



Government of Kerala

Request for Proposal (RFP)

For

**Implementing “Intelligent Enforcement Systems” for
Automation of Enforcement team of Motor Vehicles
Department of Kerala**



Kerala State IT Mission (KSITM)

Government of Kerala

October 2008

GENERAL NOTICE

Kerala State IT Mission (KSITM) invites eligible organizations / companies or consortium of companies in India that provide Traffic Management and Intelligent enforcement solutions to submit their proposal for Automating the Enforcement wing of the Motor Vehicles Department (MVD), Kerala with below mentioned components.

The applicant shall mean a company or a consortium of companies or a Corporation either of Indian or Foreign origin.

Motor Vehicles Department of Kerala has undertaken the project for automating its enforcement wing with support from KSITM. The objective of this project is to **Enhance Road safety** by ensuring that the rules and regulations mentioned in the Motor Vehicles Act, 1988 are strictly being adhered to by the citizens of Kerala.

As a part of this project, it has been proposed to implement a complete enforcement automation solution. Since this solution is the first of its kind in India, Government of Kerala intends to implement it first in selected pilot locations which shall include important road junctions in Kerala which are mentioned in the RFP documents.

Based on the success of the pilot implementation, Government of Kerala shall go for a state wide rollout.

Motor Vehicles Department – Kerala intends to implement following components as a part of the Enforcement Automation solution:

1. Complete Mobile solution for the on-field enforcement team allowing them to book offences and access other Transport department applications via GPS/ GPRS enabled Mobile/Handheld devices.
2. Video Analytics solution using CCTV and virtual loops for automatic detection of offences like over speeding and red signal jumping; with integration to the control room.
3. Setting up of the Control room for backend activities with complete hardware, software solution and networking.
4. Setting up of the additional data center hardware at the State Data Center.
5. Managing connectivity for real time data transfer between the above components

Scope of work would therefore involve the following set of tasks:

1. Provision of the complete hardware (Mobile, video, control room and data centre)
2. Development and testing of the Mobile based software solution
3. Manage connectivity between solution components
4. Installation and commissioning of the complete hardware and software at the pilot locations and existing data centre for this solution
5. Pilot operations support
6. Training of the MVD officials on the implemented solution
7. Post implementation support services and maintenance for a period of 1 year which may be extendable at the discretion of MVD, Kerala/ KSITM

Interested applicants are invited to submit their proposals by 3rd January, 2009 till 3:00 pm (time) at the O/o KSITM on the address mentioned below. Interested organization can contact KSITM for a detailed scope of work and guidelines for submitting the proposals at the below mentioned contact details.

This notice can also be viewed on the website of KSITM and MVD, Kerala at

<http://www.itmission.kerala.gov.in> and <http://keralamvd.gov.in>

All responses to the RFP shall be addressed to:

The
Director,
Kerala State IT Mission,
Vellayambalam,
Thiruvananthapuram – 695 033, Kerala.

Telephone: 0471 – 272 6881/272 5646/ 231 4307

Fax: 0471 – 231 4284

Email Id: director@keralaitmission.org

Website: <http://www.itmission.kerala.gov.in>

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DEFINITIONS

“Applicant” means a reputed Indian firm having the required experience that has downloaded the RFP document and applied for the same.

“PA” means Primary Applicant in case of Consortium or JV where more than one applicant is applying together.

“Proposal” means the response submitted in accordance with the RFP by an Applicant.

“MVD” means Motor Vehicles Department, Government of Kerala.

“RFP” means Request for Proposal

“RTO” means Regional Transport Office / Regional Transport Officer as the context may be

“SRTTO” means Sub-Regional Transport Office

“ITS” means Intelligent Transport/Traffic System

SECTION 1

ABOUT THE RFP DOCUMENT

1. ABOUT THE RFP DOCUMENT

This document has been developed by KSITM in consultation with MVD, Kerala. It gives the terms of reference for submitting proposals along with functional and technical requirements, bidding procedures, evaluation methodology, and contract terms for the project of Automating the Enforcement Wing of MVD, Kerala. Each of the below contents has been detailed out section wise for the convenience of the bidder.

This RFP document contains the following sections

Section 1 – About the RFP Document

Section 2 – Invitation for Proposals

Section 3 – Instruction for Bidders

Section 4 – Process of Vendor Selection

Section 5 – General Conditions of Contract

Section 6 – Scope of Work

Section 7 – Forms and Formats

Section 8 – Checklist of Documents

Section 9 – Annexure

1.1 DISCLAIMER

All information contained in this, Request for Proposal (RFP) provided / clarified are in good interest and faith. This is not an agreement and is not an offer or invitation to enter into an agreement of any kind with any party.

Though adequate care has been taken in the preparation of this RFP document, the interested firms shall satisfy it that the document is complete in all respects. The information is not

intended to be exhaustive. Interested parties are required to make their own inquiries and assumptions wherever required. Intimation of discrepancy, if any, should be given to the specified office immediately. If no intimation is received by this office by the date mentioned in the document, it shall be deemed that the RFP document is complete in all respects and participating firm is satisfied that the RFP Document is complete in all respects.

KSITM reserves the right to reject any or all of the applications submitted in response to this RFP document at any stage without assigning any reasons whatsoever. KSITM also reserves the right to withhold or withdraw the process at any stage with intimation to all who submitted the proposal.

KSITM reserves the right to change/ modify/amend any or all of the provisions of this RFP document. Such changes would be posted on the internet website of KSITM.

Neither KSITM nor their employees and associates will have any liability to any prospective applicant interested to apply or any other person under the law of contract, tort, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this RFP document, any matter deemed to form part of this RFP document, the award of the Assignment, the information and any other information supplied by or on behalf of MVD, Kerala or KSITM or their employees and consultants or otherwise arising in any way from the selection process for the Assignment.

Information provided in this document or imparted to any respondent as part of the RFP process is confidential to MVD, Kerala and KSITM and shall not be used by the respondent for any other purpose, distributed to, or shared with any other person or organization.

SECTION 2

INVITATION FOR PROPOSALS

2. INVITATION FOR PROPOSAL

2.1 ABOUT KERALA AND KSITM

State of Kerala has always been the harbinger for growth and welfare of people. Kerala is the first Indian state to achieve total literacy, first state to implement land reforms, state with highest life expectancy and state who has always taken proactive measures to leverage IT. The State of Kerala has always been in the forefront in the endeavor to reach out to its citizens and the business community in a comprehensive manner and the State has aptly realized the potential of e-Governance in the same context. A number of initiatives such as AKSHAYA, FRIENDS etc. have been taken up in this regard.

Kerala State Information Technology Mission (KSITM) is a Society registered under the Travancore Cochin Literary Scientific & Charitable Societies Registration Act. It is an autonomous nodal IT implementation agency for Department of Information Technology, Government of Kerala which provides managerial support to various initiatives of the Department. KSITM has been actively involved in bridging the digital divide by leveraging ICT across various state government departments. KSITM has performed a critical role in introducing ICT in daily functioning of state government.

2.2 TRANSPORT DEPARTMENT, KERALA

The Transport Department in Kerala has long recognized the need of Information Technology in delivering its functions in the most efficient manner. The transport department is headquartered in Thiruvananthapuram and delivers its functions through various regional transport offices, sub-regional transport offices and check-posts. The Department for Transport's aim is transport that works for everyone. This means a transport system which balances the needs of the economy, the environment and society.

The Department for Transport provides leadership across the transport sector to achieve its objectives, working with regional, local and private sector partners to deliver many of the services. The Motor Vehicles Department, an entity of the Transport Department, by virtue of

being the department offering the highest number of citizen centric services is of immediate concern to us in the implementation of e-Governance.

2.3 ABOUT MOTOR VEHICLES DEPARTMENT, KERALA

The Motor Vehicles Department is primarily established for enforcement of the Provisions of the Motor Vehicle Act, 1988 and Kerala Motor Vehicles Taxation Act, 1976. It has been one of the proactive departments to leverage benefits of e-governance and has computerized all its activities under the FAST project.

STRUCTURE OF MVD:

The Kerala State Motor Vehicles Department has a Head office called the Transport Commissionerate headed by the Transport commissioner , four zonal offices headed by the Deputy Transport commissioners, Eighteen RTO's headed by the Regional Transport Officers and Forty Two SRTTO's headed by Joint Regional Transport Officers and nineteen check posts headed by Motor Vehicles Inspectors.

2.4 PROJECT BACKGROUND

Kerala Motor Vehicles Department is aware of and is committed to its role in bringing about social transformation in the state. The Department is also highly motivated in bringing about transparency and accountability in its administration while serving the citizens. This forms the crux of the department's objectives and has been articulated in its Citizen's Charter.

One of the major responsibilities of the Motor Vehicles Department (referred to as MVD hereinafter) is to Enhance Road Safety and ensure that the Central and Kerala Motor Vehicles Rules and acts are adhered to in the strictest manner. This shall ensure better road etiquettes in the state. For this purpose, the department has designated a team of Motor Vehicle Inspectors (MVI) and Assistant Motor Vehicle Inspectors (AMVI) which together form the Enforcement Team of the Department. The enforcement team has over the years done a remarkable job in maintaining the road environment of the state. However, over the years as the number and type of vehicles has grown exponentially in the state, the job of the enforcement team has not only

become difficult but also complex. Therefore, the department has sought to leverage information and communication technologies to address this issue.

