake that we have not been barred by any entity of GOI or UT Administration or blacklisted by any state government or central government / department / agency in India from participating in Bidding Process as on the Proposal Due Date.

17. The Total Proposal Price have been quoted by us after taking into consideration all the terms and conditions stated in the RFP Document, draft Master Service Agreement, our own estimates of costs and after a careful assessment of the requirements, related services and all the conditions that may affect the Proposal.

18. We confirm having submitted the Bid Security of Rs. 50,00,000 (Rupees Fifty Lakhs only) to DDEGS in accordance with the RFP Document. The Bid Security in the form of a Bank Guarantee /Demand Draft is attached. (strike out whichever is not applicable).

19. We agree and understand that the Proposal is subject to the provisions of the

Bidding Documents. In no case, we shall have any claim or right of whatsoever nature if the contract is not awarded to us or our Proposal is not opened.

20. We undertake that none of the hardware/software/other component being proposed by us infringes on any patent or intellectual property rights as per the applicable laws.

21. We undertake that none of the hardware/software/other component being proposed by us is end-of-sale by the respective OEM at the time of submission of the Proposal or will be end-of-support by the respective OEM during the Contract Period.

22. We agree and undertake to abide by all the terms and conditions of the RFP Document.

23. We agree to keep our Proposal valid up to 180 days from Proposal Due Date.

Datedthis ............................ Day of,2020.

Name oftheBidder         ……………………………………………

Signature of theAuthorisedPerson        …………………………………………….

Name of the Authorised Person

# Appendix 3: Format for Pre-Qualification Checklist

| Sl.No. | Compliance Criteria | Supporting Document Required | Compliance (Yes/No) | Reference in the Technical Proposal (Section, Page No.) |
|---|---|---|---|---|
| 1. | RFP Document fees | Online receipt copy | | |
| 2. | Bid Security | BG as per Format in Appendix 11 | | |

| | | | | |
|---|---|---|---|---|
| 3. | Details of Bidder | As per Appendix 4 | | |
| 4. | Power ofAttorney for Signing of Proposal | As per Appendix 5 | | |
| 5. | Power of Attorney for Lead Member (in case of a Consortium) | As per Appendix 6 | | |
| 6. | Format for Memorandum of Understanding for Consortium (in case of a Consortium) | As per Appendix 7 | | |
| 7. | Requirement Parameter – Legal entity | • Copy of Certificate of Incorporation /RegistrationunderCompanies Act, 1956/2013 or any equivalent foreign act, or partnership deed as applicable<br>• Power of Attorney for Lead Member of Consortium as per the format enclosed at Appendix 6<br>• In case of a Consortium, Memorandum of Understanding (MoU), as per the format provided under Appendix 7<br>• GST Registration Certificate.<br><br>• In case of foreign entity, an undertaking on GST registration,asapplicable. | | |
| 8. | Requirement Parameter – Annual Turnover | • Certificate from the Statutory Auditor clearly specifying the annual turnover for the specified years.<br>• Audited and Certified copies of Balance Sheet and Profit/Loss Account of last 3 Financial Years last three (03) financial years, i.e. FY 2016-17, FY 2017-18 and FY 2018-19. | | |

| 9. | Requirement Parameter - Net worth | • Certificate from the Statutory Auditor clearly specifying the net worth of the firm as on 31 March 2019. | | |
|---|---|---|---|---|
| 10. | Requirement Parameter - Project Experience as provided in PQ criteria | 1. Work order/ Contract clearly highlighting the scope of work, solutions relevant to this project, Bill of Material and value of the contract/order.<br><br>AND<br><br>Completion Certificate issued & signed by the competent authority of the client entity on letterhead. | | |
| 11. | Requirement Parameter – Undertaking on Blacklisting | Affidavit certifying non-blacklisting as per format given in **Appendix 10** - For Sole Bidder or All members of the Consortium, in case of a Consortium | | |

Note: Please note that in absence of above mentioned proofs/ documents/ not providing any information, Proposal may not be considered at all.

# Appendix 4: Format for Details of Bidder

1.  **General Information:**

    (a)  Name

    (b)  Country of incorporation/registration

    (c)  Address of the registered office, corporate headquarters, and its branch office/s, if any, in India

    (d)  Date of incorporation and/or commencement of business

2.  **Brief description of the Bidder including details of its main lines of business.**

3.  **Details of individual/s who will serve as the point of contact / communication for Daman & Diu e-Governance Society ( DDEGS ):**

| (a) | Name | : |
| (b) | Designation | : |
| (c) | Company | : |
| (d) | Address | : |
| (e) | Telephone Number | : |
| (f) | E-Mail Address | : |
| (g) | Fax Number | : |
| (h) | Mobile Number | : |

**4. Name, Designation, Address and Phone Numbers of Authorised Signatory of the Bidder:**

| (a) | Name | : |
| (b) | Designation | : |
| (c) | Company | : |
| (d) | Address | : |
| (e) | Telephone Number | : |
| (f) | E-Mail Address | : |
| (g) | Fax Number | : |
| (h) | Mobile Number | : |

**5. In case of a Consortium:**

(a) the information above (1-4) should be provided for all the members of the consortium.

(b) information regarding role of each member should be provided as per table below:

| Sl. # | Name of Member | Role (Specify Lead Member / Other Member) |
|---|---|---|
| | | |
| | | |

# Appendix 5: Format for Power of Attorney for Signing of Proposal

(On Non – judicial stamp paper of appropriate value or such equivalent document duly attested by notary public)

**Power of Attorney**

Know all men by these presents, we ................................................... (Name and address of the registered office)do here by constitute,  appoint and authorise Mr./Ms........................................(name and residential address) who is presently employed with us and holding the position of as our attorney, to do in

our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Proposal for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman, including signing and submission of all documents and providing information / responses to "Daman & Diu e-Governance Society ( DDEGS )", representing us in all matters before DDEGS, and generally dealing in all matters in connection with our bid for the said contract

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

For


_____

(Signature)

(Name, Title and Address)


Accepted

………….. (Signature)

(Name,   Title   and   Address   of   the

Attorney) Note:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

- In case the Proposal is signed by an authorised Director of the Bidder, a certified copy of the appropriate resolution/ document conveying such authority may be enclose din lieu of the Power of Attorney.

# Appendix 6: Format for Power of Attorney for Lead Member

(On Non – judicial stamp paper of appropriate value or such equivalent document duly

attested by notary public)

**Power of Attorney**

Whereas Daman & Diu e-Governance Society (DDEGS), has invited Proposals from eligible entities for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman (the "Project"),

Whereas, the members of the Consortium are interested in bidding for the Project and implementing the Project in accordance with the terms and conditions of the Request for Proposal (RFP) Document and other connected documents in respect of the Project, and

Whereas, it is necessary under the RFP Document for the members of the Consortium to designate the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium's bid for the Project who, acting jointly, would have all necessary power and authority to do all acts, deeds and things on behalf of the Consortium, as may be necessary in connection the Consortium's bid for the Project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT;

We, M/s. ……………… (Lead Member) and M/s………………(the respective names and addresses of the registered office) do hereby designate M/s. …………………………………

being one of the members of the Consortium, as the Lead Member of the Consortium, to do on behalf of the Consortium, all or any of the acts, deeds or things necessary or incidental to the Consortium's bid for the Project, including submission of Proposal, participating in conferences/meetings, responding to queries, submission of information/ documents and generally to represent the Consortium in all its dealings with DDEGS, any other Government Agency or any person, in connection with the Project until culmination of the process of bidding and thereafter till the Agreement is entered into with DDEGS.

We hereby agree to ratify all acts, deeds and things lawfully done by Lead Member, our said attorney pursuant to this Power of Attorney and that all acts deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us/Consortium.

Dated this the……Dayof………..2020

…………………………………

(Executants)(To be executed by all the members of the Consortium)

**Note:**The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

# Appendix 7: Format for Memorandum of Understanding for Consortium

DRAFT MEMORANDUM OF UNDERSTANDING TO BE EXECUTED BY MEMBERS OF THE

CONSORTIUM

[On Non-judicial stamp paper of appropriate value duly attested by notary public]

This Memorandum of Understanding (MoU) entered into this day of [Date] [Month] 2020 at [Place] among _____ (hereinafter referred to as"    ") and having office at [Address], India, as Party of the First Part and _____(hereinafter referred as "    ") and having office at [Address], as Party of the Second Part and _____ (hereinafter referred as"    ") and having office at [Address], as Party of the Third Part. The parties are individually referred to as **Party** and collectively as **Parties**.

WHEREAS Daman & Diu e-Governance Society (DDEGS) (hereinafter referred to as "Purchaser") has issued a Request for Proposal dated [Date of Release of RFP] from the Applicants interested in RFP for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman for the Purchaser:

AND WHEREAS the Parties have had discussions for formation of a Consortium for bidding for the said Project and have reached an understanding on the following points with respect to the Parties' rights and obligations towards each other and their working relationship.

AS MUTUAL UNDERSTANDING OF THE PARTIES, IT IS HEREBY AGREED AND DECLARED AS FOLLOWS:

(a)     The purpose of this Agreement is to define the principles of collaboration among the Parties to:

    i.     Submit a response jointly to Bid for the "RFP for Selection of System Integrator for Implementation of Implementation of Daman Netra Solutions in Daman" as a Consortium.

    ii.     Sign Contract in case of award.

    iii.     Provide and perform the supplies and services which would be ordered by the Purchaser pursuant to the Contract.

(b)     This Agreement shall not be construed as establishing or giving effect to any legal entity such as, but not limited to, a company, a partnership, etc. It shall relate solely towards the Purchaser for "RFP for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman" for and related execution works to be performed pursuant to the Contract and shall not extend to any other activities.

(c)     The Parties shall be jointly and severally responsible and bound towards the Purchaser for the performance of the works in accordance with the terms and conditions of the BID document, and Contract.

(d)     (Name of Party) shall act as Lead Member of the Consortium.
As such, it shall act as the coordinator of the Party's combined activities and shall carry out the following functions:
    i.     To ensure the technical, commercial and administrative co-ordination of the work package(s)

      ii.      To lead the contract negotiations of the work package with the Purchaser.

      iii.     The Lead Member is authorized to receive instructions and incur liabilities for and on behalf of all Parties.

      iv.     In case of an award, act as channel of communication between the Purchaser and the Parties to execute the Contract

(e)    That the Parties shall carry out all responsibilities as Developer in terms of the Project Agreement.

(f)    That the broad roles and the responsibilities of each Party at each stage of the Bidding shall be as below:

Party A:

Party B:

Party C:

(g)    That the Parties affirm that they shall implement the Project in good faith and shall take all necessary steps to see the Project through expeditiously.

(h)    That this MoU shall be governed in accordance with the laws of India and courts in Daman shall have exclusive jurisdiction to adjudicate disputes arising from the terms herein.

In witness whereof the Parties affirm that the information provided is accurate and true and have caused this MoU duly executed on the date and year above mentioned.

(Party of theFirstPart)        (Party of theSecondPart)    (Party of the Third Part) Witness:

i.

ii.

# Appendix 8: Format for Project Citation by the Bidder

The details of projects executed by the Bidder:

| | |
|---|---|
| Name of the Project & Location | |
| Role of the Entity claiming experience for the Project | |
| Client's Name and Complete Address | |

| | |
|---|---|
| Narrative description of project, including no. of RLVD/ANPR system and other major TSCC components as sought in the Criteria | |
| Contract Value for the bidder (in INR) | |
| No. of locations/junctions, as applicable, where the relevant project component has been implemented as on the Proposal Due Date | |
| Date of Start of Project | |
| Date of Completion of Project | |
| Activities undertaken by Lead Member or consortium member | |

*N.B - If the project is ongoing, bidder must clearly specify, the stages/phases/milestones and the no. of location/junctions which are completed and which are ongoing and at what stage of completion and produce a certificate as per the format provided in* **Appendix – 9**.

(Copies of Work orders/Agreement/Client certificate etc. to be attached along with)

# Appendix 9: Format for Project Certificate by CA / Statutory Auditor

This is to certify that < Name of the Bidding entity > has been awarded with < Name of the Project > as detailed under:

| | |
|---|---|
| Name of the Project | |
| Role of the Entity claiming experience for the Project | |
| Client's Name, Contact no. and Complete Address | |
| Contract Value for the bidder (in INR) | |

| | |
|---|---|
| Current status of the project (Completed/Ongoing) | |
| Narrative description of project, including no. of RLVD, SV, ANPR system, eChallan and other major Daman Netra components as sought in the Criteria | |
| No. of locations/junctions, as applicable, where the relevant project component has been implemented as on the Proposal Due Date | |
| Value of Work completed for which payment has been received from the client. | |
| Date of Start of Project | |
| Date of Completion of Project | |
| Activities undertaken by Lead Member or consortium member | |

CA / Statutory Auditor's Details (Name, Signature, Seal and Registration No. with Address)

Signature & Seal:
Name:
Designation:
Bidding entity's name
Address:
Date:

# Appendix 10: Format for Affidavit Certifying Non-Blacklisting

(On Non-Judicial stamp paper of appropriate value)

**Affidavit**

I, M/s.                                    , (the name and addresses of the registered office of the Bidder)

hereby certify and confirm that we or any of our promoters/ directors are not barred or blacklisted by any state government or central government / department / agency in India from participating in projects, either individually or as member of a Consortium as on the

............................................ (Not earlier than 3 days prior to the Proposal Due Date).

We undertake that, in the event of us or any of our promoters/directors being

blacklisted / barred at any time post the date of this affidavit, we shall intimate Daman & Diu e-Governance Society ( DDEGS ) of such blacklisting.

We further confirm that we are aware that as per <mark>Clause 4.9.3</mark> of the Request for Proposal for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman, our Proposal for the captioned Project would be liable for rejection in case any material misrepresentation is made or discovered with regard to the requirements of the RFP Document at any stage of the Bidding Process or thereafter the Agreement will be liable for termination.

Dated this……………………Dayof……………     , 2020.

Name of theBidder

………………………………………………

Signature of the Bidder

Name of the Authorised Signatory

………………………………………………

Signature of the Authorised Signatory

# Appendix 11: Format of Bid Security

**(ON BANK'S LETTER HEAD WITH ADHESIVE STAMP)**

To,
The Member Secretary ( DDeGS )
Office of the Director (IT),
2nd Floor, Behind Post Office
Fort Area, Moti Daman
Daman – 396 220

Bid No.                                                                      Date_____

KNOW ALL MEN by these present that we_____of
_____(Name and address of Bank) having our registered office at_____
(hereinafter called "the Bank") are bound unto Member Secretary, Daman & Diu e-

Governance Society (hereinafter called "==DDEGS==") for the sum of Rs._____
_____ (Rupees _____only) for which payment truly to be made to ==DDEGS==, the Bank hereby binds itself, its successors and assigns by these present.

Whereas.............................. (NAME OF BIDDER) has submitted its bid dated_____(date of submission of bid) for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman in terms of the Request for Proposal due on_____issued by DDEGS, (hereinafter called "the Bid").

AND WHEREAS the Bidder is required to furnish a Bank Guarantee for the sum of Rs. _____(Rupees_____only).

ANDWHEREAS      (Name of Bank) have, at the request of the Bidder, agreed to give this guarantee as hereinafter contained without demur.

1.  We agree as follows:
    (a)  That DDEGS may without affecting this guarantee grant time of or other indulgence to or negotiate further with the Bidder in regard to the conditions contained in the said bid and thereby modify these conditions or add thereto any further conditions as may be mutually agreed upon between DDEGS and the Bidder.

    (b)  That the guarantee hereinbefore contained shall not be affected by any change in the constitution of our Bank or in the constitution of the Bidder.

    (c)  That any demand made by DDEGS shall be conclusive evidence against us of the amount due hereunder and shall not be questioned by us.

    (d)  That this guarantee commences from the date hereof and shall remain in force till:

        i.    the Bidder, in case his Proposal is accepted by DDEGS, executes a Master Service Agreement after furnishing the Performance Security as per the provisions of the RFP Document ; or

        ii.  90 (ninety) days from the Proposal Validity Period; Whichever is later.

    (e)  That the expression 'the Bidder' and 'the Bank' herein used shall, unless such an interpretation is repugnant to the subject or context, include their respective successor and assigns.

2.  The Conditions on this obligation as per RFP Document are:

    (a)  If the Bidder withdraws its Proposal except as provided in RFP ==Part 1 Clause2.22.1== or

    (b)  If the Bidder modifies or withdraws its Proposal during the interval between the Proposal Due Date and expiration of the Proposal Validity Period ; or

    (c)  If the Bidder fails to accept the LOA within the stipulated time period as provided in RFP ==Part 1 Clause 4.10.1==; or

    (d)  If any information or document furnished by the Bidder turns out to be misleading or untrue in any material respect; or

(e)   If a Bidder engages in a corrupt, fraudulent, coercive, undesirable or restrictive practice as specified in RFP Part 1 Clauses 2.12.4 to2.12.6.

(f)   If the Bidder, having been notified of the acceptance of his Proposal by DDeGS, during the period of Proposal Validity Period:

    i.   fails or refuses to furnish the Performance Security in accordance with Instructions to Bidders and/or

    ii.   fails or refuses to enter into a Master Service Agreement within the time limit specified in the Instructions to Bidders.

We undertake to immediately pay to DDEGS in Daman the above amount upon receipt of its first written demand, without DDEGS having to substantiate its demand, provided that, in its demand, DDEGS will note that the amount as claimed by it is due to it owing to the occurrence of any one or more of the conditions mentioned above, specifying the occurred condition or conditions.

SIGNATURE OF AUTHORISED             SIGNATURE OF THE WITNESS
OFFICIAL OF THEBANK

_____                _____

NAME OFOFFICIAL                     NAME OF THE WITNESS
STAMP/SEAL OF THEBANK            ADDRESS OFTHEWITNESS

# Appendix 12: Format for Technical Proposal Checklist

| Sl. # | Compliance Criteria | Supporting Documents | Compliance (Yes/No) | Reference in the Technical Proposal (Section & Page no.) |
|---|---|---|---|---|
| 1. | Project Citations and Self-certifications, as applicable | As per formats in **Appendix 8**&**9**, as applicable | | |

| | | | | |
|---|---|---|---|---|
| 2. | Detailed proposed solution | As per format provided in **Appendix 13** | | |
| 3. | Proposed CVs | As per format provided in **Appendix 14** | | |
| 4. | Manufacturers'/Producers' Authorization Form | As per format provided in **Appendix 15** | | |
| 5. | Compliance to Requirement (Technical / Functional Specifications) of proposed solutions | As per **Appendix 20** | | |
| 6. | Unpriced BoQ with Make and Model no. including complete specifications and datasheets | As per **Appendix 21** | | |
| 7. | No Deviation Certificate | As per **Appendix 22** | | |
| 8. | Project Credential Summary ( as applicable) | As per **Appendix 23** | | |

# Appendix 13: Structure of Proposed Solution

Bidders are required to provide a detailed approach & methodology to execute the entire project. Bidders are advised to comply with the below provided headers/Approach components while detailing out their solution.

| Sl. No. | Item |
|---|---|

| 1. | • Understanding of requirement and Implementation approach |
|---|---|
| | • Understanding of requirements |
| | • Project implementation approach or strategy and operations and maintenance plan including comprehensiveness of fall-back strategy and planning during rollout |
| 2. | • Proposed Solution |
| | • Detailed description of Daman Netra solutions proposed & overall solution architecture |
| | • Approach for distribution/sale/recharge of smartcards |
| | • Hardware deployment and integration approach encompassing all solutions |
| | • Unpriced BoQ with Make and Model no.( in line with **Appendix20**) |
| | • Specifications/Datasheets/Brochuresofvariouscomponentsofferedaspartof solution |
| 3. | • Work Plan & its adequacy |
| | • Timelines and modalities for implementation in a time bound manner |
| 4. | • Assessment of Manpower deployment, Training and Hand holding plan |
| | • Mobilization of resources |
| | • Training and handholding strategy |

# Appendix 14: Format of Curriculum Vitae (CV)

| A | Name of the Resource: | | |
|---|---|---|---|
| 1. | Proposed position or role | (only one candidate shall be nominated for each position) | |
| 2. | Date of Birth | | Nationality | |

| 3. | Education | Qualification | Name of School or College or University | Degree Obtained | Year of Passing |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

| 4. | Total years of experience | |
|---|---|---|

| 5. | Areas of Expertise and no. of years of experience in this area | (as required for the Profile) |
|---|---|---|

| 6. | Certifications and Trainings attended | |
|---|---|---|

| 7. | Employment Record | Employer | Position | From | To |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

[Starting with present position and last 2 firms, list in reverse order, giving for each employment: dates of employment, name of employing organization, positions held.]

| 8. | Detailed Tasks Assigned | (List all tasks to be performed under this project) |
|---|---|---|
| 9. | | Relevant Work Undertaken that Best Illustrates the experience as required for the Role*)* |

| Project 1 | |
|---|---|
| Name of assignment | |
| Year | |
| Location | |
| Employer | |
| Main project features | |
| Position held | |
| Activities performed | |
| Project 2 | |
| Name of assignment | |
| Year | |
| Location | |
| Employer | |
| Main project features | |
| Position held | |
| Activities performed | |

**N.B.**                                    :

Relevant project experience as per requirement of the proposed position must be specifically mentioned.

# Appendix 15: Manufacturer's Authorisation Form

(This form has to be provided by the OEMs proposed. This letter of authority should be on the letterhead of the manufacturer and should be signed by a person having competent Authority)

Date:

To,
The Member Secretary ( DDeGS )
Office of the Director (IT),
2nd Floor, Behind Post Office
Fort Area, Moti Daman
Daman – 396 220

**Subject: Manufacturer's Authorization Form**

**Ref: RFP No. <<.....>> dated << .....>>**

Dear Sir,

We _____(Name of the Manufacturer) who are established and reputable manufacturers of_____(List of Goods) having factories or product development centres at the locations

_____or as per list attached, do hereby authorize._____(Name and address of the Bidder) to bid, negotiate and conclude the contract with you against RFP No._____Dated_____ for the above goods manufactured by us.

We hereby extend, our warranty/ maintenance support for the hardware goods supplied by the bidder against this invitation for bid by_____(Name of the Bidder) as per requirements of this RFP.

We hereby confirm that we have authorized presence in India either directly or through channel partner(s) as on the date of release of RFP.

We declare that declare that that product(s) or technology(ies) quoted/proposed shall not reach end-of-life for a minimum of 5 years from the date of Last Date of Bid Submission and end of support for minimum of 5 years from the date of Go-Live.(*For all active components only*).

==We, hereby declare that we have existing capability and infrastructure to provide 24x7 technical support in India across the year which was established before 3 years.==

We hereby confirm that we have minimum installation base of at least <mark>1000 Nos RLVD,</mark> <mark>ANPR</mark> and SVD cameras in India in the last <mark>5 years</mark>.

Thanking you,

Yours faithfully,


(Signature)



For and on behalf of: (Name of the Manufacturer)



Authorised Signatory Name:

Designation:

Place:

Date:

# Appendix 16: Format of Price Proposal

**To be quoted in the Bid BoQ Separately uploaded through online mode only.**

# Appendix 17 Format for Draft Letter of Award (To be issued by DDEGS)

LetterNo.                                                Date:_____

**Subject**: **Letter of Award for Selection of System Integrator for Implementation of Integrated Command Control Centre (ICCC) and Solutions for Daman Netra Project in Daman**

To,

Authorised Signatory of the Successful Bidder

Dear Ms./Mr._____

1.  This is in reference to the Proposal submitted by_____{Name of Successful Bidder} ("SB") in response to the Request for Proposal ("RFP") Document (along with the amendments made thereafter) released by The UT Administration of Dadra and Nagar Haveli and Daman and Diu ("The UT Administration") on_____{date of release of RFP Document}.

2.  The aforesaid Proposal was considered and evaluated by The UT Administration for this purpose.

3.  Further, subsequent discussions were held with you on_____and the summary of such discussions is set out in the enclosure/s. {To be inserted where such discussions have been held}.

4.  The UT Administration is now pleased to inform that_____ (Name of the Successful Bidder)has been selected as the Successful Bidder (SB) for the subject contract.

5.  This letter is intended to convey The UT Administration's acceptance, subject to the terms & conditions specified in the RFP Document and conditions set out in the Master Service Agreement to be executed within fifteen (15) days from the date of this letter, of the Proposal submitted by SB ,wherein SB has quoted a Total Price Proposal of Rs._____(Rupees__).

6.  As a token of your acknowledgment of this letter, you are hereby requested to return a copy of the same to us, duly signed by the authorized signatory, within seven (7) days from the date of this letter.

7.  Further, you are also requested to comply, within fifteen (15) days from the date of receipt of this Letter of Award, with the conditions set out below:

    a.  Furnish a Performance Security from a nationalized Bank of a sum of Rs.....................(Rupee only), in terms of the draft Master Service Agreement;
    b.  Execution of the Master Service Agreement.

8.  Kindly note that this communication by itself does not create any rights or contractual relationship with The UT Administration. Any such right or relationship shall come into effect upon complying with conditions set out in Para 7 and the execution of Master Service Agreement.

Yours Truly,

For and on behalf of  DDEGS

# Appendix 18: Format of Acknowledgement of Letter of Award

(To be submitted by Successful Bidder to Daman and Diu e-Governance Society) On the Letter Head of the Bidder

To,                                                                          Date: (Within seven (7) days of date of LOA)

Member Secretary, DDeGS,
Office of the Director (IT),
2nd Floor, Behind Post Office
Fort Area, Moti Daman

Daman – 396 220

Subject: Letter of Award for Selection of System Integrator for Implementation of Daman Netra Solutions in Daman

We are pleased to acknowledge the Letter of Award issued by DDEGS vide their letter Ref. dated..................... for Implementation of Daman Netra Solutions in Daman.

We have reviewed the aforesaid Letter of Award and are enclosing herewith a copy of the Letter of Award duly acknowledged in acceptance of the conditions and undertake to comply with the following within fifteen (15) days of the date of the LOA:

1.  Execute the Master Service Agreement

2.  Furnish a Performance Security of the amount of Rs… as per the terms of  the  Master Service Agreement

……………………………………… Name of Successful Bidder

……………………………………… Signature of the Authorised Person

……………………………………… Name of the Authorised Person

# Appendix 19: Draft Master Service Agreement

This agreement("Agreement") is enteredintoon the _____dayof(Month), Two Thousand and Twenty,

BETWEEN

DDeGS, The UT Administration of Dadra Nagar Haveli& Daman Diu, having its registered office at The Department of IT,2ⁿᵈ Floor, Behind Post Office, Moti Daman -396220, India (hereinafter referred to as "The UT Administration" or "Authority" which expression shall, unless repugnant to the context or meaning thereof, mean and include its successors and permitted assigns) of the First Part;

AND

_____ , a company registered under the _____, having its registered office at___(hereinafter referred to as "System Integrator" or "SI" which expression shall, unless repugnant to the context or meaning thereof, mean and include its successors and permitted assigns) of the SecondPart.

WHEREAS

A. The UT Administration intends to implement Intelligent Traffic and Surveillance Management System Solutions in Daman;

B. The UT Administration had invited proposals for Implementation of ICCC based safe Daman Project in Daman, vide Request for Proposal ("RFP") dated_____;

C. M/s_____, among others, had submitted its proposal in response to the aforesaid RFP and emerged as Successful Bidder after evaluation of proposals, as per the procedure specified in theRFP;

D. The UT Administration has accepted the proposal of M/s_____(" System Integrator")andhasissuedLetterofAcceptancedated_____in favour of the SystemIntegrator;

E. The Parties have now agreed to enter into this Agreement to record their entire understanding with regard to the subject matter hereof, subject to and on the terms and conditions set forth hereinafter.

**NOW, THEREFORE**, the Parties hereby agree as follows:

1. **Article 1 –Definitions**

1.1. **Definitions:**

In this Agreement, the following words and expressions shall have the meaning hereinafter respectively ascribed to them hereunder:

"**Agreement**" or "**Contract**" shall mean this agreement including the Appendices hereto and any amendments made thereto in accordance with the provisions contained in this agreement.

"**Agreement Date"** shall mean the date of signing of this Agreement by the Parties.

"**Applicable Laws**" shall mean all laws, promulgated or brought into force and effect by the Government of India and/or UT Administration of DNH & DD including regulations and rules, notifications made thereunder, and any judgments, decrees, injunctions, writs and orders of any court of record, as may be in force and effect during the subsistence of thisAgreement.

"**AMC Charges**" shall mean the charges specified in Schedule C, payable to the SystemIntegrator for discharging its AMC Services in accordance with this Agreement.

"**Contract Period**" shall have the meaning ascribed to the term in Article 3 of thisAgreement.

"**Cure Period**" shall mean period of 60 (Sixty) days or such further period as may be allowed by the aggrieved Party to the Party in breach of this Agreement for curing the breach and shall commence from the date on which a notice is delivered by the aggrieved Party to the Party in breach asking the latter to cure the breach(s) specified in such notice.

"**Default Charges**" shall have the meaning ascribed thereto in Article.

"**Device & Software IP**" shall have the meaning ascribed to the term in Article 4.1 (c)of this Agreement.

"**Encumbrances**" shall mean any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations and shall include without limitation any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to theAgreement.

"**Expiry**" shall mean the expiry of the Agreement by efflux of time.

"**Expiry Date**" shall mean date on which this Agreement expires by efflux of time.

"**Firmware**" shall mean a set of coded instructions embedded within a Device or component of a Device that performs functions or provides data to enable the Device to operate in a specified manner.

"**GoI**" shall mean Government of India.

"**Go-Live**" shall mean

i.    Successful deployment, commissioning and UAT of the ICCC application modulesimplemented.

ii.    Procurement, deployment and commissioning of the hardware items and desired connectivity at the identified locations required to support the functioning of ICCCmodules.

iii.    Acceptance/Sign-off from Purchaser or its constituted committees or representatives.

"**Government Agency**" shall mean DDeGS or any Department, Commission, Board, The UT Administration, instrumentality or agency, under the control of GoI or UT Administration of DNH & DD having jurisdiction over all or any part of the Project or the performance of all or any of the services or obligations of Parties under or pursuant to thisAgreement.

"**INR**, **Re.** or **Rs.**" shall mean the legal currency of the Republic of India.

"**Intellectual Property**" or "**IP**" shall mean any and all industrial and intellectual property rights of whatever nature, in India and throughout the world, whether registrable or not, and whether now known or devised in the future, including rights in respect of or in connection with:

(a)    patents, copyright, registered or unregistered trademarks or service marks, trade names, business names, brand names, indications of source or appellations of origin, designs and commercial names and designations, circuit layouts and databaserights;

(b)    ideas, processes, methodologies, concepts, techniques, inventions, discoveries, trade secrets, know-how, confidential information and scientific, technical and product information;and

(c)    any rights to apply for or renew the registration of any suchrights.

"**ICCC Solutions**" or "**ICCC Components**" shall mean the intelligent traffic management system solutions or components as described in Section 2 of RFP Part 2.

"**System Integrator or SI**" shall mean the entity selected by The UT Administration for implementation, operation and maintenance of the Project pursuant to competitive bidding process.

"**System Integrator's Event of Default**" shall have the meaning ascribed to the term inArticle 8.1 of this Agreement.

"**Material Adverse Effect**" shall mean, when used in connection with a Party to this Agreement, any change or effect that is materially adverse to the business, financial condition or results of operations of such entity and its Affiliates, taken as a whole. For the purposes of this definition, "Affiliates" shall mean any company, existing now or in the future, owning or owned by, either directly or indirectly, or controlling, controlled by or under common control with either Party.

"**Project**" shall mean Implementation of Intelligent Traffic Management System solutions in Daman including maintenance and other incidental activities relating to the ICCC solutions.

"**Request for Proposal**" or "**RFP**" shall mean the request for proposal document dated issued by The UT Administration for **Selection of Implementing Agency for Integrated Command and Control Centre based Safe Daman projectfor the district of Daman**.

"**Site**" shall mean the sites where any aspect of the Scope of Services is discharged.

"**Integrated Control Centre (ICCC) and Application**" shall mean the applications, the operating system and associated components to be developed for Integrated Command Control Centre (ICCC) and components as described in RFP Document by or on behalf of the System Integrator in terms of this Agreement.

"**Software**" shall mean a set of coded instructions that performs functions or provides working data or parameters to enable a device or system to operate in a specified manner, and be loaded into a system or device dynamically by a user and includes all Firmware and operating systems required by a system or subsystem to perform in a specified manner.

"**Source Code**" shall mean each item of the Software, expressed in human readable language which is reasonably necessary for understanding, maintaining, correcting and enhancing each suchitem.

"**Scope of Work**" or "**Scope of Services**" shall have the meaning ascribed to the termin Article 2.3 of this Agreement.

"**Standards of Performance**" shall mean the minimum standards to be adhered to bySystem Integrator, as set out in Schedule E during the Contract Period.

"**Payments to System Integrator**" shall mean the payment charges specified in Schedule C, payable to the System Integrator for Implementation and Operation and Maintenance of Intelligent Traffic Management System solutions in Daman in accordance with this Agreement.

"**Technical Proposal**" shall mean the technical proposal submitted by the System Integrator as a part of the RFP process.

"**Technical Specification**" shall mean the specifications of Hardware/Software itemsand Software specified in RFP Part 2.

"**Termination**" shall mean the termination of this Agreement prior to the expiry of theContract Period in accordance with the provisions of the Agreement.

"**Termination Date**" shall mean the effective date of Termination as mentioned andcontained in the Termination Notice in accordance with the provisions of Article 8.4.

"**Termination Notice**" shall mean the communication issued in accordance with this Agreement by any one Party to the other Party terminating this Agreement.

"**UT Administration**" shall mean the UT Administration of Dadra Nagar Haveli and Daman Diu.

1.2. **Interpretations**

In this Agreement, unless the context otherwise requires,

(a) the words importing singular shall include plural and viceversa;

(b) the headings are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of thisAgreement;

(c) the words "include" and "including" are to be construed withoutlimitation;

(d) any reference to day, month or year shall mean a reference to a calendar day, calendar month or calendar yearrespectively;

(e) In case of ambiguities or discrepancies in this Agreement, the following shall apply, unless otherwise decided byThe UT Administration:

    i.    between two Articles of this Agreement, the provisions of specific Articles relevant to the issue under consideration shall prevail over those in other Articles;

    ii.    between the Articles/Clauses and the Schedules, the Articles/Clauses shall prevail;

    iii.    between any value written in numerals and that in words, the latter shall prevail.

## 2. Article 2 – Award of Contract & Scope ofWork

2.1. Subject to and in accordance with the terms and conditions set forth in this Agreement, The UT Administration hereby awards the Contract to System Integrator and the System Integrator hereby accepts theaward.

2.2. Subject to and in accordance with the terms and conditions set forth in this Agreement, System Integrator shall be obliged to undertake the following in accordance with the Applicable Laws and the ApplicablePermits:

(a) Discharge services as set forth in Article 2.3 during the Contract Period;and

(b) Perform and fulfil all of System Integrator's obligations in accordance withthisAgreement.

### 2.3. Scope ofWork

Subject to and in accordance with the terms and conditions set forth in this Agreement, System Integrator accepts and agrees to provide the services as set out in Schedule A ("**Scope of Work**") and elsewhere envisaged under this Agreement.

### 2.4. Change of Scope

The UT Administration may require System Integrator to undertake additional works including but not limited to upgrading the hardware etc. and to provide services which are beyond the Scope of Work as contemplated and provided for in this Agreement ("**Additional Work**"). In the event The UT Administration requires System Integrator to carry out Additional Work, System Integrator shall in the first instance submit to The UT Administration the charges that it proposes for undertaking such Additional Work along with other terms and conditions, if any. The System Integrator shall carry out the Additional Work in accordance with the terms and conditions mutually agreedupon.

Notwithstanding the above, it is clarified that any incidental activities/components required for implementation of Scope of Work will have to be carried out by System Integrator at no extra cost.

## 3. Article 3 – ContractPeriod

3.1. This Agreement shall come into effect on execution hereof and, unless terminated earlier or extended in accordance with the provisions hereof, shall be valid for a period up to five years from the date ofGo-Live;

Provided that in the event of the Contract being extended beyond the aforesaid period in accordance with the provisions hereof, the Contract Period shall include the period/ aggregate period by which the Contract is soextended;

Provided further that in the event of Termination, the Contract Period shall mean and be limited to the period commencing from the Agreement Date and ending on the Termination Date.

The Contract may be renewed by The UT Administration, at its sole and absolute discretion, on mutually agreed terms and conditions.

## 4. Article 4 – Obligations ofParties

4.1. Obligations of SystemIntegrator

System Integrator shall observe, undertake, comply with and perform, and in addition to and not in derogation of its obligations elsewhere set out in this Agreement, the obligations set forth in this Article;

(a) To perform the Scope of Work as set out in Article 2, for implementing the System;

(b) To be responsible for compliance with ApplicableLaws;

(c) To procure, as required, the appropriate proprietary rights, licenses, agreements, and permissions for, *inter alia*, materials, methods, processes, software, operating systems, designs, trademarks, documents and systems used or incorporated into the Integrated Command Control Centre (ICCC) and Components such as cameras and Applications ("Device & SoftwareIP");

(d) The System Integrator shall grant to The UT Administration, a non-exclusive, irrevocable, perpetualandroyalty-freerighttousetheDevice&SoftwareIPfortheProject, commencing on the Agreement Date or on the date the same get supplied by System Integrator, whichever is earlier.

(e) To provide Performance Security in the form of Bank Guarantee to The UT Administration, in accordance with Article7;

(f) To carry out its obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and to observe sound management practices, and employ appropriate advanced technology and safe and effective equipment, machinery, materials andmethods;

(g) To provide onsite support for the Integrated Command Control Centre (ICCC) andsolutions;

(h) To provide necessary information and reports including those pertaining to problems relating to Integrated Command Control Centre (ICCC) and Components to The UT Administration and the entities authorised byThe UT Administration;

(i) To be responsible and liable for the security of the ICCC Components during the Contract Period. The System Integrator shall bear the costs of repair or replacement of Integrated

Command Control Centre (ICCC) and  Components;

(j)  To reasonably cooperate with The UT Administration and other stakeholders concerned in relation to the matters covered under this Agreement;and

(k)  Any service agreement or sub-contract by the System Integrator may be entered into by System Integrator, only with prior approval of The UT Administration. However, the responsibility to meet Standards of Performance will continue to be that of the System Integrator.

(l)  System Integrator shall be fully responsible for deployment / installation / development/ laying of network fibre and integration of all the software and hardware components and resolve any problems / issues that may arise due to integration ofcomponents.

(m) System Integrator shall ensure that the OEMs supply equipment/ components including associated accessories and software required and shall support SI in the installation, commissioning, integration and maintenance of these components during the entire period of contract. System Integrator shall ensure that the COTS OEMs supply the software applications and shall support System Integrator in the installation / deployment, integration, roll-out and maintenance of these applications during the entire period of contract. It must clearly be understood by SI that warranty and O&M of the system, products and services incorporated as part of system would commence from the day of Go- Live of system as a complete solutionincluding all thecomponents proposed. System Integrator would be required to explicitly display that he/ they have a back to back arrangement for provisioning of warranty/ O&M support till the end of contract period with the relevant OEMs. The annual maintenance support shall include patches and updates the software, hardware components and other devices.

(n)  All the software licenses that SI proposes should be perpetual software licenses. The software licenses shall not be restricted based on location and the UT Administration should have the flexibility to use the software licenses for other requirements if required.

(o)  The UT Administration reserves the right to review the terms of the Warranty and Annual Maintenance agreements entered into between System Integrator and OEMs and no such agreement/contract shall be executed, amended, modified and/or terminated without the prior written consent of the Authority. An executed copy of each of such agreements/contracts shall, immediately upon execution be submitted by System Integrator to theAuthority.

(p)  System Integrator shall ensure that none of the components and sub- components is declared end- of-sale or end-of-support by the respective OEM at the time of submission of bid. If the OEM declares any of the products/ solutions end-of-sale subsequently, the System Integrator shall ensure that the same is supported by the respective OEM for contractperiod.

(q)  If a product is de-supported by the OEM for any reason whatsoever, from the date of Acceptance of the System till the end of contract, System Integrator should replace the products/ solutions with an alternate that is acceptable to the UT Administration at no additional cost to the UT Administration and without causing any performance degradation.

(r) The Licenses will be in name of The UT Administrationonly.

(s) System Integrator shall ensure that the OEMs provide the support and assistance to System Integrator in case of any problems / issues arising due to integration of components supplied by him with any other component(s)/ product(s) under the purview of the overall solution. If the same is not resolved for any reason whatsoever, SI shall replace the required component(s) with an equivalent or better substitute that is acceptable to Authority without any additional cost to the Authority and without impacting the performance of the solution in any mannerwhatsoever.

(t) SI shall ensure that the OEMs for hardware servers/equipment supply and/or install all type of updates, patches, fixes and/or bug fixes for the firmware or software from time to time at no additional cost to theAuthority.

(u) SI shall ensure that the OEMs for hardware servers/ equipment or Bidder's trainedengineersconductthepreventivemaintenanceonaquarterlybasisand break-fix maintenance in accordance with the best practices followed in the industry.SI shall ensure that the documentation and training services associated with the components shall be provided by the OEM partner or OEM's certified training partner without any additional cost to the Authority.

(v) The training has to be conducted using official OEM course curriculum mapped with the hardware / Software Product's to be implemented in theproject.

(w) SI and their personnel/representative shall not alter / change / replace any hardware component proprietary to the Authority and/or under warranty or O&M of third party without prior consent of theAuthority.

(x) SI and their personnel/representative shall not alter / change / replace any hardware component proprietary to the Authority and/or under warranty or O&M of third party without prior consent of theAuthority.

(y) SI's representative(s) shall have all the powers requisite for the execution of scope of work and performance of services under this contract. SI's representative(s) shall liaise with the Authority's representative for the proper coordination and timely completion of the works and on any other matters pertaining to the works. SI shall extend full co-operation to Authority's representative in the manner required by them for supervision/ inspection/ observation of the equipment/ goods/ material, procedures, performance, progress, reports and records pertaining to the works. He shall also have complete charge of SI's personnel engaged in the performance of the works and to ensure compliance of rules, regulations and safety practice. He shall also cooperate with the other Service Providers/Vendors of the Authority working at the Authority's office locations & field locations and DC & DR sites. Such Bidder's representative(s) shall be available to the Authority's Representative at respective Datacenter during the execution ofworks.

(z) SI shall be responsible on an ongoing basis for coordination with other vendors and agencies of the Authority in order to resolve issues and oversee implementation of the same. SI shall also be responsible for resolving conflicts between vendors in case of borderline

integrationissues.

(aa) SI is expected to set up a project office in Daman. The technical manpower deployed on the project should work from the same office. However, some resources may be required to work from the client office during the contract period.

4.2. **Obligations ofThe UT Administration**

4.2.1. The UT Administration shall observe, undertake, comply with and perform, in addition to and not in derogation of its obligations elsewhere set out in this Agreement, the obligations set forth in thisArticle:

(a) ToreleasepaymentstoSystemIntegratorinaccordancewiththeAgreement;

and

(b) To reasonably cooperate with the System Integrator to enable it to render its services in terms of theAgreement.

(c) Authority hereby agrees to make the project site(s) available as per the agreed specifications, within the agreed timelines. Authority agrees that SI shall not be in any manner liable for any delay arising out of Authority's failure to make available the site within the stipulatedperiod.

(d) Authority shall ensure that timely approval is provided to the SI as and when required, which may include approval of project plans, implementation methodology, design documents, specifications, or any other document necessary in fulfilment of thisAgreement.

(e) The Authority's representative shall interface with SI, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract. Authority shall provide adequate cooperation in providing details, coordinating and obtaining of approvals from various governmental agencies, in cases, where the intervention of the Authority is proper andnecessary.

(f) Authority or his / her nominated representative shall act as the nodal point for implementation of the Agreement and for issuing instructions, approvals, commissioning, acceptance certificates, payments etc. toSI.

5. **Article 5 –Personnel**

5.1. The System Integrator shall deploy such qualified and experienced personnel as may be required to carry out its Scope ofWork.

5.2. It is expressly understood and agreed by System Integrator that no employee or worker of the System Integrator or its sub-contractor(s) shall be considered to be an employee of The UT Administration for any purpose whatsoever. System Integrator shall be solely responsible for all such employees and workers, their wages, statutory payments, taking out and maintaining ESIC/ other insurance etc. and furnish to The UT Administration evidence of its compliance from time-to-time as required by them. The UT Administration shall not be liable for any payment or claim or

compensation (including but not limited to compensation on account of injury or death or termination) of any nature to such employees or workers at any point of time during the currency of this Agreement or after itsTermination.

5.3. In the event that any of the personnel deployed by or at the behest of System Integrator is reasonably determined by The UT Administration to be incompetent, guilty of misbehaviour or misconduct or incapable in discharging the assigned responsibilities, The UT Administration may request the System Integrator to forthwith provide a replacement of such personnel with personnel having suitable qualifications and experience for the assigned responsibilities and the System Integrator shall deploy a suitable replacementassoonaspossible.TheSystemIntegratorshallhavenoclaimfor additional costs arising out of or incidental to any removal and/ or replacement of personnel.

## 6. Article 6 – Payments to SystemIntegrator

6.1. Subject to Article 6.2 hereunder and other terms of this Agreement and during the Contract Period, The UT Administration shall make payments to the System Integrator, as specified in Schedule C of thisAgreement.

6.2. System Integrator shall be responsible for adhering to the minimum Standards of Performance while performing its Scope of Work, failing which it shall be liable for deduction of default charges from its payment as specified in Schedule E ("**Default Charges**").

6.3. Payment of CapexCharges:

System Integrator shall be entitled to invoice The UT Administration at the time of completion of each Milestone as described on Payment Milestones as per **Section 4** of RFP Part 2. The Payment for each invoice shall be due and payable to the System Integrator within 30 (thirty) days from the date of receipt of invoice, subject to deduction of liquidated damages, if any, as set out in Schedule E of this Agreement.

6.4. Payment for OpexCharges:

(a) System Integrator shall submit invoice to The UT Administration on a quarterly basis as described on Payment Milestones as per Section **Section 4** of RFP Part 2.

(b) Within 30 days of receiving invoice from the System Integrator, The UT Administration shall release payment to the System Integrator after deduction of Default Charges, if any.

6.5. All Payments to the System Integrator shall be subject to the deductions of tax at source under Income Tax Act, and other taxes and deductions as provided for under any law, rule or regulation. All costs, damages or expenses which The UT Administration may have paid or incurred, for which under the provisions of the Agreement, the System Integrator is liable, the same shall be deducted by The UT Administration from any dues to System Integrator. All Payments to System Integrator shall be made after making necessary deductions as per terms of the Agreement and recoveries towards facilities, if any, provided by the The UT Administration to SystemIntegrator.

## 7. Article 7 – PerformanceSecurity

7.1. System Integrator has, for due and faithful performance of its obligations under this Agreement, provided to The UT Administration, a Performance Security in the form of bank guarantee from a Bank for a sum of Rs._____(Rupees___) [equal to 10% of the contract value], valid from the date of issue of such bank guarantee till 6 months beyond the ExpiryDate.

7.2. A copy of Performance Security bank guarantee is provided in **Schedule D** of this Agreement.

7.3. The UT Administration shall release the Performance Security bank guarantee to System Integrator upon expiry of the bank guarantee or within six months after the Termination Date, as the case may be.

7.4. The UT Administration shall have the right to invoke the Performance Security bank guarantee in case of Termination of the Contract due to an System Integrator's Event of Default, as agreed pre-estimated liquidateddamages.

**8.    Article 8 – Events of Default &Termination**

8.1. **System Integrator's Events ofDefault**

The following event(s) shall constitute an event of default of System Integrator (an"System Integrator's Event of Default"):

(a) System Integrator fails to adhere to the Standards of Performance as provided for in Schedule E hereof and that results in an event which has been termed as an System Integrator's Event of Default therein;or

(b) System Integrator is in breach of this Agreement and such breach has a Material Adverse Effect on The UT Administration;or

(c) The transfer of all or material part of the assets or undertaking of System Integrator except where such transfer, in the reasonable opinion of The UT Administration, does not materially affect the financial and technical capability of System Integrator to perform its obligations under this Agreement;or

(d) System Integrator is adjudged bankrupt or insolvent or if a trustee or receiver is appointed for System Integrator or for any of its property that, in the opinion of The UT Administration, has a material bearing on its ability to discharge its Scope of Work as contemplated in the Agreement;or

(e) System Integrator is ordered to be wound up by a court of law, except for the purpose of amalgamation or reconstruction provided that, as part of such amalgamation or reconstruction, the property, assets and undertaking of System Integrator are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of System Integrator under this Agreement and the amalgamated or reconstructed entity in the reasonable opinion of The UT Administration has the technical capability, operating experience and financial standing necessary for the substantial performance of its obligations under this Agreement and this Agreement remains

in full force and effect:or

(f)     System Integrator repudiates this Agreement or otherwise evidences an intention not to be bound by this Agreement;or

(g)     System Integrator suffers an execution being levied on any of its assets/ equipment causing a Material Adverse Effect and allows it to be continued for a period of 30 (thirty) days; or

(h)     SI has failed to perform any instructions or directives issued by the Authority which it deems proper and necessary to execute the scope of work or provide services under the Contract, or

(i)     SI has failed to remedy a defect or failure to perform its obligations in accordance with the specifications issued by the Authority, despite being served with a default notice which laid down the specific deviance on the part of SI/ SI's Team to comply with any stipulations or standards as laid down by the Authority;or

(j)     SI has failed to adhere to any amended direction, instruction, modification or clarification as issued by the Authority during the term of this Agreement and which the Authority deems proper and necessary for the execution of the scope of work under this Agreement;or

(k)     SI has failed to demonstrate or sustain any representation or warranty made by it in this Contract, with respect to any of the terms of its Bid, the RFP and this Contract; or

(l)     AnyothereventoroccurrencewhichisreferredtoasSystemIntegrator'sEventof Default, in the Agreement.

Where there has been an occurrence of such defaults inter alia as stated above, the Authority shall issue a notice of default to SI, setting out specific defaults / deviances / omissions / non-compliances / non-performances and providing a notice of thirty (30) days to enable such defaulting party to remedy the default committed.

Where despite the issuance of a default notice to SI by the Authority, SI fails to remedy the default to the satisfaction of the Authority, the Authority may, where it deems fit, issue to the defaulting party another default notice or proceed to contract termination.

8.2.   **The UT Administration's Event ofDefault**

The following event(s) shall constitute an event of default of The UT Administration (an "The UT Administration's Event of Default") unless such The UT Administration's Event of Default has occurred as a result of System Integrator's Event of Default or a Force Majeure Event:

(a)     The UT Administration is in breach of this Agreement and such breach has a material impact on the performance of obligations by the System Integrator under this agreement; or

(b)     The UT Administration fails to make the payment to the System Integrator, as per provisions of this Agreement, for a continuous period of six months;or

(c)     The UT Administration repudiates this Agreement or otherwise evidences an irrevocable

intention not to be bound by thisAgreement.

8.3. UponoccurrenceofanSystemIntegrator'sEventofDefault(asprovidedinArticle 8.1) or The UT Administration's Event of Default (as provided in Article 8.2), the Parties agree that The UT Administration or System Integrator, whosoever is not in default ("Non-Defaulting Party") shall, following the Cure Period and subject to Article 8.4, be entitled to terminate this Agreement forthwith by issuing a 30 (Thirty) days' notice ("Termination Notice")  to the party in default ("Defaulting Party") and upon expiry of such notice period, this Agreement shall standterminated.

8.4. Prior to issuing a Termination Notice, the Non-Defaulting Party will, by a notice in writing inform the Defaulting Party of its intention to issue the Termination Notice (the "Preliminary Notice") and provide a Cure Period to the Defaulting Party to make its representation, if any, against such intended Termination Notice and/or take corrective action, if any. After the expiry of Cure Period, Non-Defaulting Party may issue the Termination Notice after giving due consideration to any representation made by Defaulting Party along with evidence thereof and/or corrective action taken by Defaulting Party, prior to issuing any such TerminationNotice.

8.5. **Termination Notice**

If a Party having become entitled to do so decides to terminate this Agreement pursuant to Article 8.3, it shall issue Termination Notice setting out:

(a) in sufficient detail the underlying Event ofDefault;

(b) the Termination Date, in accordance with Article 10.3;and

(c) any other relevantinformation.

8.6. **Obligations ofParties**

Following the issue of Termination Notice by either Party, the Parties shall promptly take all such steps as may be necessary or required to ensure that until Termination the Parties shall, to the fullest extent possible, discharge their respective obligations so as to maintain the continued operation of theProject;

In case of termination of the Agreement, if so desired by The UT Administration, System Integrator shall provide any or all the services envisaged under this Agreement for a period of 6 (six) months from the date of such Termination or till a suitably experienced agency, or any other alternate arrangement replaces System Integrator, whichever is earlier, or as may be mutually agreed by the Parties. Payments shall be duly paid to System Integrator in accordance with and at the rates prescribed in this Agreement by The UT Administration, for the work performed by the System Integrator.

8.7. **Withdrawal of TerminationNotice**

Notwithstanding anything inconsistent contained in this Agreement, if the Defaulting Party which has been served with the Termination Notice cures the underlying Event of Default to the satisfaction of the Non-defaulting Party at any time before the Termination occurs, the

Termination Notice may be withdrawn by the Party which had issued the same.

8.8. **Upon Termination of this Agreement for any reason whatsoever by any of the Parties:**

(a) Notwithstanding anything to the contrary contained in this Agreement, any Termination, pursuant to the provisions of this Agreement, shall be without prejudice to accrued rights of any of the Parties including payments for periods prior to the effectiveness of the Termination, each Party's right to claim and recover damages and other rights and remedies which a Party may have under the Agreement or in law. All rights and obligations of each Party under this Agreement shall survive the Termination of this Agreement to the extent such survival is necessary for giving effect to such rights andobligations.

(b) On Termination of this Agreement, notwithstanding anything to the contrary contained in this Agreement, The UT Administration shall be within its rights to appoint any other agency to replace System Integrator and provide the services on such terms and conditions as The UT Administration may decide, at its solediscretion.

8.9. Upon Termination of the Agreement or upon its expiry due to efflux of time, the System Integrator shall hand over hosting infrastructure/any other project assets in the possession of System Integrator and project related operational and transaction records and documentation and other service-related data (collectively, the "Project Data") to The UT Administration. System Integrator may, as requested by The UT Administration, also provide maintenance support for Integrated Command Control Centre (ICCC) and components on mutually agreed terms. Additionally, the following shall beapplicable:

a) Upon Termination due to System Integrator's Event of Default: The UT Administration shall have a right to forfeit the Performance Guarantee amount as mutually agreed pre- estimated liquidateddamages.

b) Upon Termination due to The UT Administration's Event of Default: The UT Administration shall return the Performance Guarantee to the SystemIntegrator.

c) Upon Termination due to Force Majeure: The UT Administration shall return the Performance Guarantee to the SystemIntegrator.

8.10. In the event of Termination due to any cause whatsoever, whether consequent to the stipulated Term of the Contract or otherwise the UT Administration shall be entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the project which System Integrator shall be obliged to comply with and take all available steps to minimize loss resulting from that termination/breach, and further allow and provide all such assistance to the UT Administration and/ or the successor agency/ service provider, as may be required, to take over the obligations of System Integrator in relation to the execution/continued execution of the requirements of theContract.

## 9.  Article 9 -Indemnity

9.1. System Integrator shall indemnify, defend and hold The UT Administration, including their

officers, servants and agents (the "Indemnified Persons") harmless against any and all proceedings, actions and third party claims for loss, damage and expense of whatever kind and nature arising out of a breach by the System Integrator of any of its service obligations under thisAgreement.

9.2. Without limiting the generality of Article 9.1, the System Integrator shall fully indemnify and defend the Indemnified Persons from and against any and all loss and damages arising out of or with respectto

(a) failure of the System Integrator to comply with ApplicableLaws,

(b) payments of taxes relating to the System Integrator, its contractors, suppliers and representatives, income or other taxes required to be paid by the System Integrator without reimbursementhereunder,

(c) non-payment of amounts payable by System Integrator to its employees or sub- contractors as a result of materials or services furnished to the System Integrator,or

(d) any claim or action to the extent such action is based on a claim that the System Integrator infringes a patent, copyright or trademark, and System Integrator shall pay those damages and costs finally awarded against the Indemnified Persons in such action attributable to suchclaim.

## 10. Article 10 – ForceMajeure

10.1. As used in this Agreement, a Force Majeure Event shall mean occurrence of any or all of the events defined in Article 10.2 hereinafter which prevent the Party claiming Force Majeure (the "Affected Party") from performing its obligations under this Agreement and which act or event:

(a) Is beyond the reasonable control and not arising out of the fault of the Affected Party;

(b) The Affected Party has been unable to overcome such act or event by the exercise of due diligence and reasonable efforts, skill and care, including through expenditure of reasonable sums of money;and

(c) Leads to a Material AdverseEffect.

10.2. **Force MajeureEvents**

For purpose of this Article, and subject to Articles 10.1 (a) (b) and (c) herein, Force Majeure Event(s) shall mean one or more of the following acts or events:

(a) Acts of God or events beyond the reasonable control of the Affected Party which could not reasonably have been expected to occur, exceptionally adverse weather conditions, lightning, earthquake, cyclone, flood, volcanic eruption or fire orlandslide;

(b) Radioactive contamination or ionizingradiation;

(c) Strikes or boycotts (other than those involving a Party or its employees or representatives or

attributable to any act or omission of any of them) interrupting supplies and services relating to the Project for a period exceeding a continuous period of 15 (fifteen)days;

(d) Any act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage which prevents discharging of its obligations by a Party for a period exceeding a continuous period of 15 (fifteen)days;

(e) Any public agitation which prevents discharging of its obligations by a Party for a period exceeding a continuous period of 15 (fifteen)days.

10.3. **Effect of Force MajeureEvent**

Upon the occurrence of any Force Majeure Event, the following shall apply:

(a) There shall be no Termination except when a Force Majeure Event subsists for a period of 180 (one hundred eighty) days or more within a continuous period of 365 (three hundred sixty five) days, in which case, The UT Administration may in its sole discretion terminate this Agreement by giving Termination Notice in writing to the System Integrator without being liable in any mannerwhatsoever;

(b) The Parties shall bear their respective costs and no Party shall be required to pay to the other Party any costs arising out of such Force MajeureEvent;

(c) The UT Administration will not be liable for making payments to the System Integrator for the period and for such services that could not be rendered by the System Integrator due to such Force MajeureEvent;

(d) System Integrator will not be liable for the Default Charges during the periods in which the Force Majeure eventspersist.

10.4. **Liability for other losses, damagesetc.**

Save and except as expressly provided under this Article 10, no Party hereto shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant to the Article 10.

10.5. **Excuse from performance of obligations**

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations and to the extent it is unable to perform on account of such Force Majeure Event provided that:

(a) the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force MajeureEvent;

(b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other

Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence,and

(c) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party written notice to that effect and shall immediately and promptly resume performance of its obligations hereunder.

10.6. Notwithstanding anything to the contrary contained in this Agreement, a Party hereto shall not be liable to the other Party for any exemplary, special, indirect, consequential or incidental damages of any kind (including without limitation loss of revenues or loss of profits), even if such Party has been advised of the possibility of suchdamages.

## 11. Article 11 –Confidentiality

11.1. **Mutual ConfidentialityObligations**

(a) All information, data, legacy information, and any other information, provided by a Party hereto, including without limitation the proprietary materials, software and documentation, specifications, etc. in connection with the Project or otherwise during the Contract Period, shall be treated as confidential ("Confidential Information") by the receivingParty.

Unless otherwise expressly authorized in writing by the disclosing Party of Confidential Information, the receiving Party shall maintain in strict confidence all Confidential Information, shall use Confidential Information only for the purpose of this Agreement, and shall restrict disclosure of Confidential Information to only those of its directors, officers, employees, consultants, or advisors who require access to the Confidential Information for carrying out the work relating to the Agreement and who are bound not to disclose the same.

(b) The restrictions set forth in sub-article (a) above herein shall not apply to any part of the Confidential Informationwhich:

i. is at the time of disclosure to the receiving Party, or thereafter, becomes part of the public domain, other than as a result of a disclosure by the receiving Party, their directors, officers or employees;or

ii. was, at the time of disclosure to the receiving Party, already in the possession of such Party on a lawful basis;or

iii. is required to be disclosed by the receiving Party by judicial, administrative process, any enquiry, investigation, action, suit, proceeding or claim or otherwise by Applicable Laws or by any Governmental Agency, provided that the receiving Party shall promptly advise the disclosing Party ofany expected disclosure hereunder so as to enable the disclosing Party to take appropriate steps as it may so desire.

## 12. Article 12 – DisputeResolution

12.1. **Conciliation**

(a) Any dispute, difference or controversy of whatever nature howsoever arising under, out of or

in relation to this Agreement and so notified in writing by any Party to the other (the "Dispute") in the first shall be attempted to be resolved amicably in accordance with the conciliation procedure provided insub-article(b) under.

(b) In the event of any Dispute between the Parties, such Dispute shall be referred to the Member Secretary, DDeGS, The UT Administration (or his/her nominee) and the CEO/Managing Director of the System Integrator (or his/her nominee) for amicable settlement. Upon such reference, the said individuals shall meet not later than 7 (seven) days of the date of such request or such longer period as may be mutually agreed by the Parties to discuss and attempt to amicably resolve the Dispute. If such meeting does not take place within the said period or the Dispute is not amicably settled within 15 (fifteen) days of such meeting between the said individuals, any Party may refer the dispute to arbitration in accordance with the provisions of Article12.2.

(c) If the Dispute is not resolved as evidenced by the signing of the written terms of settlement within 30 (thirty) working days of the aforesaid notice in writing or such longer period as may be mutually agreed by the Parties, then the provisions of Article 12.2 shall apply.

12.2. **Arbitration**

(a) Any Dispute, which is not resolved amicably as provided in Article 12.1, shall be finally decided by reference to either a single Arbitrator mutually agreed to by the Parties or if no single arbitrator is appointed within 15 days of such reference then such arbitration shall be done by a panel of three (3) arbitrators one appointed by each party and third by the twoarbitrators.

(b) Such arbitration shall be held in accordance with and be subject to the provisions of the Indian Arbitration and Conciliation Act, 1996 and any amendments thereto (the"Act").

(c) The venue of such arbitration shall be Daman and the cost of arbitration shall be borne equally by theParties.

(d) The Parties undertake to carry out any decision or award of the arbitrator (the "Award") without delay. Subject to the Act, Awards relating to any Dispute shall be final and binding on the Parties as from the date they aremade.

(e) Pursuanttohavingexhaustedtheremedies,thePartiesagreethatanAward may be enforced against the System Integrator and/or The UT Administration, as the case may be and their respective assets wherever situated.

(f) This Agreement and rights and obligations of the Parties shall remain in full force and effect pending the Award in any arbitration proceedinghereunder.

## 13. Article 13 -Language

13.1. All notices required to be given by one Party to the other Party and all other communications, documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in Englishlanguage.

**14. Article 14 – Assignment andCharges**

14.1. The System Integrator shall neither create nor permit to subsist any encumbrance over or otherwise transfer or dispose of all or any of its rights and benefits under this Agreement except with prior consent in writing of The UT Administration, which consent The UT Administration shall be entitled to decline without assigning any reasonwhatsoever.

**15. Article 15 – Governing Law andJurisdiction**

15.1. This Agreement shall be construed and interpreted in accordance with and governed by the laws of India and the Courts at Daman shall have exclusive jurisdiction over all matters arising out of or relating to thisAgreement.

**16. Article 16 - Relation Between Parties**

16.1. Nothing contained in this Agreement shall be construed or interpreted as constituting a partnership, joint venture or agency between the Parties. No Party shall have any right or authority to represent on behalf of the other nor shall any such representation to third party(ies) bind the other in any manner whatsoever. This Agreement is being entered into on a principal to principal basis. The System Integrator shall be an independent contractor and is fully independent in performing any or all its Scope of Work. The System Integrator shall not act or hold itself out as a servant or employee ofThe UT Administration.

16.2. This Agreement is being entered into by the Parties on a non-exclusive basis. The Parties shall be free to work or associate with any third party and enter into any agreement, contract, joint venture, partnership or an arrangement of whatsoever nature with respect to the matters covered in theAgreement.

**17. Article 17 –Notices**

17.1. Any payment, notice or other communication to be given by one Party to the other under, or in connection with the matters contemplated by this Agreement shall be in writing and shall be delivered by hand/ registered post/ courier at the following address:

| If to System Integrator | If to UT Administration |
|---|---|
|  | User Name and Address: Member Secretary, DDeGS, Department of IT, 2nd Floor, Behind Post Office , Moti Daman , 396220 |
| Attention: | Attention:      Member Secretary |
| Phone: | Phone: 0260 -2230003 |
| Fax: | Fax: |

| Email: | Email: ddegs-dd@gov.in |
|---|---|

17.2. **Copies of all notices may also be sent by facsimile and/oremail.**

## 18. Article 18 -Waiver

18.1. Waiver by a Party of any default by other Party in the observance and performance of any provision of or obligations of or under this Agreement:-

    (a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under thisAgreement;

    (b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party;and

    (c) shall not affect the validity or enforceability of this Agreement in anymanner.

18.2. Neither the failure by a Party to insist, on any occasion, upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such righthereunder.

## 19. Article 19 –Survival

19.1. **Termination of thisAgreement:**

    (a) shall not relieve any Party of its obligations hereunder which expressly or by implication survives Termination hereof,and

    (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of any Party, shall not relieve such Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of suchtermination.

## 20. Article 20 –Severability

20.1. If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to dispute resolution under this Agreement or otherwise and the invalid, illegal or unenforceable part shall stand deleted and the

rest of the Contract shall beenforced.

**21.    Article 21 – Representations andWarranties**

21.1.  **Representations and Warranties of the SystemIntegrator:**

System Integrator represents and warrants that:

(a)   It is duly organized, validly existing and in good standing under the laws of the jurisdiction of itsincorporation;

(b)   It has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplatedhereby;

(c)   It has taken all necessary corporate and other action under applicable laws and its constitutional documents to authorize the execution, delivery and performance of thisAgreement;

(d)   It has the necessary capabilities essential to undertake the obligations contemplatedhereunder;

(e)   This Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the termshereof;

(f)    It is subject to civil and commercial laws of India with respect to thisAgreement;

(g)   There are no actions, suits, proceedings, or investigations pending or, to System Integrator's knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the probable outcome of which may result in the breach of or constitute a default of System Integrator under this Agreement or which may result in any impairment of its ability to perform its obligations and duties under thisAgreement;

(h)   It has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Governmental Agency which may result in any impairment of System Integrator's ability to perform its obligations and duties under thisAgreement;

(i)    It has complied with all Applicable Laws and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which may result in any impairment of its ability to perform its obligations and dutiesunder thisAgreement;

(j)    No representation or warranty by System Integrator contained herein or in any other document furnished by it to The UT Administration in relation to applicable certificates, permits, permissions, licenses and other such necessary approvals and sanctions required under the Contract contains or will contain any untrue statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;and

(k) No sums, in cash or kind, have been paid or will be paid by or on behalf of System Integrator, to any person by way of price, commission or otherwise for securing the Agreement or entering into this Agreement or for influencing or attempting to influence any officer or employee of The UT Administration in connection  therewith.

21.2. **Representations and Warranties ofThe UT Administration:**

The UT Administration represents and warrants that:

(a) The UT Administration, through its authorized representative, has full power and authority to execute, deliver and perform its obligations under thisAgreement;

(b) The UT Administration has taken all necessary action to authorise the execution, delivery and performance of this Agreement;and

(c) This Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the termshereof.

21.3. Any of the Representations and Warranties herein contained, if found to be untrue shall constitute breach of thisAgreement.

22. **Article 22 – Standard ofCare**

22.1. The System Integrator acknowledges the relationship of trust and confidence established between the System Integrator and The UT Administration by this Agreement. Accordingly, all acts of the System Integrator shall be consistent with this relationship. The System Integrator shall always act, in respect of any matter relating to this Agreement, as an honest and faithful adviser/ service provider to The UT Administration. The System Integrator shall at all times support and safeguard The UT Administration's legitimate interests in any dealings with third parties.

23. **Article 23 – No AdditionalRemuneration**

23.1. The remuneration of the System Integrator set out in this Agreement shall constitute its sole remuneration in connection with this Agreement. The System Integrator shall not accept for its own benefit any trade commission, discount or similar payment in the discharge of its obligations hereunder and the System Integrator shall ensure that its personnel, agents, etc. similarly shall not receive any such additional remuneration. **The System Integrator shall at all times perform its responsibilities hereunder in furtherance of the best interest of theProject**.

24. **Article 24 –System Integrator Not To Engage In CertainActivities**

24.1. The System Integrator shall not engage and shall cause its personnel as well as sub- contractors and their personnel not to engage, either directly or indirectly, in any business or professional activities which would conflict, with the activities assigned to them under or pursuant to thisAgreement.

25. **Article 25 - Ownership of Project and Intellectual PropertyRights**

25.1. **Ownership of theProject**

With exceptions of proprietary hardware or software required for functioning of such Hardware, the ownership of all Hardware and or such Software forming part of the Project shall be transferred to The UT Administration at the time of delivery and installation.

In cases where the customized hardware/software is developed and installed exclusively for The UT Administration, the ownership of all such shall rest exclusively with The UT Administration upon delivery and installation.

The ownership of all data created as part of the project, including but not limited to traffic data, brands, design etc. shall rest exclusively with The UT Administration.

The Software Licenses and Licenses for other proprietary, third party software and standard Hardware shall be transferred to The UT Administration upon delivery and installation. The License Period of proprietary software of the System Integrator shall be perpetual and irrevocable.

Forthwith upon expiry or earlier termination of the Contract and at any other time on demand by the Authority, SI shall deliver to the Authority all documents provided by or originating from the Authority and all documents produced by or from or for SI in the course of performing the Scope of Work, unless otherwise directed in writing by the Authority at no additional cost. SI shall not , without the prior written consent of the Authority store, copy, distribute or retain any suchdocuments.

25.2. **Intellectual PropertyRights**

(a) The Intellectual Property Rights (IPR) in all Standard and Proprietary Hardware and or software required for operation of Hardware shall remain vested in the owner of such rights. The UT Administration shall have rights to possess and use the same exclusively for the purposes of effective implementation, operation and maintenance of the Project. The UT Administration shall not assign license, or otherwise voluntarily transfer its contractual rights to any other third party without approval from the System Integrator unless such assignment is required for performance of theProject.

(b) The Intellectual Property Rights of customized hardware/software which is developed and installed exclusively for The UT Administration shall remain vested with The UT Administration. The System Integrator shall hand over the complete updated source code of all such software (other than 3rd party COTS) to The UT Administration:

    i.    At the time of Go-Live of theProject

    ii.    At the end of each year of during the ContractPeriod

    iii.    3 months prior to prior to the expiry of Contract Periodand

    iv.    Immediately in case of issuance of Termination notice by eitherparty

The System Integrator shall handover the source code for all customized software corresponding

to 100% to the operational module to The UT Administration which may be verified and certified by an independent agency as identified by The UT Administration. The System Integrator shall have the right to possess and use the same during the Contract Period exclusively for purposes of effective implementation, operation and maintenance of the Project and shall not assign license, or otherwise voluntarily transfer its contractual rights to any other third party without approval from The UT Administration.

(c) After the expiry or termination of the Master Service Agreement, the System Integrator shall have no right, title or interest in or to any work including without limitation the designs, software, programs, modifications or derivative works developed and customized for The UT Administration by System Integrator for the Project for any purposewhatsoever.

(d) The Software License for the System Integrator's Proprietary Software as well the Software Licenses for Standard Software procured from third party shall be perpetual and irrevocable.

(e) For purposes of this Agreement and the Master Service Agreement the terms "software", and "software programs/ Software License " shall include without limitation the source code, object code, any and all related design concepts and ideas, specifications, documentation, technical information, and all corrections, modifications, additions, improvements and enhancements to any of the foregoing provided to The UT Administration by the System Integrator in relation to the Project pursuant to the System Integrator Agreement. The terms "firmware" and "hardware" shall include without limitation the designs, drawings, specifications, custom designed electronic devices, documentation, technical information and all corrections, modifications, additions, improvements and enhancements to any of the foregoing provided to The UT Administration by System Integrator in relation to the Project pursuant to the Master ServiceAgreement.

## 26. Article 26 –Insurance

### 26.1. Insurance during the ContractPeriod

The System Integrator shall, at its cost and expense, purchase and maintain during the Contract Period, such insurances as are necessary including but not limited to the following:

(a) Hardware delivered and installed to the extent possible at the replacement value with The UT Administration as beneficiary.

(b) System Integrator 's all risk insurance with The UT Administration asco-beneficiary;

(c) Comprehensive third-party liability insurance with the UT Administration asco-beneficiary;

(d) Workmen's compensation insurance with the UT Administration asco-beneficiary;

(e) Any other insurance that may be necessary to protect the System Integrator, its employees and the Project against loss, damage or destruction atreplacement

(f) value including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (d) with The UT Administration asbeneficiary/co-beneficiary;

## 26.2. Evidence of InsuranceCover

(a) The System Integrator shall, from time to time, provide to The UT Administration copies of all insurance policies (or appropriate endorsements, certifications or other satisfactory evidence of insurance) obtained by it in accordance with Master Service Agreement.

(b) If System Integrator shall fail to effect and keep in force the insurance for which it is responsible pursuant hereto, The UT Administration shall have the option to take or keep in force any such insurance, and pay such premium and recover all costs thereof from System Integrator or to forfeit deposit/ Performance guarantee from the System Integrator and pay or restoration for thesame.

## 26.3. Application of InsuranceProceeds

(a) All moneys received under insurance policies shall be promptly applied by the System Integrator towards repair or renovation or restoration or substitution of the Project or any hardware/equipment/device thereof which may have been damaged or requiredrepair/modification.

(b) The System Integrator shall carry out such repair or renovation or restoration or substitution to the extent possible in such manner that the Project, or any part thereof, shall, after such repair or renovation or restoration or substitution be as far as possible in the same condition as they were before such damage or destruction, normal wear and tearexcepted.

(c) The System Integrator shall carry out such repair or renovation or restoration or substitution to the extent possible in such manner that the Project, or any part thereof, shall, after such repair or renovation or restoration or substitution be as far as possible in the same condition as they were before such damage or destruction, normal wear and tearexcepted.

## 26.4. Validity of InsuranceCover

The System Integrator shall pay the premium payable on such insurance Policy/Policies so as to keep the insurance in force and valid throughout the Contract Period and furnish copies of the same to The UT Administration for each year/policy period. If at any timetheSystemIntegratorfailstopurchase,renewandmaintaininfullforceand effect, any and all of the Insurances required under this Master Service Agreement, The UT Administration may at its option purchase and maintain such insurance and all sums incurred by The UT Administration therefore shall be reimbursed by the System Integrator forthwith on demand, failing which the same shall be recovered by The UT Administration by encashment of Performance Security, exercising right of set off or otherwise.

## 27. Approvals and RequiredConsents

27.1. The Authority shall extend necessary support to SI to obtain, maintain and observe all relevant and customary regulatory and governmental licenses, clearances and applicable approvals (hereinafter the "Approvals") necessary for SI to provide the Services. The costs of such Approvals

shall be borne by SI. Both parties shall give each other all co-operation and informationreasonably.

27.2. The Authority shall also provide necessary support to Bidder in obtaining the Approvals. In the event that any Approval is not obtained, SI and the Authority shall co-operate with each other in achieving a reasonable alternative arrangement as soon as reasonably practicable for the Authority, to continue to process its work with as minimal interruption to its business operations as is commercially reasonable until such Approval is obtained, provided that SI shall not be relieved of its obligations to provide the Services and to achieve the Service Levels until the Approvals are obtained if and to the extent that SI 's obligations are dependent upon suchApprovals.

## 28.  ReportingProgress

28.1. SI shall monitor progress of all the activities related to the execution of this contract and shall submit to the Authority, progress reports with reference to all related work, milestones and their progress during the implementationphase.

28.2. Formats for all above mentioned reports and their dissemination mechanism shall be discussed and finalized along with project plan. The Authority on mutual agreement between both parties may change the formats, periodicity and dissemination mechanism for suchreports.

28.3. Periodic meetings shall be held between the representatives of the Authority and SI once in every 15 days during the implementation phase to discuss the progress of implementation. After the implementation phase is over, the meeting shall be held as an ongoing basis, as desired by Authority, to discuss the performance of thecontract.

28.4. SI shall ensure that the respective solution teams involved in the execution of work are part of suchmeetings.

28.5. Several review committees involving representative of the Authority and senior officials of SI shall be formed for the purpose of this project. These committees shall meet at intervals, as decided by the Authority later, to oversee the progress of the implementation.

28.6. Allthegoods,servicesandmanpowertobeprovided/deployedbySIunderthe Contract and the manner and speed of execution and maintenance of the work and services are to be conducted in a manner to the satisfaction of Authority's representative in accordance with the Contract.

28.7. The Authority reserves the right to inspect and monitor/ assess the progress/ performance of the work / services at any time during the course of the Contract. The Authority may demand and upon such demand being made, SI shall provide documents, data, material or any other information which the Authority may require, to enable it to assess the progress/ performance of the work /service.

28.8. At any time during the course of the Contract, the Authority shall also have the right to conduct, either itself or through another agency as it may deem fit, an audit to monitor the performance by SI of its obligations/ functions in accordance with the standards committed to or required by the Authority and SI undertakes to cooperate with and provide to the Authority/ any other agency appointed by the Authority, all Documents and other details as may be required by them for this

purpose. Such audit shall not include Bidder's books ofaccounts.

28.9. Should the rate of progress of the works or any part of them at any time fall behind the stipulated time for completion or is found to be too slow to ensure completion of the works by the stipulated time, or is in deviation to Tender requirements/ standards, the Authority's representative shall so notify SI inwriting.

28.10. SI shall reply to the written notice giving details of the measures he proposes to take to expedite the progress so as to complete the works by the prescribed time or to ensure compliance to RFP requirements. SI shall not be entitled to any additional payment for taking such steps. If at any time it should appear to the Authority or Authority's representative that the actual progress of work does not conform to the approved plan SI shall produce at the request of the Authority's representative a revised plan showing the modification to the approved plan necessary to ensure completion of the works within the time for completion or steps initiated to ensure compliance to the stipulatedrequirements.

28.11. The submission seeking approval by the Authority or Authority's representative of such plan shall not relieve SI of any of his duties or responsibilities under theContract.

28.12. In case during execution of works, the progress falls behind schedule or does not meet the Tender requirements, SI shall deploy extra manpower/ resources to make up the progress or to meet the RFP requirements. Plan for deployment of extra man power/ resources shall be submitted to the Authority for its review and approval. All time and cost effect in this respect shall be borne, by SI within the contractvalue.

## 29. Project Plan

29.1. Within 15 calendar days of effective date of the contract/ Issuance of LoI, SI shall submit to the Authority for its approval a detailed Project Plan with details of the projectshowingthesequence,procedureandmethodinwhichheproposestocarry out the works. The Plan so submitted by SI shall conform to the requirements and timelines specified in the Contract. The Authority and SI shall discuss and agree upon the work procedures to be followed for effective execution of the works, which SI intends to deploy and shall be clearly specified. The Project Plan shall include but not limited to project organization, communication structure, proposed staffing, roles and responsibilities, processes and tool sets to be used for quality assurance, security and confidentiality practices in accordance with industry best practices, project plan and delivery schedule in accordance with the Contract. Approval by the Authority's Representative of the Project Plan shall not relieve SI of any of his duties or responsibilities under the Contract.

29.2. If SI's work plans necessitate a disruption/ shutdown in Authority's operation, the plan shall be mutually discussed and developed so as to keep such disruption/shutdown to the barest unavoidable minimum. Any time and cost arising due to failure of SI to develop/adhere such a work plan shall be to hisaccount.

## 30. Warranty

30.1. A comprehensive warranty applicable on goods supplied under this contract shall be provided for the period of contract from the date of acceptance of respective system by the Authority.

30.2. Technical Support for Software applications shall be provided by the respective OEMs for the period of contract. The Technical Support should include all upgrades, updates and patches to the respective Softwareapplications.

30.3. The SI warrants that the Goods supplied under the Contract are new, non- refurbished, unused and recently manufactured; shall not be nearing End of sale / End of support; and shall be supported by the SI and respective OEM along with service and spares support to ensure its efficient and effective operation for the entire duration of thecontract.