Transport Department, Government of Kerala has already taken some initiatives of using ICT for efficient service delivery. Some of the initiatives are:

FRIENDS: It is a multiple agency bill collecting system and facilitates collection of various payments pertaining to citizens within specified area limits like transport, toll tax and so on. It is an initiative that provides services of several departments under one roof. It was taken up as part of the Single window concept. It allows citizens to make

- ✓ Payment of fees for any service from the department
- ✓ Payment of tax for non transport vehicles only

SMART MOVE Application: This is a customized version of the VAHAN SARATHI software developed and successfully implemented across the state by National Informatics Centre. It automates all the back-office operations and citizen centric procedures as well as obviates the necessity to maintain manual records. It has automated following:

- ✓ All registration records
- ✓ Tax collection registers
- ✓ All permit registers
- ✓ All license registers
- ✓ Register of driving schools, dealers, etc.

Some of the features that this software provides are:

- ✓ Issue of learner's driving license through the CALLS module
- ✓ Calculation and receipt of fees and taxes using the Fees & Tax module
- ✓ Administration module for assigning of user rights
- ✓ Issue of permits for all transport vehicles using the Permits module
- ✓ Registration of vehicle using the Vehicle Registration module
- ✓ Issue of Conductor's license

- ✓ Issue of Driver's License
- ✓ Allows citizens to access required information through the SMART-web module
- ✓ Allows managing of inward register, outward register, seat administration, CESS collection, Stock entry, CESS backlog/field collection, vehicle transfer/ address change through the SMART MOVE module

FAST application: Fully automated service of transport department (FAST) was implemented to improve efficiency and transparency of the transport department. This was implemented with an objective of rendering any counter, any service for all citizens that are citizen friendly, reduce service delivery time, improve enforcement of legal and statutory requirements, achieve transactional effectiveness, achieve better revenue realizations, and provide instant access to information.

To take the e-governance initiative a step further and with a vision for strict enforcement, and ideology to leverage ICT for empowering the MVD, the "Enforcement Automation" project has been initiated. Based on a detailed study, MVD has come up with a Solution design, with support from external consultants. Since this is a first of its kind solution proposed for traffic management in India, MVD, Kerala intends to implement it in selected Pilot locations. Based on the success of the pilot implementation, MVD, Kerala shall go for a **state wide rollout**. Proposed time frame for the pilot implementation is estimated to be four months from the date of award of contract. The Enforcement Automation solution is expected to have following components:

1. Complete Mobile solution for the on-field enforcement team allowing them to book offences and access other Transport department applications via GPS/ GPRS enabled Mobile/Handheld devices.
2. Video Analytics solution for automatic detection of offences like over speeding and red signal crossing; with integration to the control room.
3. Control room for backend activities with complete hardware and networking.
4. Enforcement automation hardware at the State Data Center.
5. Secured connectivity for real time data transfer between the above components

For this purpose, Proposals are invited from providers of Intelligent Transport Systems, to assess their capacity to provide a complete intelligent enforcement system.

This document outlines the Terms of Reference for the Applicants who can implement the above mentioned solution. These Terms of Reference have been drafted with a view to provide the Applicants a broad perspective of the requirements of MVD, Kerala and enable them to develop and submit their responses to the RFP document.

SECTION 3

INSTRUCTIONS FOR BIDDERS

3. INSTRUCTIONS FOR BIDDERS

3.1 GENERAL INSTRUCTIONS

The firm/ applicant supplying the turnkey solution of Intelligent Enforcement Systems for automating the Enforcement Wing of MVD, Kerala shall be referred to as the Primary Applicant or PA.

The PA shall partner with more than one firm or organizations for supply of specific solution components before bidding for the RFP; however, the responsibility of implementing the solution shall lie with the PA.

Incase if the PA wishes to enter into sub-contracting; they can do so only with the prior consent of the Transport Commissionerate and KSITM.

The PA shall be the single point of contact and would be responsible for complete execution of the contract.

3.2 ELIGIBILITY CRITERIA FOR VENDOR SELECTION

Sr. No.	Eligibility criteria	Document Requested
	<u>Eligibility criteria for Primary Applicant</u>	
	a. The firm/ applicant supplying the turnkey solution of Intelligent Enforcement Systems for automating the Enforcement Wing of MVD, Kerala shall be referred to as the Primary Applicant or PA.	✓ Attested copy of the Registration certificate in context to clause 1.b
	b. The PA should be a registered company under the Companies Act 1956 and Registrar of Companies.	✓ Self attested certificate in context of clause 1.c in the format prescribed in Form XIII
	c. The PA should not be in the "Black (Banned) List" released by the government of India or any other Government body.	✓ Attested copies of the Service Tax registration certificate, PF code and PAN card in context of clause 1.d
	d. The PA should have a valid service tax registration no., PF code and PAN number.	✓ In context of clause 1.e PA shall provide overall details as mentioned in Form VII and as a proof; Audited financial statements for the past three financial years (FY 2007-2008, FY 2006-2007, FY 2005-2006). Incase if the Audited statements for FY 2007-2008 are not available, then a
	e. The PA shall be a profit making organization with preferably an annual turnover of more than Rs. 50 Crores (or equivalent amount in any foreign currency) in each of the past three	

Sr. No.	Eligibility criteria	Document Requested
	financial years consecutively. This shall also include other services that the PA would be providing f. It is preferable that the PA shall have a registered net profit during each of the past three financial years g. It is preferable that the PA is a well established player in at least one of the solution areas i.e. Mobile application development, Intelligent Enforcement systems, IT infrastructure. h. It is preferred that the PA has valid quality certifications like CMMi, PCMM, ISO 9001:2000 or any other such standard certifications. i. It is preferable that the PA has greater than 100 employees with relevant experience in implementing projects of similar nature. j. It is preferable that the PA has relevant experience in executing such projects and preferably has implemented one such solution either in India or other countries k. It is preferable that the PA shall not have any pending litigations. If so, then the PA shall declare the same while submitting the proposal	statement of accounts duly certified by the CEO or director of Finance is to be submitted ✓ In context of clause 1.f PA shall also fill the Form VI ✓ Detail in context of clause 1.g shall be furnished in the proposal under the Section of Company profile as well as in the prescribed format in Form III ✓ Attested copies of valid certifications as applicable shall be attached in context of clause 1.h ✓ PA shall submit a duly signed declaration as prescribed in Form XI in context of clause 1.i ✓ Details of relevant experiences shall be furnished as prescribed in Form VIII in context of clause 1.j ✓ Details in context of clause 1.k shall be provided as prescribed in Form V
2.	<u>Consortium clause</u> a. The PA shall partner with more than one firm or organizations for supply of specific solution components before bidding for the RFP; however, the responsibility of implementing the solution shall lie with the PA. This shall be done with a formal intent to enter into an agreement to implement the project incase their joint bid is successful or having an existing arrangement in form of a consortium. Incase if the PA wishes to enter into sub-contracting, then they can do so only with the prior consent of the Transport Commissionerate	✓ In context of clause of 2.a PA shall submit the Certificate of incorporation as prescribed in Form II ✓ In context of clause 2.b PA shall submit a Letter of Association clearly indicating Who shall be the Prime Applicant and the Partner Firms along with an organization structure and specifying the Roles and Responsibilities of each firm ✓ Partners shall also submit their

Sr. No.	Eligibility criteria	Document Requested
	b. If a consortium is formed, then the consortium shall nominate a representative as the Prime Applicant (PA) who shall have the authority to conduct all business for and on behalf of the partners of the consortium during the pre-qualification process and, in the event the consortium is pre-qualified, during the bidding process, and in the event the consortium is awarded the contract, during the contract execution and the warranty period including the Annual Maintenance Contract (AMC). The AMC and Warrant period (post implementation) responsibility shall lie with the PA. The PA shall be the single point of contact and would be responsible for complete execution of the contract.	profile summary in format prescribed in Form IV
3.	<u>Eligibility criteria for Partner firms</u> a. All the partner firms must be registered companies under the Companies Act 1956 and Registrar of Companies. b. None of the partner firms should be in the "Black (Banned) list" released by the Government of India or any other Government body. c. It is preferable that none of the partner firms shall have any pending litigations. If so, then the partner firms shall declare the same while submitting the proposal d. All the partner shall also have valid Service Tax registration number, PF code and PAN number e. It is preferable that all the partner firms shall also be profit making organizations and have an annual turnover of more than Rs. 20 crores (or equivalent amount in any foreign currency) for their core practice in each of the past three financial years. f. It is preferable that the other partner firms have employee strength of greater than 50 employees.	✓ Attested copy of the Registration certificate in context to clause 3.a ✓ Self attested certificate in context of clause 3.b in the format prescribed in Form XIII ✓ Details in context of clause 3.c shall be provided as prescribed in Form V ✓ Attested copies of the Service Tax registration certificate, PF code and PAN card in context of clause 3.d ✓ In context of clause 3.e all the partner firms shall provide overall details as mentioned in Form VII and as a proof; Audited financial statements for the past three financial years (FY 2007-2008, FY 2006-2007, FY 2005-2006). Incase if the Audited statements for FY 2007-2008 are not available, then a statement of accounts duly certified by the CEO or

Sr. No.	Eligibility criteria	Document Requested
	g. It is preferable that the other partner firms are also have valid quality certifications. h. It is preferable that other partner firms have executed/ implemented similar components in the past with at least one project in the Government sector. i. It is preferable that the partner firms shall have a registered net profit during each of the past three financial years	director of Finance is to be submitted ✓ All partner firms shall submit a duly signed declaration as prescribed in Form XI in context of clause 3.f ✓ Attested copies of valid certifications as applicable shall be attached in context of clause 3.g ✓ Details of relevant experiences shall be furnished as prescribed in Form VIII in context of clause 3.h ✓ Details in context of clause 3.i shall be provided in format prescribed in Form VI
4.	<u>Other eligibility criteria</u> a. It would be preferable that the PA and its partner firms have worked together in the past for at least one successful implementation. b. It is preferable that the PA and /or its partner firms have local presence in India with at least one development center/ office in Kerala.	✓ Summary of all such relevant experiences in context of clause 4.a shall be provided in the format prescribed in Form IX ✓ Applicant shall also provide relevant client credentials or completion certificate from client in context of clause 4.a ✓ Details in context of clause 4.b shall be provided in format prescribed in Form X
5.	<u>Conflict of interest</u> The applicants shall not have a conflict of interest. All applicants found to have a conflict of interest with one or more parties in this pre-qualification process shall be disqualified. Applicants shall be considered to have conflict of interest, if they: ✓ Have controlling shareholders/ stakeholders/ management in common; or	

Sr. No.	Eligibility criteria	Document Requested
	✓ Receive or have received any direct or indirect subsidy from any of them; or ✓ Have the same legal representative for purpose of their application; or ✓ Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or to influence the application of another applicant in the subsequent bidding process or influence the decisions of MVD, Kerala regarding this pre-qualification process.	