30.4. The SI warrants that the Goods supplied under the Contract are new, non- refurbished, unused and recently manufactured; shall not be nearing End of sale / End of support; and shall be supported by the SI and respective OEM along with service and spares support to ensure its efficient and effective operation for the entire duration of thecontract.

30.5. The SI further warrants that the Goods supplied under this Contract shall be free from all encumbrances and defects/faults arising from design, material, manufacture or workmanship (except insofar as the design or material is required by the Authority's Specifications) or from any act or omission of the SI, that may develop under normal use of the supplied Goods in the conditions prevailing at the respective Data centre / Server RoomSites.

30.6. The Authority shall promptly notify the SI in writing of any claims arising under this warranty.

30.7. Upon receipt of such notice, the SI shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without prejudice to any other rights which the Authority may have against the SI under theContract.

30.8. If the SI, having been notified, fails to remedy the defect(s) within a reasonable period, the Authority may proceed to take such remedial action as may be necessary, at the SI's risk and expense and without prejudice to any other rights which the Authority may have against the SI under theContract.

30.9. Any OEM specific warranty terms that do not conform to conditions under this Contract shall not beacceptable.

## 31. Delivery

31.1. SI shall bear the cost for packing, transport, insurance, storage and delivery of all the goods at all locations identified by the Authority in Daman.

31.2. SI shall only procure the hardware and software after approvals from theAuthority.

## 32. Exit ManagementPlan

32.1. An Exit Management Plan shall be furnished by SI in writing to the Authority within 90 days from the date of signing the Contract, which shall deal with at least the following aspects of exit management in relation to the contract as a whole and in relation to the Project Implementation, and Service Levelmonitoring.

i. A detailed program of the transfer process that could be used in conjunction with a Replacement Service Provider including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during thetransfer;

ii. Plans for provision of contingent support to Project and Replacement Service Provider for a reasonable period aftertransfer.

iii. Exit Management plan in case of normal termination of Contractperiod

iv. Exit Management plan in case of any eventuality due to which Project is terminated before the contractperiod.

v. Exit Management plan in case of termination ofSI

32.2. Exit Management plan at the minimum adhere to thefollowing:

i. Three (3) months of the support to Replacement Service Provider post termination of theContract

ii. Complete handover of the Planning documents, bill of materials, functional requirements specification, technical specifications of all equipment's, change requests if any, sources codes, wherever applicable, reports, documents and other relevant items to the Replacement Service Provider/Authority

iii. Certificate of Acceptance from authorized representative of Replacement Service Provider issued to SI on successful completion of handover and knowledgetransfer

32.3. In the event of termination or expiry of the contract, Project Implementation, or Service Level monitoring, both Bidder and Authority shall comply with the Exit Management Plan.

32.4. During the exit management period, SI shall use its best efforts to deliver theservices.

**33. Execution ofAgreement**

33.1. This Agreement may be executed in two originals, each of which when executed and delivered shall constitute an original of thisAgreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first written above.

The UT Administration                                                                System Integrator

Signature:                                      Signature:


Name:                                           Name:

Title:                                          Title:

Date:                                           Date:


Witness1                                        Witness2


Signature:                                      Signature:


Name:                                           Name:

Title:                                          Title:

Date:                                           Date:

**Schedule A : Scope of Work**




**Schedule B : Technical Specifications of Components**

**(To be included (As per RFP and System Integrator's Proposal, as accepted by The UT Administration)**

**Schedule C : Payments to System Integrator**

**To be included (As per RFP and System Integrator's Proposal, as accepted by The UT Administration)**

**Schedule D : Performance Security Bank Guarantee**

Copy of Performance Security Bank Guarantee [Refer Article 7 of the Agreement]

To,

Member Secretary,
DDeGS, Department of IT, 2nd Floor, Behind Post Office, Fort Area,
Moti Daman – 396220 India

THIS DEED OF GUARANTEE executed on this the _____day of _____at_____by_____(Name of the Bank) having____ _____its Head/Registered officeat_____ _____hereinafterreferredtoas"theGuarantor"whichexpressionshallunlessit be repugnant to the subject or context thereof include successors and assigns; In favour ofMember Secretary, DDeGS, The UT Administration of DNH &DD, having its office at 2nd Floor, Behind Post Office, Fort Area, Moti Daman - 396220, hereinafter referred to as "The UT Administration", which expression shall, unless repugnant to the context or meaning thereof include its administrators, successors or assigns.

WHEREAS

A. By the Agreement entered into between <User Name and Address >, and , a company incorporated under the provisions of the Companies Act, 1956/2013, having its registered office/permanent address at [insert address] ("System Integrator"), the Company has been authorised for Implementation of ICCC based safe Daman Project in Daman, in accordance with the Agreement mentioned hereinabove ("Master ServiceAgreement").

B. In terms of the Master Service Agreement, the System Integrator is required to furnish to DDeGS, an unconditional and irrevocable bank guarantee for an amount ofRs……………[Insert amount in figures and words] as Performance Security for due performance/discharge of its obligations under the Master Service Agreement.

At the request of the System Integrator, the Guarantor has agreed to provide guarantee, being these presents, guaranteeing the due and punctual performance/discharge by the System Integrator of its obligations under the Master Service Agreement.

NOW THEREFORE THIS DEED WITNESSETH AS FOLLOWS:

1. Capitalised terms used herein but not defined shall have the meaning assigned to them respectively in theAgreement.

2. The Guarantor hereby irrevocably guarantees the due and punctual performance by M/s. (hereinafter called the "System Integrator") of all its obligations under the Master ServiceAgreement.

3. The Guarantor shall, without demur, pay to The UT Administration sums not exceeding in aggregateRs._____[insert amount in figures and words], within five (5) calendar days of receipt of a written demand therefor from The UT Administration stating that the System Integrator has failed to meet its performance obligations under the Master Service Agreement. The Guarantor shall not go into the veracity of any breach or failure on the part of the System Integrator or validity of demand so made by The UT Administration and shall pay the amount specified in the demand notwithstanding any direction to the contrary given or any dispute whatsoever raised by the System Integrator or any other Person. The Guarantor's obligations hereunder shall subsist until all such demands are duly met and discharged in accordance with the provisionshereof.

4. In order to give effect to this Guarantee, The UT Administration shall be entitled to treat the Guarantor as the principal debtor. The obligations of the Guarantor shall not be affected by any variations in the terms and conditions of the Master Service Agreement or other documents or by the extension of time for performance granted to the System Integrator or postponement/ non exercise/ delayed exercise of any of its rights by The UT Administration or any indulgence shown by The UT Administration to the System Integrator and the Guarantor shall not be relieved from its obligations under this Guarantee on account of any such variation, extension, postponement, non- exercise, delayed exercise of any of its rights by The UT Administration or any indulgence shown by The UT Administration, provided nothing contained herein shall enlarge the Guarantor's obligationhereunder.

5. This Guarantee shall be irrevocable and shall remain in full force and effectuntil____unless discharged/released earlier by The UT Administration in accordance with theprovisions of the Agreement.  The Guarantor's liability in aggregate be limited to a sum ofRs _____[insert amount in figures andwords].

6. This Guarantee shall not be affected by any change in the constitution or winding up of the System Integrator/the Guarantor or any absorption, merger or amalgamation of the System Integrator /the Guarantor with any otherPerson.

7. The Guarantor has power to issue this guarantee and discharge the obligations contemplated herein, and the undersigned is duly authorised to execute this Guarantee pursuant to the powergrantedunder_____.

8. The expressions "The UT Administration", "the Bank" and "System Integrator" hereinbefore usedshallinclude their respective successors and assignees.

In witness whereof I/We of the Bank have signed and sealed this guarantee on the

_____dayof_____2020_____being herewith duly authorised. For and on behalfofthe_____Bank

Signature of authorised Bank official

Name:_____

Designation:_____

Stamp/Seal of theBank:_____

Signed, sealed and delivered for and on behalf of the Bank

by theabovenamed_____in the presence of Witness1.

Signature_____

Name:_____

Address:_____

Witness 2.

Signature:_____ Name:_____ Address:_____

**Schedule E : Liquidated Damages, Standards of Performance & Default Charges**

Time is the essence of the Agreement and the delivery dates for Deliverables are binding on the System Integrator. In the event of delay for causes attributable to the System Integrator in meeting the timelines for the Deliverables, The UT Administration shall be entitled at its option to recover from the System Integrator as agreed liquidated damages a sum of 0.1% of the corresponding deliverable cost for every week of delay or part thereof, subject to maximum cumulative value of the Liquidated Damages being not more than 10% of the total CAPEX value. Any delay beyond 2 weeks in meeting any of the Deliverables timelines for causes attributable to the System Integrator shall be deemed to be an Implementation Agency's Event of Default. In addition, the System Integrator shall also be subject to imposition of liquidated damages or default charges or the penalty as the case may be, as provided elsewhere in the RFP.

(Standard of Performance & Default Charges to be included as per RFP Part 2.)

**Schedule F: System Integrator's Technical & Price Proposal**

To be attached

# Appendix 20: Compliance to Requirement (Technical / Functional Specifications)

The bidder should provide compliance to the requirement specifications (both technical and functional) as specified in the Part 2 of the RFP. The same should be reproduced here, and compliance against each requirement line item should be marked.

The Bidder shall provide compliance statement for Technical Specifications for all equipment/system in the format provided below:

• Item/Equipment name:

• Make     :

• Model:

| Sl. # | Parameter | Minimum Requirement or Better | Compliance (Yes/No) | Specifications proposed by Bidder |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |

# Appendix 21: Unpriced BoQ with Make and Model no.

The bidder should provide Make & Model of Unpriced BOQ, including completion specifications and datasheets as specified in the Part 2 of the RFP.

# Appendix 22: No Deviation Certificate

**(In Company Letter Head)**


This is to certify that our offer is exactly in line with your tender enquiry/RFP (including amendments) no.＿＿＿＿＿＿dated＿＿＿. This is to expressly certify that our offer contains no deviation either Technical (including but not limited to Scope of Work, Functional Requirements Specification, Hardware Specification and Technical Requirements Specification) or Commercial in either direct or indirect form.




(Authorised Signatory)




Signature: Name: Designation: Address:



Seal: Date:

# Appendix 23: Project Credential Summary

**A.** **For Pre-Qualificationcriteria**

| Sl # | Criteria | Name of the project proposed | Client Name | Project Value (in Rs. lakh) | Project Components | Project Start Date | Reference for Documentary evidence provided |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

- **Criteria** – Bidder to mention the PQ/TQ criteria against which the Project(s) are proposed.

- **Project Components** – Indicate the major project components like RLVD/ANPR/SVD/E-challan etc. which are relevant to the project along with no. of location/junctions/scope as applicable.

- **ProjectStartDate & CurrentStatus–**Mentioned projectstartdate and Project status whether Completed or Ongoing.

- **Reference for Documentary evidence provided** – Bidder to mention the page no./section of theirTechnical Proposal.

**B.** **For Technical Qualificationcriteria**

- **Criteria** – Bidder to mention the PQ/TQ criteria against which the Project(s) are proposed.

- **Project Components** – Indicate the major project components like RLVD/ANPR/SVD/E-challan etc. which are relevant to the project along with no. of location/junctions/scope as applicable.

- **ProjectStartDate &Current Status–**Mentioned project start date and Project status whether Completed or Ongoing

- **ReferenceforDocumentary evidenceprovided**–Bidder to mention the page no./section of their Technical Proposal

| Sl # | Criteria | Name of the project proposed | Client Name | Project Value (in Rs. lakh) | Project Components | Project Start Date & Current Status | Reference for Documentary evidence provided |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

DDeGS, UT Administration of DNH and DD

# Notice for Inviting RFP for "Selection of Implementing Agency for Implementation of ICCC based Safe Daman Project in Daman"

## Scope of Work and Requirement Specifications

## Issued: _____

E-mail:ddegs-dd@gov.in

# Part 2

# Scope of Work and Requirement Specifications

| Abbreviations | Definitions/Description |
| --- | --- |
| FPS | Frame per second |
| FY | Financial Year |
| GPRS | General Packet Radio Service |
| GUI | Graphical User Interface |
| ICMCC | Integrated City Management Control Centre |
| ICT | Information & Communication Technology |
| IRC | Indian Road Congress |
| ITMS | Intelligent Traffic Management System |
| ICCC | Integrated Command Control Centre |
| KPI | Key Performance Indicator |
| O&M | Operations & Maintenance |
| RFP | Request for Proposal |
| RLVD | Red Light Violation Detection |
| SI | System Integrator |
| SSL | Secure Sockets Layer |
| SVD | Speed Violation Detection |
| UAT | User Acceptance Testing |
| UPS | Uninterruptible Power Supply |
| VPN | Virtual Private Network |
| TMC | Turning Movement Count |
| ABD | Area Based Development |
| PPP | Public Private Partnership |
| ADT | Average Daily Traffic |
| PMC | Project Management Consultant |
| TVC | Traffic volume count |

# 1. Introduction

## 1.1    Project Background

Under the ambit of Safe city initiatives intends to utilise information technology to modernize Traffic management, Traffic control, Traffic Law enforcement and traffic information dissemination in the city to enable Daman Traffic Police in ensuring smooth traffic flow and help provide information to the road users.

Daman, a city which has urbanized rapidly in recent years, has witnessed enormous growth in traffic volumes which have, resulted in several traffic problems in and around the city, such as traffic jams, delay at intersection, Pollution at Intersections etc. A need was felt to develop an Intelligent Traffic Management System andwhich would aim at improving the efficiency and effectiveness of the traffic on Daman roads. Implementation of ITMS is an initiative taken by the UT Administration to provide a secure and pleasant road experience to citizens of Daman. Also, aided with the security and surveillance cameras, the city authorities aim to enhance the safety and security of the city and its dwellers.

To realize the benefits of project, it is pertinent to adopt an approach that includes technology-based regulation, intervention, information and enforcement system to improve the mobility, discipline and safety on Daman roads.

The project integrates various sub systems (such as CCTV, Vehicle detection, communication, variable message signs etc.) in a coherent single interface that provides real time data on status of traffic and predicts traffic conditions for more efficient planning and operations. Thus, a sub-system such as shall aim to help police and security agencies to take proactive/ reactive measures and ensure safe & smooth environment on road. All of these shall be integrated into a single integrated command control centre (ICCC) for Daman city.

Thus UT Administration of DNH and DD intends to establish a ICCC through a process of competitive bidding and selecting a bidder for Supply, Installation, Commissioning and maintenance of the following:

1.  Set up server at Traffic and Safety Command Control Centre with required softwareplatformcapability to aggregate incoming data streams onto a single platform, provide traffic flow estimates for near term future on a real time basis and assist in analysing impact of alternate traffic management strategies.

2.  IT infrastructure including hardware and software at ICCC and ICMCC for the management of the edge devices signals, command centre and the traffic management softwareplatform

3.  Develop individual signal control strategies including definition of signal grouping, setting of potential strategies for traffic control under various scenarios, specification of traffic management strategies for planned and unplannedevents

4.  Develop a consolidated database of incoming real time data for future analysis and evaluation purposes. It is envisaged that the proposed adaptive traffic control system will

incorporate historic trends for development of traffic management strategies and adaptive controlstrategies.

5.  Capacity building for various government agencies and administrative arms of UT Administration of DNH and DD through development of Training manuals, continuous maintenance of hardware and software for 5 years period, training of administrative and management personnel including handholding the ICCCoperations for 5year.

## 1.2 Project Objectives

The Project envisages implementing a Intelligent Traffic Management Systems for:

1.  Improving civic services

2.  Monitoring infrastructure development

3.  Online challan and Management system

4.  Reducing the response time to attend any unwanted incident.

5.  Crime Control/Tracking

6.  Citizen Kiosk/Emergency Helpline

7.  Wi-fi Facilitates at limited locations through smart poles

8.  Enhancement of Safety and Security at various Government and public facilities

## 1.3 Project coverage

The scope of work includes

- Implementation of Intelligent Traffic Management Systems for Daman.

- Supply, Installation, Testing, Commissioning, and Maintenance of CCTV system and solution at various locations within Daman.

- Construction of UT Command and Control Centre for Daman (With Storage Facility).

- UT Owned Multi-purpose Fiber optic network for effective connectivity in Daman.

The requirement mentioned in this RFP, being a turnkey basis project, calls for a complete working system and not components thereof. Therefore, the Bids must be complete with all equipment and required accessories for complete installation & commissioning of the System under this contract.

Project coverage will include Supply/ Installation of CCTV System/equipment's/Softwares, Networking, Installation, Testing, Commissioning and O&M of the CCTV System/Connectivity to Command and Control Centre .

The selected vendor will also be responsible for supply of IT solution for the management of these System hardware and application software, networking, installation, Training, and comprehensive onsite warranty (3 years) and O&M support( 2 years) for 5 year in an efficient and effective manner.

# 2. Scope of Work

## 2.1 Overview

IT Department of Daman and Diu request proposal from the interested bidders to bid for the "Implementation of Intelligent Traffic Management Systems and other Misc Services for the UT of Daman and Diu ". The System Integrator (SI) shall install CCTV system at identified locations across Daman. The SI shall also be responsible to integrate the existing CCTV system with multiple Command Control Centre through the proposed Fiber optics network including a centralized command and control center as per SLA requirements. The scope of work under this RFP is broadly divided into following parts.

A.  **Survey of the proposed Solution :** The MSI/SI Shall conduct a preliminary survey before implementation of the system to ensure proper implementation of the proposed network. The survey report shall then be submitted to the office of secretary (IT) Daman and Diu and the implementation shall start immediately after approval of the competent authority of the UT Administration.

B.  **System Integration of CCTV Surveillance Network:** Design, Supply, Installation, Commissioning of complete IP/Analog Based CCTV Surveillance System at identified locations across Daman. All items procured under this contract shall be with 3 years of warranty support.

C.  **Comprehensive Operation & Maintenance (O&M)***:* SI is required to carry out Comprehensive Operation and Maintenance of entire CCTV Surveillance System installed at identified locations across Daman city as per the scope of work defined in this RFP.

D.  **Constructions of Command and Control Centre:** MSI shall construct UT owned command and control centre as per the BOQ of tender document. The MSI shall also provide Manpower support i.e. 3 Person 24 Hours and 365 Days for next 3 Years.

E.  **Training:** The MSI/ SI Shall also provide Trainings to various officials working in DDDNH Government in next 2 Years and Handover the CCC to them accordingly.

F.  **Constructions of Fiber Optic Network:** The MSI/ SI should also ensure the proper construction and functioning of the fiber optic network using HDD and ensure the connectivity/ links with every other component of this Intelligent Traffic Management System.

**G. Supply of Software:** The MSI/SI Should ensure proper supply of E-Challan/Speed Violation and other required software to ensure the connectivity/Compatibility with Command and control Centre/CCTV and Fibre optic network.
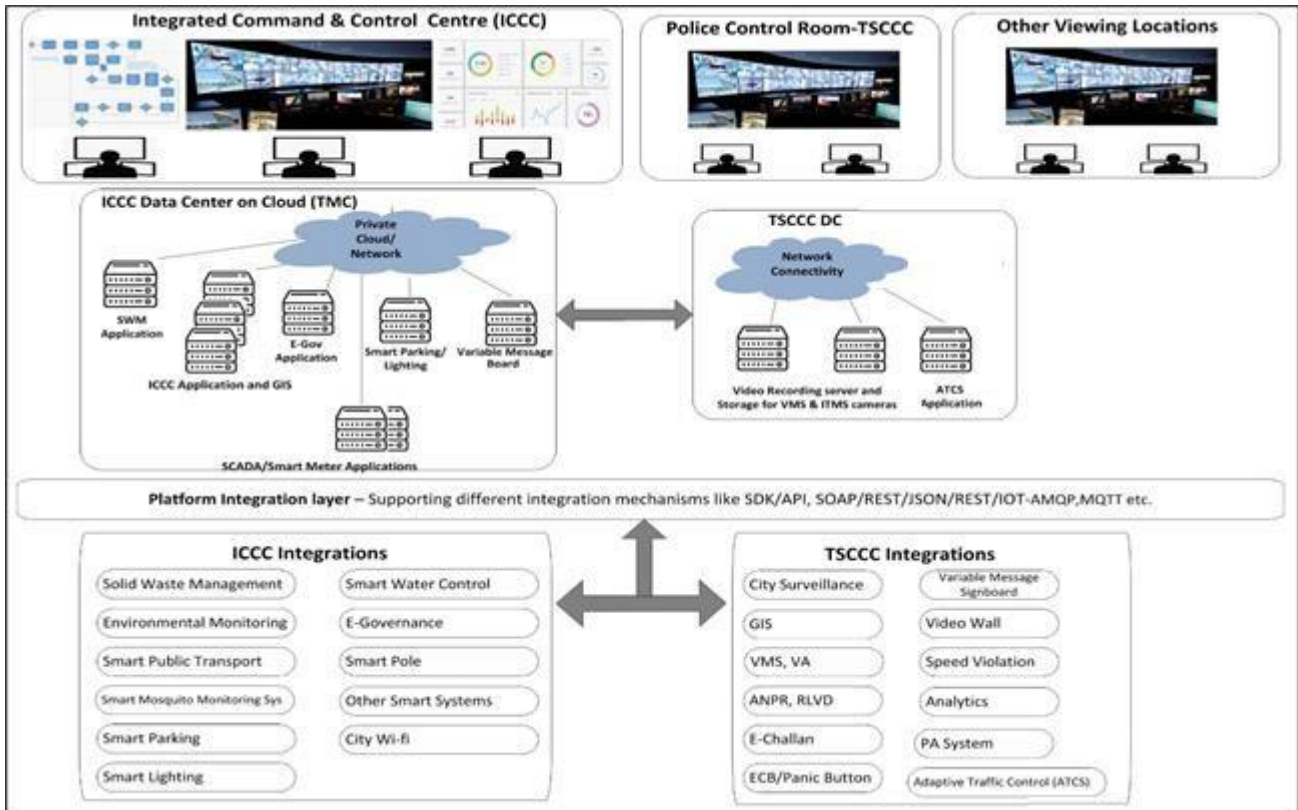


Picture 1 Architecture of ICCC

## 2.2 Design Principles

The proposed ICCC including ITMS solutions are planned to improve traffic and surveillance operations in Daman. Accordingly, the ITMS solutions shall be designed considering the following guiding principles:

(a) **Scalable:** The system will be scalable to future growth in volume of traffic and to integrate with other smart city initiatives and support sustainable development to meet the growing traffic demand of the Daman. The IT infrastructure proposed in the System will support these scalability requirements. There will not be any system imposed restrictions on the upward scalability in number of field devices. The system will also support vertical and horizontal scalability so that depending on changing requirements from time to time, the system may be scaled upwards. The ITMS shall be scalable to at least 100 Traffic Junctions without requiring any change in hardware or application. Beyond that, the ITMS shall be scalable with upgradation/addition of hardware, without requiring any change inapplications.

(b) **High Performance:** The System will be up and running without any single point of failure as

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per the demands of various Project critical applications running on the network. Components of the architecture must provide redundancy and ensure that are no single point of failures in the key project components.Considering thehigh sensitivityofthesystem,designwillbeinsuchawayastoberesilient to technological sabotage. To take care of remote failure, the System will be configured to mask and recover with minimumoutage.

(c) **Secure:** The network in the proposed System will have built-in security features as per good industry practices in line with the requirement for project. Access control will be implemented at various levels asperrequirementofthesystem.TheProjectSIwillberequiredtomakeprovisionsforsecurityoffield equipment as well as protection of the software system from hackers and other threats. The virus and worm's attacks will be well defended with gateway level Anti-virus system. Furthermore, all the system logs will be properly stored & archived for future analysis and forensics whenever desired. The following guidelines need to be observed forsecurity:

- Build a complete audit trail of all activities and operations using log reports, so that errors in system – intentional or otherwise – can be tracedand corrected.

- Access controls must be provided to ensure that the system is not tampered or modified by the systemoperators.

- Implement data security to allow for changes in technology and businessneeds.

- The security of the field devices must be ensured in a way to secure the field devices in terms of physical damage & unauthorizedaccess.

(d) **Manageable:**TheSystemwillbeseamlesslymanagedwithcentralisedenterprisemanagementsoftware. All the network components will be manageable using open standard management protocols such as SNMP. Ease of configuration, ongoing health monitoring, and failure detection are vital to the goals of scalability, availability, and security and must be able to match the scalability of the system.

(e) **Interoperable -** The system will have capability to take inputs from other third-party systems as per situational requirements. All products will be open standards based and should be interoperable with different vendors' products following industrystandards.

(f) **Fault Tolerance and Resilient**: The System should have inbuilt redundancy features to provide high availability. Redundant connectivity will be proposed for all locations to ensure that single link failure does not affect thefunctionality.

(g) **Open Standards –** The System should use open standards and protocols to the extent possible without compromising on thesecurity.

## 2.3    Detailed Scope of Work

The Project SI shall prepare and submit a Detailed Project Plan to UT Administration of DNH and DD which should cover following aspects, at the minimum:

(a)    Names of the Project Team members, their roles andresponsibilities

(b)    Approach and methodology to be adopted to implement the Project (which should be in line with what has been proposed during bidding stage, but may have value additions / learning in the interest of theproject).

(c)    Responsibility matrix for allstakeholders

(d)    Risks the Project SI anticipates and the plans they have towards theirmitigation

(e)    Activity and work plan specifying dependencies between various project activities / sub-activities and theirtimelines

TheProjectSIshallprepareandsubmitaSystemDesigndocumentwhichshallincludeacomprehensiveAs- Is study of the traffic junctions/intersections during various time periods of day including peak and non-peak hours traffic flows to establish the key performance indicators (KPI) for the project. The KPIs of the project shall be included in the system design report. The following minimum parameters should be captured in the System DesignDocument:

Cameras feasibility each location wise for installing RLVD, SLVD, City Surveillance, ANPR, ECB, in different location etc.

(a)    Vehicle type distribution, Directionaldistribution

(b)    Physical and visual characteristics of thearea

(c)    Additional dependencies with respect to the available infrastructure and geometry at the junctions including feasibility of Detection, locations of cameras poles, Locations of Traffic Signal Poles, Locations of Controller, Locations of Junction Box, Location of LPU unit and ITMS etc. Feasibility & Accessibility of Feeder pillar for power supply and computability for sufficient power. Feasibility & Accessibility of Existing Traffic Signal Poles and its computability for        Feasibility & Accessibility of Existing OFC and its computability for ITMSetc.

(d)    Any other relevant data which the Project SI anticipates will assist in establishing the benchmarks for theproject

(e)    Any other study/survey required for effective implementation and operation of ICCC including ITMS shall be carried out bySI.

The System Design Document shall also include the expected measurable improvements against each KPI as detailed out in the above 'As-Is' study after implementation of ITMS . The benchmarking                                          data                                          should

alsobedevelopedtotrackcurrentsituationanddesiredstate.TheSystemIntegratorshallstudy theexisting business processes, functionalities, existing traffic management systems andapplications.

Additionally, the SI should provide as part of System Design Document the detailed 'To-Be' designs (Junctionlayout plans) specifying the following:

(a) documents and Physical infrastructure design for devices on the field

(b) Software Requirement Specifications for the ITMS applications including traffic management.

(c) Detailed BOQ of all the equipment required to be installed in the field as well as in the Traffic Control Centre for the ITMS. The Project SI will optimize the quantity of the equipment (such as cameras, junction boxes, UPSs etc.) required for different sub-systems of ITMS without compromising on the desiredfunctionalities.

(d) Height, foundation and locations of all field devices such as Junction Boxes, RLVD, SVD, ANPR and other sub-systems of ITMS.

(e) Height and foundation of poles, cantilevers, gantry and other mounting structures for other field devices

(f) Location of Network Provider's Point of Presence(PoP)

(g) Design of Cables, Ducts routing, digging andtrenching

(h) Electrical powerprovisioning

## 2.3.1 Site Clearance obligations & other general provisions

### a Survey and Commencement ofWorks

Prior to starting the site clearance, the SI shall carry out survey of field locations as specified in for buildings, structures, fences, trees, existing installations, etc. The UT Administration of DNH and DD shall be fully informed of the results of the survey and the amount and extent of the demolition and site clearance shall then be agreed with the UT Administration of DNH and DD.

### b Electrical works and power supply

TheProject SIshalldirectlyinteractwithelectricityboardsforprovisionofmains powersupplyatall project locations. The recurring electricity charges will be paid by SI as per actual consumption and submit the bills to UT Administration of DNH and DD for reimbursement. The SI shall be responsible to submit the electricity bill including connectioncharge,meterchargeetc.totheelectricityboarddirectly.

## c Lightning protection measures

The Project SI shall comply with lightning-protection and anti –interference measures for system structure, equipment type selection, equipment earthing, power, signal cables laying. The Project SI shall describe the planned lightning-protection and anti –interference measures in the system design report.

Corresponding lightning arrester shall be erected for the entrance cables of power line, video line, data transmission cables. All crates shall have firm, durable shell. Shell shall have dustproof, anti-fouling, waterproof function & should be capable to bear certain mechanical external force.

Signal separation of low and high frequency; equipment's protective field shall be connected with its own public equal power bodies; small size/equipment signal lightning arrester shall be erected before the earthling. The Internal Surge Protection Device for Data Line Protection shall be selected as per zone of protection described in IEC 62305, 61643-11/12/21, 60364- 4/5. Data line protection shall be used for security system, server data path and other communication equipment.

## d Earthing System

All electrical components are to be earthen by connecting two earth tapes from the frame of the component ring and will be connected via several earth electrodes. The cable arm will be earthen through the cable glands. The entire applicable IT infrastructure i.e signal junction or ICCC shall have adequate earthing. Further, earthling should be done as per Local state/national standard in relevance with IS standard.

- Earthing should be done for the entire power system and provisioning should be there to earthUPSsystems, Power distribution units, AC units, etc. so as to avoid a ground differential. UT Administration of DNH and DD shall provide the necessary space required to prepare the earthing pits.

- All metallic objects on the premises that are likely to be energized by electric currents should be effectivelygrounded.

- Thereshouldbeenoughspacebetweendataandpowercablingandthereshouldnotbeanycrosswiring ofthetwo,inordertoavoidanyinterference,orcorruptionofdata.

- The earth connections shall be properlymade.

- A complete copper mesh earthing grid needs to be installed for the server farm area, every rack need to be connected to this earthing grid. A separate earthing pit needs to be in place for this coppermesh.

- Provide separate Earthing pits for Servers, & UPS as per thestandards.

e   **Junction Box, Gantries, Poles and Cantilever**

- The successful SI shall provide the junction boxes, to mount the field devices like the cameras, traffic sensors, and traffic light aspects, active network components, controller and UPS at all field locations, as per the specifications given in theRFP.

- The Junction Box needs to be appropriately sized in-order to accommodate the systems envisaged at the Junctions, and the Project SI should design the Junction box for 1.5 times the actual size the SI requires for utilization under the ITMSproject.

- The additional 50% space in the Junction Box shall be available toUT Administration of DNH and DD to accommodate any futurerequirements.

- The Junction Box for UPS with Battery bank needs to be consideredseparately.

- It should be noted that the SI would have designed the Junction box keeping in mind the scalability requirements of ITMS project, and the additional 50% volume needs to considered over and above suchrequirement

- The junction box should be designed in a way that, separate compartment will be available for separate system (i.e. Active component, etc.). Each compartment shall have lock & key facility. There should be provision made to integrate the systems ifrequired.

- The junction boxesand other constructions will be aestheticallydesigned.

f   **Cabling Infrastructure**

- The successful SI shall provide standardized cabling for all devices and subsystems in the field and Traffic ControlCentre.

- SIshallensuretheinstallationofallnecessarycablesandconnectorsbetweenthefieldsensors/devices assembly, outstation junction box, for pole mounted field sensors /devices the cables shall be routed down the inside of the pole and through underground duct to the outstation cabinet.

- All cables shall be clearly labelled with indelible indications that can clearly be identified by maintenance personnel. The proposed cables shall meet the valid directives andstandards.

- Cabling must be carried out per relevant BIS standards. All cabling shall be documented in a cable plan by theSI.

g   **Design, Supply, Installation & Commissioning of the Field Equipment**

The Scope includes Supply, Installation, Commissioning and Customization (as required) of various field systems comprising at Traffic Junctions, Traffic Junction Surveillance System, ANPR system, RLVD systems, Speed Violation Detection System, E-Challan system and other IT infrastructure required for successful operation of the ICCC including & ITMS solutions. Based on the System Design Document, the Project SI will undertake the system configuration and customization in line with the changed, improved or specific requirements of UT Administration of DNH and DD including:

- The implementation methodology and approach must be based on the global good practices in-order to meet the defined Service Levels during theoperation.

- Best efforts have been made to define major functionalities for each sub- system of ITMS. However, SI should not limit its offerings to the functionalities proposed in this RFP and may to propose any functionality over and above what has already been given in thistender.

- The SI shall design the field level equipment architecture to ensure maximum optimization of Traffic Signal Lights, Traffic Signal Poles, Pedestrian Lights and Poles, cameras, network equipment, gantries, poles, cantilever, mounting infrastructures, power supply equipment including, electric metersand junction box.

- Final approved/accepted solution for each component of ITMS solutions shall be accompanied with "System Configuration" document and the same should be referenced for installation of ITMS that are identified within the scope of thisproject.

- The SI shall be required to submit a detailed installation report post installation of all the equipment at approved locations. The report shall be utilized during the acceptance testing period of the project to verify the actual quantity of the equipment supplied and commissioned under theproject.

- The SI shall be responsible for obtaining all permits and approvals necessary to install the ITMS components as per the approved design from different stakeholders.

- The sub-components included as part of the project for which field equipment needs to be deployed and integrated are given in the subsequentsections.

- The Project SI shall have to take approval from UT Administration of DNH and DD for schematic drawing of junction boxany fabricationwork from the concerned departments

## 2.3.2 Civil Work

The civil work for installingTraffic Controller, Power supply and Power of Ethernet Cable, OFC etc. shall be in scope of the SI in consultation and approval from concerned departments of the UT Administration.

### 2.3.3 Design, Supply, Installation & Commissioning of Field Equipment

**a    Traffic Junction SurveillanceSystem**

The broad scope of work to be covered under this module will include the following, but is not limited to:

- The SI shall install Traffic Surveillance cameras at identified junctions for traffic monitoring and management at identified junctions in consultation with the concerned departments of the UT Administration.

- The SI shall undertake due diligence for selection and placement of traffic surveillance cameras to ensure the full coverage of the traffic junction along with all associated junction arms, accuracy of the information captured on the field and for ruggedoperations.

- The Project SI shall design, supply, and install the traffic surveillance cameras as defined in theRFP,all wiring connections for the system shall be installed by the SI. The Project SI shall supply all of the necessary equipment for the camera operations including camera housings and mountings, camera poles, switches, cabling, and shall make the final connections to the junction box.

- The Project SI shall be responsible for providing all necessary IT infrastructure for monitoring, recording, storage & retrieval of the infraction information at ICCC or any other location as specified in theRFP.

**b    Red Light Violation Detection (RLVD) System**

The broad scope of work to be covered under this module will include, but not limited to, the following:

- The Project SI shall install the RLVD Systems at the identified traffic junctions as provided in this RFP document. This system shall capture the following infractions, at the minimum, at thesejunctions:

  - Red lightviolation

  - Stop lineviolation

  - Speed limitviolation

  - Wrong waydriving

  - Triple riding ontwo-wheelers

  - Driving two-wheelers withouthelmet

  - Seat Belt violation identification

- The SI shall design, supply, and install the RLVD system as defined in the RFPs, all wiring connections to the traffic signal controllers and to the camera platforms shall be installed by the SI. The Project SI shall supply all of the necessary equipment for the camera and detection system, including but not limited to: computers, ancillary camera equipment, camera housings, camera poles, warning signs and shall make the final connections to thecamera.

- The SI shall be responsible for providing all necessary IT infrastructure for analysis, storage & retrieval of the infraction information at ICCC or any other location as specified in theRFP.

## c   Automatic Number Plate Recognition (ANPR) System

The broad scope of work to be covered under this module will include the following, but not limited to:

- The Project SI shall install the ANPR Cameras at identified location as provided in this RFP document.
  Thissystemshallautomaticallycapturethelicensenumberplateofthevehicleattheselocations.

- The Project SI shall design, supply, and install the ANPR camera system as defined in the RFPs, all camera accessories such as IR Illuminators, camera housing and mounting shall be installed by the SI. The Project SI shall supply all of the necessary equipment for the camera and local processing system, including but not limited to: computers, local storage, and ancillary          camera          equipment,          camera          poles, warningsignsandshallmakethefinalconnectionstothecamera.

- The Project SI shall be responsible for providing all the necessary IT infrastructure for detection, analysis, storage & retrieval of the infraction information at ICCC or any other location as specified in theRFP.

- Details on technical and functional specifications of ANPR Cameras have been provided at Section 5.5 of this RFPdocument.

## d   Speed Violation Detection System

The broad scope of work to be covered under this sub module will include the following, but is not limited to:

- Install the Speed Violation Detection Systems at proposed locations across the city. This system shall capture the infractions of speed violations at these locations. SI shall ensure that the system is properly certified with proper legal decree and testreports.

- Design, supply, and install the speed violation detection system. All wiring connections for the system shall be installed with all the necessary equipment for the camera and detection system, including but not limited to: sensors, ancillary camera equipment, camera housings,

camera poles, warning signs and shall make the final connections to thecamera.

- The solution proposed shall seamlessly integrate with the E-Challan systems of Daman Transport department.

- Provisioning of the necessary IT infrastructure for analysis, storage & retrieval of the information at control centre or any other location as required.

It should be a video/radar-based speed violation detection system which uses Speed camera with ANPR functionality. Speed camera with ANPR functionality captures the license plate of the vehicle, using OCR (Optical Character Recognition) Technology it converts the license plate image into text format and stores it into the database. Using state of the art, user-friendly graphical user interface (GUI) it should highlight the vehicles which over speeds the assigned speed limits. The speed limit should be configurable and should be assigned to the system according to the user. The speed detection should not require any manual intervention. System can use Video / radar-based system technology.

Features Requirement: -

- Video/ Radar based speed violation detectionsystem

- Determines the instantaneousspeed

- Should capably give the section speed of the vehicle between the two referencepoints

- Capable to Read up to 250km/hr of speed with high accuracy (Customizable as per theneed)

- User friendly Graphical User Interface(GUI)

- The ANPR function should be integrated with the RTO database of vehicles. It should be capable to fetch the details of the ownership of violating vehicles using their license plate number and  will generate effectiveE-Challans.

- The system should be capable to works day/night time using infraredillumination.

- Various search filters to be built in the system to help to narrow down the search for specific violators.

- The ANPR function to be used for hot-listed/criminal vehicle detection passing through the cameraview.

## e  E-Challan System as per provisions motor vehicle act and police department

The SI shall be responsible to undertake following activities as per the provisions of the motor vehicle act in consultations with the concerned departments, but not limited to:

- Design, development and implementation of e-Challan Software Solution for end-to-end e-challan management

- Integration with external systems including Daman transport department/RTO , national Vahan/Sarathi database, traffic police website,etc.

- The E-Challan system shall be configured to automatically generate traffic challans based on infractions received from the installed field equipment including RLVD, ANPR and SVDsystems.

- The SI shall ensure that the proposed system has the capability for complete automation of the challan processing/ printing process with manual verification. This shall involve automatic capturing of relevant information from the evidence generated by the traffic enforcement system and integrating it with the vehicle database (Daman Transport, national Vahan database or any otherdatabase).

- The detailed functional and technical specification details of the E-Challan system are provided in this RFPdocument.

## f   CCTV Surveillance Network

- Supply,Installation,Testing,Commissioning,andMaintenanceof CCTVsystemandsolutionatvariouslocationswithinDaman.

- Integration with Traffic Safety Command Control Centre  in Daman

## g   City Network Backbone (OFC Network) add stakeholder departments

The SI shall provide City network backbone through OFC fiber with consultation and necessary approvals from the concerned departments of the UT Administration, including, but not limited to, the following:

- The Network backbone infrastructure shall comprise of approximately 75 km of dark fiber, settingofvariouspointofpresence(PoP)thatshallbeestablishedacrosscity.Thefibershall      be further utilized for services to be enabled as and whenrequired.

- The detailed scope of work for the MSI while implementing City Network Backboneare:

- Route Survey and Network DesignPreparation:

   o   The MSI shall prepare the route map & network design and submit the final route maps and network design to UT Administration of DNH and DD for theirapproval.

   o   The MSI are advised to make a detailed survey and familiarize themselves with the soil and terrain so that the rates quoted takes all factors intoconsideration.

   o   Basedonthesurveyandstudies,MSIhastoadopttwoapproachesforlayingtheOFC in thecity.

- OnNon-DuctRoutes:Ducting,TrenchingandLayingofOpticalFibre(through   machine-HDD)   in the HDPEducts

- Arial: Laying of overhead OFC (UT Administration of DNH and DD will have the final right to

decide overhead due to natural or manmade obstacles subject to maximum of 20% of the totalquantity).

▪ MSI will have to get approval for route survey, laying method and network design fromUT Administration of DNH and DD

▪ MSI through preliminary survey to decide on number of drop and insert junctions, length of the cable required,etc.

▪ MSIsshallalsorequiredtodotheestimationofbandwidthrequirementsconsidering   and   shall provide the details in the technical proposal.

▪ The MSI should ensure detailed information security architecture to ensure data privacy as well as security as the Information Security act and appropriate relevant laws/acts of the Government of India or any other Govt entity. Also the cameras should shall be located such that it shall not collect information which violates the privacy of an individual as per the relevant acts and laws prevalent in the country.

   o Fibre Implementation:

      ➢ All fittings, accessories and associated works for proper and safe installation of fiber assets to be taken into consideration by theMSI

      ➢ Laying, jointing, live line installation, testing and commissioning of all optical fiber and itsaccessories

      ➢ Training of Engineers / linesmen, both in supplier's premises and at site, in the installation, operation and maintenance of the optical fibercables.

▪ Core Backbone: The MSI shall study and define the core backbone. The MSI should follow the considerations but should not be limited to thefollowing:

      ➢ The core backbone shall be established using 96 Core or more Optical Fiber Cables. Finalization of cores to be done after detailed study on the Bandwidth requirement from the smartelements.

      ➢ The core architecture shall be established maintaining high level of redundancy and no single point offailure.

      ➢ Adequate number of cores in each laid OFC shall be redundant for future scalability and maintenanceactivity.

      ➢ The maximum fiber distance between Core and Zone layer shall not exceed 8Kms

      ➢ Adequate loop of 10 to 15 meters of OFC shall be kept loose on junctions wherever applicable.

      ➢ There shall not be more than one Splice, Joint closures installed between two (2) locations, during hand over of Network toAuthority.

> All the cores shall be spliced & joined in the CoreBackbone.

> The colour code shall be uniformly followed across the Core ring, zonal aggregation ring & wardring.

> The core shall adhere to industrystandards.

▪ Ownership - The entireownership of the project's fibre optic network at any given point shall remain withUT Administration of DNH and DD.

▪ For more details on technical and functional specifications of Laying of OFC, the MSI should refer to Annexure I for functional requirements and technicalspecifications.

## h   Illegal Parking Detection System

Functional requirements are as follows:

| | | |
|---|---|---|
| 1 | • | The system should be able to detect the illegal parking on the roads |
| 2 | • | System should be equipped with appropriate storage capacity for 24 x 7 recording, with overwriting capability. |
| 3 | • | The system should be able to do Vehicle Passing Detection, Multiple Traffic Violation should support |
| 4 | • | The system should Capture vehicles and upload pictures. |
| 5 | • | Should support Reverse driving detection, over lane line detection, illegal lane change detection, vehicle on non-motor vehicle lane, U-turning detection |
| 6 | • | Illegal parking camera should be 2MP or more |
| 7 | • | Illegal Parking Detection system should be done by Hardware / Software / Server based application. |
| 8 | • | Illegal parking camera should be able to capture high quality colored images in dim light environment with its cutting-edge low illumination level down to 0.002Lux (color) |

| | | | |
|---|---|---|---|
| • | 9 | • | The network IR traffic camera features complete traffic violation enforcement functions. Detection, capturing, storage and transmission of traffic violation events are supported |
| • | 10 | • | Illegal parking camera should be 120 dB WDR supported |
| • | 11 | • | Illegal Parking Detection system should support Reverse Driving Detection |
| • | 12 | • | Illegal parking camera should have HLC, BLC, 3D DNR, Defog, EIS |
| • | 13 | • | Illegal parking camera should be IP67 Standard, 6000V Lightning Protection, Surge Protection and Voltage Transient Protection with aluminum alloy |
| • | 14 | • | Camera Should support In-Built ANPR engine |
| • | 15 | • | Camera Should support On-board Analysis for illegal Parking detection |

## 2.3.4 Traffic and Safety Control Centre

### a Integrated Control Centre (ICCC)

The SI shall set up a Integrated Command Control Centre (ICCC) for the project, at the building provided by UT Administration of DNH and DD in consultation with the relevant stakeholders . The Traffic Control Centre is planned to be set up in the Daman. The final location for the ICCC will be intimated during the design phase of ITMS. UT Administration of DNH and DD shall make available approximate 2500 square feet built-up space for setting up of ICCC. The key components of the ICCC will be as follows:

- Videowall ( approx. 120 sq ft)

- Operatorsworkstations

- Connectivity

- Networkprinters

- Video conferencing solution

- UPS etc.

- Servers and other ICTinfrastructure

## b   Data Centre (DC)

The SI shall supply and install hosting infrastructure for ITMS (including but not limited to servers, storage, operating systems, database, security, networking, connectivity, rack, etc.) at Integrated Command Control Centre (ICCC). UT Administration of DNH and DD shall provide adequate space for servers and other IT infrastructure. The SI shall also maintain and manage the Data Centre during the Contract Period.

## 2.3.5   Implementation of the Information security policy

The SI shall prepare the Information Security Policy for the overall Project and the same would be reviewed and then finalized by UT Administration of DNH and DD& its authorized committees. The Security policy needs to be submitted by the SI within 1st quarter of the successful Final Acceptance Tests. The SI shall be required to obtain ISO 27001 certification for the Traffic and Safety Command Control Centre within 2 quarters of Final Acceptance Test. If the SI fails to do so, payment from 3rd Quarter onwards shall be withheld till this certification is obtained by the SI.

## 2.3.6   Capacity Building and Training

The SI is required to conduct a proper training need analysis of all the concerned staff and draw up a systematic training plan in line with the overall Project Plan. For all these training programs the SI has to provide necessary course material and reference manuals (user/maintenance/ administration) along with training schedules for all phases. The training shall be held at various office/department locations as finalised by UT Administration of DNH and DD.

Trainings would be of two types for different phases of the Project:

## a   Functional Training

This training would focus on the use of the software of the various ITMS components at Traffic Control Centre, so that the users are aware of all the operations of the and other Traffic Enforcement solutions. The training will be provided to about10-20 staff identified by UT Administration of DNH and DD and Daman TrafficPolice.

## b   Administrative Training

This training would focus on the administration of other Traffic Enforcement solutions and would be imparted to about around 20 staff members identified by the UT Administration of DNH and DD.

## 2.3.7 Integration with ICMCC and other external systems

The SI shall provide open APIs / SDKs / web services and extend all necessary support for integration with city level Integrated City Management Control Centre (ICMCC) and other external systems, during the contract period.

## 2.3.8 Acceptance Testing

UT Administration of DNH and DD shall review and finalize the detailed acceptance test plan proposed by the SI. UT Administration of DNH and DD would also conduct audit of the process, plan and results of the Acceptance Test carried out by the SI for both IT & non- ITcomponents.

All acceptance testing, project review and monitoring shall be enabled through a Project Management Unit (PMU) nominated by UT Administration of DNH and DD.

Commissioning shall involve the completion of the site preparation, supply and installation of the required components and making the Project available to the UT Administration of DNH and DD and Daman Traffic Police for carrying out live Operations and getting the acceptance of the same.

Testing and Commissioning shall be carried out before the commencement of Operations.

## 2.3.9 Final Acceptance Testing

The final acceptance shall cover 100% of the Project, after successful testing by the UT Administration of DNH and DD or the appointed PMU a Final Acceptance Test Certificate (FAT) shall be issued by UT Administration of DNH and DD to the SI.

Prerequisite for Carrying out FAT activity:

- Detailed test plan shall be developed by the SI and approved by UT Administration of DNH and DD. This shall be submitted by SI beforeFATactivitytobe carriedout.

- All documentation related to ITMS Project and relevant acceptance test document (including IT Components, Non IT Components etc.) should be completed & submitted before the final acceptance test to the UT Administration of Dadra Nagar Haveli and Daman Diu..

- The training requirements as mentioned should be completed before the final acceptancetest.

- Successful hosting of Application and MISSoftware.

- For both IT & Non-IT equipment's / software manuals / brochures / Data Sheets / CD/ DVD / media for all the ITMS project suppliedcomponents.

The FAT shall include the following:

- All hardware and software items must be installed at respective sites as per thespecification.

- Availability of all the defined services shall beverified.

- The SI shall be required to demonstrate all the features / facilities / functionalities as mentioned in the RFP.

- The SI shall arrange the test equipment required for performance verification, and will also provide documented testresults.

- TheSIshall be responsible forthesecurityauditoftheestablishedITMSsystemtobecarriedoutby acertifiedthirdpartyasagreedbyUT Administration of DNH and DD.

Any delay by the SI in the Final Acceptance Testing shall render SI liable to the imposition of appropriate Penalties. However, delays identified beyond the control of SI shall be considered appropriately and as per mutual agreement between UT Administration of Dadra Nagar Haveli and Daman Diu and SI.

## 2.3.10 System Documents and User Manuals

TheSIshallprovidedocumentation,whichfollowstheITIL(InformationTechnologyInfrastructureLibrary) standards or IEEE/ISO Acceptable Documentation Standards. This documentation should be submitted as the project undergoes various stages of implementation and provide all traceability documentation on changes done on the IT components during the course of the implementation of the solution. Indicative list of documentsincludes:

- Project Commencement: Detailed Project Plan should provide micro level activities with milestones & deadlines.

- Delivery of Material: Original Manuals fromOEMs.

- Training: Training Material will be provided which will include the presentations used for trainings and also the required relevant documents for the topics beingcovered.

- Process Documentation: The SI shall be responsible for preparing process documentation related to the operation and maintenance of each and every component of the  ITMS Project. The prepared process document shall be formally signed off by UT Administration of Dadra Nagar Haveli and Daman Diu before completion of final acceptancetest.

- The SI shall document all the installation and commissioning procedures and provide the sametotheUT    Administration    of    Dadra    Nagar    Haveli    and    Daman Diuwithinoneweekofthecommissioning ofITMS Project.

- The SI shall submit a complete set of Single Line diagram, a complete cabling system layout (as installed), including cable routing, telecommunication closets and telecommunication

outlet/ connector designations. The layout shall detail locations of all components and indicate all wiringpathways.

- Manualsforconfiguringofswitches,routersetc.shallbeprovidedbytheselectedSI.

- The SI shall be responsible for documenting configuration of all devices and keeping back up ofallconfigurationfiles,soastoenablequickrecoveryincaseoffailure ofdevices.

## 2.3.11 Operations and Maintenance during Contract Period

The SI is required to depute a dedicated team of professionals to manage the Project and ensure adherence to the required SLAs. SI shall provide operations and maintenance services for the software, hardware and other IT and Non-IT infrastructure installed as part of ITMS project during the Contract Period, including one (1) year of warranty period after "Go-Live".

The activities to be carried out by the SI during the Contract Period shall include, but not limited, to the following:

- Monitor the operation of traffic signals and take suitable interventions as required such as change of signal plan, change of signal timing from ICCC enabling green corridoretc.

- Periodic change of signal plans and other configurations parameters on directions of UT Administration of Dadra Nagar Haveli and Daman Diu.

- Monitor health of traffic signal equipment and initiate immediate corrective action in any of anyfault.

- Process e-challans for the violation captured by ITMS, including generation, verification, printing. Dispatch and tracking ofe-challans.

- Tracking the record of payment received against e-challans and print & dispatch reminder for pending challans.

- Track specified vehicles (stolen vehicles or vehicles involved in crimes) based on ANPRdata.

- Undertake configuration management for allsystems.

- Undertake analytics of traffic data and generate various MIS and analyticsreports.

- Undertake system admin, database admin, back up, archival, network adminactivities.

- Comprehensive maintenance of all equipment/sub-system during Contractperiod.

- Set up a Call centre for verification of addresses, pending challans, reminders, public help regarding challan etc. The Call Centre shall be one-seater and shall work in 2 shifts 7 days aweek.

## 2.3.12 Project Management Services

The SI will be required to provide Project management services to support the UT Administration of Dadra Nagar Haveli and Daman Diu and Daman Traffic Police in performing their day-to-day functions related to this system.

SI is required to depute a dedicated, centralised project management and technical team for the overall Project management and interaction with Daman Municipal Cooperation , UT Administration of Dadra Nagar Haveli and Daman Diu and Daman Traffic Police. An indicative resource requirement for this centralised administration of the Project is as follows.

| Sr. No. | Name of Position/Role | Total No. of Resources | Deployment Period (Implementation Phase) | Deployment Period (O&M Phase) |
|---|---|---|---|---|
| 1. | Project Manager | 1 | 100% (Full time On- site) | 100% (Full time On-site) |
| 2. | Technical expert – Intelligent Traffic Management Systems | 1 | 70% (On-site) 30% (Off-site) | As per project requirement. |
| 3. | Solution Architect | 1 | 30% (On – site) 70% (Off – site) | As per project requirement |
| 4. | Technical Expert – Traffic Control Centre | 1 | 70% (On-site) 30% (Off-site) | As per project requirement. |
| 5. | Technical Expert – Network | 1 | 70% (On-site) 30% (Off-site) | As per project requirement. |
| 6. | Technical Expert – Server, Storage, EMS & Application | 1 | 70% (On-site) 30% (Off-site) | As per project requirement. |
| 7. | ICCC Operators (O&M Phase) | 10* | NA | 100% (Full time On-site) |

N.B: *These resources shall be deployed in shifts as per requirement. The actual number may vary*

The above-mentioned manpower effort estimation/requirement is indicative and if the Bidder believes that to meet the SLAs, additional capacity is required, the same may be provided as scope of the project.

The minimum qualification criteria are provided as below:

| Sr. No. | Name of Position/Role | Minimum Qualification & Experience |
|---------|----------------------|-------------------------------------|
| 1. | Project Manager | ▪ BE / B.Tech<br>▪ 10+ Years of Experience<br>▪ 5+ Years of experience in large ICT project experience<br>▪ Minimum 1 large similar (similar to Intelligent Traffic Management Project) project experience |
| 2. | Technical expert- Intelligent Traffic Management Systems | ▪ BE / B. Tech<br>▪ Minimum 10 years of experience, Min. 5 years of experience in traffic domain<br>▪ Should have experience of at least one project in design implementation of Intelligent (preferably Intelligent) Traffic Management System<br>▪ Experience in setting up Command and Control Centre<br>▪ would be added advantage |
| 3. | Technical Expert- Traffic Control Centre | ▪ BE / B. Tech<br>▪ Experience of 3+ Years in Command and Control Centre |
| 4. | Technical Expert – Network & Security | ▪ BE / B. Tech.<br>▪ Minimum 10 years of experience, Min. 5 years of experience in IT Networks<br>▪ Should have experience of at least one project in design implementation of large IT Network for similar project<br>▪ Certification in Networking would be added advantage |
| 5. | Technical Expert – Server, Storage & Application | ▪ BE / B. Tech.<br>▪ 5+ Years of Experience in Server Management |
| 6. | ICCC Operators (O&M Phase) | ▪ Graduate<br>▪ Minimum 2 years of relevant experience with proper trainings on ITMS |

## 2.3.13 Provision of the Operational Manpower to support Operations at Traffic Control Centre

The SI is required to provide suitable manpower to monitor the data feeds at Traffic Control Centre and support UT Administration of Dadra Nagar Haveli and Daman Diu/ Daman Traffic Police in operationalisation of the ITMS project.

The exact role of these personnel and their responsibilities would be defined and monitored by UT Administration of Dadra Nagar Haveli and Daman Diu. The SI shall be required to provide such manpower meeting following requirements:

- All such manpower shall be minimum graduatepass

- All such manpower shall be without any criminal background /record.

- UT Administration of Dadra Nagar Haveli and Daman Diu reserves the right to carry out background check of the personnel proposed on the Project for verificationofcriminalrecord,atthebeginningofdeploymentorduring deployment.

- SIshallhavetoreplaceanyperson,ifnotfoundsuitableforthejob.

- All the manpower shall be adequately trained on the working of TMS project andICCC.

The ICCC operation support staff shall work from the ICCC or any other locations as identified by UT Administration of Dadra Nagar Haveli and Daman Diu from where the back office operations for ITMS can be undertaken. The SI needs to note that these manpower shall be for initially O & M period only. However, the duration of their work shall be determined by the authorities at its discretion. The employment of such staff shall be on the rolls of the SI and their employment shall not in any way be construed as employment with the Traffic Police/UT Administration of Dadra Nagar Haveli and Daman Diu.

## a  Physical Infrastructure Management and Maintenance Services

All the devices that will be installed in the ITMS Project as part of the physical infrastructure should be SNMP enabled and shall be centrally and remotely monitored and managed on a 24x7x365 basis. Industry leading infrastructure management solution should be deployed to facilitate monitoring and management of the                ITMS Infrastructure on one integrated console. The physical infrastructure management and maintenance services shall include:

- Proactive and reactive maintenance, repair and replacement of defective components (IT and Non-IT/ Hardware and Software). The cost for repair and replacement shall be borne by theSI.

- The SI shall have to stock and provide adequate onsite and offsite spare parts and spare component to ensure that the uptime commitment as per SLA is met. To provide this service it is important for the SI to have back to back arrangement with theOEMs.

- Component that is reported to be down on a given date should be either fully repaired or replaced by temporary substitute (of equivalent configuration) within the time frame indicated in the Service Level Agreement (SLA). In case the selected SI fails to meet the above standards of maintenance, there will be a penalty as specified in theSLA.

- The SI shall also maintain records of all maintenance of the system and shall maintain a logbook on- site that may be inspected by the Daman Traffic Police/UT Administration of Dadra Nagar Haveli and Daman Diu on a regularbasis.

## b  Project Handover

The SI shall provide proper transfer of technology to UT Administration of Dadra Nagar Haveli and Daman Diu/Daman Traffic Police for upkeep of signals post Contract Period. The SI shall carry out project hand-over of the system at the end of contractual period along with all documentation required to operate and maintain the system SI will supply to the UT Administration of Dadra Nagar Haveli and Daman Diu/ Daman Traffic Police the following before the expiry of the contract:

- Information relating to the current services rendered and data relating to the performance of the services; Entire documentation relating to various components of the Project, any other data and confidential information related to theProject;

- All other information (including but not limited to documents, records and agreements) relating to the products & services related to the project to enable Police Department and its nominated agencies, or its replacing Successful SI to carry out due diligence in order to transition the provision of the Project Services to Police Department or its nominated agencies, or its replacing Successful SI (as the case may be).

## 2.3.14 Miscellaneous

- SI to ensure that for operation and maintenance team has the uniform with the identity cardetc.

- SI will have to arrange vehicles and other requisite such as ladder of adequate feet length, etc. for carry out implementation and maintenance work (including transportation of items required for Project) during the ContractPeriod.

- SI will pay the charges related to Electric Meter (if installed new) and recurring electricity charges. These charges will be then reimbursed byUT Administration of Dadra Nagar Haveli and Daman Diu.

- SI will implement the attendance system for the attendance of Project team proposed in this document. The SI will share the attendance report with the UT Administration of Dadra Nagar Haveli and Daman Diu at the end of themonth.

- TheSIshallberesponsibletofileanFIRinnearestTrafficPolice                    Stationforanytheft orphysicaldamage of product under the Project (including cable & accessories) due to any unforeseen reason. The System Integrator shall have to submit the copy of FIR to UT Administration of Dadra Nagar Haveli and Daman Diu within 7 days from the date of filing the FIR. The SI shall be responsible for replacement/repair of any stolen, damaged, vandalized equipment at its own cost during the ContractPeriod.

- The SI has to procure Insurance of all project equipment/system during the Contract Period of the project at its own cost to safeguard the equipment/systems from all elements of risk anddisruption.

## 2.4    Roles & Responsibilities of Key Project Stakeholders

Brief summary of roles and responsibilities of key stakeholders involved in the project is as below:

| Stakeholder | Role Description |
|---|---|
| (UT Administration of Dadra Nagar Haveli and Daman Diu) | ▪ Co-ordination with Police & Transport departmentsfor implementation of the project<br>▪ Co-ordination with SI for implementation of the project<br>▪ Co-ordination with concerned department(s) to handover the sites to SI<br>▪ Release payments as per the certification of up time, down time of signals<br>▪ Extend reasonable support to SI for applying wired / wireless communication connections, power connections.<br>▪ Monitor the project progress in association with Traffic police department<br>▪ Provide built-in offices space for the Traffic Safety and Command Control Centre.<br>▪ For Necessary signing the Tripartite agreement for executing the project with Traffic Police department and successful bidder<br>▪ Monitor the project progress in association with Traffic police department<br>▪ Payment of the Power bills for all sites.<br>▪ Conducting pre-bid conference along with department<br>▪ Receiving and evaluation of the bids<br>▪ Finalization of the service provider<br>▪ Providing a draft LOI & contract to Police department |
| Daman Traffic Police | ▪ Appoint a dedicated Nodal Officer (Traffic Police). Until the Nodal Officer is appointed or as and when the post is vacant, DSP (Traffic) will be the Nodal Officer (Traffic Police)<br>▪ Monitor the project progress in association with UT Administration of Dadra Nagar Haveli and Daman Diu<br>▪ Phasing of the Sites for implementation in consultation with UT Administration of Dadra Nagar Haveli and Daman Diu.<br>▪ Conduct / appoint a third party for Acceptance Testing in consultation with UT Administration of Dadra Nagar Haveli and Daman Diu.<br>▪ Appoint a dedicated Project Engineer in consultation with UT Administration of Dadra Nagar Haveli and Daman Diu.<br>▪ Monitor the project progress in association with UT Administration of Dadra Nagar Haveli and Daman Diu<br>▪ Forwarding the Certification of uptime, down time of signals to UT Administration of Dadra Nagar Haveli and Daman Diu for release of the payments<br>▪ Phasing of the Sites for implementation in consultation with UT Administration of Dadra Nagar Haveli and Daman Diu. |

| | |
|---|---|
| | ▪ Handing over of the sites to the successful bidder in consultation with UT Administration of Dadra Nagar Haveli and Daman Diu.<br>▪ Provide built-in offices space for the control Room at CP office, and also at control Room<br>▪ Co-ordination with successful bidder for applying communication (Wired / Wireless) connections, power connections in the name of Traffic Police<br>▪ Signing the Tripartite agreement for executing the project along with UT Administration of Dadra Nagar Haveli and Daman Diu and successful bidder |
| System Integrator | ▪ Necessary field survey to understand the detailed requirements<br>▪ Feasibility, reliability of Existing equipment and detailed feasibility at proposed locations.<br>▪ Necessary surveys and ground study for comparing before and after scenario for accessing benefits and make records.<br>▪ Stockholder Clearance for Installing the system<br>▪ Installing and commissioning of the Field Equipment including<br>▪ Traffic Controller & signals, Cameras and maintain them during the contract period.<br>▪ Prepare the Project Plan in consultation with the UT Administration of Dadra Nagar Haveli and Daman Diu and other stakeholders<br>▪ Mobilization of the team and take up the work<br>▪ Deliver the Project Milestones as defined<br>▪ Train UT Administration of Dadra Nagar Haveli and Daman Diu officials, Traffic police & other concerned departments staff<br>▪ Connect existing signals and new system and connecting them to Traffic Control Centre<br>▪ Apply for electricity connection for requisite and payment of electricity charges throughout the Contract period.<br>▪ Apply for communication (connectivity) for all locations in the name of Traffic police and payment of the communication (connectivity) charges during Contract Period.<br>▪ Transfer of all the assets created within 30 days from the date of completion of the Acceptance Test through proper sale Invoice.<br>▪ Conduct / appoint a third party for Acceptance Testing<br>▪ Customize, Configure, Maintain and update the ITMS Applications during the contract period.<br>▪ Train the identified personnel of UT Administration of Dadra Nagar Haveli and Daman Diu, Traffic Department on operating and maintaining the complete system.<br>▪ Deployment of required experts who will provide daily support to ICCC operators and handholding support<br>▪ Prepare periodic (monthly, quarterly and annual reports) |

# 3. Implementation Plan & ProjectTimelines

## 3.1 Implementation Plan

The implementation of the ICCC& ITMS Project will be undertaken in two phases, viz. Implementation phase and Operation & Maintenance (O&M) Phase. The duration for both phases shall be as under:

- Implementation phase – 6months

- Operation & Maintenance phase – 60months

### 3.1.1 Operation & Maintenance (O&M)Phase

The O&M phase will commence from the date of "Go-Live" of  ICCC and ITMS and all associated solutions as per the scope of work. The O&M phase will be for a period of 5 years from the date of "Final Go Live". The SI will operate and maintain all thesolutions for contract duration of five years from the date of "Go-Live".

## 3.2 Project Timelines

The SI will be responsible for the implementation of the project within the timelines as indicated in the table below.

| Sr. No. | Milestones | Deliverables | Timelines in Month |
|---------|-----------|--------------|--------------------|
| 1. | Project Implementation Phase | | T + 6 months |

| 2. | Project Inception Report | Detailed site survey report including infrastructure requirement analysis, hardware deployment plan, recommended action plan to address the gaps, budget estimates for addressing the gaps uncovered during the survey, phase wise location distribution etc. Detailed Project Plan including resource deployment, Communication plan, Risk management plan, Information Security and Business Continuity, Sensitization & TrainingPlan, Operations management plan etc. | T + 0.5 (15 days) |
|---|---|---|---|
| 3. | Requirement Study Integrated Command Control Centre (ICCC) including DataCentre<br><br>City IT Network Infrastructure (including OFC)<br><br>CitySurveillance and Smart Poles<br>Intelligent Traffic Management System (ITMS) | Detailed To-Be Design for, ITMS, ICCC, City OFC Network and Data Centre including Data Centre Architecture, NetworkArchitecture, Security Architecture etc;<br><br>Customization/Changes in overall solution with Gap Analysis (ifrequired);<br><br>Approach & Plan with Transition Strategy forTo-Be;<br>Location list of all field systems including Lat &Long;<br><br>Requirement of Electrical Power Equipment and Consumption for ICCC and FieldLocations;<br><br>Submission of FRS, SRS including Solution Architecture of the proposed system;<br><br>Security/Performance AuditParameters. | T + 0.5 (15 days) |
| 4. | First Go Live<br><br>Design, supply, installation, commissioning including hardware, system software, network equipmentetc.<br>The first go live shall cover junctions that are fully functional with ITMS and City Surveillance and videomanagementsystem. | Site Completion/ReadinessReport<br>Delivery Acceptance Reports from UT Administration of Dadra Nagar Haveli and Daman Diu/Authorizedentity<br>Installation & CommissioningReports<br>Software Licenses for entireproject period.<br>Hardware warranty licenses for entire projectperiod.<br><br>Integration report for externalapplications. | T + 4 months |

| 5. | Final Go-Live Operationalization of ICCC along with DC including bandwidthprocurement. Implementation and commissioning of e-Challan System. Surveillance and Smart Pole- Installation and commissioning of cameras & associated equipment 100% of ready locations ITMS – Supply, installation, commissioning, training and operationalization of ITMS components (ANPR, RLVD, SVDS, ECB) at 100% of ready locations . | Site Completion/ReadinessReport Delivery Acceptance Reports from UT Administration of Dadra Nagar Haveli and Daman Diu/Authorizedentity Installation & CommissioningReports Software Licenses for entire projectperiod. Hardware warranty licenses for entire projectperiod. UAT/FAT and Final Go Live Certificate from UT Administration of Dadra Nagar Haveli and Daman Diu/Authorizedentity | T + 6 Months |
| --- | --- | --- | --- |
| 6. | Additional junctions, if any, and Training, Capacity Building of theauthorities | Site Completion/ReadinessReport Delivery Acceptance Reports from UT Administration of Dadra Nagar Haveli and Daman Diu/Authorizedentity Installation & CommissioningReports Software Licenses details UAT/FAT and Go Live Certificate from UT Administration of Dadra Nagar Haveli and Daman Diu/Authorizedentity | T + 9 Months = T1 |
| 7. | Project Operation & MaintenancePhase | Monthly & Quarterly SLAReports Ad-hoc Reports | T + 60 Month |

"T" is the 14th calendar day from the date of Signing of Contract between UT Administration of Dadra Nagar Haveli and Daman Diu and SI.

# 4. PaymentMilestones

Following payment milestones shall be adhered:

## 4.1    Payment during Implementation Phase

The payment milestone for SI during Implementation phase shall be as under:

| Sr. No | Payment Components | Payment Terms |
|---|---|---|
| 1. | ITMS Software solutions, licenses etc. as per Bill of Materials, including<br>Traffic Management Components such as<br>▪ Traffic Junction Surveillance System Traffic Enforcement Components such as<br>   ○ ANPR<br>   ○ RLVD<br>   ○ SVD<br>   ○ E-Challan system | The payment for ITMS Software solutions will be made as below:<br>• 30% of the solution CAPEX price on acceptance of delivery of all solutions<br>• 60% of the solution CAPEX price on 'Go-Live'<br>• implementation of all solutions<br>• 5% of the solution CAPEX price upon completion of 3 months from 'Go-Live' date.<br>• 5% of the solution CAPEX price upon completion of 6 months from 'Go-Live' date. |
| 2. | Surveillance System – Bullet and Smart Pole - PTZ and ECB | The payment for Surveillance system Software solutions will be made as below:<br>• 30% of the solution CAPEX price on acceptance of delivery of all solutions<br>• 60% of the solution CAPEX price on 'Go-Live'<br>• implementation of all solutions<br>• 5% of the solution CAPEX price upon completion of 3 months from 'Go-Live' date.<br>• 5% of the solution CAPEX price upon completion of 6 months from 'Go-Live' date. |

| 3. | Hardware and system software Components, as per Bill of Materials, including Traffic Management Components such as<br>• Traffic Junction Surveillance System<br>• Traffic Enforcement Components such as<br>   o ANPR<br>   o RLVD<br>   o SVD<br>   o Servers, storage, OS, RDBMS<br>   o Desktops workstations, MFP, Colour printer etc. as described in BoM and as per proposed solution of ITMS System Integrator | The payment for hardware and system components will be made as below:<br>• 30% of the solution CAPEX price on acceptance of delivery of all solutions<br>• 60% of the solution CAPEX price on 'Go-Live'<br>• implementation of all solutions<br>• 5% of the solution CAPEX price upon completion of 3 months from 'Go-Live' date.<br>• 5% of the solution CAPEX price upon completion of 6 months from 'Go-Live' date. |
|---|---|---|
| 4. | Other costs, including<br>• Managed services for Data Center and ICCC components (hardware and software etc.)<br>• EMS<br>• Integration with City ICCC Training<br>• Manpower Deployment during implementation phase<br>• Other line items, as per the Financial Proposal of ITMS System Integrator | The payment for other costs will be made as below:<br>• 100% of the CAPEX price on completion ofexecution/commissioning and 'Go-Live' |

* Commissioning would mean that the item has been put to its desired functional use and has been accepted byUT Administration of Dadra Nagar Haveli and Daman Diu.

## 4.2    Payment during O&M Phase

The payment milestone for SI during O & M phase shall be as under:

| Sr. No | Payment Heads | Payment Terms |
|---|---|---|
| 1. | Payments during O& M Phase after Go live | On quarterly basis post completion of the quarter |

All payments shall be made by UT Administration of Dadra Nagar Haveli and Daman Diu after obtaining a no-objection certification from Daman Traffic Police regarding the deliverables carried out by the SI, subject to any applicable deductions.

## 4.3    Payment Terms

• All payments shall be made inarrears.

- The Bidder's request(s) for payment shall be made to the Authority/UT Administration of Dadra Nagar Haveli and Daman Diu in writing, accompanied by an invoice describing, as appropriate, services completed. The invoice should be submitted and upon fulfilment of other obligations stipulated in thecontract.

- Payments shall be made promptly by the Authority/UT Administration of Dadra Nagar Haveli and Daman Diu within thirty (30) days after submission of the invoice or claim by the Bidder, after quality inspection and verification by the Authority/UT Administration of Dadra Nagar Haveli and Daman Diu's Official of the conformity of the Goods/Products/Services/Solutions supplied as per the agreed specifications.

- Payment shall be made in Indian Rupees by RTGS / NEFT on Bank in the name ofbidder.

- All remittance charges shall be borne by the SuccessfulBidder.

- In case of disputed items, the disputed amount shall be withheld and shall be paid only after settlement of thedispute.

- Any penalties/ liquidated damages, as applicable, for delay and non-performance, as mentioned in this RFP document, shall be deducted from the due payments of the respectivemilestones.

- Taxes, as applicable, shall be deducted / paid, as per the prevalent rules andRegulations

- It is the responsibility of the bidders to quote for and provide all the H/w and S/w associate for meeting all the requirements of the RFP. In case during evaluation, it is found that Associate H/w or S/w which is critical for meeting the requirement of this RFP and has not been quoted as part of Bill of material (BoM), the bid can be rejected as non-responsive. Additionally, if after the award of contract, it is felt that additional H/w or S/ware required for meeting the RFP requirement and the same has not been quoted by the Successful Bidder, the Successful Bidder shall provide all such additional H/w or S/w at no additional cost toAuthority/UT Administration of Dadra Nagar Haveli and Daman Diu.

- Payment of Operations and maintenance phase will be made on monthly basis (at completion of each quarter) based on the adherence to SLA, for the amount quoted for each respectiveyear

# 5. Service Level Agreement

The SI will have to meet the Service Levels, as defined herein. The Service Levels have been segregated into:

- Implementation ServiceLevels

- Post-Implementation ServiceLevels

## 5.1    Implementation Phase Service Level

### 5.1.1   Timely Completion of ProjectMilestones

| | |
|---|---|
| **Definition** | Timely Completion of Project Milestones would comprise all milestones and deliveries including supply, installation and commissioning of ITMS Solutions that are to be completed as part of the project deliverables as per the defined timeframe, as per the Agreement.<br><br>Week is defined a seven-day calendar period, e.g. one starting with Sunday and continuing through Saturday. |
| **Service Level Requirement** | All the milestones/ deliverables defined in the have to be completed within the timelines without any delay. |
| **Measurement of Service Level Parameter** | To be measured in number of weeks of delay from the date of completion as defined in the Agreement. |
| **Default Charge fornon-achievement of Service Level Requirement** | Default Charge of 0.25% of the corresponding value of line item(s) per week delay |

## 5.2    Post Implementation ServiceLevel

### 5.2.1   Availability Measurement Calculation for a Month

Availability of Project components for a month will be measured using following formula.

{[(Actual Uptime + Scheduled Downtime) / Total No. of Working Hours in a Month] x 100}

Wherein,

**"Actual Uptime"** will mean, of the Total Hours, the aggregate number of hours in any month during which each equipment/Hardware/application is actually available for use.

**"Scheduled Downtime"** will mean the aggregate number of hours in any month during which each equipment, is down during total Hours, due to preventive maintenance, scheduled maintenance, infrastructure problems or any other situation which is not attributable to Service Provider's (or Service provider's) failure to exercise due care in performing Service Provider's responsibilities. The Authority would provide a maximum of 04 hours of planned downtime for the preventive maintenance (as part of scheduled downtime) per month per equipment/service.

**"Total Working Hours"** will mean the total hours over the measurement period i.e. one month (24 * number of days in the month).

### 5.2.2 DowntimeCalculation

The recording of downtime will commence at the time of registering the call with Helpdesk/Service Provider for any downtime situation for the equipment. Downtime will end when the problem is rectified and the Hardware/equipment is available to the user.

Down time will not be considered for following:

1) Pre-scheduled preventive maintenance and health checks (ScheduledDowntime).

2) Downtime arising out of the incidents not attributable toSI.

### 5.2.3 General Terms

The SLA will be monitored and Default Charges computed on monthly basis.

1) Default Charges for a month will be capped at ten percent (10%) of the total Service Charge for the givenmonth.

2) The number and format of reports will be as per requirements provided byUT Administration of Dadra Nagar Haveli and Daman Diu.

3) In case, UT Administration of Dadra Nagar Haveli and Daman Diu so desires, the SLAs may be reviewed on yearly basis and may be amendedbasedonmutualagreement.Tillsuchtime,anyrevisionismutuallyagreed,the existing SLAs will continue to be inforce.

4) SLA will be excluded in case of incidents/instances not attributable to theSI.

### 5.2.4 Availability of Field Equipment

| Definition | Availability of Field equipment will mean that the equipment is able to perform its intended functions. Field equipment will include Traffic Signal, field components of Traffic Junction Surveillance camera, enforcement cameras and other ITMS devices used in the field. |
|---|---|
| Service Level Requirement | The average availability of the Field equipment should be at least 99% in a month. |

| Measurement of Service Level Parameter | {[(Actual Uptime + Scheduled Downtime) / Total No. of Working Hours in a Month] x 100}<br><br>Each category of Device must separately meet the minimum Availability Standard of Performance on monthly basis | | | |
|---|---|---|---|---|
| SLA Exclusion | Excludes:<br>Scheduled downtime, subject to agreed schedule Vandalism damage | | | |
| Default Charge for non-achievement of Service Level Requirement | If the SI is not able to meet the above defined service level requirement, then any deviation from the same would attract a default charge as per the following: | | | |
| | Availability (Monthly average) | >= 98 % to <99% | >= 97% to <98% | <97% |
| | Default Charge permonth | Rs. 50 per percentage Pointdrop below Service Level for traffic signals (per traffic signal installed) | Rs. 75 per percentage Point drop below Service Level for traffic signals (per traffic signal installed) | Rs. 100 per percentage Point drop belowService Level for traffic signals (per traffic signal installed) |
| | | Rs. 25 per percentage Point drop below Service Level for enforcement system as below: | Rs. 50 per percentage Point drop below Service Level for enforcement system as below: | Rs. 75 per percentage Point drop below Service Level for enforcement system as below: |
| | | For PTZ/ANPR system – per camera | For PTZ/ANPR system – per camera | For PTZ/ANPR system – per camera |
| | | For RLVD/SVD system – per lane | For RLVD/SVD system – per lane | For RLVD/SVD system – per lane |

## 5.2.5  Availability of ITMS Applications

| Definition | Application availability refers to the total time when the ITMS Applications is available to the users for performing all activities and tasks.<br><br>ITMS Applications will include all applications being proposed by the SI such as Applications for ANPR, RLVD, SVD, E-Challan Application etc. |
|---|---|
| Service Level Requirement | The average availability of the ITMS Applications should be at least 99.5 % in a month |
| Measurement of Service LevelParameter | {[(Actual Uptime + Scheduled Downtime) / Total No. of Working Hours in a Month] x 100} |
| SLA Exclusion | Any scheduled and approved preventive maintenance activity by the SI should be carried out with prior approval UT Administration of Dadra Nagar Haveli and Daman Diu/Daman Police. Such scheduled and approved preventive maintenance activities will preferably be carried out during night time (11 PM to 5 AM) and will not exceed twoinstances in a quarter and each instance will not exceed 4 hours. |
| Default Charge for non-achievement of Service Level Requirement | If the SI is not able to meet the above defined service level requirement,then any deviation from the same would attract a default charge as per the following:<br><table><tr><td>Application Availability (Monthly average)</td><td>>= 99.25 % to <99.5%</td><td>>=99.0% to <99.25%</td><td>< 99.00%</td></tr><tr><td>Default Chargeper Month</td><td>Rs. 25,000</td><td>Rs. 50,000</td><td>Rs. 1,00,000 (per 0.20 % drop Or part thereof Subject to minimum of Rs. 1 lakh)</td></tr></table> |

## 5.2.6   Application Response Time

| Definition | Application response time refers to the page load time, i.e. the time for loading a webpage of the ITMS Applications.<br><br>ITMS Applications will include all applications being proposed by the SI such as Applications for ANPR, RLVD, SVD, E-Challan Application etc. |
|---|---|
| Service Level Requirement | The average application response time for users (time taken for loading of a web page) should not exceed 10 seconds in a month. |

| Measurement of Service Level Parameter | Application response time will be measured on the basis of automated reports. The data should be captured through automated tools every 30 minutes during the working hours. | | | |
|---|---|---|---|---|
| Default Charge for non-achievement of Service Level Requirement | If the SI is not able to meet the above defined service level requirement, then any deviation from the same would attract a default charge as per the following: | | | |
| | Response Time (Monthly average) | > 10 secs to <12 secs | >=12 secs to < 16 secs | >= 16 secs |
| | Default Chargeper month | Rs. 20,000 | Rs. 30,000 | Rs. 50,000 |

## 5.2.7 Availability of Network Connectivity

| Definition | Network Availability refers to the total time when the connectivity is available to the users. |
|---|---|
| Service Level Requireme nt | The average availability of the Network connectivity at various project locations except DC should be at least 99% in a month. |
| Measurement of Service Level Parameter | Total Uptime of the Network Connectivity in a month in minutes)/ (Total Time in a Month in minutes)] *100 The above time would be calculated on 24 X 7 basis. |
| SLA Exclusion | Any scheduled and approved preventive maintenance activity by the SI should be carried out with prior approval <USER NAME>/Daman Police. Such scheduled and approved preventive maintenance activities will preferably be carried out during night time (11 PM to 5 AM) and will not exceed two instances in a quarter and each instance will not exceed 4 hours. |

| Default Charge for non-achievement of SLA | Connectivity per location (Monthly average) | >= 98 % to <99% | >= 97% to <98% | <97% |
|---|---|---|---|---|
| | Default Charge per incident (per month) | Rs. 15,000 | Rs. 20,000 | Rs. 25,000 (per percentage drop or part thereof) |

### 5.2.8 Security & Incident Management

| Definition | Security incidents could consist of any of the following but not limited to: Virus Attack – This will include malicious code infection of any of the desktops/servers in the network. Denial of Service Attack - This will include non-availability of service Data Theft - Compromise of any kind of data through network. Intrusion – Unauthorized access to ITMS Application / network resultingin loss of confidentiality/Integrity/ availability of data. |
|---|---|
| Service Level Requirement | Zero incident |
| Measurement of Service Level Parameter | Count of incidents of security breach including Virus Attack, Denial of Service Attack (DoS), Intrusion in a month |
| Default Charge for non-achievement of SLA | If the SI is not able to meet the above defined service level requirement, then any deviation from the same would attract a default charge of Rs. 5,000 per incident. |

# 6. Project Management andGovernance

## 6.1 Project Management Office (PMO)

A Project Management office will be set up during the start of the project. The PMO will, at the minimum, include a designated full time Project Manager from SI. It will also include key persons from other relevant stakeholders including members of UT Administration of Dadra Nagar Haveli and Daman Diu and other officials/representatives by invitation. The operational aspects of the

PMO need to be handled by SI including maintaining weekly statuses, minutes of the meetings, weekly/monthly/project plans, etc.