3.3 SCHEDULE OF SUBMITTING PROPOSALS

A detailed schedule for submitting proposals is given below:

Sr. No.	Event	Period	Date	Time	Venue
1.	Floating of RFP	(T)	5.12.2008	11:00 am	Through news paper advertisement and website
2.	Pre-bid meeting of bidders	(T) + 12 days	16.12.2008	3:00 pm	First floor, Conference room, Transport Commissionerate, Trans Towers, Vazhuthacaud, Thiruvananthapuram, Kerala.
3.	Last date of receiving queries	(T)+15 days	19.11.2008	12:00 pm	Through email
4.	Last date of submission of RFP responses	(T)+30 days	03.01.2009	3:00 pm	Kerala State IT Mission, Vellayambalam, Thiruvananthapuram – 695 033, Kerala
5.	Opening of Eligibility bids & Technical Bids	(T)+30 days	03.01.2009	4:00 pm	First floor, Conference room, Transport Commissionerate, Trans Towers, Vazhuthacaud, Thiruvananthapuram, Kerala.

Sr. No.	Event	Period	Date	Time	Venue
6.	Presentation by pre-qualified bidders	(T)+36 days	09.01.2009	11:00 am	First floor, Conference room, Transport Commissionerate, Trans Towers, Vazhuthacaud, Thiruvananthapuram, Kerala.
7.	Opening of Commercial bids	(T)+38 days	12.01.2009	3:00 pm	First floor, Conference room, Transport Commissionerate, Trans Towers, Vazhuthacaud, Thiruvananthapuram, Kerala.
8.	Announcement of selected bidders	(T)+42 days	16.01.2009	11.00 am	Through mails to respective applicants
9.	Award of contract	(T)+46 days	21.01.2009	11:00 am	First floor, Conference room, Transport Commissionerate, Trans Towers, Vazhuthacaud, Thiruvananthapuram, Kerala.
10.	Commencement of project		22.01.2008		

3.4 PURCHASE OF RFP DOCUMENTS

Bidders can download the RFP document from the KSITM website <http://www.itmission.kerala.gov.in> or MVD, Kerala website <http://keralamvd.gov.in> . Bidders downloading the document from the website must furnish the document fee of Rs. 2,500/- along with the eligibility bid in the form of a DD as mentioned above. This DD shall be separate from that of the DD for EMD.

3.5 INFORMATION FOR PROPOSAL SUBMISSION

The applicant shall comply with the following requirements during preparation of the Proposal:

3.5.1 Language of the proposal: Bidders are required to furnish all information and documents, as called for in this document, in English language and in the prescribed

formats. Any printed literature furnished by the bidder may be in another language, provided that this literature is accompanied by an English translation, in which case, for the purpose of interpretation of the document, the English version duly authenticated will prevail.

3.5.2 All proposal shall be addresses to and submitted at:

The
Director,
Kerala State IT Mission,
Vellayambalam,
Thiruvananthapuram – 695 033, Kerala.

3.5.3 Signing of the proposal: The proposal shall be typed or written in indelible ink (if required) and duly signed by the PA, or by his duly authorized person holding power of attorney for signing the proposal document. A copy of registered power of attorney shall accompany the proposal.

If the proposal is submitted by a consortium then the authorized representative of the PA shall sign it. A certified copy of registered power of attorney in favor of the authorized representative, signed by legally authorized signatories of all the partners of the consortium shall accompany the proposal.

Each page of the proposal shall be duly initialed by the authorized signatory.

3.5.4 Errors or omissions: Submissions containing alterations or erasures may be excluded from consideration. Any alteration made shall be initialed by the PA. Incase of any discrepancy, error or omission in the Proposal/response submitted and if the applicant wishes to lodge a correction or provide additional information the same is to be submitted in writing prior to the RFP closing date and time.

Applicants are not permitted to modify, substitute, or withdraw Proposals after its submission

3.5.5 Packaging and identification: Each Proposal submitted by the bidder shall have three parts

1. **General Bid** – This Bid shall contain all the required documents as specified in the eligibility criteria in section 3.2 along with an EMD (Earnest Money Deposit) of Rs. 1,00,000/- in the form of a DD drawn in favor of “Director - Kerala State IT Mission”, payable at Thiruvananthapuram and the DD for document fee.

Bidder shall submit 4 copies of this bid (one original + 3 copies) in four different envelopes, clearly marking “**Original Bid**” on one copy and “**Copy of Bid**” on the remaining 3 copies. Each envelope should be sealed and labeled “**Automation of Enforcement Wing of MVD, Kerala – General Bid (Eligibility Claim)**”.

All four envelopes shall be sealed in a covering envelope super scribed with “**Automation of Enforcement wing of MVD, Kerala – General Bid (Eligibility Claim) and EMD/Bid security**”. The covering envelope shall include the DDs for EMD and document fee along with the copies of eligibility claims.

2. **Technical Bid** – This bid shall contain the technical proposal in the format as mentioned in section 3.6.2 below.

Bidder shall submit 4 copies of this bid (one original + 3 copies) in four different envelopes, clearly marking “**Original Bid**” on one copy and “**Copy of Bid**” on the remaining 3 copies. Each envelope should be sealed and labeled “**Automation of Enforcement Wing of MVD, Kerala – Technical bid**”.

All four envelopes shall be sealed in a covering envelope super scribed with “**Automation of Enforcement wing of MVD, Kerala – Technical Bid**”.

3. **Commercial bid** – This bid shall contain the commercial bid in the format as mentioned in section 3.6.3 below along with the Quotation form as prescribed in Form XIV and XV.

Bidder shall submit 4 copies of this bid (one original + 3 copies) in four different envelopes, clearly marking “**Original Bid**” on one copy and “**Copy of Bid**” on the

remaining 3 copies. Each envelope should be sealed and labeled **“Automation of Enforcement Wing of MVD, Kerala –Commercial bid”**.

All four envelopes shall be sealed in a covering envelope super scribed with **“Automation of Enforcement wing of MVD, Kerala – Commercial Bid”**.

4. Bidders shall also submit a soft copy of the proposal in each of the three parts as mentioned above in the form of a CD. Each part shall be saved in separate folders which shall be labeled as **“General Bid”**, **“Technical Bid”** and **“Commercial Bid”** respectively. The CD shall be labeled **“Automation of enforcement Wing of MVD, Kerala.”** Along with the name of the Primary Applicant.
5. All the above 3 bids and the CD along with the covering letter as prescribed in Form I, shall be sealed in a final covering envelope which shall be labeled **“Proposal for Automation of Enforcement Wing of MVD, Kerala”** and addressed to
The,
Director,
Kerala State IT Mission,
Vellayambalam,
Thiruvananthapuram – 695 033, Kerala.
6. These envelopes shall be sealed by signing across all joints and pasting good quality transparent adhesive tape on top of such joints along with signatures. If the envelopes are not sealed as mentioned above, and marked as required, KSITM will assume no responsibility for the Bid’s misplacement or premature opening.
7. Proposals received by facsimile/ Telex/ Telegrams/ Email shall be treated as defective, invalid and rejected. Only detailed complete proposals in the form indicated received prior to the closing time and date of the proposals shall be taken as valid.

- 3.5.6 **Cost of Bidding:** The bidder shall bear all costs associated with the preparation and submission of bids and KSITM will in no case be responsible or liable for these costs, whether or not the bid is finally accepted.
- 3.5.7 **Non Transferable bids:** The RFP document is not transferable. Only the party who has purchased this RFP document shall be entitled to submit their quote and proposals.
- 3.5.8 **Clarification on RFP document:** KSITM shall make best efforts to respond to any clarifications on the RFP document. Such requests can be made in writing, or sought in the pre-bid meeting. The response /clarification shall to the extent possible be made in writing to the Email id mentioned in the document. Further, minutes of the pre-bid meeting together with written copies of KSITM's response if any shall be sent to all prospective Bidders, who have received the RFP Document. KSITM shall not be responsible for any delay including but not limited to any postal delays.
- 3.5.9 **Amendment of RFP Document:** At any time before the deadline for submission of bids, KSITM may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP Document by amending, modifying and/or supplementing the same. All prospective Bidders who have received this RFP Document shall be notified of any amendments in writing by e-mail and / or post, and all such amendments shall be binding on them without any further act or deed on KSITM's part. In the event of any amendment, KSITM reserves the right to extend the deadline for the submission of the bids, in order to allow prospective Bidders reasonable time in which to take the amendment into account while preparing their bids.

3.6 PROPOSAL FORMAT

The bidder is expected to examine all the instructions, guidelines, terms and conditions and formats in the RFP. Failure to furnish all the necessary information as required by the RFP on submission of a proposal not substantially responsive to all the aspects of the RFP shall be at

bidders own risk and may be liable for rejection. The proposal as mentioned shall be submitted in three parts. Each part shall include the following information:

3.6.1 General Bid: This bid shall contain the following documents

- ✓ Proposal submission letter as prescribed in Form II
- ✓ Letter of Association in case of consortium
- ✓ Primary Applicant Information form as prescribed in Form III
- ✓ Partner Information Sheet as prescribed in Form IV
- ✓ Pending Litigation form as prescribed in Form V (for both PA & Partner firms)
- ✓ Declaration of Clean Track record as prescribed in Form XIII (For both PA & Partner firms)
- ✓ Financial details and Average annual turnover as prescribed in form VI and VII (For both PA & Partner firms)
- ✓ Attested copies of Audited financial statements for last 3 financial years in support of the above. (For both PA & Partner firms)
- ✓ Attested copies of Service Tax Registration, PF and PAN no. registration along with Registration certificate under the Company's Act 1956. (For both PA & Partner firms)
- ✓ Relevant experience form as prescribed in Form VIII and IX
- ✓ Details of local presence and employee strength as prescribed in Form X and XI
- ✓ Other documents as may be deemed fit by the bidder for proving their eligibility

3.6.2 Technical Bid: Technical approach, methodology and work plan are key components of the Technical Proposal. Applicants shall present their Technical Proposal containing:

- ✓ Understanding of Project scope: This section shall contain a clear and concise understanding of project requirements along with activities to be performed and deliverables to be provided based on the scope of work.

- ✓ **Technical Approach and Methodology:** In this part applicants should explain their understanding of the objectives of the assignment, approach to the assignment, methodologies for carrying out activities and obtaining the expected outputs, and the degree of detail of such output. Applicant should highlight the problems being addressed and their importance and explain the adoption of technical approach for its redressal. Applicants should also explain the proposed methodologies and highlight the compatibility of those methodologies to the proposed approach and the needs of the project. Applicant shall also include the Risk management and Quality assurance plans.
- ✓ **Work Plan:** In this part the applicant should propose the main activities of the assignment, their content and duration, phasing and interrelations, meetings, milestones (including interim approvals by the Client), and delivery dates of the reports/ documents. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the Scope of Work and ability to translate them into a feasible working plan. A list of the final documents, including reports, drawings, and tables to be delivered as final output, should be included here. The work plan should be consistent with the Work Schedule. Milestones, Deliverables, Meetings and presentations shall be clearly mentioned.
- ✓ **Organization and staffing:** In this part the applicant should propose the structure and composition of team. The main disciplines of the assignment, the key expert/ firm responsible, and proposed technical and support staff may be provided. In case of a consortium, applicant shall also explain the roles and responsibilities of the partner firms and the solution that they will implement and the arrangements made thereof.
- ✓ **Approach for Pilot implementation:** Detailed approach for carrying out the pilot implementation along with the support and maintenance during the contract.

- ✓ Scalability: After the successful implementation at pilot locations MVD and KSITM will go for state wide roll out. Thus the existing solution must be robust to be scaled up to 100 traffic junctions and 200 mobile or handheld devices. These numbers may vary as per MVD's discretion in consultation with KSITM. Applicants can also provide their approach for state wide rollout.
- ✓ Detailed specifications: Applicants shall also give specifications of hardware/software to be procured as mentioned in Form XII along with attested copies of agreements from the Original Equipment Manufacturers for supply of procured hardware and software. Applicants must also attach an attested copy of the **Brochures** from the OEM, for each equipment that they would be providing as a part of the assignment.
- ✓ Company profile: Details of the Point of Contact along with brief work profile of the PA as well as other partner firms including relevant experiences of executing similar projects. Applicants may include relevant case studies and attested copies of completion certificates from clients in support of the case studies.
- ✓ Comments, if any, on the TOR to improve performance in carrying out the project. Innovativeness shall be appreciated, including workable suggestions that could improve the quality/ effectiveness of the assignment. In this regard, unless the applicant states otherwise, it shall be assumed by KSITM that work (time and effort) required to implement any such improvements, are included in the inputs shown in the project plan.

3.6.3 Commercial proposal: Applicants must submit the following documents, original copies or attested copies, as the case may be, along with the Financial Bid, in absence of which the proposals will be rejected.

- ✓ The Commercial bid form as prescribed in Form XIV and XV
- ✓ Applicants shall clearly mention unit rates and total amount for each solution component. Any discrepancy between words and figures noted against each

item of the RFP and between unit rates and total amount, the decision of KSITM will be final and binding on the proposals. Total of each item and the grand total shall be clearly written.

- ✓ Clerical and arithmetic mistakes may result in rejection of tenders.
- ✓ Prices quoted by the Bidder shall be fixed and no variation will be allowed under any circumstances during the entire period of the project. **No open-ended Bid shall be entertained and the same is liable to be rejected straightaway.** Price quoted shall be inclusive of all taxes and duties.
- ✓ All prices should be quoted in Indian Rupees (INR).

3.7 CONFIDENTIALITY

Information relating to the examination, clarification and comparison of the Proposals shall not be disclosed to any Bidder/third party or any other persons not officially concerned with such process. The undue use by any applicant of confidential information related to the process may result in rejection of its Proposal. Except with the prior written consent of KSITM and MVD, Kerala, the applicant and the personnel shall not at any time communicate to any person or entity any confidential information acquired in the course of the Contract.

Neither party will disclose to any third party without the prior written consent of the other party any confidential information which is received from the other party for the purposes of providing or receiving Services which if disclosed in tangible form is marked confidential or if disclosed otherwise is confirmed in writing as being confidential or if disclosed in tangible form or otherwise, is manifestly confidential. Each party will take measures to protect the confidential information of the other party that, in the aggregate are no less protective than those measures it uses to protect the confidentiality of its own comparable confidential information, and in any event, not less than a reasonable degree of protection. Both parties agree that any confidential information received from the other party shall only be used for the purposes of providing or receiving Services under this Contract or any other contract between the parties.

All documents submitted in response to this document become the property of MVD, Kerala and KSITM on submission. KSITM and MVD, Kerala can use the submitted responses for all purposes relating to the evaluation of responses and the conduct of any further stages in this staged tender process, including a best and final offer in the RFP stage.

3.8 VALIDITY OF PROPOSAL

KSITM requires that the proposal submitted in response to this document remain valid for acceptance for a period of not less than four months after the RFP closing date. The applicants should state in their response, any longer period for which their response remains valid.

A Proposal valid for shorter period may be rejected as non-responsive. KSITM may seek the selected Applicant's consent to an extension of Proposal validity (but without the modification in Proposals). Where the applicant claims confidentiality or seeks to reserve intellectual property rights in respect of any part of its response or requests such part should be treated as "Confidential" or "commercial in confidence", they must:

- ✓ Clearly mark the part of the document in respect of which the claim is made
- ✓ State the basis of claim for confidentiality for each item marked (a blanket claim cannot be reasonably made)
- ✓ Satisfy KSITM that such a claim is reasonable

3.9 ACCEPTANCE OF PROPOSAL

Without limiting its rights at law or otherwise, KSITM reserves the right in its absolute discretion in relation to:

- ✓ Seeking written clarification from any or all of the applicants in relation to their responses, during the pre-qualification round
- ✓ Varying or discounting the procurement process if it deems reasonable conditions exist to do so
- ✓ Accepting or rejecting a response

- ✓ Providing additional information to any or all applicants
- ✓ Cancelling, adding to or amending the information, requirements, terms, procedures or processes set out in this document. In which case MVD, Kerala shall publish these on the website and notify the applicants
- ✓ Identifying opportunities for collaborative responses to be offered for the delivery of specified services
- ✓ Issue an open tender/RFP
- ✓ Waive any small/ minor informalities in the process

3.10 APPLICANTS PAYMENT CLAUSE

It should be noted that KSITM will release payments only after receiving successful installation and commissioning report from MVD, Kerala.

KSITM will give payments on achieving specific project milestones to PA only. Further division of payments among partners shall be taken up by PA as per their terms of references. KSITM will not have any role once the payment has been released to PA and no such conflicts or requests for intervention will be entertained by KSITM from any partner of Consortium.

3.11 OTHER INFORMATION

- ✓ **Project duration:** It is expected to complete the pilot implementation within duration of 4 (four) months from the date of award of contract.
- ✓ **Site visit:** Any applicant wishing to undertake site visits for familiarization with site conditions, may do so. For any guidance/assistance in this respect, applicant may contact KSITM/ MVD, Kerala at the address mentioned below. All costs incurred towards site visit shall be borne by the applicants themselves.
- ✓ **Enquiries:** Any query or further details regarding the project requirements, concerned departments, key personnel, dates and Information regarding MVD can be addressed to:

Contact person: Director - KSITM
Telephone: 0471 – 272 6881/ 272 5646/ 231 4307

Fax: 0471 – 231 4284

Email Id: director@keralaitmission.org

Contact address:

Kerala State IT Mission,

Vellayambalam,

Thiruvananthapuram – 695 033, Kerala

Website: <http://www.itmission.kerala.gov.in>

Applicants are specifically directed NOT to contact any other person apart from the one mentioned above in this RFP for meetings, conferences or technical discussions that are related to the RFP. Unauthorized contact will be a cause for immediate rejection of the Applicant's RFP Response. Substantive questions will be dealt with in writing.