PMO will meet formally on a fort-nightly basis covering, at a minimum, the following agenda items:

- ProjectProgress

- Delays, if any – Reasons thereof and ways to make-up losttime

- Issues andconcerns

- Performance and SLA compliancereports

- Unresolved and escalatedissues

- Project risks and their proposed mitigationplan

- Discussion on submitteddeliverable

- Timelines and anticipated delay in deliverable ifany

- Any other issues that either party wishes to add to theagenda

During the development and implementation phase, there may be a need for more frequent meetings and the agenda would also include:

- Module developmentstatus

- Testing results

- IT infrastructure procurement and deploymentstatus

- Status of setting up/procuring of Helpdesk, DChosting

- Any other issues that either party wishes to add to theagenda

## 6.2    Helpdesk and Facilities Management Services

1. SI shall be required to establish the helpdesk and provide facilities management services tosupportthe UT Administration of Dadra Nagar Haveli and Daman Diu and stakeholder department officials in performing their day- to-day functions related to this system.

2. SI shall setup a central helpdesk dedicated (i.e. on premise) for the Project. This helpdesk would be operational upon implementation of the Project. Providing helpdesk/support services from a shared facility of any other party/provider is notpermitted.

3. Functional requirements of the helpdesk management system, fully integrated with the

enterprise monitoring and network management system. The system will be accessed by the stakeholder department officials for raising their incidents and logging calls for support. The detailed service levels and response time, which SI is required to maintain for provisioning of the FMS services are described in the Service Level Agreement of thisTender.

## 6.3 Steering Committee

1. The Steering Committee will consist of senior stakeholders from UT Administration of Dadra Nagar Haveli and Daman Diu, its nominated agencies and SI. SI will nominate its Smart City vertical head to be a part of the Project SteeringCommittee.

2. SI shall participate in Monthly Steering Committee meetings and update Steering Committee on Project progress, Risk parameters (if any), Resource deployment and plan, immediate tasks, and any obstacles in project. The Steering committee meeting will be a forum for seeking and getting approval for project decisions on major changesetc.

3. All relevant records of proceedings of Steering Committee should be maintained, updated, tracked and shared with the Steering Committee and Project Management Office bySI.

4. During the development and implementation phase of the project, it is expected that there will be at least fortnightly Steering Committee meetings. During the O&M phase, the meetings will be held at least once aquarter.

5. Other than the planned meetings, in exceptional cases, UT Administration of Dadra Nagar Haveli and Daman Diu may call for a Steering Committee meeting with prior notice toSI.

## 6.4 Project Monitoring and Reporting

1. SI shall circulate written progress reports at agreed intervals to UT Administration of Dadra Nagar Haveli and Daman Diu and other stakeholders. Project status report shall include Progress against the Project Management Plan, status of all risks and issues, exceptions and issues along with recommended resolutionetc.

2. Otherthantheplannedmeetings,inexceptionalcases,projectstatusmeetingmaybecalledwithpri or notice to the Bidder. UT Administration of Dadra Nagar Haveli and Daman Diu reserves the right to ask the bidder for the project review reports other than the standard weekly review reports.

## 6.5 Risk and Issue management

1. SI shall develop a Risk Management Plan and shall identify, analyze and evaluate the project risks, and shall develop cost effective strategies and action plans to mitigate thoserisks.

2. SI shall carry out a Risk Assessment and document the Risk profile of UT Administration of

Dadra Nagar Haveli and Daman Diu based on the risk appetite and shall prepare and share the UT Administration of Dadra Nagar Haveli and Daman Diu Enterprise Risk Register. SI shall develop an issues management procedure to identify, track, and resolve all issues confronting the project. The risk management plan and issue management procedure shall be done in consultation withUT Administration of Dadra Nagar Haveli and Daman Diu.

3.  SI shall monitor, report, and update the project risk profile. The risks should be discussed with UT Administration of Dadra Nagar Haveli and Daman Diu and a mitigation plan be identified during the project review/status meetings. The Risk and Issue management should form an agenda for the Project Steering Committee meetings as and when required.

## 6.6    Governance procedures

SI shall document the agreed structures in a procedures manual.

## 6.7    Planning and Scheduling

SI will prepare a detailed schedule and plan for the entire project covering all tasks and sub tasks required for successful execution of the project. SI has to get the plan approved from UT Administration of Dadra Nagar Haveli and Daman Diu at the start of the project and it should be updated every week to ensure tracking of the progress of the project.

The project plan should include the following:

- The project break up into logical phases andsub-phases;

- Activities making up the sub-phases andphases;

- Components in each phase withmilestones;

The milestone dates are decided by UT Administration of Dadra Nagar Haveli and Daman Diu in this RFP. SI cannot change any of the milestone completion dates. SI can only propose the internal task deadlines while keeping the overall end dates the same. SI may suggest improvement in project dates without changing the end dates of each activity.

- Key milestones and deliverables along with their dates including those related to delivery and installation of hardware andsoftware;

- Start date and end date for eachactivity;

- The dependencies amongactivities;

- Resources to be assigned to eachactivity;

- Dependency onUT Administration of Dadra Nagar Haveli and Daman Diu

## 6.8    License Metering / Management

SI shall track software usage throughout the IT setup so as to effectively manage the risk of unauthorized usage or under-licensing of software installed at the ICCC. This may be carried out through the use of standard license metering tools.

## 6.9    Manpower Deployment

SI shall deploy below Manpower during implementation and for first 12 months after Final Go-Live. The deployed resource shall report to UT Administration of Dadra Nagar Haveli and Daman Diu and work closely with Program Management Office of the project. The SI is required to provide the manpower deployment plan for the project for the following personnel

| Sr. No. | Name of Position/Role | Total No. of Resources | Deployment Period (Implementation Phase) | Deployment Period (O&M Phase) |
|---|---|---|---|---|
| 1. | Project Director | 1 | 50% (On-site and Off-site, As per project need) | As per project need, for attending important meetings etc. |
| 2. | Project Manager | 1 | 100% (Full time On-site) | 100% (Full time On-site) |
| 3. | Technical expert– Intelligent Traffic Management Systems | 1 | 70% (On-site) 30% (Off-site) | As per project requirement. |
| 4. | Technical Expert – Traffic Control Centre | 1 | 70% (On-site) 30% (Off-site) | As per project requirement. |
| 5. | Technical Expert – Network & Security | 1 | 70% (On-site) 30% (Off-site) | Asper project requirement. |
| 6. | Technical Expert – Server, Storage, EMS & Application | 1 | 70% (On-site) 30% (Off-site) | Asper project requirement. |
| 7. | ICCC Operators (O&M Phase) | 10* | NA | 100% (Full time On-site) |

Apart from the above mentioned manpower, SI is required to provide suitable manpower during implementation of the project including a Project Manager, who will be single point of contact for Project monitoring. The exact role of these personnel and their responsibilities would be defined

and monitored by UT Administration of Dadra Nagar Haveli and Daman Diu and respective departmental personnel.

- Approximate 30 manpower for viewing of feeds at ICCC shall be provided by Police department for 10 workstations which can be aligned in 3 shifts for 24x7 operations, with no person being made to see the feeds for more than 8 hours at astretch.

- SI shall be required to provide such manpower meeting followingrequirements:

- All such manpower shall be minimumgraduates.

- All such manpower shall be without any criminal background /record.

- UT Administration of Dadra Nagar Haveli and Daman Diu reserves the right to carry out background check of the personnel proposed on the Project for verification of criminal record, at the beginning of deployment or duringdeployment.

- SI shall have to replace any person, if not found suitable for thejob.

- All field manpower must have independent two-wheeler for localcommuting.

- Operational Manpower shall work in 3 shifts, with no person being made to see the feeds for more than 8 hours at astretch.

- Detail operational guideline document, standard operating procedure, governance and oversight plan shall be prepared by SI during implementation which shall specify detail responsibilities of these resources and their do's &don'ts.

- UT Administration of Dadra Nagar Haveli and Daman Diu will deploy their PMC experts for supervision of the project during Implementation and O&M phases.

## 6.10  Change Management & Control

### 6.10.1 Change Orders / Alterations /Variations

1. SI agrees that the requirements given in the Bidding Documents are minimum requirements and are only indicative. The vendor would need to fetch out the details at the time of preparing the design document prior to actual implementation. It shall be the responsibility of SI to meet all the requirements of technical specifications contained in the RFP and any upward revisions and/or additions of quantities, specifications sizes given in the Bidding Documents required to be made during execution of the works, shall not constitute a change order and shall be carried out without a change order and shall be carried out without any time and cost effect toPurchaser.

2. Further upward revisions and or additions required to make SI's selected equipment and installation procedures to meet Bidding Documents requirements expressed and to make

entire facilities safe, operable and as per specified codes and standards shall not constitute a changeorderand shall be carried out without any time and cost effect to Purchaser.

3. Any upward revision and/or additions consequent to errors, omissions, ambiguities, discrepancies in the Bidding Documents which SI had not brought out to the Purchaser's notice in his bid shall not constitute a change order and such upward revisions and/or addition shall be carried out by SI without any time and cost effect toPurchaser.

4. The Change Order will be initiated only in case (i) the Purchaser directs in writing SI to include any addition to the scope of work covered under this Contract or delete any part of the scope of the work under the Contract, (ii) SI requests to delete any part of the work which will not adversely affect the operational capabilities of the facilities and if the deletions proposed are agreed to by the Purchaser and for which cost and time benefits shall be passed on to the Purchaser, (iii) the Purchaser directs in writing SI to incorporate changes or additions to the technical specifications already covered in theContract.

5. Any changes required by the Purchaser over and above the minimum requirements given in the specifications and drawings etc. included in the Bidding Documents before giving its approval to detailed design or Engineering requirements for complying with technical specifications and changes required to ensure systems compatibility and reliability for safe operation (As per codes, standards and recommended practices referred in the Bidding Documents) and trouble free operation shall not be construed to be change in the Scope of work under theContract.

6. Any change order comprising an alteration which involves change in the cost of the works (which sort of alteration is hereinafter called a "Variation") shall be the Subject of an amendment to the Contract by way of an increase or decrease in the schedule of Contract Prices and adjustment of the implementation schedule ifany.

7. If parties agree that the Contract does not contain applicable rates or that the said rates are inappropriate or the said rates are not precisely applicable to the variation in question, then the parties shall negotiate a revision of the Contract Price which shall represent the change in cost of the works caused by the Variations. Any change order shall be duly approved by the Purchaser in writing.

8. Within ten (10) working days of receiving the comments from the Purchaser or the drawings, specification, purchase requisitions and other documents submitted by SI for approval, SI shall respond in writing, which item(s) of the Comments is/are potential changes(s) in the Scope of work of the RFP document covered in the Contract and shall advise a date by which change order (if applicable) will be submitted to thePurchaser.

## 6.11 Exit Management

1. This sets out the provisions, which will apply on expiry or termination of the Master Service

2. Agreement, the Project Implementation, Operation and ManagementSLA.

3.  Inthecaseofterminationof theProjectImplementationand/orOperationandManagement,thePa
    rties shall agree at that time whether, and if so during what period, the provisions of this
    Schedule shallapply.

4.  The Parties shall ensure that their respective associated entities carry out their respective
    obligations set out in this Exit ManagementSchedule.

# 6.12 Cooperation and Provision of Information

1.  During the exit managementperiod:

2.  SI will allow the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated
    agency access to information reasonably required to define the then current mode of
    operation associated with the provision of the services to enable the UT Administration of
    Dadra Nagar Haveli and Daman Diu to assess the existing services beingdelivered;

3.  Promptly on reasonable request by the UT Administration of Dadra Nagar Haveli and Daman
    Diu, SI shall provide access to and copies of all information held or controlled by them which
    they have prepared or maintained in accordance with this agreement relating to any
    material aspect of the services (whether provided by SI or sub- contractors appointed by SI).
    The UT Administration of Dadra Nagar Haveli and Daman Diu shall be entitled to copy of all
    such information. Such information shall include details pertaining to the services rendered
    and other performance data. SI shall permit the UT Administration of Dadra Nagar Haveli
    and Daman Diu or its nominated agencies to have reasonable access to its employees and
    facilities, to understand the methods of delivery of the services employed by SI and to assist
    appropriate knowledgetransfer.

# 6.13 Confidential Information, Security and Data

1.  SI will promptly on the commencement of the exit management period supply to the UT
    Administration of Dadra Nagar Haveli and Daman Diu or its nominated agency thefollowing:

    •   information relating to the current services rendered and customer and performance
        data relating to the performance of sub-contractors in relation to theservices;

    •   documentation relating to Intellectual PropertyRights;

    •   documentation relating tosub-contractors;

    •   all current and updated data as is reasonably required for purposes of UT
        Administration of Dadra Nagar Haveli and Daman Diu or its nominated agencies
        transitioning the services to its Replacement SI in a readily available format nominated
        by the UT Administration of Dadra Nagar Haveli and Daman Diu, its nominatedagency;

- all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agencies, or its Replacement SI tocarryoutduediligenceinordertotransitiontheprovisionoftheServicestoUT Administration of Dadra Nagar Haveli and Daman Diuoritsagencies, or its Replacement SI (as the case may be).

2. Before the expiry of the exit management period, SI shall deliver to the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agency all new or up-dated materials from the categories set out in Schedule above and shall not retain any copies thereof, except that SI shall be permitted to retain one copy of such materials for archival purposes only.

## 6.14  Transfer of Certain Agreements

On request by the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agency SI shall effect such assignments, transfers, licenses and sub-licenses UT Administration of Dadra Nagar Haveli and Daman Diu, or its Replacement SI in relation to any equipment lease, maintenance or service provision agreement between SI and third party lessors, vendors, and which are related to the services and reasonably necessary for the carrying out of replacement services by the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agency or its Replacement SI.

## 6.15  General Obligations of SI

1. SI shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agency or its Replacement SI and which SI has in its possession or control at any time during the exit managementperiod.

2. For the purposes of this Schedule, anything in the possession or control of any SI, associated entity, or sub-contractor is deemed to be in the possession or control ofSI.

3. SI shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

## 6.16  Exit Management Plan

1. SI shall provide the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agency with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the MSA as a whole and in relation to the Project Implementation, and the Operation and ManagementSLA.

2. A detailed program of the transfer process that could be used in conjunction with a Replacement SI including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during thetransfer;

3. PlansforthecommunicationwithsuchofSI'ssub-contractors,staff,suppliers,customersandanyrelated third party as are necessary to avoid any material detrimental impact on the UT Administration of Dadra Nagar Haveli and Daman Diu'soperations as a result of undertaking the transfer;

4. Proposed arrangements for the segregation of SI's networks from the networks employed by UT Administration of Dadra Nagar Haveli and Daman Diu and identification of specific security tasks necessary at termination(ifapplicable);

5. Plans for provision of contingent support to UT Administration of Dadra Nagar Haveli and Daman Diu and Replacement SI for a reasonable period after transfer.

6. SI shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up todate.

7. Each Exit Management Plan shall be presented by SI to and approved by the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agencies.

8. The terms of payment as stated in the Terms of Payment Schedule include the costs of SI complying with its obligations under thisSchedule.

9. In the event of termination or expiry of MSA, and Project Implementation, each Party shall comply with the Exit ManagementPlan.

10. During the exit management period, SI shall use its best efforts to deliver theservices.

11. Payments during the Exit Management period shall be made in accordance with the Terms of PaymentSchedule.

12. This Exit Management plan shall be furnished in writing to the UT Administration of Dadra Nagar Haveli and Daman Diu or its nominated agencies within 90 days from the Effective Date of this Agreement.

# 7. Indicative Bill ofQuantity

Mentioned below is the indicative Bill of Material for each proposed project component, however the below quoted quantity are minimum and SI is required to access the exact requirement, location wise, for all the proposed solution components and shall accordingly size the hardware and software infrastructure requirement to meet the project objectives and SLA. Bidder can increase the line item/quantity, if required. Bidder has to provide proposed quantity for each line item in Technical Bid and justify as per the solution requirements during the technical bid evaluation. This quantity and the increased line-item (if any) must be reflected in the Price Bid, failing which the bid may be rejected. Proposed quantity should not be less than the Indicative quantity, in any case. Bidder can propose the open source OS or software, but these should be Non-community based Open source. Community based software shall not be allowed.

| Sr. No | Location | Category | Line Item (Component wise) | Indicative Quantity | Unit of Measurement | Proposed Quantity by Bidder as per its Solution | Proposed Make & Model | Compliance to Specifications (Yes/No) |
|---|---|---|---|---|---|---|---|---|
| 1 | ICCC Hardware | Compute | Rack Servers | 1 | LOT | | | |
| 2 | ICCC Hardware | Compute | Work Stations with 3 LED monitors | 7 | Set | | | |
| 3 | ICCC Hardware | Compute | KVM Switch with LED monitor | 1 | Set | | | |
| 4 | ICCC Hardware | Networking | 42 U Server Rack with necessary accessories | 1 | Lot | | | |
| 5 | ICCC Hardware | Networking | 42 U Network Rack with necessary accessories | 1 | LOT | | | |
| 6 | ICCC Hardware | Networking | Core Router | 1 | Per Unit | | | |
| 7 | ICCC Hardware | Networking | Core Switch | 2 | Per Unit | | | |

| 8 | ICCC Hardware | Networking | Distribution Switches | 5 | Per Unit | | | |
|---|---|---|---|---|---|---|---|---|
| 9 | ICCC Hardware | Power | 75KVA Modular UPS with redundancy with single battery bank for 1 HR Backup | 1 | Set | | | |
| 10 | ICCC Hardware | Power | 160KVA Generator | 1 | Set | | | |
| 11 | ICCC Hardware | Storage | Primary Storage box | 1 | Set | | | |
| 12 | ICCC Hardware | Surveillance | Standard PTZ controller with 3-axis joysticks & Keyboard for control of pan, tilt, zoom and auxiliary camera functions. | As per Requireme nt | Set | | | |
| 13 | ICCC Hardware | Video Wall | 70 inches Panel for DLP based Video wall (3x3 Pattern) | As per Requireme nt | Per Unit | | | |
| 14 | ICCC Hardware | Video Wall | Video Wall Controller (With Required numbers of Adaptors, Converters, Graphic cards, 4-channel HD capture card with DVI splitter cables, Cabling & Other Fixtures, etc) | 1 | Set | | | |
| 15 | ICCC Software | Video Wall | Video Wall Management Software | 1 | Per Unit | | | |
| 16 | ICCC Software | Compute | Virtualization Software License | 1 | Per Unit | | | |
| 17 | ICCC Software | DC-Software | Server OS Licenses for all servers based on proposed all applications | 1 | Set | | | |

| 18 | ICCC Software | ITMS - eChallan | Supply, Installation, Testing and Commissioning of e-challan facility with all the necessary accessories to complete the work | 1 | Set | | | |
|---|---|---|---|---|---|---|---|---|
| 19 | ICCC Software | ITMS - RLVD | Supply, Installation, Testing and Commissioning of Red Light Violation Detection (RLVD) with ANPR and Preloaded (Embedded) Software in Local Processing Unit with licenses for designed number of cameras as required | 1 | Set | | | |
| 20 | ICCC Software | ITMS - SVD | Supply, Installation, Testing and Commissioning of Speed Violation detection system with ANPR and Preloaded (Embedded) Software in Local Processing Unit and licenses as required | 1 | Set | | | |
| 21 | ICCC Software | Security | End Point Security Solution (Antivirus) | As Per Requireme nt | Per Unit | | | |
| 22 | ICCC Software | Surveillanc e | Video Management System (VMS) as per the specifications functionalities enclosed in detailed spec | 1 | Per Unit | | | |
| 23 | ICCC Software | SLA Manageme nt | Enterprise Management Solution | 1 | Per Unit | | | |
| 24 | ICCC Non IT | Miscellane o us | Network cabling, Fibre Termination, Access Control and | | | | | |

| | | | Surveillance of Control Room, Server Room, etc with min 8-15 indoor/outdoor Cameras using proper aesthetics and required accessories. | 1 | Set | | | |
|---|---|---|---|---|---|---|---|---|
| 25 | ICCC Security Item | Security | Firewall – NGFW | 1 | Per Unit | | | |
| General Surveillance System | | | | | | | | |
| 26 | Surveillance System Hardware | Surveillance | Varifocal Bullet /Dome camera | 694 | Per Unit | | | |
| 27 | Surveillance System Hardware | Surveillance | Micro SD card 128 Gb | 694 | Per Unit | | | |
| 28.a | Surveillance System Software | Surveillance | Camera with required no. of software Licenses | 1 | Lot | | | |
| 28.b | Surveillance System Software | Surveillance | Network Video Recorder | As per requirement | Per unit | | | |
| ITMS (RLVD, SVD, ANPR) | | | | | | | | |
| 29 | Red Light Violation Dectection System & Automatic Number Plate Detection System (RLVD & ANPR)- | (RLVD & ANPR at Junctions) | ANPR camera for RLVD (Covers 2 lanes) | 164 | Per Unit | | | |
| 30 | ITMS Hardware | (RLVD & ANPR at Junctions) | Evidence camera | As per Requirement | Per Unit | | | |
| 31 | ITMS Hardware | (RLVD & ANPR at Junctions) | Strobe light | As per Requirement | Set | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 32 | ITMS Hardware | (RLVD & ANPR at Junctions) | Local Processing Unit | As per Requireme nt | Set | | | |
| 33 | ITMS Hardware | (RLVD & ANPR at Junctions) | Traffic signal detector | As per Requireme nt | Set | | | |
| 34 | ITMS Software | (RLVD & ANPR at Junctions) | RLVD software with required no. of Licenses | As per Requireme nt | Set | | | |
| 35 | ITMS PTZ | PTZ Camera | As per requirement for surveillance | 46 | Per Unit | | | |
| 36 | ITMS Electrical Works | (RLVD & ANPR at Junctions) | Civil and electrical works at Junctions (Ethernet cable-Cat5e, SFTP,4P*24AWG,1/0.5, STP (shielded twisted pair)-RVVSP2*1Shielding wire, Power Cable-RVV3*1 Light control line-RVVSP2*1 ; Shieldi ng wire, Camera Hoops, 24VDC Power supply for Evidence Camera ,230VAC power socket for LPU, Pole box, Junction box | AS per Requireme nt | LOT | | | |
| 37 | ITMS-SVDS-Hardware | Speed Violation Detection System (SVDS)- | Capture Unit for SVDS (Covers 2 lanes) | 3 | Per Unit | | | |
| 38 | ITMS-SVDS-Hardware | Speed Violation Detection System (SVDS)- | Flash light | 3 | Per Unit | | | |
| 39 | ITMS-SVDS-Hardware | Speed Violation Detection System (SVDS)- | Radar | 3 | Per Unit | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 40 | ITMS-SVDS-Hardware | Speed Violation Detection System (SVDS)- | Local Processing Unit | 3 | Per Unit | | | |
| 41 | ITMS-SVDS-Software | Speed Violation Detection System (SVDS)- | SVDS software with required no. of Licenses | 3 | Per Unit | | | |
| 42 | ITMS-SVDS | Speed Violation Detection System (SVDS)-Civil | For Earthing and other accessories as per requirement | AS per requireme nt | Per Unit | | | |
| 43 | ITMS-SVDS | Speed Violation Detection System (SVDS)-Electrical Works | Civil and electrical works at Junctions (Ethernet cable-Cat5e, SFTP,4P*24AWG,1/0.5, STP (shielded twisted pair)-RVVSP2*1Shielding wire, Power Cable-RVV3*1,Light control line-RVVSP2*1 ; Shielding wire, Camera Hoops, 24VDC Power supply for Evidence Camera ,230VAC power socket for LPU, Pole box, Junction box | AS per Requireme nt | LOT | | | |
| Automatic Number Plate Detection System (ANPR) | | | | | | | | |
| 44 | ITMS-ANPR | ANPR-Hardware | ANPR camera (One Lane) | Same as 29 | Per Unit | | | |
| 45 | ITMS-ANPR | ANPR-Hardware | Strobe light | AS per requireme nt | Per Unit | | | |
| 46 | ITMS-ANPR | ANPR-Hardware | Local Processing Unit | AS per requireme nt | Per Unit | | | |
| 47 | ITMS-ANPR | ANPR-Software | ANPR software wither quired no. of | AS per requireme | Per Unit | | | |

| | | | Licenses | nt | | | | |
|---|---|---|---|---|---|---|---|---|
| 48 | ITMS-ANPR | ANPR-Civil | For earthing and other accessories | AS per requireme nt | Per Unit | | | |
| 49 | ITMS-ANPR | ANPR-Electrical Works | Civil and electrical works at Junctions (Ethernet cable-Cat5e, SFTP,4P*24AWG,1/0.5, STP (shielded twisted pair)-RVVSP2*1Shielding wire, Power Cable-RVV3*1,Light control line-RVVSP2*1 ; Shielding wire, Camera Hoops, 24VDC Power supply for Evidence Camera ,230VAC power socket for LPU, Pole box, Junction box | AS per Requireme nt | LOT | | | |
| Illegal Parking Detection System (IPDS) | | | | | | | | |
| 50 | IPDS Hardware | Camera | 4 MP PTZ Camera | 8 | Per Unit | | | |
| 51 | IPDS Software | Software | Illegal Parking Detection system | As per Requireme nt | Per Unit | | | |
| 52 | Other accessorie s | Other | Illegal Parking Detection system, Supply , Installation and Commissioning | As per Requireme nt | Per Unit | | | |
| OFC Network | | | | | | | | |
| 53 | Fiber Optic Cable | FO Cable | 24 Core / Fiber UG Cable | 75 | KM | | | |
| 54 | Joint Boxes | FO Cable | 24 Core / Fiber UG Cable | As Per Requireme nt | Per Unit | | | |
| 55 | Joint Boxes | FO Cable | Fiber Termination Boxes (144 Port) | As Per Requireme nt | Per Unit | | | |

| 56 | Fiber Optic Cable | FO Cable | Media converter | As Per Requirement | Per unit | | | |
| 57 | Fiber Optic Cable | Cable | CAT 6 Cable | As Per Requirement | LOT | | | |
| 58 | Fiber Optic Cable | Civil | Civil underground works including Digging, Protection, Manholes, placement of HDPE Pipes etc | As Per Requirement | LOT | | | |
| Other | | | | | | | | |
| 59 | Other | Software | Mobile application and web portal, Dashboard | As per requirement | Per unit | | | |
| 60 | Other | Software | Any other software not mentioned above | As per requirement | Per unit | | | |
| 61 | Other | Hardware | Any other Hardware not mentioned above | As per requirement | Per unit | | | |
| 62 | Other | Manpower | Manpower services for Implementation (Specify details) | As per requirement | Per unit | | | |
| 63 | Other | Manpower | Manpower services for O & M (Specify details) | As per requirement | Per unit | | | |

# 8. Functional and TechnicalSpecifications

The functional specifications of the various components are as follows:

## 8.1 MicrogridInverter

- Maximum input DC voltage -60V

- Operating range 16 V -60V

- Max DC short circuit current-15A

- Power factor>0.95

- THD at peak power<2%

- EN 50530 efficiency>96%

- Cooling Naturalconvection

- Enclosure environmental rating Outdoor -IP67

- External operating temperature range (ambient) -40ºC to+65ºC

## 8.2    Power Cables

SPECIFICATION

| Type / Unarmoured | 1sq. mm/4 sq. mm Multicore (2, 4, 6 & 14)Armoured |
|---|---|
| Conductormaterial | Annealed Bare Copper (ABC) stranded Insulatingmaterial:   PVC type - A. |
| Insulationthickness | 0.80 mm Inner sheath:- Material : PVC Thickness : 0.50 mm. |
| Armourwire | GI 1.40 mm Outersheath:- Material : PVC Thickness : 180 mm |
| Applicablestandard | IS: 1554part-1 |
| Insulationresistance | >100 megaohm/km |

## 8.2.1   Optical FibreCable

a.   Strength Member - The duct placement cables shall have a non-metallic central strength member covered by a suitable coating. The cable shall be designed with sufficient strength members to meet installation and service conditions so that the fibres are not subject to excessivestrain.

b.   Colour Coding - Loose tubes shall be individually coloured for ease of identification. Individual fibres shall also be colour coded. Fibre colours shall be as follows: - Blue, orange, green, brown, grey, white, red, black, yellow, violet, pink, andturquoise.

c.   The tube colouring shall follow the same colour code. Fillers shall be of natural colour to fill

up the cablecore.

d. Cable Sheath Layers - The cable core shall be covered with a seamless black sheath mask of U.V. stabilised weather resistant polyethylene incorporating a moisture barrier (swellable components). The outer sheath excluding moisture barrier shall have a minimum thickness of 0.5 mm. The cable sheath shall be printed in yellow with a suitable legend to be agreed between the Contractor and the SALCAB Project Manager. The sheathing method including control measurements shall be fully described. In particular the cable diameter measurement, high voltage testing, printing and take-up on drum shall bedescribed.

Fibre parameters

| | |
|---|---|
| Fibre count | 48 |
| Fibre count in tube | 4 |
| Min. bending radius during installation (mm) | 240 |
| Installed (mm) Tensile load | 120 |
| Short term(N) | 3000 |
| Long term(N) Crush load(N/10cm) | 1500 |
| Applicable Temp. range | 1000 |
| Operation | -40~+70 |
| Installation | -20~+60 |

Fibre parameters and values

| Parameters | | Values |
|---|---|---|
| Mode Field Diameter | - range | 9.2 +/- 0.4 um |
| | - deviation | +/- 10% |
| Attenuation | 1285-1330nm1550nm | < / = 0.34 dB/km |
| | | < /=0.20 dB/km |
| Attenuation Uniformity | Point or Step Defect Extended variations | <0.1dB |
| | | <0.1dB |
| Temperature variation of attenuation from 0 Degree Celsius to 65 Degree Celsius | 1300nm 1550 nm | < 0.05dB/km |
| | | < 0.05dB/km |
| Dispersion | 1285-1330nm 1270-1340nm 1550 nm | < 3.5ps/nm.km < 6.0ps/nm.km < 18ps/nm.km |
| Mode cut off wavelength (of a primary coated fibre as Rec. G.652) | | < /=1260 nm |
| Reference surface diameter | | 125 +/- 0.7um |
| Core / Cladding concentricity | | < 0.6 um |
| Class non circularity (%) | Core Reference surface | <6 <2 |
| Coating diameter | | 242 +/- 5um |
| Proof test (%) | | >1.0 |

| | | |
|---|---|---|
| Macro bend test (dB) 60mm diameter mandrel, 100 turns, loss increase at 1550nm | | < 0.2 |

e. Splice Loss - The maximum acceptable splice loss is 0.15dB at 1500nm. The average splice loss taken in one direction on each route shall not exceed 0.1 dB at1500nm.

f. Splice/Joint closures - Fibre joint closures or Splice closures are required to join sequential cable and fibre lengths together, or provide a function for distribution of smaller drop cables. The splice closures would be located based on the length of the fibre beingsupplied.

g. Include reasonable measures such as cable glands, rodent protection foams etc. for the purpose of water proofing and protection from pests. Provide sufficient cable supports or cable racks to be able to manage the maximum designed capacity ofOFC.

## 8.3    Field Junction Box

| Sr. No | Parameter | Minimum Specifications |
|---|---|---|
| 1 | Size | Suitable size as per site requirements to house the field equipment |
| 2 | Cabinet Material | Powder coated CRCA sheet/ Stainless steel |
| 3 | Material Thickness | Min 1.2mm |
| 4 | Number of Locks | Two |
| 5 | Protection | IP 55, Junction Box design should ensure to keep the temperature within suitable operating range for equipment's and should also avoid intentional water splash and dust intake |
| 6 | Mounting | On Camera Pole / Ground mounted on concrete base |
| 7 | Form Factor | Rack Mount/DIN Rail |
| 8 | Other Features | Rain Canopy, Cable entry with glands and Fans/any other accessories asrequired for operation of equipment's within junction box. |

## 8.4    Server requirement

| S. No | Function | System 1 |
|---|---|---|
| 1 | Service/Module | TraMM |
| 2 | Qty | 1 |
| 3 | Core | 4 |
| 4 | P/VM | P/VM |
| 5 | RAM (in GB) | 32 |
| 6 | Network I/O | 2*1G |
| 7 | Storage (in GB) | 20 Mb per Junction per Day [on RAID 5 with 1 hot |

| | | spare] |
|---|---|---|
| 8 | OS Sizing (Recommended) in GB | 100 |
| 9 | IOPS | 140 |
| 10 | Total no. of Core | 4 |
| 11 | Total no. of RAM (in GB) | 32 |
| 12 | Total Storage Req. (in GB) | 20 Mb per Junction per Day |
| 13 | Total Storage OS Req. (in GB) | 100 |
| 14 | Over all Storage req. in GB | 100 GB (OS) + 20 Mb per Junction per Day |
| 15 | Total IOPS | 100 IOPS per Junction [Read/ Write ratio 30:70] |
| 16 | Type of Server Application/Database | Application + Database |
| 17 | OS | MSW Server2008 or above |
| 18 | Database | Postgres 8.3 or above |

## 8.5    PTZ Camera – Functional and Technical Specification

| 1 | Camera Type | PTZ (Pan, Tilt, Zoom) |
|---|---|---|
| 2 | Standard | ONVIF Profile S & G Compliant |
| 3 | Certification | UL,CE, FCC, BIS |
| 4 | Edge Storage | MicroSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB (Min. Class 6 or higher, Card to be included). |
| | | In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically pulled by the network storage recorder such that no manual intervention is required to transfer the SD card based recordings to network storage. |
| 5 | Image Sensor | 1/2.8" Progressive Scan CMOS or better |
| 6 | Resolution | 4 MP (1920 x 1080) at 25 FPS or better |
| 7 | Compression | H.265, H.264 |
| 8 | Streaming | Min. Triple compressed stream (Individually Configurable) |
| 9 | Audio | Audio Input/ Output 1 Ch |
| 10 | Alarm | 02//011 |
| 11 | Pre/Post Alarm buffer | Yes |
| 12 | Security | User Authentication, IP Address filtering |
| 13 | Physical Layer | 10/100 base Tx Ethernet |
| 14 | Protocol | Minimum IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP,RTCP, RTP, TCP/IP, UDP, IGMP, ICMP, DHCP, PPPoE, Bonjour |
| 15 | Remote Administration | Remote configuration and status using web based tool |
| 16 | System Update | Remote system update over Network using web client |
| 17 | Lens Type | Optical zoom; 32x or better IR corrected lens suitable for full HD camera. Focal length of lens ; upper range shall be 150mm |

| | | or higher, Autofocus |
|---|---|---|
| 18 | Dynamic Noise Reduction | 3D |
| 19 | Defog | Yes |
| 20 | Illumination | Color: 0.005 lux, F1.6 or better B/W: 0.001 lux, F1.6 |
| 21 | IR Distance | Up to 150m |
| 22 | Signal Process | Digital Signal Process |
| 23 | Privacy zones | 24 or higher |
| 24 | Auto Gain Control | Yes |
| 25 | Back Light Compensation | Yes |
| 26 | High Light Compensation | Yes |
| 27 | Electronic Shutter | 1/30000s to 1s or better |
| 28 | White Balance | Yes |
| 29 | Wide Dynamic Range | 120dB WDR |
| 30 | S/N Ratio | ≥55dB |
| 31 | Day and Night | Support ICR |
| 32 | Preset | min 250 |
| 33 | Pan, Tilt | Pan : 360° endless, Tilt From -15° to 90° with auto-flip |
| 34 | Speed | Pan Manual Speed: |
| | | 0.1°~160°/s, Pan Preset Speed: 240°/s |
| | | Tilt Manual Speed: |
| | | 0.1°~120°/s, Tilt Preset Speed: 200°/s |
| 35 | Auto Tracking | Support |
| 36 | Edge Analytics | Face Detection, Intrusion Detection, Line Crossing Detection, Region Entrance Detection, Region Exiting Detection |
| 37 | Housing | IP66, IK10 |
| 38 | Region of Interest | Support |
| 39 | Operating Temperature | -30°C to 65°C (-22°F to 149°F) |
| | | Working Humidity ≤ 90% |
| 40 | Power Source | Suitable adaptor shall be supplied to make the equipment work on 230V ±10%, 50Hz and Power over Ethernet - Hi POE |

## 8.6 Poles for Camera

| Sr. No | Parameter | Minimum Specifications |
|---|---|---|
| 1 | Pole type | Hot Dip Galvanized after Fabrication with Silver coating of 86 micron as per IS:2629; Fabrication in accordance with IS-2713 (1980) |
| 2 | Height | 5-10 Meters, as-per-requirements for different types of cameras & Site conditions |

| 3 | Pole Diameter | Min. 10 cm diameter pole (bidder to choose larger diameter for higher height) |
|---|---|---|
| 4 | Cantilevers | Based on the location requirement suitable size cantilevers to be considered with the pole |
| 5 | Bottom base plate | Minimum base plate of size 30x30x1.5 cm |
| 6 | Mounting facilities | To mount RLVD Cameras, CCTV cameras, Traffic Signals, Pedestrian Signals, Switch, etc. |
| 7 | Pipes, Tubes | All wiring must be hidden, through tubes/pipes. No wires shall be visible from outside. |
| 8 | Foundation | Casting of Civil Foundation with foundation bolts, to ensure vibration free erection (basic aim is to ensure that video feed quality is not impacted due to winds in different climatic conditions). Expected foundation depth of min. 100cms. Please refer to earthing standards mentioned elsewhere in the document. |
| 9 | Protection | Lightning arrester at select sites as per the requirements |

## 8.7   Edge Level Switch (at Traffic Junctions)

| Sr. No | Parameter | Minimum Specifications |
|---|---|---|
| 1 | Type | Managed Outdoor Industrial grade switch |
| 2 | Total Ports | Minimum 4 10/100/TX PoE/PoE+, 2x SFP Ports (canhave4xSFP Ports in certain locations) May require higher port density at some locations, depending upon siteconditions May require fiber ports at some locations, depending upon site conditions/distances. |
| 3 | PoE Standard | IEEE 802.3af/ IEEE 802.3at or better |
| 4 | Protocols | IPV4,IPV6 Support 802.1QVLAN DHCPsupport IGMP SNMPManagement Should support Loop protection and Loopdetection Should support Ringprotection End pointAuthentication Should supportNTP |
| 5 | Access Control | Support portsecurity |

| | | Support 802.1x (Port based network accesscontrol). Support for MACfiltering |
|---|---|---|
| 6 | PoE Power per port | Sufficient to operate the CCTV cameras/edge devices connected |
| 7 | Enclosure Rating | IP 30 or equivalent Industrial Grade Rating(to be housed in Junction box) |
| 8 | Operating Temperature | 0 -50 C or better Industrial Grade Rating |
| 9 | Multicast support | IGMP Snooping V1, V2, V3 MLD Snooping V1, V2 |
| 10 | Management | Switch needs to have RS-232/USB/RJ45 console port for management via a console terminal or PC<br>Web GUI NTP<br>Syslog for log capturing SNMP V1,V2,V3 |
| 11 | Compliance | UL/EN/IEC or equivalent |

## 8.8   Internet Router

| Sr. No | Parameter | Minimum Specifications |
|---|---|---|
| 1 | Multi-Services | Should deliver multiple IP services over a flexible combination of interfaces |
| 2 | Ports | As per overall network architecture proposed by the bidder, the router should be populated with required number of LAN/WAN ports/modules, with cable for connectivity to other network elements. |
| 3 | Interface modules | Must support up to 10G interfaces as per the design. Must have capability to connect with variety of interfaces. |
| 4 | Protocol Support | Must have support for TCP/IP, PPP, X.25, Frame relay and HDLC<br>Must support VPN<br>Must have support for integration of data and voice services<br>Routing protocols of RIP, OSPF, and BGP.<br>Support IPV4, IPV6<br>Support load balancing |
| 5 | Manageability | Must be SNMP manageable |
| 6 | Traffic control | Traffic Control and Filtering features for flexible user control policies |
| 7 | Bandwidth | Bandwidth on demand for cost effective connection performance enhancement |
| 8 | Remote Access | Remote access features |

| 9 | Redundancy | Redundancy in terms of Power supply(s). Power supply should be able to support fully loaded chassis<br>All interface modules, power supplies should be hot-swappable |
|---|---|---|
| 10 | Security features | MD5 encryption for routing protocol<br>NAT<br>URL based Filtering<br>RADIUS/AAA Authentication<br>Management Access policy<br>IPSec / Encryption<br>L2TP |
| 11 | QOS Features | RSVP<br>Priority Queuing<br>Policy based routing<br>Traffic shaping<br>Time-based QoS Policy<br>Bandwidth Reservation / Committed Information Rate |

## 8.9    City Surveillance System

### 8.9.1      GeneralRequirements:

1) The proposed Traffic Junction Surveillance System shall be installed at each identified locations for traffic monitoring and managementpurpose.