SECTION 4

PROCESS FOR VENDOR SELECTION

4 PROCESS FOR VENDOR SELECTION

4.1 EVALUATION COMMITTEE

All evaluation will be carried out by KSITM approved Evaluation Committee. This committee will comprise of members from KSITM, NIC and MVD, Kerala. KSITM will be the convener of this committee and will take care of evaluation process in consultation with NIC and MVD, Kerala.

Evaluation Committee will prepare a list of firms based on the compliance to all the terms and conditions of the RFP. The Applicants who do not conform to the RFP conditions and proposal from firms without adequate capabilities as per RFP requirements shall be straight away rejected, without specifying any reason. All eligible applicants will be considered for further evaluation. The decision of KSITM will be final in this regard.

4.2 EVALUATION PROCESS

Evaluation will be done by Evaluation Committee. During evaluation of Proposals, KSITM may, at its discretion, ask the applicants for clarification of their Proposals. The process for evaluation of Proposals is as given below-

- 4.2.1 **Opening of Bids:** The Bids shall be opened at 16:00 hours on 3rd January, 2009 or on any other time or day later, fixed as per section 3.3 or any other enabling provisions in this regard, in the Transport Commissionerate office on addressed mentioned in the document, in the presence of at least one representatives of the Bidders who may choose to attend the proceedings. Representatives of bidders may sign a register in evidence of their presence.
- ✓ **Eligibility claim:** In the first instance, envelopes super scribed with “Eligibility claim” will only be opened, and eligibility of each bidder will be ascertained after ensuring that the EMD and document fee (if any) is submitted. Technical bids of only those bidders shall be opened who are found to be eligible as per the criteria laid down in section 3.2. In doubtful cases (where further documents or clarifications are required to establish eligibility), KSITM at its discretion, may decide to open the

technical bid. However, such bids can be rejected subsequently, if it is found that the bidder has claimed eligibility on false grounds.

- ✓ **Technical Evaluation:** Technical Proposals would be opened only for those applicants who are qualified during the Eligibility claims specified above. Once the technical bids have been opened preliminary scrutiny of the Proposals will be done to determine their eligibility and whether the proposals are complete, whether the documents have been properly signed, and whether the Proposals are generally in order. Proposals not conforming to such preliminary requirements will be prima facie rejected

If a Technical Proposal is determined as not substantially responsive, KSITM will reject it. Technical proposals conforming to eligibility criteria and preliminary scrutiny will be taken up for detailed technical evaluation.

- ✓ **Commercial Bids:** Commercial Proposal would be opened and evaluated only in respect of the technically qualified applicants. The method of selection is Quality cum Cost basis (70:30) between technical and commercial proposal. KSITM would select the applicant on the basis of combined score of technical and commercial proposals. Arithmetical errors in the commercial bids shall be rectified as follows:
 - If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected
 - If there is a discrepancy between the rates in words and figures, the rate in words will govern. If the supplier does not accept the correction of errors, his bid will be rejected and his bid security may be forfeited
- ✓ **Rejection of Bid:** A bid that does not meet all pre-qualification criteria or is not responsive or not fulfilling 70% of the total technical evaluation shall be rejected by KSITM and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation by the Bidder.

4.2.2 Evaluation of Technical bids:

The technical proposals will be opened on the mentioned date in this RFP. The Technical Bid will be examined by the evaluation committee on the basis of responsiveness to the scope of work, applying the evaluation criteria and points system specified.

- ✓ **Proposal Presentations:** The committee will invite the eligible bidders to make a presentation to KSITM at a date, time and location mentioned in the schedule. The purpose of such presentations would be to allow the bidders to present their proposed approach to the committee and the key points in their proposals.
- ✓ **The proposal review committee** may undertake oral clarifications with the bidders. The primary function of clarifications in the evaluation process is to clarify ambiguities and uncertainties arising out of the evaluation of the bid documents. Oral clarifications provide the opportunity for the committee to state its requirements clearly and for the bidder to more clearly state its proposal. The committee may seek inputs from their professional, technical faculties in the evaluation process.
- ✓ Depending on the **evaluation criteria** mentioned below, each Technical Bid will be assigned a technical score (TS) out of a maximum of 100 points. These technical scores will then be normalized on a scale of 100, with T1's score being normalized to 100 and the rest being awarded on a pro-rata basis. Such normalized scores are considered for the purpose of evaluation of QCBS based evaluation, explained below.
- ✓ The bidders, who score a **Technical score** of more than **75**, will qualify for the evaluation in the commercial bid.
- ✓ Weightage assigned during technical evaluation shall be as follows:

Sr. No.	Evaluation Criteria	Weightage
TECHNICAL BID EVALUATION- TOTAL WEIGHTAGE 70%		

Sr. No.	Evaluation Criteria	Weightage
1.	Pre-qualification of applicants	Completeness and submission of Forms II, III, IV, V, VI, VII, VIII, IX, X, XI and XIII
2.	Provision of complete equipments	10%
3.	Experience of handling projects of similar nature	15%
4.	Experience of implementing similar project together as a consortium	10%
5.	Company profile of both PA and partner firms	5%
6.	Brief on approach and methodology of implementation along with capacity of the respondent to deliver a complete and quality solution as expected in the Scope of work	10%
7.	Presentation from the applicant	10%
8.	Post implementation support and local presence	10%
COMMERCIAL BID EVALUATION- TOTAL WEIGHTAGE 30%		
1.	Commercial bid	30%

4.2.3 Evaluation of Commercial bids:

The Commercial Bids of the technically qualified bidders will be evaluated as per the evaluation criteria mentioned below:

- ✓ Man Month cost shall be inclusive of accommodation, mobilization, any other personal expenses
- ✓ The prices should be all inclusive of Taxes, warranties, AMCs, Out of Pocket Expenses (OPE) and license fees.
- ✓ All the taxes and other levies indicated in the Price Bid will be taken for the Price Bid evaluation.
- ✓ The Total Value of the Price bid shall be arrived based on the total value quoted by the bidder

- ✓ The list of Bidder will be ranked in ascending order (i.e.) Bidder quoted the lowest price (L1) will be ranked first and so on.
- ✓ The L1 bidder will be awarded 100% score.
- ✓ Commercial Scores for other than L1 bidders will be evaluated using the following formula:

Commercial Score of a Bidder (CS) = (Price bid of L1 bidder) / (Price bid of the Bidder) X 100 % (adjusted to 2 decimals)

- ✓ However, KSITM does not bind itself in any way to select the bidder(s) offering the lowest price.

4.2.4 Joint Technical & Commercial Evaluation:

- ✓ KSITM shall follow a Quality cum Cost Based System (QCBS) for finalization of the vendor.
- ✓ A composite weightage shall be calculated for those bidders whose bids are found to be in order. The weightage for the composite evaluation is as described below:
 - Technical – 70%
 - Commercial – 30%
- ✓ Bidder with the highest composite score (Technical & Commercial– TS*0.7 + CS*0.3) will be called for negotiating the contract. In case of a tie in the overall score bidder with the superior technical score will be invited for negotiations first.

4.2.5 Negotiations with the Successful Bidder: KSITM reserves the right to negotiate with the Successful Bidder. As per the evaluation criteria specified above in this RFP Document, selection of the Successful Bidder will be made and such Bidder may be called for negotiations for improvement of Terms of Reference and Scope of Work and commercial terms.

4.3 FINAL NEGOTIATIONS AND AWARD OF CONTRACT

At the completion of the selection process, KSITM will enter into negotiations with the selected Vendor/ consortium of vendors to identify any needed revisions to the proposal, both technical & commercial. The final contract must stipulate that the Enforcement Automation solution will satisfy the requirements as stated in the RFP. On acceptance of Proposal for awarding the contract, KSITM will notify the successful bidders in writing that their proposal has been accepted. KSITM and successful bidder will work out the Contract Agreement at the time of signing of Contract. After signing of the Contract Agreement, no variation in or modification of the term of the Contract shall be made except by written amendment signed by the parties.

KSITM reserves the right to award the contract, based on initial offers received or otherwise, without discussion and without conducting any further negotiations. Further, the selected Applicant may not reassign any award made as the result of this RFP, without prior written consent from KSITM.

4.4 NOTIFICATION OF AWARD

The PA/ Consortium whose Bid has been accepted shall be notified of the award by the KSITM prior to the expiration of the period of validity of the proposal, by registered letter or by fax. This letter (hereinafter the “Letter of Acceptance”) shall state the sum that KSITM shall pay the PA/Consortium in consideration of the execution, completion and maintenance of the work as prescribed by the Contract (hereinafter the “Contract Cost”) in accordance with Payment Terms. The PA/Consortium shall acknowledge in writing, the receipt of the Letter of Acceptance and shall send his acceptance to enter into the Contract within five (5) days from the receipt of the Letter of Acceptance

4.5 SIGNING OF CONTRACT

Pursuant to the PA/Consortium for acknowledging the Letter of Acceptance, the PA/Consortium and KSITM shall promptly and in no event later than 7 days from the date of acknowledgement of the Letter of Acceptance, sign the Contract. This shall be subject to the furnishing of the Performance Bank Guarantee as stated in clause 4.6 herein below. KSITM shall have the right and authority to negotiate certain terms with the successful PA/Consortium

before signing of the Contract. The signing of the Contract shall amount to award of the Contract and the PA/Consortium shall initiate the execution of the work as specified in the Contract

4.6 PERFORMANCE BANK GUARANTEE

A Performance Bank Guarantee (PBG) amounting to 10% of the contract value has to be furnished by the successful PA/Consortium within 2 weeks of entrustment of assignment. The PBG format shall be communicated to the successful bidder, at the time of entrustment of the assignment by KSITM. The mobilization advance payment of 10% will be released against the PBG.