2) One Traffic Surveillance Cameras camera shall be placed at each arm of the junction ensuring coverage of the traffic junction, accuracy of the information captured on the field and they are rugged, durable & compact. These cameras need to work on 24 X 7 basis and transmit quality video feeds to the Traffic Command Centre and would capture the video feeds at 30 FPS during entire duration ofday.

3) The traffic surveillance cameras should transmit quality video feed (appropriately focused, clear,              un-blurred,jitterfree,properlylit,unobstructed,etc.).Packetlossistobeless than0.5percent.

4) The Traffic Junction Surveillance system shall be able work with other ITMS solutions such as                                                                           RLVD systemandATCSsystemtoprovidetrafficflow,countsandclassificationsacrossthecitythroughtheir detection at locations covered in project.

5) An android based mobile application for a dashboard system to view the video feed by the relevant stakeholders.

6) Integration of existing CCTV (Analog/Digital) infrastructure into the proposed solution.

## 8.9.2 Functional and Technical Specifications for VMS

Following are the functional and technical specifications for Video Management Server

| Video Management Software: | |
|---|---|
| **General Requirement** | |
| 1 | The VMS shall support client applications including System client, Web client, Video wall management client and mobile client |
| 2 | The VMS shall support login by user name and password. It shall also manage all user information, permissions, license, operation information and system information. |
| 3 | The VMS shall support unified time synchronization among all devices in the system and daily user and maintenance information management. |
| 4 | The video recording management shall support several types of storage device such as DAS, NAS, IPSAN, direct storage etc. It shall enable centrally management of NVR, storage devices offering video searching, playback, manageing and downloading |
| 5 | Shall have Network management server which regularly acquires the status of video devices such as NVR, Network camera, storage boxes and running status of servers of system. |
| 6 | Shall have an Alarm management server which provides alarm events and maintains the logs of alarm management. It shall also receive I/O alarms triggred by alarm host such as recorder, camera and so on. IT shall also be responsible to trigger linked actions like push alarm notification to clients, sending text message, sending e mail, calling presents in PTZ, video wall linkages etc. |
| 7 | SI shall be responsible to the do the RLVD , SVDS,e-police traffic system integration with the Central management system |

**The VMS shall support 3 types of authentication method viz.**

| A | Username and password: User name (login name) must be exclusive and cannot be modified once set. After login, all the operations shall be monitored and saved into the system record (log) for internal review. |
|---|---|
| B | Binding IP Address Authentication<br>In order to prevent the operator from logging in illegally, the IP address of the computer is bound. The operator can only log in from the designated computer; or else he or she may not be able to enter the system normally. |
| C | Access Permission<br>Precise permission settings shall be supported. Any user or any video resources shall be set precisely. For example, each user can be assigned the permissions including real-time monitoring, playback, PTZ control and so on to each camera. |

**Video Surveillance Management shall support following functions:**

| | Live view |
|---|---|
| 1 | The real-time live view shall be displayed in 1/4/6/9/13/16 windows through the C/S or B/S clients. |
| 2 | The user is able to set the video to show in original size or extent to the whole screen. |
| 3 | The system is able to remotely control the PTZ functions, including rotation, auto scan, zoom in, zoom out, preset settings, patrol settings, and so on. Set the speed dome's preset, and then the speed dome will automatically go to the preset to perform monitoring. |
| 4 | Auto-switch shall allow displaying the videos according to the rules set by the user, which can be set as auto-switch in one group, auto-switch among groups, or combined auto-switch or scheduled auto switch. |
| 5 | The system shall be able to receive real-time sound through the two-way audio function |
| 6 | Instant Play back the recorded video files of a specific camera in the live view mode. |
| | **Playback** |
| 1 | The recorded video file by file type, date, and camera, with many additional functions, including playback in 1/4 window divisions, fast forward (×1, ×2, ×4, ×8), clipping,image capture, multi-camera simultaneous playback, etc. |
| 2 | The system shall be able to play back the video in different time segments. |
| 3 | Supports multiple playback types:scheduled recordings, motion recordings, manual recordings and alarm recordings |
| 4 | Picture Playback - Shall Support searching vehicle pictures by multiple types, such as normal, illegal and armed, shall support Supports auto play and auto play delay duration |
| | **Comprehensive search** |
| 1 | Picture search of passing vehicles - Search by intersection, direction, lane, start-stop time, license plate no. |
| 2 | Picture search of violations - Search by intersection, direction, lane, start-stop time, license plate no., different violation behaviour |
| 3 | Picture search by black listed vehicle passing - Search by intersection, direction, lane, start-stop time, license plate no. |
| 4 | Picture search by red listed vehicle(List of vehicles like ambulance, Givernement Officers, Police vans etc. exceptional cases for violations) passing - Search by intersection, direction, lane, start-stop time, license plate no. The Red listed vehicles shall not be included into the violation list considering it to be exceptional case |
| 5 | Export - Shall support export searched result in customized way i.e Picture or data or picture and data |
| | **E-Map** |

| | |
|---|---|
| 1 | E-Map shall be of 2 types - is developed based on the third party map engine that already exists to realize GIS map function or When users need to manage the resource in E-map without original data and the third party map engine, the E-map server can load JPEG E-map |
| 2 | Shall allow to visually display the spatial position of video resources. All camera points, checkpoints, and E-police actual positons shall be displayed in E-map. Users can search the camera points, checkpoints, and E-police actual positons and quickly locate to the positions to check the surrounding geographic information |
| 3 | Shall supports searching by License plates number and time period, and displaying history playback of vehicles |
| 4 | Shall support displaying information and pictures of passing vehicles |
| | **Alarm Management** |
| 1 | Shall support editing alarm schedule templates, customizing alarm time, alarm level- Low, medium, high, multiple alarm linkage viz., cient linkage, recording linkage, message linkage etc. |
| 2 | Shall support camera alrams, device alarms, IO alarms, server alarms, |
| 3 | Shall allow to generate the alarm report |
| | **Recording management** |
| 1 | Shall support setting recording, shall have different type of templates viz all day template, work day template, weekend template, customized template |
| 2 | Shall allow to select the storage types whether device storage, storage server, clound storage etc. |
| 3 | Shall support pre and post recording time |
| | **Video wall** |
| 1 | Shall support decoding on video wall, joint division, roaming, window opening etc. |
| 2 | Shall allow displaying live and playback on video wall |
| 3 | Shall allow to generate and save personalized layout of video wall |
| | **Task scheduler** |
| 1 | Shall support to generate task of server time synchronization, device time synchronization, data and record backups, device reboots, device status inspection etc. |
| | **Maintenance management** |
| 1 | Shall allow checking the server information and status of the server including type of server, total no. of server, normal server, exceptional server, offline server etc. |
| 2 | Checking status and information of devices working under certain organization unit including type of device, total no. of device, normal device, exceptional device, offline device etc. |
| 3 | Checking the status of users including user name, organization name, login time, login type, online time, IP address, toatl online users etc. |
| VMS should support Smart pole | |


## 8.10   Fixed Camera – Functional and Technical Specification

The following are the technical parameters for the Varifocal Network Bullet Camera:

| S. No. | Features | Description |
|---|---|---|
| 1. | Camera Type | Vari Focal Bullet Camera |
| 2. | Standard | ONVIF Profile S , Profile G |
| 3. | Certification | UL, CE ,FCC, BIS |
| 4. | Edge Storage | MicroSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB<br>In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically pulled by the network storage recorder such that no manual intervention is required to transfer the SD card based recordings to network storage. |
| 5. | Image Sensor | 1/2.9" Progressive Scan CMOS or better |
| 6. | Resolution | 4 MP (3072 ×2048) at 20fps |
| 7. | Video Compression | H.265 |
| 8. | Streaming | Should support minimum three streams |
| 9. | Audio | Input/ Output -1 Ch |
| 10. | Alarm | Input/ Output -1 Ch |
| 11. | Alarm Trigger | Motion detection, video tampering, network disconnected, IP address conflict, illegal login, HDD exception |
| 12. | Security | User Authentication,IP Address filtering, Watermarking |
| 13. | Communication Interface | 1 RJ45 10M/100M self-adaptive Ethernet port |
| 14. | Protocol | TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IGMP, 802.1X, QoS, IPv6, Bonjour |
| 15. | Lens | Focal Length: 2.8 to 12 mm Mototrized Varifocal Lens |
| 16. | Auto-Iris | Yes |
| 17. | Lens Mount | Φ14 |
| 18. | Dynamic Noise Reduction | 3D DNR |
| 19. | Min. Illumination | Color: 0.01 Lux @ (F1.2, AGC ON), 0 Lux with IR |
| 20. | IR Distance | Up to 60 m |
| 21. | Motion Detection Zones/ privacy zones | Support |
| 22. | Auto Gain Control | Yes |
| 23. | BLC / HLC | Yes |
| 24. | Electronic Shutter | 1/3 s to 1/100,000 s |
| 25. | Wide Dynamic Range | 120dB |
| 26. | Day and Night | IR Cut Filter |
| 27. | Day/Night Switch | Day/Night/Auto/Schedule/Triggered by Alarm In |

| 28. | Edge based Feature | Trip wire/Line crossing detection, Intrusion detection, Face detection, Motion detection, Object Removal Detection, Unattended Baggage Detection, Scene change detection, Audio exception detection |
| 29. | Region of Interest | Support |
| 30. | Internet protocol Support | IPv4 and IPv6 |
| 31. | Housing | IP67 |
| 32. | Anti-Vandalism rating | IK10 |
| 33. | Operating Temperature | -30 °C to +60 °C<br>Humidity 95% or less (non-condensing) |
| 34. | Humidity | 95% or less (non-condensing) |
| 35. | Power Supply | 12 VDC ± 25%, PoE (802.3at, class 4) |
| 36. | Power Source | Suitable adaptor shall be supplied to make the equipment work on 230V ±10%, 50Hz and Power over Ethernet |

Dome Camera Specifications:

| # | Parameters | Minimum Specifications | Compliance (Yes / No) | Deviation from Specifications/ Remarks ifAny |
|---|---|---|---|---|
| A | B | C | D | E |
| 1. | Image Sensor | 1/3" ProgressiveScanCMOS or better | | |
| 2. | Pixels | 4 MegaPixel Full HD (1920X 1080) | | |
| 3. | Min. Illumination | Color: 0.05 lux, B/W: 0 lux with IR (ON) | | |
| 4. | Lens | 2.8 mm~12mm Varifocal, DC Auto Iris, IR Corrected, or better | | |
| 5. | Signal to Noise Ratio | MORE THAN 50 dB | | |
| 6. | Focus | AUTOMATIC, MANUAL | | |
| 7. | Wide Dynamic Range | 100 dB OR BETTER | | |
| 8. | IR Range | 30 METER OR BETTER | | |
| 9. | Day & Night | AUTO (IR), COLOR, B/W | | |
| 10. | Backlight Compensation | AUTOMATIC BLC | | |
| 11. | Noise Reduction | 3D DNR, 2D DNR | | |
| 12. | Compression Standard | H.265 (BACKWARD COMPATIBLE WITH H.264), MJPEG OR BETTER | | |

| 13. | Streams | MINIMUM TWO VIDEO STREAM SUPPORTED. EACH STREAM CONFIGURABLE FOR RESOLUTION, FPS. | | |
|---|---|---|---|---|
| 14. | Resolution & Frame Rate | MINIMUM 25 FRAMES PER SECOND (FPS) FOR BOTH THE STREAMS. FULL HD (1080P) @ 25 FPS WITH H.265 COMPRESSION ON ONE STREAM & HD (720P) @ 25 FPS WITH H.265 COMPRESSION ON OTHER STREAM. | | |
| 15. | Data rate | i) 8 MBPS MAXIMUM FOR H.265 VIDEO COMPRESSION. ii) SHALL WORK ON 5 MBPS BIT RATE OR LESS AVERAGE FOR FULL HD@ 25 FPS AT VARIABLE BIT RATE (VBR) ON INDIVIDUAL (SINGLE) STREAM WITH H.265 VIDEO COMPRESSION. | | |
| 16. | Video Streaming | UNICAST AND MULTICAST STREAMS | | |
| 17. | Text Superimposing | CAMERA SHALL SUPPORT SUPERIMPOSING THE TITLE AND DATE & TIME ON THE VIDEO | | |
| 18. | Ethernet Port | RJ45 (10/100BASE-T) SELF-ADAPTIVE | | |
| 19. | Protocols | IPv4/IPv6, TCP/IP, UDP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, PPPOE, NTP, UPNP, SMTP, SNMP, IGMP | | |
| 20. | Power | 12 V DC / 24V DC/AC AND PoE | | |
| 21. | Local Storage | SUPPORT MINIMUM 128 GB OF microSD/SDHC/SDXC CARD | | |
| 22. | Alarm I/O | ALARM I/P PORT:1 AND O/P PORT: 1 | | |
| 23. | Audio | 2 WAY AUDIO SUPPORTED | | |
| 24. | Housing | VANDAL PROOF AND IMPACT RESISTANT ENCLOSURE WITH IP66 OR NEMA 4X AND IK 10 RATED OR BETTER | | |
| 25. | Operating Temperature | 0 °C TO 50 °C | | |
| 26. | Operating Humidity | 0% TO 80% RELATIVE, NON-CONDENSING | | |
| 27. | Standard | ONVIF 2.0 AND ABOVE SUPPORTED | | |

| | | | | |
|---|---|---|---|---|
| 28. | Certification | CE, FCC AND UL | | |
| 29. | Warranty | 3 YEARS COMPREHENSIVE ONSITE WARRANTY WITH PARTS | | |
| 30. | Specify Make of proposed camera | | | |

## 8.11 Traffic Management System – Functional Requirements and Technical Specifications

### 8.11.1 ITMS General Functional Requirements and TechnicalSpecification

*Following are the functional requirements of ITMS*

| Sr. No. | Functional & Technical Specifications |
|---|---|
| 1. | The system should support centralized or decentralized architecture. |
| 2. | The system should be developed and built on operating system agnostic platform, should work on Commercially Off The Shelf (COTS) servers and storage solutions, and should be database agnostic. |
| 3. | The system should support virtual computing environment and should support all the industry leading virtualization platforms. |
| 4. | The system, when deployed in decentralized architecture, should work at the traffic junction level independently, irrespective of the connectivity with the data centre. Thejunction server should synchronize the event data with the event server at the data centre as and when the connectivity with the data centre is available. |
| 5. | The system should allow the operator to create continuous recording schedule for the camera based on the time of day and day of week. It should be possible to set the camera recording schedule for a single camera or a group of cameras or all cameras. |
| 6. | The system should allow the operator to set the effective timing of the various applications such as Red Light, Speed, ANPR during the day. The system should allow the operator to create a weekly schedule to effect the video analytics. |
| 7. | The system should have published APIs to interface with external systems such as Command and Control Application, Incident Management System, etc. Also a mobile application is to be provided for viewing of corresponding surveillance system by relevant stakeholders |
| 8. | The system should have integration with the eChallan Management System and should offer the functionality to the operator to generate eChallans automatically or manually. |

| | |
|---|---|
| 9. | The system should have the capability to integrate with the VAHAN / SARATHI system to fetch vehicle related details as required and as made available by the VAHAN / SARATHI system. |

## 8.11.2 Automatic Number Plate Recognition (ANPR) System

The ANPR System shall enable monitoring of vehicle flow at strategic locations. The system shall support real-time detection of vehicles at the deployed locations, recording each vehicle, reading its number plate, database lookup from central server and triggering of alarms/alerts based on the vehicle status and category as specified by the database. The system usage shall be privilege driven using password authentication.

| Minimum Function Requirement | |
|---|---|
| **S.NO** | **Minimum Functional Requirements** |
| **1.Auto Number Plate Recognition System** | |
| 1 | ANPR cameras shall provide the feed to the command control Centre shall process the image using OCR software or hardware for getting the registration number of the vehicle with highest possible accuracy. The system shall be able to detect, normalize and localize the image of the number plate for detection of alpha numerical characters. System shall be able to identify stolen/ suspected vehicles by cross checking the numbers with vehicle database ANPR software application |
| 2 | ANPR should be done by either Hardware / Software or Server based application: |
| | ANPR system shall provide a user interface with live view of vehicle entry point 24x7, event notification, image captured, number detection and recognition, event reports customized report generation etc. |
| | Ÿ The analysis of image captured shall be done in real time. Database so created from the images captured & analysis shall store the following: |
| | 1) Vehicle registration number |
| | 2) date and time that the vehicle is identified |
| | 3) ANPR site location, with Latitude and Longitude |
| | 4) The image with whole vehicle |
| | Ÿ The ANPR system Management application should able to design in open platform which allow to integrated with central management system and platform |
| 3 | System shall have options to search historical records for post event analysis by vehicle color or vehicle color with license plate and date time combinations |

| | |
|---|---|
| 4 | The system shall have option to input certain license plates according to hot listed categories like "Wanted", "Suspicious", "Stolen" etc. The system can generate automatic alarms to alert the control room personnel for further action, in the event of detection of any vehicle falling in the Hot listed categories. |
| 5 | System should be able to generate automatic alarms to alert the control room personnel for further action, in the event of detection of any vehicle falling in the Hot listed categories. |
| 6 | System shall enable easy and quick retrieval of snapshots, video and other data for post incident analysis and investigations. |
| 7 | System should be able to generate suitable reports that will provide meaningful data to concerned authorities and facilitate optimum utilization of resources. |
| | A) Report of vehicle flow at each of the installed locations for Last Day, Last Week and Last Month. |
| | B) Report of vehicles in the detected categories at each of the installed locations for Last Day, Last Week and Last Month. |
| 8 | System shall have Search option to tune the reports based on license plate number, date and time, site location as per the need of the authorities. System shall have option to save custom reports for subsequent use. |

## 8.11.3 ANPR Camera – Functional and Technical Specification

| Minimum Technical Requirement | | |
|---|---|---|
| S.N. | Parameter | Minimum Requirement |
| ANPR Camera: | | |
| 1 | Video Compression | H.265,H.264/MPEG4/MPEG |
| 2 | Video Resolution | Resolution Minimum 1920 x 1080 |
| 3 | Frame rate | Min. 25 fps |
| 4 | Image Sensor | 1/1.8″ Progressive Scan CMOS or better |
| 5 | Lens length | 8-30mm or better. |
| 6 | IR Cut Filter | Automatically Removable |
| 7 | Day/Night Mode | Color, Auto |
| 8 | S/N Ratio | ≥ 50 Db |
| 9 | Local Storage | 1 SD Card Slot |
| 10 | Certification | UL/CE/FCC, IP66 or better.. |
| 11 | Illuminator | Built-in or External supplement light to support 30 meter. |

| 12 | Operation Temperature | -30°to +70° |
|----|----|----|
| 13 | Power Consumption | ＜30W |
| 14 | GPU | Should have onboard GPU Card. |
| 15 | Edge Analytics function | The analytics software should be on board and should have the following minimum functions:<br>a) ANPR of all class of vehicles<br>b) Capture vehicles with no License plates |
| 16 | ANPR engine | Should have onboard ANPR engine to capture all license plates of vehicles |

## 8.11.4 Red Light Violation Detection System - Functional Requirements and Technical Specifications

| Red Light Violation & Detection (RLVD) | |
|----|----|
| Sr. No. | Functional Specifications |
| 1 | The following Traffic violations to be automatically detected by the system by using edge analytic Camera or no-intrusion Sensor technology. |
| 2 | RLVD should be done by either Hardware / Software or Server based application |
| 3 | The system should be capable of capturing multiple infracting vehicles simultaneously in different lanes on each arm at any point of time with relevant infraction data like: |
| | 1). Type of Violation |
| | 2). Date, time, Site Name and Location of the Infraction |
| | 3). Lane number |
| | 4). Type of offence on the image itself. |
| 4 | The system should be equipped with a camera system to record a digitized image and video of the violation, covering the violating vehicle with its surrounding and current state of signal (Red/Green/Amber) by which the system should clearly show nature of violation and proof |
| 5 | System should use signal from traffic controller or sensors. |
| 6 | The RLVD system Management application should able to design in open platform which allow to integrated with central management system and platform |
| 7 | The Evidence and ANPR camera should continuously record all footage in its field of view to be stored at the local base station. |

| | |
|---|---|
| 8 | The system shall be equipped with IR Illuminator to ensure clear images including illumination of the Number Plate and capture the violation image under low light conditions and night time. |
| 9 | In case of violation, lights should flash immediately |
| 10 | System should have the facility to provide the live feed of the camera at the central command centre as per user requirement. |
| 11 | System should generate Alarms at control room software if any signal is found not turning RED within a specific duration of time. |
| 12 | For each detected violation, system Should store 3 snapshots of both cameras, date, time, location, ANPR recognized license plate number, thumbnail of license plate region, phase of light (red, amber), time since phase change (red, amber). |
| 13 | ANPR provided with RLVD should be capable of also searching for hot listed vehicles during green light. Accuracy of 85% in Day and 80% in Night for Standard plates. |
| 14 | System should provide facility to search for the cases of violations occurred during any specific span of time, and provide a statistical analysis of the number of such incidences occurring during various days of the month, various months of the year in graphical forms. A report of all such incidences should be available and transferable in hard copy during any selected span of time. |
| 15 | Additionally, the system should be able to store license plates numbers of at least 10,000 suspected vehicles at a time and should generate an Alert is any one of the vehicles is found crossing the stop line (irrespective whether the signal is GREEN or RED) |
| 16 | System can be composite unit with all components inside the IP66 box or comprised of camera or other units mounted on poles or gantries with controller and processors at side poles to make sure all lanes of the road are covered. |

## 8.11.5 RLVD Camera –Technical Specification

| RLVD Camera: | | |
|---|---|---|
| **Sr. No** | **Parameter** | **Functional & Technical Specifications** |
| 1 | Video Compression | H.265,H.264/MPEG4/MPEG |
| 2 | Video Resolution | 3MP or better, Resolution Minimum 1920 x 1080. |

| 3 | Frame rate | Min. 25 fps |
|---|---|---|
| 4 | Image Sensor | 1/1.8″ Progressive Global Shutter Sensor |
| 5 | Lens length | Should be minimum |
| 6 | IR Cut Filter | Automatically Removable |
| 7 | Day/Night Mode | Color, Auto |
| 8 | S/N Ratio | ≥ 50 Db |
| 9 | Local Storage | 1 SD Card Slot |
| 10 | Certification | UL/CE, IP66 or better. |
| 11 | Illuminator | Built-in or External supplement light to support 30 meter. |
| 12 | Operation Temperature | -30°to +70° |
| 13 | Power Consumption | ＜30W |
| 14 | GPU | Should have onboard GPU Card. |
| 15 | Edge Analytics function | The analytics software should be on board and should have the following minimum functions:<br>a) ANPR of all class of vehicles<br>b) Capture vehicles with no License plates |
| 16 | ANPR engine | Should have onboard ANPR engine to capture all license plates of vehicles |

**Evidence Camera:**

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1 | Video Compression | H.265,H.264/MPEG4/MPEG |
| 2 | Video Resolution | Resolution Minimum 1920 x 1080 |
| 3 | Frame rate | Min. 25 fps |
| 4 | Image Sensor | 1/1.8″ Progressive Scan CMOS or better |
| 5 | Lens length | 8-30mm or better. |
| 6 | IR Cut Filter | Automatically Removable |
| 7 | Day/Night Mode | Color, Auto |
| 8 | S/N Ratio | ≥ 50 Db |
| 9 | Local Storage | 1 SD Card Slot |
| 10 | Certification | UL/CE, IP66 or better.. |
| 11 | Illuminator | Built-in or External supplement light to support 30 meter. |
| 12 | Operation Temperature | -30°to +70° |
| 13 | Power Consumption | ＜30W |
| 14 | GPU | Should have onboard GPU Card. |
| 15 | Edge Analytics function | The analytics software should be on board and should have the following minimum functions:<br>a) ANPR of all class of vehicles<br>b) Capture vehicles with no License plates |
| 16 | ANPR engine | Should have onboard ANPR engine to capture all license plates of vehicles |

**Local Process Unit**

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1 | Operation System | Linux/Windows |
| 2 | Processor | GPU Processor for running deep-learning algorithm. |
| 3 | Capability | The industrial processor used should be able to work with at least (4 ANPR cameras and 4 RLVD cameras) as per junction request. |
| 4 | HDD | Support at least 1TB HDD Storage. |
| 5 | Interface | USB 2.0*2 |
| 6 | Shall be installed for safety of system (As per BIS standard IS 2309 of 1989). | |
| 7 | Operation Temperature | -5°to +60° |

## 8.11.6 Speed Violation Detection (SVD) System

**Functional Requirements Specifications of SVDsystem**

| Speed Violation Detection (SVD) | |
|---|---|
| **Sr. No.** | **Functional Specifications** |
| 1 | Speed measurement may be made by RADAR. The Speed Violations should be automatically detected by the system by using radar technology. |
| 2 | The system should be capable of capturing multiple infracting vehicles simultaneously in defined lanes at any point of time simultaneously with relevant infraction data like: |
| | a) Type of Violation |
| | b) Speed of violating vehicle |
| | c) Notified speed limit |
| | d) Date, time, Site Name and Location of the Infraction |
| | e) No helmet Violation |
| | f) Registration Number of the vehicle through ANPR Camera system for each vehicle identified for infraction |
| 3 | The system shall provide the No. of vehicles infracting simultaneously in each lane. The vehicles will be clearly identifiable and demarcated in the image produced by the camera system |
| 4 | The system shall be equipped with supplement light to ensure clear images including illumination of the Number Plate and capture the violation image under low light conditions and night time. |

| | |
|---|---|
| 5 | The SVDS system Management application should able to design in open platform which allow to integrated with central management system and platform |
| 6 | The automatic number plate recognition Software may be part of the supplied system, or can be provided separately as add on module to be integrated with violation detection. Success rate of ANPR will be taken as 80% or better during the day time and 90% or better during the night time on standard number plates. |
| 7 | Integrated external Infrared capable to take images in night time and detect automatically number plate for minimum 20 meters. |
| 8 | The system shall support all standard brands. One camera shall cover at least 3.5 meter width of lane, and capture the license plates of vehicles which violates the traffic signal and moving at a speed of 0 to 240 km/hr. |
| 9 | It should be capable of importing violation data for the Operator for viewing and retrieving the violation images and data for further processing. The progarmming should provide for sort, transfer & print command. |
| 10 | It should generate the photograph of violations captured by the outstation system which include a wider view covering the violating vehicle with its surrounding and a closer view indicating readable registration number plate patch of the violating vehicle or its web link on notices for court evidence. |
| 11 | The application software should be integrated with the notice branch software for tracing the ownership details of the violating vehicle and issuing/printing notices. |
| 12 | Image should have a header and footer depicting the information about the site IP and violation details like viz. date, time, equipment ID, location ID, Unique ID of each violation, lane number, Region. Number of violating vehicle and actual violation of violating vehicle etc. so that the complete lane wise junction behaviour is recorded viz. (Speed of violating vehicle, notified speed limit, Speed Violation with Registration Number Plate Recognition facility. There should be user interface for simultaneous manual authentication / correction and saving as well |
| 13 | Log of user actions be maintained in read only mode. User should be provided with the password and ID to access the system along with user type (admin, user). |
| 14 | Various users should be accessing the system using single sign on and should be role based. Different roles which could be defined (to be finalized at the stage if SRS) could be Administrator, Supervisor, Officer, Operator, etc. |
| 15 | The system shall also support horizontal scalability so that depending on changing requirements from time to time, the system may be scaled horizontally. |
| **Local Process Unit** | |

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1 | Operation System | Linux/Windows |
| 2 | Processor | GPU Processor for running deep-learning algorithm. |
| 3 | Capability | The industrial processor used should be able to work with at least (4 ANPR cameras and 4 RLVD cameras) as per junction request. |
| 4 | HDD | Support at least 1TB HDD Storage. |
| 5 | Interface | USB 2.0*2 |
| 6 | Shall be installed for safety of system (As per BIS standard IS 2309 of 1989). | |
| 7 | Operation Temperature | -5°to +60° |

**SVDS Camera:**

| Sr. No | Parameter | Technical Specifications |
|---|---|---|
| 1 | Video Compression | H.265,H.264/MPEG4/MPEG |
| 2 | Video Resolution | 3MP or better, Resolution Minimum 1920 x 1080. |
| 3 | Frame rate | Min. 25 fps |
| 4 | Image Sensor | 1/1.8″ Progressive Global Shutter Sensor |
| 5 | Lens length | Should be minimum |
| 6 | IR Cut Filter | Automatically Removable |
| 7 | Day/Night Mode | Color, Auto |
| 8 | S/N Ratio | ≥ 50 Db |
| 9 | Local Storage | 1 SD Card Slot |
| 10 | Certification | UL/CE, IP66 or better. |
| 11 | Illuminator | Built-in or External supplement light to support 30 meter. |
| 12 | Operation Temperature | -30°to +70° |
| 13 | Power Consumption | ＜30W |
| 14 | GPU | Should have onboard GPU Card. |
| 15 | Edge Analytics function | The analytics software should be on board and should have the following minimum functions: a) ANPR of all class of vehicles b) Capture vehicles with no License plates |
| 16 | ANPR engine | Should have onboard ANPR engine to capture all license plates of vehicles |

## 8.11.7 E-Challan System Application – Functional Requirements

**E-challan System**

| S.NO | Minimum Functional Requirements |
|---|---|

| | |
|---|---|
| 1 | E-challan system shall be able to retrieve vehicle owner's details and vehicle data from RTO data base to minimize data entry. |
| 2 | E-challan system shall be able to retrieve vehicle system registration details and driving license details by reading appropriate smart card to minimize data entry. |
| 3 | Server should maintain log of all current devices. Any access to the system must be recorded along with data, time user id and IP address. |
| 4 | A unique Challan number should be generated through client software for each challan. |
| 5 | The most frequent traffic offences should be kept at the top of the drop-down menu and offence ingredients should be available if required by officer. |
| 6 | Date, time of place of challan should be automatically populated in the relevant fields of client software. |
| 7 | Compounding amount must populate in the field automatically from master table. |
| 8 | The successful bidder should develop the GUI and functionality as per requirements. |
| 9 | It should be possible to integrate payment gate way operator with the system for facilitation of payment. |
| 10 | The Application Software should work in a web based environment. |
| 11 | The application software should be user friendly, easy to operate. |
| 12 | The system will function in web based system where the hand-held device shall work as a node. |
| 13 | The application software should maintain the logs of user activities to facilitate the audit trail. |
| 14 | Database server should be able to handle the activities of all the handheld devices at one time simultaneously with huge database size of prosecution, ownerships, driving license etc. without affecting the performance. |
| 15 | The software should be able to generate various periodical reports, summaries, MIS reports, query reply etc. as per the requirements. |

| 16 | All database tables, records etc. required for various dropdown menus etc. shall also be created by the vendor. |
|---|---|

## 8.11.8 Modules for E-Challan System

The e-challan System Software should consist of the following modules

1) PhotoCollection

2) Violationbooking

3) e-challanGeneration

4) Postaldispatches

5) PostalStatement

6) Postal returns and return infofeeding

7) Data entry in vehicle Registration remarksdatabase

8) Provision to enter comment Sold out vehicles/Fake vehicles /Fakeaddressed

9) Vehicles/Theft Vehicles/Authorized complaints/Multipleowners)

10) Identification of Police Stations, Junctions, Courts, Police Staff for the Trafficdept.

11) MV Actcases

12) Action dropouts as per Courtdecisions

13) ReportGeneration

14) Online Pending ChallanVerification

15) Online Violation photo viewfacilities

16) Upgrading the e-ChallanSoftware

17) Online Uploading photos by the Police in Controlroom

18) Server database and crash recovery ofdata.

19) Regular BackupSystem

20) Performance tuning of the Application, Database tuning, Network tuning, Web Servicetuning.

21) APIs for sharing e-Challan information for online payment and updation of payment status in e- Challan applicationserver.

## 8.12  Security Provisions

A strong and comprehensive information security system based on leading standards such as ISO 27001 and guidelines from Department of Information Technology (DIT) would need to be implemented. Information within the system should be classified as Public, Confidential and Restricted. Access to the information should be provided based on the classification of theinformation.

1) The system should have provision for preventing unauthorized access and damage to information resources.

2) The system should be accessible only after approval from application owner and the competent authorities.

3) The access should be on a role basis rather thandesignation.

4) The access control system shouldcover:

- Identification

- Authentication

- Authorization and AccessControl

- Administration

- Audit

5) The system should be able to maintain access control mechanisms, data security and audit trails to ensure that databases are not tampered or modified by unauthorizedusers.