The PBG is required to protect KSITM against the risk of selected vendor's conduct, which would warrant the PBGs forfeiture. Upon furnishing of the Performance Guarantee by the successful PA/Consortium, KSITM shall notify the other Bidders that their Bids have been unsuccessful and shall discharge the EMD to unsuccessful Bidders.

4.7 ANNULMENT OF AWARD

Failure of the successful Bidder to comply with pre-qualification criteria, evaluation criteria and other terms and conditions set out in the RFP Document shall constitute sufficient ground for the annulment of the award of Contract and forfeiture of the EMD, in which event KSITM may make the award to the next lowest evaluated Bidder or call for new bids.

4.8 DISQUALIFICATION

KSITM in its sole discretion and at any time during the processing of responses may disqualify any PA/Consortium from the bid process, if the applicant:

- ✓ Submitted the proposal after the schedule date and time
- ✓ Does not meet the eligibility criteria as mentioned in section 3.2
- ✓ Has made misleading or false representations in the forms, statements and attachments submitted in the proof of eligibility requirements

- ✓ Is found to have record of poor performance such as abandoning works, not properly completing contract, inordinately delaying completion, being involved in litigation or financial failures
- ✓ Submitted proposals which is not accompanied by required documents
- ✓ Failed to provide clarifications related thereto, when sought
- ✓ Submitted more than one proposal. This will cause disqualification of all proposals submitted by such applicants
- ✓ PA/Consortium who are found to canvass, influence or attempt to influence in any manner the qualification of selection process, including without limitation, by offering bribes or other illegal gratification shall be disqualified from the process at any stage

SECTION 5

GENERAL CONDITIONS OF CONTRACT

5 GENERAL CONDITIONS OF CONTRACT

5.1 RELATIONSHIP BETWEEN THE PARTIES

Nothing mentioned herein shall be constructed as relationship of master and servant or of principal and agent as between the 'KSITM' and 'the Primary Applicant/ Consortium'. The PA/ Consortium subject to this contract will have complete charge of personnel and Consortium, if any, performing the services under this Project from time to time. The PA/ Consortiums shall be fully responsible for the services performed by them or on their behalf hereunder.

5.2 STANDARDS OF PERFORMANCE

The PA/Consortium shall perform the services and carry out their obligations under the Contract with due diligence, efficiency and economy in accordance with generally accepted professional standards and practices. The PA/ consortium shall always act in respect of any matter relating to this contract as faithful advisor to KSITM. The PA/Consortium shall always support and safeguard the legitimate interests of KSITM, in any dealings with the third party. The PA/Consortium shall abide by all the provisions/Acts/Rules etc. of Information Technology prevalent in the country and conform to the standards laid down in RFP in totality.

5.3 DELIVERY AND DOCUMENTS

The applicant shall submit all the deliverables on due date as per the delivery schedule. The applicant shall not without KSITM's prior written consent disclose the Contract, drawings, specifications, plan, pattern, samples to any person other than an entity employed by KSITM or MVD, Kerala for the performance of the Contract. In case of termination of the Contract, the entire document used by applicant in the execution of project shall become property of KSITM.

PA/Consortium shall also provide other necessary documentation like manuals, license certificates, Brochures as part of the deliverables. After the installation of various equipments at the site, PA/ Consortium shall submit the Installation report which shall clearly mention the Names, serial nos., make, model of each equipment along with the date of installation to KSITM/ MVD, Kerala.

PA/Consortium shall provide all necessary support whenever requested by MVD, Kerala during the period of pilot implementation.

5.4 INTELLECTUAL PROPERTY RIGHTS

No services covered under the Contract shall be sold or disposed by the successful bidder in violation of any right whatsoever to third party, and in particular, but without prejudice to the generality of the foregoing, of any patent right, trademark or similar right, or any charge mortgage or lien. The PA/consortium shall indemnify KSITM from all actions, costs, claims, demands, expenses and liabilities, whatsoever, resulting from any actual or alleged infringement as aforesaid and at the expenses of the PA/ consortium, KSITM shall be defended in the defense of any proceedings which may be brought in that connection.

5.5 GOVERNING LANGUAGE & ASSIGNMENT

The Contract shall be written in English Language. English version of the Contract shall govern its interpretation. All correspondences and other documents pertaining to the contract, which are exchanged between the parties, shall be written in the English Language.

Successful bidder shall not assign the project to any other agency, in whole or in part, to perform its obligation under the Contract, without KSITM's prior written consent. Any sub contracting request shall be addressed to KSITM for prior permission.

5.6 PAYMENT SCHEDULE

The PA will be paid project fee as a percentage of the contract value as per the schedule given below:

Sr No.	Project Milestone	Percentage of Payment Amount to be released
1.	Installation and Commissioning of Hardware & software (Including software development)	30%

Sr No.	Project Milestone	Percentage of Payment Amount to be released
2.	Testing and Acceptance of integrated solution	30%
3.	Completion of Pilot Implementation	35%
4.	Post Implementation support for a period as mentioned in the contract	5%

5.8 SUSPENSION

KSITM may, by written notice to PA/Consortium, suspend all payments to the PA/Consortium hereunder if the PA/Consortium fails to perform any of its obligations under this Contract including the carrying out of the services, provided that such notice of suspension

- ✓ Shall specify the nature of failure.
- ✓ Shall request the PA/Consortium to remedy such failure within a period not exceeding thirty (30) days after receipt by the PA/Consortium of such notice of failure.

5.9 TERMINATION

Under this Contract, KSITM may, by written notice terminate the PA/Consortium in the following ways

- ✓ Termination by Default for failing to perform obligations under the Contract or if the quality is not up to the specification or in the event of non adherence to time schedule.
- ✓ Termination for Convenience in whole or in part thereof, at any time. KSITM reserves the right to elect:
 - i. To have any portion completed at the work order and /or the Work Order terms and prices; and /or
 - ii. To cancel the remainder and pay to the agency an agreed amount for partially completed Services.
- ✓ Termination for Insolvency if the PA/Consortium becomes bankrupt or otherwise insolvent.

5.10 LIQUIDATED DAMAGES

In the event of delay in execution of work, specified in this contract/ furnishing of deliverables, the bidder shall be liable to a penalty @ 2% of the contract value, for every week of delay upto a maximum of 10% , after which KSITM shall be at liberty to cancel the award. For this purpose, part of a week shall be considered as a full week.

5.11 INSURANCE AND PACKAGING OF EQUIPMENTS

All items and equipments provide by the PA/Consortium as mentioned in the RFP, should be packaged and labeled as per industry standards and in order to protect the equipments from physical damage during shipping and transit. The delivery should be accompanied by a packaging slip.

Appropriate Insurance to cover the equipments for the transit period and till the time of its acceptance by MVD, Kerala and KSITM at the respective sites, is to be taken by the PA/Consortium. At the discretion of KSITM and MVD, Kerala there will be an Acceptance Test conducted by MVD, Kerala or its nominated consultant, after the installation of complete equipments. The PA/Consortium shall assist in conducting the Acceptance test and shall ensure the presence of its personnel at the site for the test.

It shall be the sole responsibility of the PA/Consortium to bare the cost of damage/replacement of any equipment during the period of pilot implementation and Post implementation support or till such time, the equipment is accepted by KSITM and MVD, Kerala. PA/Consortium shall ensure that all damaged equipments are replaced within 2 days from breakdown.

PA/Consortium shall ensure that all equipments provided are of Brand new quality and are supplied with their original and complete printed documentation. They should also provide a certificate from the Original Equipment Manufacturer certifying that the “end-of-life” of the equipment is at least more than 18 months from the date of supply.

5.12 TAXES AND DUTIES

The commercial proposal shall be inclusive of all taxes, duties, propriety rights license fee and Operating expenses including mobilization and stay of staff.

5.13 ARBITRATION AND LEGAL JURISDICTION

All disputes between either parties occurring during the period of contract in relation to the contract shall be first resolved by the Honorary Secretary of IT Department, Kerala. Disputes which remain unresolved further shall be subject to the jurisdiction of the Courts in Thiruvananthapuram.

5.14 NOTICE

Any notice, request or consent required or permitted to be given or made pursuant to this contract shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the party to whom the communication is addressed, or when sent to such party at the address mentioned in the Contract Agreement.

5.15 LIABILITIES

- ✓ Either party will accept liability without limit. For death or personal injury caused to the either party by its negligence or the negligence of its employees acting in the course of their employment;
 - Any other liability which by law either party cannot exclude.
 - This does not in any way confer greater rights than what either party would otherwise have at law
- ✓ The Contract does not contemplate any consequential, indirect, loss profit, claim for tort or similar damages of any form to be paid by the PA/ Consortium to KSITM or any other organizations
- ✓ Notwithstanding anything to the contrary contained in this Contract, in no event will the PA/ Consortium be liable to KSITM, whether a claim be in tort, contract or otherwise; for any amount in excess of 100% of the total professional fees payable for the respective Project.
- ✓ No action regardless of form, arising out of this Contract may be brought by either party be for more than one year after the cause of action has accrued.

5.16 PROGRESS OF THE PROJECT

The PA/ Consortium would be required to intimate the progress of the project to KSITM in a frequency and manner prescribed in consultation with the PA/ Consortium after the award of Contract.