## 8.13  Specifications of ICCC/Data Centre Items

### 8.14.1 Servers – TechnicalSpecifications

| Sr. No | Parameter | Functional & Technical Specifications |
| --- | --- | --- |
| 1. | Processor | 2 x Intel Xeon-Gold Series Processors, each processor with 24 cores, minimum base frequency 2.1 GHz, Supporting Intel Hyper Threading, Intel Turbo Boost and Intel Virtualization (VT-x) Technologies |

| 2. | Memory | Memory 256 GB, 2933MHz DDR4 ECC Registered RAM. The make and model of the RAM should be approved by the motherboard manufacturer. Server should be scalable to 1 TB RAM. |
|---|---|---|
| 3. | Chipset: | Intel C621 chipset or better |
| 4. | Motherboard: | Intel/Supermicro/Fujitsu/HP/Dell motherboard |
| 5. | Drive Slots | System should support SAS/SATA/SSD/NVME PCIe drives without adding additional backplane |
| 6. | Storage Controller | On-board 12 Gbps or better storage controller with RAID 0, 1, 5 support. |
| 7. | Network / HBA Interfaces: | Minimum 2 x 1 Gigabit Ethernet copper (RJ45) ports, Minimum 2 X 10G SFP+ ports, 2 x 16Gb Fibre Channel HBA, Separate port for out-of-band management (OS independent) |
| 8. | Management interface: | Browser based system remote management. All management software must be from the same OEM. Full IPMI implementation, Hardware Health Monitor, Remote power control. |
| 9. | Slots & I/O Ports | PCIe 3.0 x16/ x8 Slots, 2 x USB 3.0, 1 x VGA |
| 10. | Power Supply | 230V AC ±10%, 50Hz±3%, 1+1 Redundant, hot swappable high efficiency (Titanium level) Power Supply Units. Suitable Indian type power chords to connect to the rack PDU should be provided. |
| 11. | System Cooling | Redundant Fans for sufficient cooling |
| 12. | OS Certification | The server should be certified for the Microsoft Windows, Linux operating systems and the Hypervisor offered with Virtualization software |
| 13. | Form factor | 1U/ 2U, 19" rack mountable and should be supplied with necessary rack mount kit |
| 14. | Diagnostic Panel | Must Support: basic light path diagnostics, which provides the system LEDs on the front of the server and the LEDs near the monitored components (for example, the DIMM error LEDs on the system board). |

| | | |
|---|---|---|
| 15. | Predictive Failure Alerts | The system should detect when system components operate outside of standard thresholds and generates proactive alerts in advance of possible failure. The PFA should cover all the critical components, processors, VRMs, memory, disks, fans, and power supplies. |
| 16. | Systems management | Must Support: Proactive platform alerts, light path diagnostics, Integrated Provisioning Manager, Systems Management must Integrate with VMware vCenter and Microsoft System Center, Systems management Energy Manager, Capacity Planner. |
| 17. | Operating Environment | Server should support operating in the following environment: Operating Air temperature: ASHRAE Class A4: 5 °C - 45 °C Operating Humidity: ASHRAE Class A4: 8% - 90% |
| 18. | Security features | Must Support : Power-on password, administrator's password, two Trusted Platform Modules (TPMs) 1.2 or 2.0 |

## 8.14  Workstation – Functional and Technical Specification

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1. | Processor | Core i7-7700 3.6M 4 |
| 2. | RAM | 8GB DDR4-2400 nECC (1x8GB) RAM |
| 3. | Hard Disk | Min. 1 TB Hard Drive@7200rpm |
| 4. | Display | NVIDIA Quadro P600 2GB 1st GFX Display card ( bidder need to propose the card capable to connect three monitors thru 3 HDMI/mini display ports) |
| 5. | Disk Drive | DVD –R/W |
| 6. | Monitor | Three Monitors of 21" TFT LED, with Minimum 1920 x1080 resolution. |
| 7. | Network Interface Port | 1G Port |
| 8. | Operating System | Pre-loaded Windows 10 (or latest) Professional 64 bit, licensed copy All Utilities and driver software, bundled in CD/DVD/Pen-drive media. |

| 9. | Other Accessories | Line/Mic IN, Line- out/Speaker Out (3.5 mm), Minimum 4 USB 3.0 ports (out of that 2 in front), Min 104 keys OEM keyboard, USB Optical OEM mouse, |
|---|---|---|

## 8.15   PTZ Keyboard – Functional and Technical Specifications

| IP Keyboard | | |
|---|---|---|
| **S. No.** | **Features** | **Description** |
| 1. | Product Type | IP Joystick Keyboard |
| 2. | Should support PTZ control, setting and calling preset, patrol and pattern | |
| 3. | Should support two-level user authority and up to 16 user accounts to be configurable: one admin and 15 operators | |
| 4. | Should be capable to decode 2-ch at 1080P decoding; up to 16-division window display | |
| 5. | Shuld support live view on touch panel | |
| 6. | Should beable to control 2000 devices | |
| 7. | TFT LCD Screen | 10.1" TFT LCD touchscreen with Resolution: 1024 × 600 |
| 8. | Joystick | 4-axis joystick |
| 9. | USB Interface | USB 2.0 × 2 |
| 10. | Video Interface | HDMI, DVI |
| 11. | Network Interface | 10M/100M/1000M Adaptive Ethernet port |
| 12. | Power Supply | 12V DC /POE |
| 13. | Two-way Audio Input | 1-ch, 3.5mm connector |
| 14. | Consumption | ≤15W |
| 15. | Operating Temperature |  -10°C --＋55°C with Humidity 0%--90% |

## 8.16   KVM Switch – Functional and Technical Specifications

| Sr .No. | Item | Minimum Specifications |
|---|---|---|
| 1. | KVM Requirement | Keyboard, Video Display Unit and Mouse Unit (KVM) for the IT Infrastructure Management at Data Center |
| 2. | Form Factor | 19" rack mountable |
| 3. | Ports | minimum 8 ports |
| 4. | Server Connections | It should support both USB and PS/2 connections. |
| 5. | Auto-Scan | It should be capable to auto scan servers |
| 6. | Rack Access | It should support local user port for rack access |

| 7. | SNMP | The KVM switch should be SNMP enabled. It should be operable from remote locations |
|---|---|---|
| 8. | OS Support | It should support multiple operating system |
| 9. | Power Supply | It should have dual power with failover and built-in surge protection |
| 10. | Multi-User support | It should support multi-user access and collaboration |
| 11. | Cascading | Two Level Cascading on IP model and Chaining on analog model for control of upto 512 servers |
| 12. | Software | KVM access software with 80nodes included in IP Model for advance server management consolidation (upgradable upto 1024 Nodes) |

## 8.17  Core Switch – Functional and Technical Specification

| Sr. No. | Parameters | Minimum specification |
|---|---|---|
| 1. | Port Density & Redundancy | 24 x10G SFP+ Ports 6 x 40G QSFP Ports Virtual Chassis/equivalent or Virtual chassis 1+1 redundant supervisor manager |
| 2. | Power Supply | Redundant Hot Power Supply - AC/DC Swappable Redundant Fanmodule |
| 3. | RAM | 2 GB |
| 4. | Switching Capacity | 1.4Tb or better |
| 5. | Quality of Service | Support for Egress rate limiting, Eight egress queues per port, IEEE 802.1Q, 802.3x, Diff Serv Ipv4/IPv6 |
| 6. | Protocol Support | IGMP Snooping V1, V2, V3, MLD, PIM-SM/PIM-SSM/PIM-DM/PIM-Bidirectional, DVMRP/ PIM , OSPF, RIP, BGP, ITU-T G.8032, IEEE 802.1s, IEEE 802.3ad/802.1AX Link Aggregation ControlProtocol(LACP),Ipv4/Ipv6,DHCPOption82,BPDU, STP Root Guard, SPB or MPLS or BFDor VRF, SDN Openflow |
| 7. | Management | SNMP V1,V2,V3, Web GUI, CLI, USB or equivalent memory card, IP v6 management feature on open standards, IEEE802.1ag/CFM CFM/TDM or equivalent standards |

| | | |
|---|---|---|
| 8. | Security | Should support Access Control Lists (ACLs), DHCP snooping, IEEE802.1x based port authentication, RADIUS/ TACACS+, SSL, SSH, port mirroring, NTP, , AES/TLS, MD5 |
| 9. | Resiliency | IEEE802.1q, IEEE802.1d, IEEE802.1s, IEEE802.1w, ring resilience/ring protection, 802.3AD, 802.1AX, VRRP |
| 10. | Operating Temperature | 0 to 40 Deg |
| 11. | Safety Certifications | CE, EN 55022/55024, US UL 60950, CSA22.2 FIPS AES / 140-2, EN 60825-1/2 Laser |
| | | Surge protection of 1.5KV on all copper ports/EN55024 |

## 8.18 Distribution Switches – Functional and Technical Specifications

| Sr. No. | Parameters | Minimum specification |
|---|---|---|
| 1 | Port Density | 24 x 1G SFPPorts<br>4 x 10G SFP+Ports<br>2 x 40G Stacking Ports |
| 2 | Power Supply | Redundant Hot Swappable Power Supply - AC/DC |
| 3 | Stacking Option | Upto 8 Switch with virtual chassis/equivalent technology |
| 4 | RAM | 2GB or better |
| 5 | Switching Capacity | 210Gb or better |
| 6 | Quality of Service | Support for Egress rate limiting, Eight egress queues per port, IEEE 802.1Q, 802.3x, DiffServ, Jumbo frame Ipv4/IPv6, |
| 7 | Protocol Support | IGMP Snooping V1, V2, V3, MLD, PIM-SM/PIM-SSM/PIM-DM/PIM- Bidirectional, DVMRP/PIM, OSPF, RIP, BGP, , ITU-T G.8032, IEEE 802.1s, IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP), Ipv4/Ipv6, DHCP Option 82, BPDU, STP Root Guard, , MIB, NTP,SDN Openflow |
| 8 | Management | SNMP V1,V2,V3, Web GUI, CLI, USB or equivalent memory card, IP v6 management feature on open standards, IEEE802.1ag, TDM or equivalent standards/CFM |
| 9 | Security | Should support Access Control Lists (ACLs), DHCP snooping, IEEE802.1x based port authentication, RADIUS/ TACACS+, SSL, SSH, port mirroring, NTP, IEEE 1588, AES, Syslog, MD5, LLDP-MED |

| Sr. No. | Parameters | Minimum specification |
|---|---|---|
| 10 | Resiliency | IEEE802.1q, IEEE802.1d, IEEE802.1s, IEEE802.1w, ITU-T G.8032 ring resilience/ring protection, VRRP |
| 11 | Backup/Memory | Working memory/ Recovery memory |
| 12 | Operating Temperature | 0 to 45Deg |
| 13 | Safety Certifications | CE, EN55032,RoHS US UL 60950, CSA22.2 FIPS AES 140-2, EN 60825-1/2Laser |

## 8.19 8 Ports Rugged Switches – Functional and Technical Specifications

| Sr. No. | Parameters | Minimum specification |
|---|---|---|
| 1 | Port Density | 8 x Gigabit Port 4 x SFP Port |
| 2 | PoE Standard | 4 x HPoE Port shall support IEEE 802.3af/ IEEE 802.3at or better on all ports simultaneously |
| 3 | Switching Capacity | 24 Gb or better |
| 4 | Quality of Service | Support for Egress rate limiting, Eight egress queues per port, Voice VLAN, DSCP for IP-based QoS, Differentiated services architecture, IEEE 802.1p Class of Service with strict and weighted round Robin scheduling. |
| 5 | Protocol Support | IGMP Snooping V1, V2, V3, ITU-T G.8032, IEEE 802.1s, IEEE 802.3ad/802.1AX Link Aggregation Control Protocol (LACP), Ipv4/Ipv6, DHCP Option 82, OSPF,PIM |
| 6 | Management | SNMP V1,V2,V3, Web GUI, CLI, USB or equivalent memory card, IP v6 management feature on open standards, IEEE802.1ag, TDM or equivalent standards/CFM, SDN openflow v1.3 |
| 7 | Security | Should support Access Control Lists (ACLs), DHCP snooping, IEEE802.1x based port authentication, ADIUS/ TACACS+, SSL, SSH, port mirroring, NTP, IEEE 1588v2, |
| 8 | Resiliency | IEEE802.1q, IEEE802.1d, IEEE802.1s, IEEE802.1w, ring resilience/ring protection, BPDU, STP Root Guard |
| 9 | Power Supply | Dual DC inputs |
| 10 | Enclosure Rating | IP 30 or higher equivalent Industrial Grade Rating |

| Sr. No. | Parameters | Minimum specification |
|---|---|---|
| 11 | Operating Temperature | -40 to 75 deg |
| 12 | Safety Certifications | EN 55032, NEMA –TS2 |
| | | Surge protection of 6KV on all copper ports /EN55032 |

## 8.20 16 Ports Rugged Switch – Functional and Technical Specifications

| Sr. No. | Parameters | Minimum specification |
|---|---|---|
| 1 | Port Density | 16GigabitPort  2 x SFP Portand |
| 2 | PoE Standard | 16 x IEEE 802.3af/ IEEE 802.3at or better on all ports simultaneously with PoE budget of 240w |
| 3 | Switching Capacity | 36 Gb/s or better |
| 4 | Quality of Service | Support for Egress rate limiting, Eight egress queues per port, Voice VLAN, DSCP for IP-based QoS, Differentiated services architecture, IEEE 802.1p Class of Service with strict and weighted round Robin scheduling. |
| 5 | Protocol Support | IGMP Snooping V1, V2, V3, ITU-T G.8032, IEEE 802.1s, IEEE 802.3ad/802.1AX    Link   Aggregation   Control Protocol (LACP), Ipv4/Ipv6, DHCP Option82 |
| 6 | Management | SNMP V1,V2,V3, Web GUI, CLI, USB or equivalentmemory card, IP v6 management feature on openstandards, IEEE802.1ag, TDM or equivalent standards/ CFM |
| 7 | Security | Should support Access Control Lists (ACLs), DHCP snooping, IEEE802.1x based port authentication, ADIUS/ TACACS+, SSL, SSH, port mirroring,NTP, l ports+D2 |
| 8 | Resiliency | IEEE802.1q,  IEEE802.1d,  IEEE802.1s,  IEEE802.1w, ITU-T  ring resilience/ring protection, BPDU, STP Root Guard |
| 9 | Power Supply | AC/DC Power supply |
| 10 | Enclosure Rating | |
| 11 | Operating Temperature | 0-65 |
| 12 | Safety Certifications | EN 55032 |
| | | Surge protection of 6KV on all copper ports/ EN55032 |

## 8.21 Primary Storage – Functional and Technical Specification

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1. | Storage Capacity | 1200 TB ( 200 TB on flash and 1000TB on NL-SAS ) |
| 2. | Architecture | The Storage system must have at least two controllers running in an active-active mode with automatic failover to each other in case of one controller fails. It should support protocols SAN protocols like FC and iSCSI. The storage array should provide with data consistency andintegrity in all circumstances. |
| 3. | Scalability | The proposed system should be field upgradeable to a higher model through data-in-place upgrades. |
| 4. | Memory | The Storage should have minimum 256 GB usable cache across the two controllers for read/write dynamically, without any additional card for writes orreads. |
| 5. | Memory Protection | Storage should have ability to protect data in cache in case of controller failures. The cache on the storage should have 72hrs or more battery backup. |
| 6. | Memory utilization | The storage cache should be Write Mirrored Cache capable of mirroring all writes and keeping a single cached copy of read data thereby eliminating wastage for mirrored reads and optimal utilization of cache resources. OEMs mirroring both read and write shouldprovideadditionalcacheequaltoread%consideredinfor read/write ratio taken for calculation. |
| 7. | Host ports | Storage should be configured with 8 number of 16Gbps FC ports and 4 number of 10Gig iSCSI |
| 8. | Back-end connectivity | Proposed Storage should be configured with minimum 10 number of12Gbps backend SAS Links. |
| 9. | Capacity | Storage should be supplied with 200TB usable capacity on RAID 6withSSDDualPorteddrivesand1000TBusablecapacityonRAID6 with NL-SAS 7.2K RPM Dual Ported drives. |
| 10. | Redundancy &HighAvailabi lity features | The storage system should have redundant hot swappable componentslike controllers, disks, power supplies, fans etc. |
| 11. | Operating System Support | Support for industry-leading Operating System platforms including: LINUX, Microsoft Windows, HP-UX, SUN Solaris, IBM-AIX, etc. It shall support connecting hosts over iSCSI & FCP and shall be supplied with any Multipathing software if required with the solution. |
| 12. | Storage Evaluation | Storage must be in Leaders quadrant of Gartner (general purpose Disk arrays) at least for 3 years |

| 13. | RAID support | Proposed storage should support RAID 1, 5 and 6 or equivalent |
|---|---|---|
| 14. | Software license | The Storage Management Software shall be GUI based and shall be able to discover and monitor storage system. The storage shall have the ability to create logical volumes without physical capacity being available or in other words system should allow over-provisioning of the capacity. The license required for the same shall be suppliedfor<br>the maximum supported capacity of the offered storage model. |
| | | The storage system shall be configured with GUI based management software as below: Monitor and manage the storage array. Configuring, Should support Storage based local replication and snapshots. Remote replication (Sync and Async). Necessaryhardware<br>and software licenses to be included in the proposal |
| | | The Storage must have features like thin provisioning, point in time snapshots & full copies. Necessary hardware and software licenses to be included in the proposal |
| | | The storage management software should be able to monitor the health ofthestoragesubsystemandprovideproactivediskfailurecapabilit ies.<br>Necessary hardware and software licenses to be included in theproposal |
| 15. | Disasterrecovery support and data security | Storage system should support data encryption either at the controllerlevel or by using self-encrypting drives for data compliance and regulation purpose. |

## 8.22 Video Wall Solution – Functional and Technical Specification

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1 | Configuration | Video Wall cubes of 70" diagonal in a 3(C) x 3(R) configuration complete with base stand |
| 2 | Cube & Controller | Cube & controller Software should be from the same manufacturer |
| 3 | Native Resolution | Full HD ( 1920x 1080 ) |
| | | Laser light source using DIRECT RGB laser diode with a life time of 100000 hrs Eco mode |

| 4 | Light Source Type | Individual cube should be equipped with multiple laser banks and eachlaser bank should have an array of diodes. Single or multiple diode failure should not impact image display on the screen |
|---|---|---|
| 5 | Brightness of Projection engine | 1600 Lumens or better |
| 6 | Brightness of Cube | Minimum 500 nits and should be adjustable for lower or even higherbrightness requirements. All screens should be anti-reflection based to avoid glare. |
| 7 | Brightness Uniformity | ≥ 95 %.Automatic and continuous calibration system should be provided to maintain uniformity in color and brightness |
| 8 | Dynamic Contrast | 500000:1 or more |
| 9 | Dust Prevention | Should be designed to prevent dust entering into the engine |
| 10 | Heat dissipation | 700 BTU/Hr |
| 11 | Pixel clock | 330Mhz to ensure flicker less image |
| 12 | Control | IP-based control to be provided |
| 13 | Remote | IR remote control or IP based control should also be provided for quickaccess |
| 14 | Screen to ScreenGap | Less than 1mm Gap between two screens |
| 15 | Screen Support | screen should not be expanding or shrinking due to variationsin humidity and temperature or any other climatic conditions |
| 16 | Input Ports | Dual link DVI Input ports |
| 17 | Output Port | Dual link DVI or Display port |
| 18 | Power Consumption | Power Consumption for each VDU/Rear Projection Modules should be less than 150Watts |
| 19 | Cooling Inside Cube | Any advanced cooling mechanism |
| 20 | Maintenance Access | Cube should be accessible from the rear side for maintenance. |
| 21 | Sharing &Collaboration | It should be possible to share the layouts over LAN/WAN Network With Display in Meeting room or on Remote Workstations connected on LAN/WANNetwork |
| 22 | Certification | It should be certified by Bureau of Indian Standards (BIS) |

## 8.23 Video Wall Controller

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1 | Functionality | The Controller should be able to make all the 16 cubes behave as one logical area. It should be possible to display any or all the inputs on the video wall in any desired configuration. Should be possible to increase the number of inputs if desired at a later stage |
| 2 | Operating System | Windows 7 or higher -64 bit |
| 3 | RAM | 16GB or higher |
| 4 | HDD | 1 TB HDD or higher |
| 5 | RAID | RAID should be provided |
| 6 | Chip | Intel Xeon or better |
| 7 | Power Supply | Dual Redundant Power Supply |
| 8 | Outputs | 16 outputs to the cubes |
| 9 | Inputs | 6 DVI Inputs, Dual LAN |
| 10 | Chassis | 19" rack mount industrial chassis |

## 8.24 Video Wall Management Software

| Sr. No | Parameter | Functional & Technical Specifications |
|---|---|---|
| 1. | Layouts | The software should be able to pre configure various display layouts and access them at any time with a simple mouse click or schedule/timer based. |
| 2. | Sources | The software should be able display multiple sources anywhere on video wall in any size. |
| 3. | Client &Server based Architecture | Should support Multiple clients / Consoles to control the Wall layouts |

| 4. | Collaboration | The Software should be able to share layouts comprising of multiple sources with workstations / Displays over LAN for remote monitoring |
|---|---|---|
| 5. | Scaling | Software should enable the user to display multiple sources (both local & remote) up to any size and anywhere on the display walls (both local & remote). |
| 6. | Display | The software should be able to create layouts and launch them as and when desired |
| 7. | Remote Control | The Display Wall and sources (both local & remote) should be controlled from Remote PC through LAN without the use of KVM Hardware. |
| 8. | Support of MetaData | Software should support display of Alarms |
| 9. | Scenarios | Software should able to Save and Load desktop layouts from Local or remotemachines |
| 10. | Layout Scheduler | All the Layouts can be scheduled as per user convince. |
| 11. | Layout Scheduler | Software should support auto launch of Layouts according to specified time event by user |
| 12. | Sharing &Collaboration | It should be possible to share the layouts over LAN/WAN Network with Display in Meeting room or on Remote Workstations connected on LAN/WAN Network |
| 13. | OEM Certification | 1. All features and functionality should be certified by the OEM. |
| | | 2. The Display Modules, Display Controller & Software should be from a singleOEM. |

## 8.25 Enterprise Management System (EMS) – Functional and Technical Specifications

Bidder need to propose an Enterprise Management Solution required to monitor the IT/ Non IT hardware deployed for the project. Number of licenses with a minimum of 30% additional sizing to be considered. Efficient management of the system, reporting, SLA monitoring and resolution of issues. All the components of the EMS should be pre integrated and from the same OEM. Proposed

EMS/NMS solution must have at least 2 successful deployments in Indian Government/ Public Sector, monitoring & managing minimum 4000 nodes in each of such deployments. Various key components of the EMS to be implemented as part of this engagement are:

A) Network MonitoringSystem

B) Server MonitoringSystem

C) StorageMonitoring

D) Centralized Reporting &Dashboard

E) Operations Management/HelpdeskSystem

| Sr. No | Functional & Technical Specifications |
|---|---|
| | **Service Desk / Helpdesk Specification** |
| | **General Requirement** |
| 1. | ITIL v3 2011 compliant For Process like Incident, Problem, Change, Release, SLA, CMDB, KB, Event, Request & Catalogue Management, |
| 2. | It should be hosted on Linux System and should use Open source Database and other application required. Provide Web Interface for users, Requester, customers, support staff, 3rd party vendors, Area Managers, Field Engineers , Site Engineers, Supervisors, Managers, (Helpdesk available 24x7 at customer site ) etc. |
| 3. | Provide powerful connectivity to other data sources for data import using REST APIs |
| 4. | Provide Email to Ticket Feature, Auto Merging of Email based on Context should not create duplicate Incident |
| 5. | Provide Email inbuilt client for interaction for logging and updating Incident, Service Request, tothe user etc. Provide Email Communication Interface and Record all the Email Communication in Chronological Order |
| 6. | Should provide REST APIs to integrate with IT Infrastructure Management, Configuration Management, Network Management, CRM tools to automate Events to Ticket |
| 7. | System should be Multi-tenent in architecture, The Service desk tool must be provided at DC and DR with high Availability |
| 8. | Product should be able to Import User data from LDAP , LDAP or any 3rd party system |
| | **Incident Management** |
| 9. | Any RE/FW of the Email should not create New Incident, it should automatically merge with original Incident |
| 10. | Any one from CC/BCC/TO list members reply to the Email should not create new incident instead of it should automatically merge with originalIncident |

| 11. | Incident record should identity & record the source of reporting of the incident (such as event/Alarm trigger, Email, person or group, Phone etc.) |
|---|---|
| 12. | Incident records are separated from Request, Problem and change request records and should be able to convert , Relate Incident to Problem, Request, Changeetc. |
| 13. | Incident records can be classified according to service category , Impacted Service, Problem Category, Impact, Urgency, Priority |
| 14. | Incident records contain State , Status information |
| 15. | Incident records can be linked to Customer/User Information and call back method such as telephone or email |
| 16. | Incident records can be linked to configuration items (multiple CI in case Incident impacts multiple asset) and Impacted asset detail should be visible |
| 17. | Incident records can be linked to the caller and should provide previous Incident History of caller while adding theincident |
| 18. | Incident records can be linked to and routed to support partners , 3rd Party Vendors, Franchise |
| 19. | Predefined Escalation Matrix for each business service should be applied to incidents and whenever required it can be define dynamically for each Incident while working for Incident |
| 20. | Automatic Incident logging through Event management based on pre-defined rules on rule engine |
| 21. | Incident can be linked to another Incident, Parent child relation between Incidents can be able  todefined |
| 22. | Support for notification and escalation, Business Escalation on tolerance breach , should be able to trigger and update 3rd party web application, |
| 23. | Knowledge base must be searchable through natural language as well as expressions |
| 24. | Must be customizable to include additional information that is required to be logged against incidents e.g. first contact closure |
| 25. | Able to search similar related incidents that have been previously logged in the system |
| 26. | Able to have multiple assignments to various groups and analysts ( Automatically and Manually) |
| 27. | Able to attach subsequent tasks and notes to the main incident. |
| 28. | Should be able to create task with in incident to take help from other team members or 3rd party vendors |
| 29. | It should support tracking of SLA (service level agreements) for call requests within the helpdesk through        service        types. ShouldbeabletoattachmultipleSLAprofiles,MultipleSLAMetrics,Shouldbeabletoadjust the<br>SLA based on Authorized workflow |

| 30. | Should be able to defined the Different Business Hour templates for each customer and can beautomatically selected for each incident, can be applied for different business services and customers, working teams |
|---|---|
| 31. | System should support Multiple Incident Models, Should be able to define different workflow for each department, each Location, for each type of business service. Should be able to define (State, Status, Priority Matrix, Custom Fields, Teams, Escalation Matrix, Dynamic SLA Flow, Services, Requester/ Customers, Role based access control on Fields, Dynamic Notification Templates, Associated Service Asset/CMDB etc.) |
| 32. | Should be able to define dynamic teams, Notification templates |
| 33. | Auto assigned incident to the support staff, Field Engineers, Franchise based on pre-defined rules |
| 34. | It should provide provision for customer Feedback and Rating to assess their service experience, and should be able to map different feedback profile for different service, can be able to call onuser defined status. |
| 35. | System should support auto assignment of Incident, should consider auto-assignment based on services, shifts, Load, Staff Leave etc. |
| 36. | System should provide option to log the comments or notes(sequentially record diagnostic activities and work done) at each Level of support staff (i.e. L1 to L2 to more levels) and should be able to extract it in the report |
| 37. | system should provide option to match incident records to related problem records and known error records |
| 38. | System should support Incident Functional Escalation |
| 39. | System should support Incident Hierarchic Escalation, Hierarchic Escalation rules shouldsupport based on Severity or Priority. For Ex. Based on Incident Priority the Auto Escalation time to Higher Level should be different. |
| 40. | Incident Record Access Control (tool allow access controls to open, modify and close incidents based on pre-established conditions) |
| 41. | There should be an option to Tag the Incidents |
| 42. | For Any Incident SLA should be calculated based on Asset, Requester/Customer, 3rd Party Vendor, Partner, Service, Service Category |
| 43. | Audit Trail: system should provide an audit trail of all incident record updates, complete history of Incident progress |
| 44. | Within Incident there should be a Hop analysis time line graph for each incident |
| 45. | Support the creation (by logging all necessary information), modification and closure of Incidentrecords for both IT & Facility Infrastructure e.g. server, switch, D.G, router FAS, UPS. Incidents should be logged either automatically or directly by the service personnel. |

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| 46. | Facilitate update on incident resolution progress. Notification should be sent via email, SMS at each milestone. |
| 47. | Restrict the ability to open, modify and close Incident records to authorized staff only |
| 48. | Support the automated routing (alerting) of Incidents to selected support staff or groups based on multiple parameters e.g. Network team should get tickets of network issues only \| loadbalancing between the team members. |
| 49. | Facilitate flexible report generation based on selected filtering parameters such as location,incident type, priority, escalation, SLA breach and enable reports to be viewed, printed or exported to other file formats |
| 50. | Facilitate the production of management reports from historical Incident records |
| 51. | Ability to generate reports on outstanding (unresolved) Incidents for both IT & Facility infrastructure separately. |
| 52. | Ability to generate reports for the IT equipments on which maximum number of incidents have been logged. |
| 53. | Ability to generate reports for the Facility equipments on which maximum number of incidents have been logged. |
| 54. | Ability to generate reports on closed Incidents and notification to users of closure. |
| 55. | Facilitate the automatic escalation of Incidents based on pre-defined time intervals or milestones |
| | **Problem Management** |
| 56. | Have a predefined out-of-the-box process for problem management that is compliant with best practice frameworks such as ITIL. Problem records are separated from incident , request andchange request records |
| 57. | Problem Record Date and Time, Problem Source, Contact Detail, Symptoms, Status should be recorded, classified according to priority and category, to be escalated based on pre-established and manually overridden conditions |
| 58. | Problem records can be linked to configuration items , Change, Incident, Problem, Knowledge Base |
| 59. | Problem record should have option to add multiple workarounds and solutions |
| 60. | Problem records can be created from incident record, should be able to link with one or more incidents |
| 61. | Problems are monitored and tracked against tolerance breach, Support for notification and escalation on tolerance breach |
| 62. | It should provide detail asset information on hardware and software inventory through seamless integration with asset management tools. |

| 63. | Incident record contain a field or field(s) to assign an initial incident priority according to pre-established and manually overridden conditions? (SLA, CI type, business services, level of service disruption etc.) |
|-----|---|
| 64. | Allows customization of the workflow to align to business requirement |
| 65. | Should have option to generate the Root cause analysis report after problem closure on single click |
| 66. | Tool should allow problem resolution to include a workaround and for that information to be visible elsewhere? (Such as CI records, incident records, knowledge data, service reports). |
| 67. | Does the tool allow a known error record to be created in the development environment and for that information to be visible elsewhere (incident records, knowledge data). |
| 68. | Problem Management should have option to review major problem record |
| 69. | Option to Analyze the problem record and should have option to do Analysis |
|  | **Change Management** |
| 70. | Change request records can be created separated from incident and problem records , changed and deleted , Time and date will be automatically recorded, can be classified according topriority and category , records contain state, status information |
| 71. | Change record can be created by using predefined Change Template |
| 72. | Change request records can be linked to configuration items , Incidents, Problems, other Change Requests |
| 73. | Template based Dynamic Task & Activity cab be created to define change activity, other stakeholders can be able to provide feedback /comments on the activities |
| 74. | Assessment information can be recorded against the change request |
| 75. | Change requests can be authorized or rejected by CAB |
| 76. | Change planning and execution can be build, test, and implemented based on the plan |
| 77. | Change request records can be linked to and routed to support employees |
| 78. | Allows customization of the workflow to align to business requirement |
| 79. | Change SLA can be configured, Tracked, Monitored |
| 80. | CMDB is pre integrated with Change Request, any change in CI can be done only by using theChange Request, CI modification can be done with in Change Request and temporary stored and can be updated only after Successful change implementation. |
|  | **Knowledgebase Management** |
| 81. | Knowledgebase Management should be integrated with the NMS/EMS system |

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|---|---|
| 82. | Role based, Team Based, User Based Access control on KB articles/FAQ/Information/KE/Solutionsetc. |
| 83. | In FAQ/Solutions type of knowledge , system should allow to add multiple questions/multiple solutions with single knowledge article |
| 84. | Knowledgebase suggests solutions, Full text search, Keyword search, Should be able to attach files with knowledge articles |
| 85. | Natural language queries of knowledge base Service Level Management (Service Desk) |
| 86. | Facilitates the creation and management of an IT service catalog , SLA , OLA, UC Templates |
| 87. | Service level agreements (SLA) records can be created, changed and deleted , for the Service defined in the Service Catalogue, For CI, Assets, Customer, Group of customers, Priority. |
| 88. | Able to create Business Hours, Non Critical Business Hours, Non Business Hours, 24x7 SLA, It should support Round the clock SLA Management, Should be able to monitor based on Pre Recurring Period. |
| 89. | Response time and availability criteria shall be used to determine key thresholds; that managers and technicians can monitor and respond to SLA-based tasks appropriately. |
| 90. | SLA records contain information on IT provider and customer, services, service levels, etc.. |
| 91. | Multiple escalation points can be created as threshold and escalation can be triggered on breach of threshold |
| 92. | Able to send notifications when escalation of the SLA is breached |
| 93. | Able to automatically assign Incident, Task or Process to other user, group or role when escalation is breached |
| 94. | Service level agreement records can be linked to incidents, Problem and changes. |
| 95. | SLA should have option to calculate MTTA, MTTR for Field Engineers, Partners, Service Vendors. |
| 96. | Service level agreement records can be linked to tools for monitoring, measuring and registration of the performance of IT providedservices |
| 97. | Should be able to adjust SLA time and approval must require for the adjustment |
| | **Service Catalogue** |
| 98. | System should allow to create service categories, product categories etc. |
| 99. | System should allow to create service hierarchy, User access control on the service items |
| 100. | Should be able to define the workflow to be to deliver the service |
| 101. | Should be able to define SLA to be used per customer basis, should be able to offer different SLA to different customer or same SLA to multiple customer |

| | **Service Asset and Configuration Management** |
|---|---|
| 102. | System should allow to add multiple CMDB classes dynamic |
| 103. | System should allow to create dynamic Item types |
| 104. | System should allow to create dynamic input custom forms for each Item type |
| 105. | Able to manage Annual Maintenance Contract (AMC) vendors, AMC and provide AMC notification |
| 106. | Able to manage procurement , Contract details for each Items |
| 107. | Provide summaries based on total number of server, network equipments, OS, Vendor summary etc. |
| 108. | Provide Expiry notification for AMC dates. |
| 109. | Should be able to integrate with Customers, Incidents, vendors, Locations |
| 110. | Should be able to create the relationship with other Item types |
| 111. | System should provide option to Automatically create the Service assets from NMS/ EMS |
| | **Reports and Dashboards** |
| 112. | Able to allow changing/customization of fields and time interval, for Incident, Change, Problem, Request, SLA |
| 113. | Able to export file in the format of PDF, CSV and Word |
| 114. | Able to provide standard KPI reports |
| 115. | Provides SLA reports graphs, matrix report, add SQL stype report consideration Group by, Order by, Filters etc. |
| 116. | Private Report features should be available and the visibility should be able to control based on user & Role |
| 117. | Auto/Schedule report features should be available |
| | **Management Features** |
| 118. | Should be able to rollout and Expire surveys with in date range |
| 119. | Should be able to send survey to specific Team, User, customer etc. |
| 120. | There should be Announcement portal and it should be able to schedule for certain time |
| 121. | Template based Dynamic Task should be created, it should have option to assign the task,workflow, Assignment, Time recording, attachments, comments etc. It can be utilize to assign the task to subordinate |
| | **General Specification** |

| 122. | The tool should have a pre-integrated network fault and performance management platform, sothat it allows us to monitor all the networking equipment which constitutes the backbone network. |
|---|---|
| 123. | System should have root-cause analysis and policy-based condition correlation technology for comprehensive analysis of faults. |
| 124. | The tool should provide a GUI which should show the rack status upfront. We should get the information on every equipment on the rack by just hovering the mouse on the equipment. Right from the make of the equipment to the equipment type. Power input to any equipment should be visible upfront. The temperature & humidity maintained across the racks should be available clearly |
| 125. | We should get to know, which equipment is connected to the other equipment physically and logically in the DC. We should be able to create a matrix between a couple of products, which are critical to any customer. The tool should support event co-relation where the correlation logiccan be configured by operator. |
| 126. | We should have a inbuilt device certification engine, so that new devices in rack can be inducted easily. Tool should support Mib-II and enterprise MIB for performance management. |
| 127. | The tool should support for SNMPv1, v2, v3 & traps. |
| 128. | The OSS framework of the tool should be such that we can consolidate the management ofvarious IT devices e.g. networks, security, storage, application, virtualized platforms & showcase the impact of one on another. |
| 129. | Trend analysis and instant drill down capability to know the peaking issues, which could hurt the operations of the infrastructure at any point of time. |
| 130. | All alarm/event messages shall be automatically time and date-stamped. |
| 131. | The tool should be able to filter out events for device marked under maintenance. It should have a GUI to define maintenance schedule. |
| 132. | The tool should suppress events for all the network elements that are down for routine maintenance. This would assist faster root cause determination, while it would also help to prevent flooding of non-relevant console messages. We should have the provision ofappropriating parent-child relationship between all the networking devices in the network. |
| 133. | The solution should have inbuilt dashboard which should show switch/panel port utilization |
| 134. | The solution should be capable to detect and report about device connection and identify theassociated location. This information can be used to establish whether this is an authorized connection in order to respond appropriately. |
| 135. | The solution should provide a comprehensive open-ended solution e.g. an SDK (software development Kit) and not just the capability to send SNMP traps to integrate the solution with any 3rd party software or in-house software. |
| 136. | Integration can be done via: SNMP traps, XML, database sharing and web services. |

| 137. | Server Monitoring System |
|---|---|
| 138. | Tool must provide information about availability and performance for target server nodes. |
| 139. | Overall hardware monitoring including temperature |
| 140. | Monitor both standalone and blade Infrastructure and its components. |
| 141. | Power Consumption of standalone and blade infrastructure |
| 142. | Monitoring of the following server parameters:<br>• DiskUsage<br>• CPUUsage<br>• Memory<br>• Interfacestatus<br>• Log filemonitoring<br>• Processsstatus<br>• CPU Utilization by aprocess<br>• FanStatus<br>• PowerStatus |
| 143. | The tool should be able to ascertain application level issues in the server. |
| 144. | Tool must provide SDK/Rest API for North bound and South Bound Integrations e.g. Forwarding specific metric data to third party database, Notifications to third party systems |
| 145. | • Storage Monitoring System<br>• Overall hardware monitoring includingtemperature<br>• Support for various storages type like NAS, SAN,etc.<br>• Fault in hardwarecomponents<br>• CacheUtilization<br>• Host PortUtilization<br>• Diskutilization<br>• List of Active sessions withhistory<br>• Overall database health status in singledashboard |
| | **Capacity Planning** |
| 146. | The solution shall be able to maintain a record of the rack capacity and utilization including:<br>• Total rackspace and occupiedrackspace<br>• Total number of switch ports and "switchutilization"<br>• Total number of PDU power outlets (if applicable)<br>• Total number of env. Sensors (ifapplicable)<br>• Solution should be able to do capacity planning for installing new equipment in the rack on the basis of power and rackspace<br>• Solution should be able to suggest the best suitable racks for deploymnet of new equipment on the basis of power and Uspace. |
| 147. | The solution should be scalable to monitor & manage more than 5000 plus devices and minimum 3 reference case studies should be provided. |

| 148. | The OEM should be a India registered entity with support center in India |
|---|---|
| 149. | The solution should be capable of running in Linux platform with open source database as backend |
| 150. | The solution should be available as Commercial-Off-The-Shelf (COTS) software |
| 151. | Stores data for a minimum duration of time configurable by the user, default is 1 year. Flexibility to store the Raw polled points to summarized data reduction based on the storage availability without any restriction. |
| 152. | Both IPv4 and IPv6 supported for monitoring |
| 153. | The solution should be a unified system which can monitor networks, servers, apps and any IT or Non-It Communicable device |
| 154. | The solution should provide views for any type of device including Networking devices, firewalls, servers, applications , IP Cameras, Wi-Fi, VSAT's, RF devices |
| 155. | The solution should be completely multi-tenant where in every module and system being used can be assigned to a specific set of users or a group of users. |
| 156. | The system should be capable to retrieve and show fault, performance , inventory and SLA data in a single dynamic view |
| 157. | The system should have capability to add any additional information about the nodes via custom fields. |
| 158. | additionally system should have options to do device grouping based on default fields and customer fields |
| 159. | No restriction in the number of level of grouping for the devices should be supported and provide the option to increase the grouping based on the need without affecting the existing grouping structure. System should also provide the option to create the grouping based on the service offered to customer and map all the devices involved in the specific service tillthecomponent / resource level |
| 160. | The solution should be able to stop SLA calculation for every node in case of know downtimes |
| 161. | Provides hierarchical multiple thresholds configuration option for each parameter being monitored |
| 162. | Any fault, performance, views, reports should be configurable till any node, component or parameter level. Granular level of control should be available across the system |
| 163. | The system should be able to set minute level configuration to the element level. Polling interval, hierarchical thresholds, report dashboards should be configurable |
| 164. | Provides the option to export the views into PDF, Word, Excel, HTML etc. formats depend on the need. |
| 165. | Role and grouping level based viewing and user management |

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| 166. | Able to allow each account to have specific type of toolbar according to the administrator's requirement and each account can only see/manage list of equipment's allowed in the specific group, device or even resource level |
| 167. | The System should have proper segregation of admin users and portal users via separate logins and authentications. |
| 168. | System should have option for CSV based discovery for bulk discovery and it should allow options to add customer fields to support customer specific data to upload during discovery |
| 169. | Discovery has to work intelligently by identifying the device in the network by the given IP range and categorize into network devices and servers with vendor and model details. |
| 170. | System should support global threshold and it should have option to define individual resource/interface statistics level threshold |
| 171. | System should have build in algorithms to start the monitoring with zero threshold configurations |
| 172. | All thresholds should have set point, reset point, polarity, set point message and reset point message for ease of use. |
| 173. | System should have anomalies detection and stop alarm flooding with these dynamic thresholds |
| 174. | Detect & highlight faults (abnormal situations) occurring anywhere within the network |
| 175. | Provides Filtering, De-duplication, Holding, Suppression and Correlation capability to let user focus on the critical event that affects the business and business processes |
| 176. | • Provides multi-level Severity definition, will handle events automatically and inform the designated person as per operational requirement |
| 177. | • System should support separate Rule Engine based alarms apart from the genericthreshold.<br>• Should have capability to configure Device Group based, Node Based, Resources/Interface based, and Aggregation linkbased.<br>• On Selection of Nodes/Resources/Aggregation links it have flexibility to filter based on fields available in node information<br>• Rules should have option to apply configuration on top of performance value or based on configuredthresholdalarms<br>• Rulesshouldhaveoptionconfigurethebreachbasedonmin,maxandaveragevalues<br>• Should haveoptiontoconfigurerulesn       repeatcounters<br>• Should have options to select custom alarm and clear alarm messages for individual configured rules<br>• Shouldhaveoptiontosendseveritylevelslikeerror,warning<br>• Notifications support based on configuredrules |
| 178. | Provides alarm suppression with hold time and aid in prevention of flooding |
| 179. | Sends alert via E-mail, SMS, Execute Batch file, SNMP Trap, XML notification, Pop-up window |

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| 180. | Provide Alarms Suppression capabilities so that any duplicated events can be tracked to provide just a single event notification |
| 181. | Monitors all traffic from all the interfaces of the network device. Provides traffic Utilization based on individual interface level, nodes level or based on the group by location, branch, departments etc, as an Avg, Min and Max bandwidth, utilization, throughput or anycustommonitoring parameters. |
| 182. | Provision to change the polling interval to any frequency depending on the priority till the individual component / resource level like each interface might have the different polling interval in the same device based of the criticality and importance of servicecustomer |
| 183. | System should have capability to configure business, non-business hours or custom time polling. These configuration should be available for every device as well as every component in thedevice. |
| 184. | Provision to disable and enable the polling of specific type of devices |
| 185. | System should have capability to configure the maintenance period for any device. When device is in maintenance period there is no polling done and the SLA clock on the device is stopped. |
| 186. | Provide a notification mechanism that allows administrator to define what notification channel to be used in different time of days, and able to trigger multiple notifications to alert multiple person andactions |
| 187. | Provide escalation and acknowledgement function to provide the mechanism to ensure alternative personnel will be alerted when there is a critical situation and acknowledgement mechanism for generated alerts. The escalation should be available for any number of hierarchical sequence. |
| 188. | Provide standard reports that display current status of nodes and interfaces. Reports could be viewed on daily graph (5 minute average), weekly graph (1 hour average minute average), monthly graph (1 hour average) and yearly graph (1 day average) |
| 189. | Provide online and offline reports that allow the user to view the present usage of their devices. Reports generates should be exportable in the format of HTML, PDF, Excel and CSV |
| 190. | Automatically generate daily reports that provide a summary of the network as well as custom Reports and that are automatically sent by email at a pre-defined schedule to any recipient or save into any specific folder or drive. |
| 191. | Allows end-users to browse all reports using any web browser like Internet Explorer, Mozilla Firefox, Google Chrome etc. without the need to install any report specific software |
| 192. | Supports instant diagnosis of the node status through Ping, Telnet and SNMPwalk |
| 193. | Support Real-Time report generation for checking continuous reachability of target device |

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|---|---|
| 194. | System should provide many different types of topology representation. To perform the following: <br>• Display physical connections of thedifferent devices being monitored in the system <br>• Displayflatmapsoftheentirenetworkor   networksina  single  view <br>• Display customer maps based on user configurations <br>• Display maps based on geolocations |
| 195. | learn IP Networks and their segments, LANs, hosts, switches, routers, firewalls etc. and to establish the connections and to correlate |
| 196. | Download current running configuration file from the network devices |
| 197. | Allows scheduling of automatic download of the configuration file from the network devices |
| 198. | Alert user on any changes made to the current running configuration file of any monitored device |
| 199. | Provide a web base and intuitive user interface that showcases the list of devices whose configuration file got changed with option to highlight the changes |
| 200. | Maintain / store the configuration files of all the monitored devices for reference |
| 201. | Support base-lining of specific version of the running configuration file of each device |
| 202. | Support comparison of different versions of the configuration file of a device and comparison of the configuration files across devices |
| 203. | Showcase the differences among the configuration files into useful categories like added/changed/removed through intuitive UI |
| 204. | Collect & display syslog's from network devices & servers and Group syslog's based on severity (Critical, Emergency, Major) |
| 205. | System should support VM, Hypervisor and Cluster monitoring from different vendors like VMWare, Citrix, , Linux etc. |
| 206. | System show have capability to monitor industry standard web server like IIS / Tomcat / Web server statistics |
| 207. | System show have capability to monitor HTTP service,HTTPS service,FTP server statistics, POP/SMTP services,ICMP services or any customer specific port based systems |
| 208. | Database Services – Monitor various critical Relational Database Management System (RDBMS) parameters such as database tables / table spaces, logs etc. |
| 209. | Cover geographically distributed networks through multi-level scalable distributed deployment architecture |
| 210. | Integration should provide the option in both north as well as south bound integration on each module level. Any fault details should be able to send to third party CRM, Customer Portal, UNMS or even EMS if needed using the Trap, XML and even direct database query integration |

| 211. | Provide XML, Corba, REST API, SOAP based system to communicate with external software |
|------|----------------------------------------------------------------------------------------|
| 212. | The system should have a integrated service management tool from the same OEM. In future, it should be possible to use the service management features like Incident Logging, Viewing, Assignment, Escalation, Reporting, SLA Management etc. by just adding the required licenses forthe service management tool. |

## 8.26  SLA Management

1)  The proposed service management system should provide a detailed service dashboard view indicating the health of each of the ITMS components/solutions as well as theSLAs.

2)  The proposed Service Dashboard should provide a high level view for executives and other users of the system. The system should provide an outage summary that gives a high level health indication for each service as well as the details and root cause of anyoutage.

3)  The system must breakdown SLA by the hour and should allow to drill down on each hour to report violations.

4)  The Service Level Agreements (SLAs) definition facility must support defining a set of one or more service Guarantees that specify the Service obligations stipulated in an SLA contract for a particular time period (weekly, monthly, and so on). Guarantees supported must include one that monitors service availability (including Mean Time to Repair (MTTR), Mean Time between Failure (MTBF), and Maximum Outage Time thresholds) and the other that monitors service transaction responsetime.

5)  Thesystemmustprovidethecapabilitytodesignateplannedmaintenanceperiodsforservicesandt ake into consideration maintenance periods defined at the IT resources level. In addition, the capability to exempt any service outage from impacting an SLA must beavailable.

## 8.27  Integrated Performance Management System

This provides a comprehensive end-to-end performance management across key parts of the network infrastructure. It should allow identifying trends in performance in order to avert possible service problems.

1)  The proposed performance management system shall integrate network, server and database performance information and alarms in a single console and provide a unified reporting interface for network components. The current performance state of the entire network & system infrastructure shall be visible in an integratedconsole.

2)  Provide flow-based reporting for network troubleshooting and capacitymanagement.

3)  Provide Database PerformanceMonitoring.

### 8.29.1 Network Performance Management System

1) The Network Performance Management consoles must provide a consistent report generation interface from a single centralconsole.

2) This central console shall also provide all required network performance reports (including latency, threshold violations, packet errors, availability, bandwidth utilization etc.) for the network infrastructure.

3) It shall provide comprehensive health reporting to identify infrastructure in need of upgrades and immediateattention.

### 8.29.2 Server Performance Monitoring

The proposed server performance management system shall integrate network performance management systems and provide the unified performance state view in a single console.

### 8.29.3 Database Performance Monitoring

1) The proposed database performance management system shall integrate network and server performance management systems and provide the unified view of the performance state in a single console.

2) Itshouldbeabletoautomatemonitoring,datacollectionandanalysisofperformancefrom singlepoint.

3) Itshouldalsoprovidetheabilitytosetthresholdsandsendnotificationswhenaneventoccurs,enabl ing database administrators (DBAs) to quickly trace and resolve performance-relatedbottlenecks.

### 8.29.4 Application Performance Monitoring

1) Theproposedsolutionmustprovideareal-timeapplicationtopologymaptotriageandquicklypinpoint the component causing a performance bottleneck in the end-to-end transactionflow.

2) The proposed solution must determine if the root cause of performance issues is inside the monitored application, in connected back-end systems or at the network layer from a single consoleview.

3) The proposed solution must proactively monitor 100% of real user transactions, detect

failed transactions, gather evidence necessary for triage and diagnosis of problems that affect user experiences and prevent completion of critical businessprocesses.

4) The proposed solution must gather available performance indicator metrics from all within real-time production environments and real user transactions 24x7 with minimal overhead on monitored applications withoutsampling.

## 8.28 Core Router – Functional and Technical Specifications

| Sr. No | Functional & Technical Specifications |
|---|---|
| 1 | Architecture |
| 1.1 | Router shall have Modular and distributed architecture, chassis based |
| 1.2 | Router shall have redundant management module or switching fabric. |
| 1.3 | Router shall have minimum 4 additional open/free line card slots in chassis (without any additional adaptor/module) apart from the Management/supervisor module slot |
| 1.4 | Shall be based on multi-coreprocessor |
| 1.5 | Shall have distributed forwarding architecture |
| 1.6 | The router shall be 19" Rack Mountable |
| 1.7 | Router Shall have minimum 8 nos. of 1G SFP ports & 8 x10G SFP+ ports populated with appropriate transceivers as per solution/ design. |
| 1.8 | Router shall have 8 x 1G SFP Ports in addition to S. No. 1.5 with populated with appropriate transceivers as per solution/design. |
| 1.9 | Shall have up to 400 Gbps backplane Bandwidth with redundant switching fabric |
| 1.10 | Console port, Auxiliary port/USB port/Management Port |
| 1.11 | Shall support various types of interfaces like 1G Ethernet, high-density 10 GbE WAN interface options. |
| 1.12 | Router shall have the sufficient free open slot for future scalability of 4 nos. of 10G SFP+ interface module |
| 2 | Reliability Features |
| 2.1 | Shall have dual routing processor/Management modules with 1:1 redundancy |
| 2.2 | Shall have redundant power supply (internal) |
| 2.3 | The Router shall support to connects multiple routers through physical ports to achievesystem virtualization. All routers appears as one node on the network to allow for simplified configuration, while achieving high resiliency and increased system expandability or through equivalent technology |

| 2.4 | Support hot-swapping of interface cards, routing processor modules, power module and fan tray |
|------|------|
| 2.5 | VRRP/VRRPv3 |
| 2.6 | MPLS TE FRR |
| 2.7 | IGP fast routing convergence |
| 2.8 | BFD: supporting collaboration with Static route/ RIP/OSPF/ISIS/ BGP/ VRRP/TE FRR |
| 2.9 | Graceful Restart: OSFP/BGP/IS-IS/ LDP/RSVP |
| 2.10 | Unified Modular operating system provides an easy to enhance and extend feature which doesn't require whole scale changes |
| **3** | **Layer 2 protocols** |
| 3.1 | ARP: Dynamic/static ARP, proxy ARP, gratuitous ARP |
| 3.2 | Ethernet, sub-interface VLAN |
| 3.3 | QinQ terminating |
| **4** | **IP services & IP Routing (any software/license required to enable these features shall be provided from Day 1)** |
| 4.1 | TCP, UDP, IP option, IP unnumbered |
| 4.2 | Policy-based routing |
| 4.3 | Static routing |
| 4.4 | Dynamic routing protocols: RIPv1/v2, OSPFv2, BGP, IS-IS |
| 4.5 | Route recursion |
| 4.6 | Routing policy |
| **5** | **IPv4 multicast (any software/license required to enable these features shall be provided from Day 1)** |
| 5.1 | IGMP (Internet Group Management Protocol) v1/v2/v3 |
| 5.2 | PIM-DM/ PIM-SM, PIM-SSM |
| 5.3 | MSDP (Multicast Source Discovery Protocol) |
| 5.4 | MBGP |
| 5.5 | Multicast routing |
| **6** | **Network protocols** |
| 6.1 | DHCP Server/Relay/Client |
| 6.2 | DNS Client |

| 6.3 | NTP Server/Client |
|---|---|
| 6.4 | Telnet Server/Client |
| 6.5 | TFTP Client |
| 6.6 | FTP Server/Client |
| 6.7 | UDP Helper |
| **7** | **IPv6 Features (any software/license required to enable these features shall be provided from Day 1)** |
| 7.1 | Basic functions: IPv6 ND, IPv6 PMTU, dual-stack forwarding, IPv6 ACL |
| 7.2 | Static routing |
| 7.3 | Dynamic routing protocols: RIPng/OSPFv3, IS-ISv6, BGP4+ |
| 7.4 | IPv6 multicast: MLDv1/v2,PIM-DM/PIM-SM,PIM-SSM |
| **8** | **MPLS Features (any software/license required to enable these features shall be provided from Day 1)** |
| 8.1 | L3VPN: Inter-domain MPLS VPN (Option A/B/C), Hierarchy PE (HoPE), CE dual homing, MCE, multi-role host, GRE tunnel |
| 8.2 | Support for L2VPN or SVCs for Layer2 encrypted extensions |
| 8.3 | MPLS TE, RSVP TE |
| 8.4 | Multicast VPN |
| **9** | **QoS** |
| 9.1 | Traffic classification: based on port, MAC address, IP address, IP priority, DSCP priority, TCP/UDP port number, and protocol type |
| 9.2 | Traffic policing: CAR rate limiting, granularity configurable |
| 9.3 | Rate limiting based on source/destination address (supporting subnet-based rate limiting) |
| 9.4 | Priority Mark/Remark |
| 9.5 | Queue scheduling mechanism: FIFO, PQ, CQ, WFQ, RTPQ, CBWFQ or equivalent |
| 9.6 | Congestion avoidance algorithm: Tail-Drop, WRED |
| 9.7 | MPLS QoS and IPv6 QoS |
| 9.8 | HQoS/Nested QoS |
| **10** | **Security** |
| 10.1 | ACL and ACL acceleration |
| 10.2 | Packet filter firewall |

| | | |
|---|---|---|
| 10.3 | TCP attack prevention on local host | |
| 10.4 | Control panel rate limiting | |
| 10.5 | Virtual fragment reassembly | |
| 10.6 | URPF | |
| 10.7 | Hierarchical user management and password protection | |
| 10.8 | AAA | |
| 10.9 | RADIUS &TACACS | |
| 10.10 | PKI Certification | |
| 10.11 | SSH v1.5/2.0 | |
| 10.12 | RSA | |
| **11** | **Management & maintenance** | |
| 11.1 | Configuration through the CLI, console, Telnet | |
| 11.2 | SNMP (v1, v2c, v3), RMON (group 1, 2, 3 and 9 MIB) | |
| 11.3 | System logs, Hierarchical alarms | |
| 11.4 | Ping and Traceroute | |
| 11.5 | Network Quality Analysis, supporting collaboration with VRRP, policy- based routing, and static routing | |
| 11.6 | Fan detection, maintenance, and alarm | |
| 11.7 | Power supply detection, maintenance, and alarm | |
| 11.8 | CF card detection, maintenance, and alarm | |
| 11.9 | Temperature detection, alarm | |
| 11.10 | Dual images | |
| 11.11 | Loading/upgrading through FTP, TFTP | |
| **12** | **Other Services** | |
| 12.1 | Shall support Connection-limit to create a connection limit policy. | |
| 12.2 | Shall support NetStream/Slow/Netflow/equivalent | |
| **13** | **Regulatory Compliance** | |
| 13.1 | Router shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment. | |
| 13.2 | Router shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) | |

| | requirements. |
|---|---|

## 8.29 Data Centre Firewall – Functional and Technical Specifications

| Sr. No. | Functional & Technical Specifications |
|---|---|
| A | **General** |
| 1 | Firewall should be a purpose built appliance based solution with integrated functions like Firewall, VPN and User awareness, SSL & IPSec VPN, Antivirus & Antibot etc. The product licensing should be device based and not user/IP based (should support unlimited users except for VPN). No backdoor must have been identified in any of the OEM software in thepast 3 years. |
| 2 | Should have minimum 75Gbps throughput. Throughput capacity of VPN should not be less than 15 Gbps. |
| 3 | Should support Max 2,00,00,000 concurrent sessions for data. & Should support at least 3,00,000 connections per second |
| 4 | Should be based on multi core processors and not on proprietary hardware platforms like ASICs, Shouldhave minimum 32 GB memory. Hardware should have field upgradable capabilities for upgrading components like networkcards, power supplies etc. |
| 5 | Solution should have following deployment modes mandatory: L3 Mode,L2/Transparent Mode. |
| 6 | Should be deployed in High Availability. |
| 7 | Should support hardware fail open cards for critical interfaces and appliances level. |
| 8 | NGFW appliance should have 12 x 10/100/1000Base-T Copper Ports, 6 x 10 GB 10G SFP ports from day 1 and support for addition of 2 x 40G SFP ports. |
| 9 | OEM should have a track record of continuous improvement in threat detection and must received "recommended" rating in NSS Lab's NGFW Methodology v7.0 testing with a minimum NSS exploit library block rate of 99% and CAWS (Live) Exploit Block rate of 99%. |
| 10 | All appliances should be provided with integrated dual redundant power supplies. |
| B | **Firewall Feature:** |

| | |
|---|---|
| 1 | Should be based on "stateful inspection" technology and should support access control for atleast 500 predefined /services/protocols with capability to define custom services. |
| 2 | Shall allow security rules to be enforced within time intervals to be configured with an expiry date/time. |
| 3 | The communication between the management servers and the security gateways should be encrypted and authenticated with PKI Certificates. |
| **C** | **Authentication** |
| 1 | Should support user authentication methods. User authentication schemes should besupported by the security gateway and VPN module: tokens (i.e. -Secure ID), TACACS, RADIUS and digital certificates. |
| 2 | Firewall should support the system authentication with RADIUS and local authentication. Both should work simultaneously. Solution should support DCHP, server and relay. |
| 3 | Solution shall include the ability to work in Transparent/Bridge mode. |
| **D** | **High Availability** |
| 1 | Solution shall support gateway high availability and load sharing with state synchronization. |
| 2 | S. Solution shall support configuration of dual stack for IPv6 and IPv4 |
| **E** | **User Identity / Awareness** |
| 1 | Should be able to acquire user identity from Microsoft/Linux Active Directory without any type of agent installed on the domain controllers. |
| 2 | Should support Kerberos transparent authentication for single sign on. |
| 3 | Should support the use of LDAP nested groups |
| 4 | Should be able to create rules and policies based on identity roles to be used across all security applications. |
| 5 | Should have the inherent ability to detect multi-stage attacks. |
| 6 | Should include static analysis technologies like antivirus, anti- malware/anti bot however in an integrate mode with the solution. |
| **F** | **Security** |
| 1 | Should inspect the web sessions (HTTP and HTTPS both) to detect and notify the malicious web activity including malicious file downloads through the internet. Third Party/Separate appliance for SSL offloading will not be accepted. |
| 2 | The proposed solution should dynamically generate real-time malware intelligence for immediate local protection via integration with the separate Automated Management and Event Correlation System. |

| | |
|---|---|
| 3 | Solution should be able to detect & prevent the Bot communication with ICC. |
| 4 | Solution should have a Multi-tier engine to detect & prevent Command and Control IP/URL and DNS. |
| 5 | Solution should be able to detect & prevent unique communication patterns used by BOTs i.e. Information about Botnet family. |
| 6 | Solution should be able to detect & prevent attack types i.e., such as spam sending click fraud or self-distribution, that are associated with Bots. |
| 7 | Solution should be able to block traffic between infected Host and Remote Operator and not to legitimate destination. |
| 8 | The Log Viewer should have the ability view all of the security logs of all functions managedby the solution in one view pane (helpful when troubleshooting connectivity problem for one IP address ) |
| 9 | The Log Viewer should have the ability in the log viewer to create filter using the predefined objects (hosts, network, groups, users.) |
| 10 | Firewall solution should be based on "stateful inspection" technology and must support access control for at least 500 predefined /services/protocols with capability to define custom services. |
| 11 | Must allow security rules to be enforced within time intervals to be configured with an expiry date/time. |
| 12 | Should support Ethernet Bonding/ Link Aggregation functionality. |
| 13 | Solution must support gateway high availability and load sharing with state synchronization |
| **G** | **IPS** |
| 1 | IPS must be based on the following detection mechanisms: exploit signatures, protocol anomalies, application controls and behavior-based detection. IPS must be able to detect and prevent the following threats: Protocol misuse, malware communications, tunnelling attempts, denial of service and generic attack types without predefined signatures. |
| 2 | IPS must have options to create profiles for either client or server based protections, or a combination of both. |
| 3 | IPS must provide at least two pre-defined profiles/policies that can be used immediately |
| 4 | IPS must have a software based fail-open mechanism |
| 5 | IPS must provide an automated mechanism to activate or manage new signatures from updates |
| 6 | IPS must support network exceptions based on source, destination, service or a combination of the three |

| 7 | IPS must include a troubleshooting mode which sets the in use profile to detect only, with one click without modifying individual protections |
|---|---|
| 8 | The administrator must be able to automatically activate new protections, based on configurable parameters (performance impact, threat severity, confidence level, client protections, server protections) |
| 9 | IPS must be able to detect and prevent the following threats: Protocol misuse, malware communications, tunneling attempts and generic attack types without predefined signatures |
| 10 | IPS must be able to collect logging for specific protections |
| 11 | The administrator must be able to define network and host exclusions from IPS inspection |
| 12 | Solution must protect from DNS Cache Poisoning, and prevents users from accessing blocked domain addresses |
| 13 | IPS must have Microsoft, Adobe, IIS/Apache web Server, SCADA and VoIP specific protections. |
| 14 | Solution must be allow the administrator to easily block inbound and/or outbound traffic based on countries, without the need to manually manage the IP ranges corresponding to the country |
| **H** | **Management** |
| 1 | NGFW should be managed from a dedicated management system separate from the NGFW appliance with 1 TB of HDD for storing logs and reporting purpose |
| 2 | The management system can be an appliance/VM/software installed on a third party server class hardware but from the same OEM as that of NGFW. |
| 3 | NGFW should be managed by single management and single console along with build in Logging server which can handle upto indexed/analytical based 10,000 logs /sec with 10 GB/day limit. |
| 4 | NGFW Management must provide functionality to automatically save current state of NGFW Policy each time when any configuration changes in Security policy is enforced, and should have option to revert back to previous state stored state. It must be capable of storing at leastlast 5 policy revisions. |
| 5 | The management system must allow at least 5 admins to login in parallel and make changes to the policy. |
| 6 | Security management should provide Compliance monitoring |
| 7 | Granular option to restrict various Administrator in Management server to view only limited set of Policy which they are meant to edit |
| 8 | Solution must allow scheduling of reports daily, weekly and monthly with start and expiration date for reports to be generated automatically according to defined start and expiration dates |

| 9 | Solution must send reports automatically via email to multiple email-ids in both HTML & PDF format |
|---|---|

## 8.30 Endpoint and Storage Protection – Functional and Technical Specifications

| Sr. No | Functional & Technical Specifications |
|---|---|
| 1. | Endpoint solution should have capability of AV, Vulnerability protection, HIPS, Firewall, Device control, virtual Patching and data loss prevention and pre and post machine learningexecution. |
| 2. | Endpoint vulnerability protection should scan the machine and provide CVE number visibility and accordingly create rule for virtual patch against vulnerability. |
| 3. | Behavior monitoring along with ransom ware protection engine, ransom ware engine should have feature to take backup of ransom ware encrypted files and restoring the same. |
| 4. | Endpoint solution should have data loss prevention with pre-defined templates for HIPAA, PCI-DSS, GLBA etc. for compliance requirements and should have capability to create policies on basis of regular expression, key word and dictionary based. |
| 5. | Solution should have capability to submit unknown files to sandboxing for simulation and create IOC's on real time basis as per sandboxing analysis and revert back to Endpoint security solution to block and clean threats, customizable Windows for laptop/desktops and serverclass windows server. |
| 6. | Should be capable of recommending rules based on vulnerabilities on endpoint and create dynamic rules based on System posture and endpoint posture. |
| 7. | Solution should be APT ready, capable of submitting to Sandbox for analysis without additional License on Endpoint. |
| 8. | The proposed solution should be positioned in the leader quadrant from last two published Gartner Magic quadrant report for Endpoint Protection. |

## 8.31 Modular UPS - Functional & Technical Specifications

| Sr. No. | Parameters | Functional & Technical Specifications |
|---|---|---|
| 1. | UPS | Modular Type, Online Double conversion, VFI-SS-111 |

| 2. | Capacity | System should be configured with 75kVA with Redundancy for current usage. SI need to add additional modules in UPS if required according to their Hardware sizing. |
|---|---|---|
| 3. | UPS Modules | The number of UPS modules in a system (in a Single Cabinet) shall be N+1, where N is the number of basic UPS units as per the load requirement and 1 is redundant unit. UPS system should have multiple controllers, any module failure should not affect the working of remaining modules on failure, pluggable type, hotswappable. |
| 4. | UPSModules Technology | Each Module shall consist of a rectifier / charger, an inverter, static transfer switch, maintenance bypass switch, protective devices, andaccessories as required for proper operation. |
| 5. | UPSModule Replacement | In case of any failure of UPS module, the defective UPS Module should be replaced Online without any disturbance to the load (i.e UPS system / load should not be transferred to Bypass or UPS should notbe shut down, for such UPS module replacements) |
| 6. | Rated input voltage | 380/400/415VAC, three-phase four-wire |
| 7. | Ratedinput operating frequency | 50/60Hz |
| 9. | Input power factor | > 0.98 |
| 10. | InputCurrent Harmonics | < 3% |
| 11. | Inverteroutput voltage | 400/415VAC, three-phase four-wire |
| 12. | Outputload management | Independent Phase management of load power should be possible |
| 13. | Output power factor | 0.95 or above |
| 14. | Steadystate response time | < 20ms |
| 15. | Inverteroverload capacity | 10 minutes at 115%, 60 seconds at 135% |
| 16. | Battery bank | Suitable size and nos. of VRLA, SMF batteries in suitable numbers and ampere hour capacity required for specified rated UPS System for providing 1 Hour back up time at specified full load (for 75kVA load )using minimum 100AH or above batteries |
| 17. | Battery Make | Panasonic/Exide/Amararaja Quanta |

| 18. | Battery back up | 1 Hour for the specified load (for 75kVA load). Battery connectivity should ensure Redundancy for Batteries to avoid single point failure (i.e Minimum 2 strings for each Battery Bank) |
|---|---|---|
| 19. | Output frequency | 50Hz |
| 20. | Slew rate | 0.6 HZ / sec |
| 21. | Alarm indications | Mains Voltage Abnormal ,Mains Frequency Abnormal, Mains Phase Reversed, Bypass mode, Bypass Over Current, Battery Low warning,Unit Overload ,System Overload |
| 22. | Bypass input voltage | 380/400/415VAC, three-phase four-wire |
| 23. | Bypassoverload capacity | 10 minutes at 115%, 60 seconds at 130% |
| 24. | Monitoring function | Main circuit and ON/OFF status, voltage, current, power factor, Load level, |
| 25. | Communication Option | SNMP communication card which can connect to an Ethernetnetwork, for connection to a computer network management system. Necessary SNMP card should be supplied |
| 26. | System efficiency | > 95% at all load |
| 27. | Operating temperature range for UPS | 0 - 40oC |
| 28. | Storage temperature | 0 - 60oC (excluding battery) |
| 29. | Relative humidity | 0 - 95%, no condensing |
| 30. | Noise (1m) | < 65 |
| 31. | IP class | IP20 |
| 32. | Spare Module | Vendor should supply One Spare Module along with UPS free of cost |
| 33. | Preferred Brands | APC, Vertiv, Uniline |
| 34. | SMF Battery | In addition, the battery should have any of the two following certifications:<br>a) JIS<br>b) UL 198E<br>c) CE mark<br>d) QS 9000-8230 |
| 35 | Service Centre | To ensure the spare and service availability, UPS OEM should have service centre in Trivandrum or will establish before Go-Live of the project. OEM need to give undertaking in this regard alongwith Bid. |

## 8.32   Generator 160 KVA - Functional & Technical Specifications

| Sr. No | Parameters | Functional & Technical Specifications |
|---|---|---|
| 1 | Rating | 160 KVA |
| 2 | O/p power | 128 KW |
| 3 | Voltage | 415 V / 3 Phase |
| 4 | BHP | 200 Minimum |
| 5 | Power Facctor | 0.8 Lagging |
| 6 | Noise Level | < 75 dBA (Meeting Emission & Noise Compliant CPCB II) |
| 7 | Frequency | 50 Hz |
| 8 | No. of cylilinders | 4 (Minimum) |
| 9 | Rated Speed of Alternator (RPM) | 1500 |
| 10 | Standard control pannel | Required |
| 11 | AMF | Required |
| 12 | Emission & Noise Compliance | CPCB-II or Higher |
| 13 | Engine Cooling | Water cooled |
| 14 | Acoustic Enclosure | Required As per CPCB Norms |
| 15 | Make | KIRLOSKAR/ CUMMINS or equivalent |
| 16 | Platform & Roofing | Bidder need to consider the platform and roofing as required for Generator installation |
| 17 | Exhaust Piping | Bidder to consider the exhaust piping up to three floors levels |
| 18 | Electrical wiring / Earthing | Bidder need to consider the required electrical wiring and earthing as required for generator installation |
| 19 | Electrical Inspectorate approval | Bidder need to coordinate the electrical inspectorate approvals as required for generator usage |

## 8.33 UPS- 1 KVA and 2 KVA - Functional & Technical Specifications

| Sr. No. | Parameters | Minimum specification |
|---|---|---|
| 1. | Technology | True online double conversion technology UPS system with IGBT based rectifier / inverter |
| 2. | Capacity | I kva/800 watts/ 2kva / 1600 watts |
| 3. | Input Parameters: | |
| a. | Voltage | 230 VAC, 1 Phase 3 Wire |
| b. | Voltage Range | 160V to 300 VAC @ Full Load, 110 to 300 VAC @ 50 % load |
| c. | Frequency | 50 / 60 Hz |
| d. | Power Factor at rated load | >=0.99 at full load |
| e. | Current Harmonic Distortion | Less than 5% at full load |
| f. | OVCD | Required (builtin) |
| 4. | Output Parameters: | |
| a. | Voltage | 220/230/240 VAC +/ - 1%, 1 Phase, 3 wire |
| b. | Frequency | 50 / 60 Hz +/- 0.25 Hz (in Battery Mode) +/- 6% (in Sync) |
| c. | THD v | < 3 % for Linear Load ; < 5 % for Non Linear Load |
| d. | Overload rating | 105 to 110 % - 10 min ; 111 to 130 % - 60 sec ; 131 to 150 % - 10 seconds |
| e. | Output waveform | Pure Sinewave |
| f. | Crest Factor | 3 : 1 |
| g. | Power Factor | 0.8 lagging to unity |
| h. | Inverter Efficiency | upto 90% |
| i. | Over all Efficiency | > 85 % -90% |
| 5. | Battery Parameters: | |
| a. | Type | Sealed Maintenance Free Batteries ( Exide / Amararaja )Uplus/Rocket |

| b. | Voltage | 12 V |
|---|---|---|
| c. | End cell voltage | 10.5 V per Battery |
| d. | Float Voltage | 13.5 V per Battery |
| e. | Backup Time | 30 minutes |
| f. | DC Voltage | 36 V DC for 1 kVA UPS ; 96 VDC for 2 & 3 kVA UPS |
| g. | VAH | min 936 VAH for 1 kVA UPS |
|  |  | min 2496 VAH for 2 kVA UPS |
|  |  | min 3264 VAH for 3 kVA UPS |
| h. | Battery internal Connectors | Required |
| i. | Transfer time | UPS to Battery Mode : 0 ms |
| J | Charger | Constant Voltage Constant Current |
| K | Charging Capacity | 8 A |
| 6. | Bypass: |  |
| a. | Static Bypass | Inbuilt |
| b. | Transfer time | < 4 ms in Sync Mode |
| c. | Bypass parameter configurable via front panel | Required |
| 7. | LCD Display / Alarm / Protection |  |
| a. | Metering |  |
| i. |  | Input Voltage |
| ii. |  | Input Frequency |
| iii. |  | Input Current |
| iv. |  | Output Voltage |
| v. |  | Output Frequency |
| vi. |  | Output Current |
| vii. |  | Load Level in % |
| viii. |  | Battery Voltage |
| ix. |  | Battery Level |

| | | |
|---|---|---|
| b. | Status Information | |
| i. | | Online |
| ii. | | Battery Mode |
| iii. | | Bypass Mode |
| iv. | | Eco Mode |
| v. | | Converter Mode |
| c. | Fault / Waring Indication | |
| i. | | Over Load |
| ii. | | Charger Fail |
| iii. | | Inverter Fault |
| iv. | | Over Temperature |
| v. | | Short Circuit |
| vi. | | DC low |
| vii. | | DC High |
| viii. | | Fan Fail |
| d. | Protection | Input High / Low |
| i. | | Over Load |
| ii. | | Short Circuit |
| iii. | | Over Temperature |
| iv. | | Battery Over Charge |
| v. | | Battery Deep Discharge |
| vi. | | Surge Protection |
| e. | Audible Alarm | Battery Mode |
| i. | | Low Battery |
| ii. | | Fault |
| iii. | | Over Load |
| iv. | | Bypass Mode |
| 8. | Other Features: | |
| a. | Communication Port | RS 232 |

| | | |
|---|---|---|
| b. | SNMP Card | Optional |
| c. | Cold Start | Required |
| d. | Auto Restart | Required |
| e. | EPO | Required |
| f. | Generator Compatibility | Required |
| g. | Solar Compatible | Required |
| h. | Operating Temperature | 0 to 45 Deg C |
| i. | Storage Temperature | 0 to 60 Deg C |
| j. | Humidity | upto 95 % |
| k. | Altitude | < 1000 meters |
| 9. | Connection | |
| a. | Input | Terminal Block |
| b. | Output | 1 kVA UPS : 2 Nos 5 A Indian Socket |
| c. | | 2 kVA UPS : 4 Nos 5 A Indian Socket |
| d. | Battery | Terminal Block |
| 10. | Credential / Reports | |
| a. | ISO 9001 2015 | Copies Required |
| b. | ISO 14001 2004 | Copies Required |
| c. | OHSAS 18001 | Copies Required |
| d. | IEC 62040-3 (performance) | Copies Required |
| e. | BIS | Copies Required |
| f. | JIS 8702C for battery | Copies Required |
| g. | Manufacturing facility | Manufacture should have manufacturing facility in India and details of manufacturing facility should be provided in detail |
| 11. | Service Centre | To ensure the spare and service availability, UPS OEM should have service centre in Trivandrum or will establish before Go- Live of the project. OEM need to give undertaking in this regardalongwith Bid. |

## 8.34 42U Racks and PDU - Functional & Technical Specifications

| Sr. No | Functional & Technical Specifications |
|---|---|
| 1. | 19" 42 U Rack with necessary Accessories |
| 2. | Network racks of dimension 800 mm x 1000 mm and Server racks of dimension 600 mm x 1000 mm. |
| 3. | Cable entry brush ( rack bottom) |
| 4. | 32A IP PDU with Ethernet based Environment Monitoring System with one Temperature Sensor as per Rack layout |
| 5. | 16A IP PDU with Ethernet based Environment Monitoring System with one Temperature Sensor |
| 6. | All racks must be lockable on all sides with unique key for each rack |
| 7. | Racks should have Rear Cable Management channels, Roof and base cable access |
| 8. | Two vertical and four horizontal Wire Managers |
| 9. | Blanking Panels |
| 10. | The racks must have steel (solid / grill / mesh) front / rear doors and side panels. Racks should NOT have glass doors / panels |
| 11. | Detachable side panels (set of 2 per Rack) |
| 12. | Manufacturer should have ISO 9001-2015 Certifications / UL/EN and RoHS certified. Certificate needed to be submitted. |

## 8.35 22U or 27U Rack - Functional & Technical Specifications

| Sr. No | Functional & Technical Specifications |
|---|---|
| 1. | Supply , Installation, Testing and Commissioning 22 or 27 U Outdoor IP55 Rack , with minimum 2 cooling fans, 4 X 5A socket power strip, provision for cables taking in and outwith the necessary accessories to complete the work. |
| 2. | Proposed RACKs should be with IP 55 rating with dust proof / water resistant and rugged.<br>Bidder need to consider the mounting of RACKs at poles or a concrete platform as required to keep them in safe |
| 3. | All weight bearing components should be made from CRCA with a thickness not less than1.5 mm, 19" equipment mounting angle should be 1.5MM and other parts not lessthan1.5mm. All sheet metal parts should be Pre Treated, primer Coated fallowed by powder coated |
| 4. | Racks should be manufactured by ISO9001:2008, ISO14001:2004 & |

| 5. | OHSAS18001:2007 Certified company and should have proper EHS Policy. |
|---|---|
| 6. | Manufacturer must certify that the products are RoHS Compliance |
| 7. | Manufacturer must certify that the products are Comply DIN41494 and Equivalent |
| 8. | EIA/ISO/EN /CEA Standard compliant. |

## 8.36 Common Guidelines regarding compliance of systems / equipment

1) All applicable laws, rules, regulations, and standards in force are required to befollowed.

2) The specifications mentioned for various IT / Non-IT components are indicative requirements and should be treated for benchmarking purpose only. Bidders/ SI are required to undertake their own requirementanalysisandmayproposehigherspecificationsthatarebettersuitedtotherequirements.

3) All IT Components should support IPv4 andIPv6

4) Technical Proposals should be accompanied by OEM‟s product brochure / datasheet. The Bidders shall providecompletemake,model,partnumbersandsub-partnumbersforallequipment/softwarequoted in the Technicalproposal.

5) The Bidders should ensure that only one make and model is proposed for one component in their TechnicalProposal

6) The Bidders should ensure complete warranty and support for all equipment fromOEMs.

7) Alltheback-to-backserviceagreementsshouldbesubmittedalongwiththeTechnical Bid.

8) All equipment, parts should be original andnew.

9) The user interface of the system should be a user friendly Graphical User Interface(GUI).

All the hardware and software supplied should be from the reputed Original Equipment Manufacturers (OEMs). UT Administration of Dadra Nagar Haveli and Daman Diu reserves the right to ask replacement of any hardware/ software if it does not conform to all the requirements specified in theRFP

## 8.37 Technical specification of Illegal Parking Detection

| S. No. | Features | Description |
|---|---|---|
| 1. | Camera Type | 4 MP PTZ Camera |

| 2. | Standard | ONVIF Compliant |
|---|---|---|
| 4. | Edge Storage | MicroSD/microSDHC/microSDXC slot supporting memory card for min. 128 GB (Min. Class 6 or higher, Card to be included). In the event of failure of connectivity to the network storage the camera shall record video locally on the SD card automatically. After the connectivity is restored these recordings shall be automatically pulled by the network storage recorder such that no manual intervention is required to transfer the SD card based recordings to network storage. |
| 5. | Image Sensor | 1/1.8" Progressive Scan CMOS or better |
| 6. | Resolution | 4 MP (2560 × 1440) at 25 FPS or better |
| 7. | Compression | H.265, H.264 |
| 8. | Streaming | Min. Triple compressed stream (Individually Configurable) |
| 9. | Audio | Audio Input/ Output 1 Ch |
| 10. | Alarm | 07//02 |
| 11. | Pre/Post Alarm buffer | Yes |
| 12. | Security | User Authentication Address filtering |
| 13. | Physical Layer | 10/100 base Tx Ethernet |
| 14. | Protocol | Minimum IPv4/IPv6, HTTP, HTTPS, 802.1x, QoS, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTCP, RTP, TCP/IP, UDP,IGMP,ICMP, DHCP, PPPoE, Bonjour |
| 15. | Remote Administration | Remote configuration and status using web based tool |
| 16. | System Update | Remote system update over Network using web client |
| 17. | Lens Type | Optical zoom ; 40x or better IR corrected lens suitable for full HD camera. Focal length of lens ; upper range shall be 240mm or higher, Autofocus |
| 18. | Dynamic Noise Reduction | 3D |
| 19. | Defog | Yes |
| 20. | Illumination | Color: 0.002 lux, F1.3 or better B/W: 0.0002 lux, F1.3 |
| 21. | IR Distance | Upto 400m |
| 22. | Signal Process | Digital Signal Process |
| 23. | Privacy zones | 24 or higher |
| 24. | Auto Gain Control | Yes |
| 25. | Back Light Compensation | Yes |
| 26. | High Light Compensation | Yes |
| 27. | Electronic Shutter | 1/30000s to 1 or better |
| 28. | White Balance | Yes |
| 29. | Wide Dynamic Range | 140dB WDR |
| 30. | S/N Ratio | ≥55dB |
| 31. | Day and Night | Support ICR |
| 32. | Preset | min 250 |
| 33. | Pan, Tilt | Pan : 360° endless, Tilt From -20° to 90° with auto-flip |
| 34. | Speed | Pan Manual Speed: 0.1°/s to 210°/s, Pan Preset Speed: 280°/s Tilt Manual Speed: 0.1°/s to 150°/s., Tilt Preset Speed: 250°/s |
| 35. | Auto Tracking | Support |

| 36. | Edge Analytics | Illegal parking detection, reverse driving detection, over lane line detection, illegal lane change detection, vehicle on non-motor vehicle lane, U-turning detection |
|-----|----------------|-----------------------------------------------------------------------------------|
| 37. | Housing | IP67 |
| 38. | Region of Interest | Support |
| 39. | Operating Temperature | -40°C to 70°C (-40°F to 158°F), Working Humidity ≤ 95% |
| 40. | Power Source | Suitable adaptor shall be supplied to make the equipment work on 230V ±10%, 50Hz and Power over Ethernet - Hi POE |

## 8.38 Common featuresfor web portal and mobile dashboard

1) Complete features to be available onDevices running Android 5.0 and above with user-based authentication

2) Scalable architecture offering limitless system sizes.

3) iPhone, iPad, and iPod touch running iOS 9.0 and above

4) Hardware Decoding to optimize system performance

5) Multi-channel live view and timeline view from NAS/NVR

6) Up to 6 simultaneous playback channels (4 widgets minimum on mobile and 6 on tablet)

7) Up to 5x playback speed to track events quickly

8) Cameras from different video recorders or servers spread across multiple locations can be grouped together and sequenced for Ease of Monitoring

9) Customizable layouts in the Multi View page

10) A shortcut panel with buttons such as Switch events, Rewind, Quick seek, Optical zoom, etc.

11) Push notifications of triggered events

12) Notifications with thumbnails for quick access to the single view page of cameras and Intuitive search function allows users to quickly find devices.

13) Snapshot-taking of live feeds and recordings

14) A Snapshot page to view all the snapshots stored on NAS/NVR

15) Delete, lock, and download actions of recordings and snapshots

16) Automatically resize the monitor display to maximum resolution even when moving between monitors.

17) PTZ (Pan, Tilt. and Zoom) controls

18) Pre-set camera patrol paths and preset positions applicable for live view monitoring

19) Event-searching for easy access to recordings with server filters, time duration filters, etc.

20) Video codecs (not limited to): MJPEG, H.264, H.264+, H.265, H.265+, MPEG4, and MxPEG

21) Audio formats (not limited to): G711, AAC, G726, PCM, and AMR

22) Monitor the system from anywhere using tablet, mobile or desktop

23) An open-platform system and compatibility with a wide range of products allowing for easy system expansion and versatility.