5.17 FORFEITURE OF EMD AND PERFORMANCE BANK GUARANTEE

Till such time the Contract Agreement is signed, EMD submitted by the PA/Consortium shall be forfeited under the following conditions:

- ✓ If the PA/Consortium withdraws the proposal before the expiry of the validity period
- ✓ During the bid process, if a PA/Consortium indulges in any such activity as would jeopardize the tender process. The decision of KSITM regarding forfeiture of EMD shall be final and not be called upon question under any circumstances
- ✓ If the PA/Consortium violates any of the provisions of the terms & conditions of the RFP

In case of a successful PA/Consortium the Performance Bank Guarantee shall be forfeited under the following conditions:

- ✓ If the PA/Consortium fails to accept award of work
- ✓ If the PA/Consortium fails to sign the Contract Agreement with KSITM, after acceptance of communication on placement of award
- ✓ If the PA/Consortium violates any such important conditions of this RFP
- ✓ If the PA/Consortium indulges any such activities as would jeopardize the interest of KSITM in timely finalization of this RFP document. . The decision of KSITM regarding forfeiture of PBG shall be final and not be called upon question under any circumstances. A default in such a case may involve black listing of the PA/Consortium.

5.18 FRAUD AND CORRUPTION

KSITM requires that PA/ Consortium selected through this RFP must observe the highest standards of ethics during the performance and execution of such contract. In pursuance of this policy, KSITM:

5.18.1 Defines, for the purposes of this provision, the terms set forth as follows:

- ✓ **“Corrupt practice”** means the offering, giving, receiving or soliciting of anything of value to influence the action of KSITM or any personnel of PA/ Consortium(s) in contract execution
- ✓ **“Fraudulent practice”** means a misrepresentation of facts, in order to influence a procurement process or the execution of a contract, to KSITM, and includes collusive practice among PA/ Consortia (prior to or after Proposal submission) designed to establish bids at artificially high or non-competitive levels and to deprive KSITM of the benefits of free and open competition.
- ✓ **“Unfair trade practices”** means supply of services different from what is ordered on, or change in the Scope of Work which was given by the KSITM in Section 6.
- ✓ **“Coercive practices”** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the execution of contract.

5.18.2 KSITM will reject a proposal for award, if it determines that the PA/ Consortium recommended for award is engaged in corrupt, fraudulent or unfair trade practices.

5.18.3 KSITM will declare a firm ineligible, either indefinitely or for a stated period of time, for awarding the contract, if it at any time determines that the firm has engaged in corrupt, fraudulent and unfair trade practice in competing for, or in executing, the contract.

5.19 MISCELLANEOUS

- ✓ The end product of the work assignment carried out by the PA/ Consortium, in any form, will be the sole property of KSITM and MVD, Kerala.
- ✓ In the event the PA/ Consortium's Company or the concerned Division of the company is taken over / bought over by another company, all the obligations under the agreement with KSITM , should be passed on the compliance by the new company new Division in the negotiation for their transfer.

SECTION 6

SCOPE OF WORK

6 SCOPE OF WORK

6.1 KEY OBJECTIVES OF THE PROJECT

Motor Vehicles Department of Kerala in its drive towards continuous improvement for citizen services has identified several key initiatives, out of which one initiative is the Automation of its enforcement wing, which is the goal of this assignment. Key objectives of this initiative are to:

- Empower the enforcement officers of the department with all the necessary and correct information about the law offenders
- Improve the transparency/ reduce the harassment to citizens through implementation of appropriate and common rules on law offenders using information technology tools
- Improve efficiency of department for information reporting to Government through an integrated database

6.2 CURRENT ENFORCEMENT SCENARIO AT MOTOR VEHICLES DEPARTMENT, KERALA

Enforcement of road rules and regulations involves a wide range of complex tasks many of which demand the use of modern technology by enforcement officers. Major activities of the enforcement wing have been explained in the enforcement lifecycle below.



FIGURE 1 - ENFORCEMENT LIFECYCLE

Based on the above cycle, table below gives the activities as they are currently being carried out.

Identification	Verification	Booking	Compounding	Court cases	Prosecution
Random and manual offence identification	Data verification is done only on the basis of availability of documents	Calculation of penalty is manual	Collection of penalty is done manually	Presence of offender is not guaranteed	All penalty challans are currently hand written

Identification	Verification	Booking	Compounding	Court cases	Prosecution
Offenders are contacted only if they are stopped	Data retrieval from central database is random, informal and manual	Penalties are imposed only if the vehicle stops	Incase of differed payments, citizens have to go to the respective RTO and make payments	Availability of requisite documents during hearings is not guaranteed	
Limited coordination between on-field enforcement officers		Preparation of challans and reports is being done manually	Reports on outstanding receipts is not easily available	Gathering of evidences for proving an offence in the court is limited. Visual evidences are currently not available.	
Critical junctions are being monitored only on the presence of enforcement team.		Updation of reports to the state data center happens manually at the end of the day			

6.3 ENVISAGED STRUCTURE OF ENFORCEMENT AUTOMATION SOLUTION

Based on detailed study the MVD, Kerala has envisaged the enforcement automation solution to have following components as explained in the diagram:

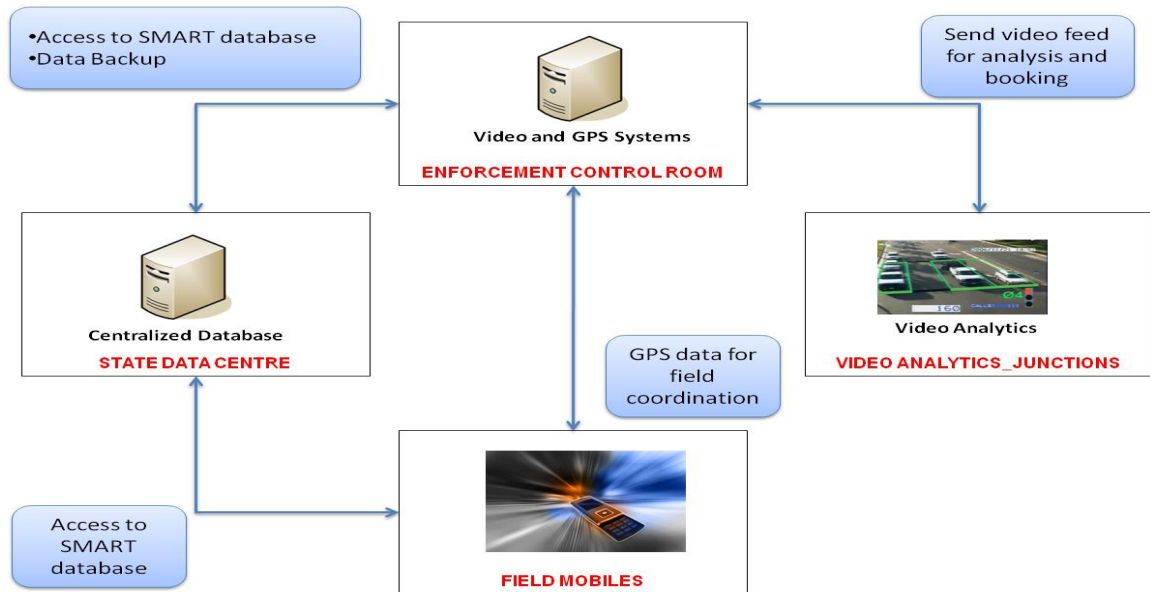


FIGURE 2 - PROPOSED ENFORCEMENT AUTOMATION SOLUTION

The above solution has been designed considering the enforcement lifecycle and each component is as explained below with respect to each stage.

- Identification:** Implementation of Video Analytics solution at critical road junctions. Video analytics is the next generation integrated solution, and uses CCTVs as incident recording unit and software application (Image processors and telematics) for offence detection and verification apart from on-field offence identification. It allows user to form virtual loops on the backend video screen so as to identify over speeding.
- Verification:** Empowering the on-field enforcement team to access offender information from database with the use of GPS enabled Mobile/ Handheld devices.
- Booking:** Empower the on-field enforcement team to book an offender using the GPRS enabled Mobile/handheld devices as well as the control room operator using the control room interface.
- Compounding:** Allow both on-field collection of penalties and documents as well as allow citizens to make online payments.
- Court cases and prosecution:** Provide regular SMS alerts to offenders and use video recordings as evidence.

Objectives of selecting above solution components:

1. Minimum disruption to traffic during installation
2. Reduce the error probability in detecting and verifying offences
3. Achieve flexibility in data transmission
4. Achieve flexibility in changing detector layout
5. Improve the verification process and making it real time
6. Achieve real time data updates at the server
7. Reduce data entry tasks while preparing reports
8. Reduce errors in penalty calculations and improve collection efficiency
9. Provide flexible payment options to the offender
10. Achieve 24X7 traffic surveillance

The expected outcome from the total solution is explained in the diagram below. Row headings indicate various stakeholders involved in the lifecycle:

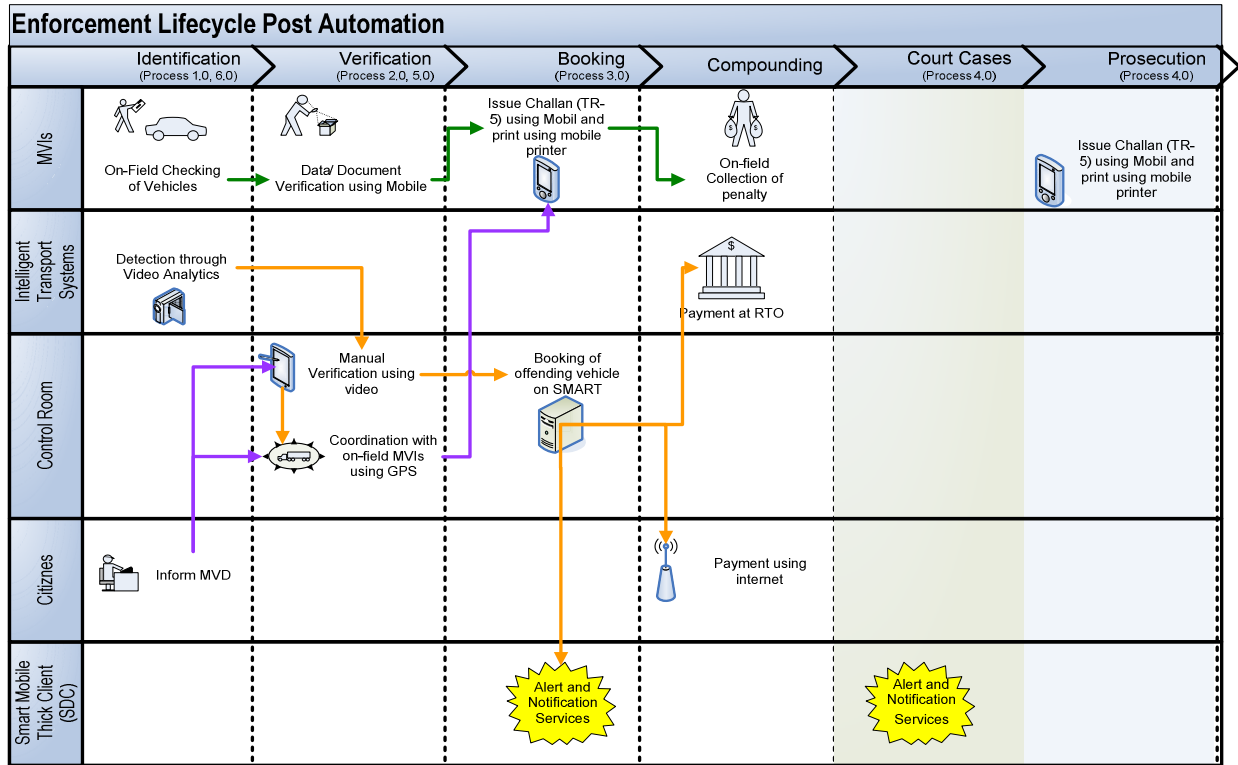


FIGURE 3 - ENFORCEMENT LIFECYCLE POST AUTOMATION

6.4 DETAILED SCOPE OF WORK

Diagram below gives broad expectations from the applicant for each of the task explained above.

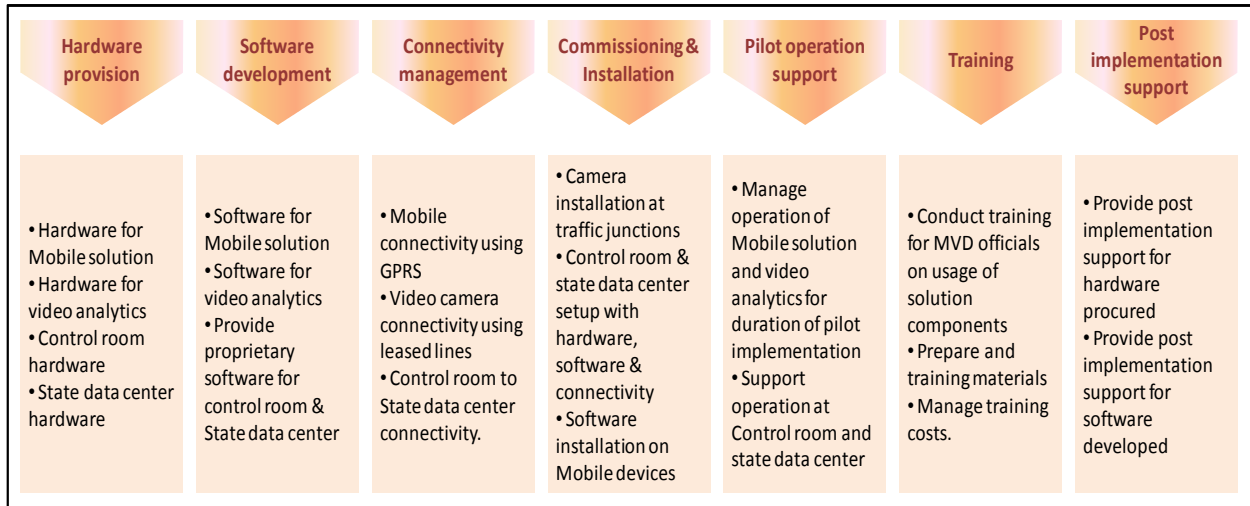


FIGURE 4 - BROAD SCOPE OF WORK

Based on the above solution structure and desired outcome, the solution provider/ applicant are expected to provide following services as part of the project.

- 1. Provision of complete hardware:** Applicant shall provide the complete hardware required to implement the solution. This shall include all the hardware required for the Mobile solution, Video analytics solution, setting up of control room and state data center as well as tie up with required service providers for providing mobile and leased line connectivity. Detailed hardware requirements are given in the following section.
- 2. Software development and testing:** Applicant shall develop and test the software solution based on the requirements given in the following section. Software development shall include both Mobile solution, presence manager as well as Video analytics solution that shall be integrated with the web server. Applicant shall manage integration of the Enforcement software with other existing applications running at MVD, Kerala. Applicant shall also provide other proprietary software required for setting up of Control room and State Data Center.

- 3. Managing connectivity between solution components:** Applicant shall also ensure proper connectivity between all the solution components so as to enable real time operations and data transfer. Applicant shall tie up with required service providers for providing mobile and leased line connectivity and ensure maximum uptime for these services. Connectivity between cameras and control room can be made by connecting leased lines to the nearest block on the KSWAN. Applicant shall also ensure appropriate secured connectivity measures between control room and state data center. Applicants should also suggest an eco-friendly measure for providing power to the cameras.
- 4. Commissioning and installation:** Applicant shall manage the installation of hardware and software at the selected pilot junctions/ locations as well as the existing state data centre. Applicant shall also test the working of complete integrated solution.
- 5. Pilot operation support:** Based on successful installation Applicant shall provide operational support for the duration of the pilot implementation and ensure complete working of the system.
- 6. Training of MVD officials:** Post installation and commissioning of the complete solution, Applicant shall also provide training to the MVD officials, on the use of respective component of the solution. Applicant shall manage the complete training program including training material/ user manuals and training cost.
- 7. Support, Training & Maintenance:** Applicant shall provide dedicated onsite support staff for training MVD officials till initial testing, acceptance and handover to MVD is done successfully. Applicant shall indicate the type of post implementation support (including warranty period and AMC) that will be provided. Applicant shall provide 2 yrs of extended warranty for solution components after successful pilot implementation. The duration and terms of conditions for extended warranty will be at KSITM's discretion.
- 8. Performance Auditing:** KSITM and MVD, Kerala shall conduct periodic performance audits of the equipments provided after the pilot implementation till the period of one year. Selected vendor shall provide dedicated personnel for these performance audits. Vendor shall also be responsible for replacement of damaged equipments during such audits.

6.5 SCOPE OF PILOT IMPLEMENTATION

As mentioned previously, the current RFP is only for the Pilot implementation. Based on the success of the pilot implementation, MVD, Kerala shall go for a state wide rollout. For the pilot implementation MVD, Kerala has selected 5 cities of Kerala and two critical traffic junctions in these cities. Details of the pilot locations are given in the table below:

RTOs	Thiruvananthapuram	Ernakulum	Kollam	Thrissur	Kozhikode	Total
Junctions	1	1	0	0	0	2
Mobile/ Handhelds	8	6	5	4	5	28

Vendors shall also account for 2 additional junctions in the pilot implementation. However, addition of junctions/ mobile devices in pilot implementation is solely at the discretion of MVD, Kerala and shall be communicated to the bidders during the pre-bid meeting.

6.6 DETAILED REQUIREMENTS

Based on the solution components it is envisaged that the total solution shall provide following functionality:

A. MOBILE APPLICATION

- a. Mobile Thin Client: This shall run on the Mobile/ Handheld devices and allow enforcement officers to access data from the enforcement server. It shall allow the officers to work even in disconnected mode. Connectivity to the server shall be established using GPS/ GPRS connectivity as provided by the service provider. This application shall allow officers to perform basic functionality like verification of vehicle/ driver data, booking of offences, preparing of reports and challans, search, coordinating with control room and other on-field officers, printing of reports using Bluetooth enabled mobile printers.
- b. Mobile Thick Client: This shall run in the control room and allow the officers to access video data as well as the data from enforcement server. Connectivity to the server shall be established using secured mechanisms. This application shall also allow the officers to perform other functionality like, booking of offences, contacting on-field officers, querying the database, generating MIS reports and printing of reports.

B. VIDEO APPLICATION

This application shall work in coordination with the Video analytics hardware. It shall allow user to configure virtual loops on the video screen, automatically detect offences like over speeding and red signal jumping, alert the officers when offences have been detected, allow user to analyze the video streams captured (zoom in/zoom out, taking snapshot and so on), manage and store videos in the video database along with other details (time, date, location). Data transfer from the video junction to the control room shall be done using leased line.

C. NOTIFICATION MANAGER

This application shall provide with the functionality of sending alerts and notifications from control room to on-field enforcement officers and vice versa. Alerts can either be SMS alerts or express alerts. It shall also provide with the functionality to send SMS alerts or messages to offenders when an offence is booked against them based on the availability of their contact information.

D. PRESENCE MANAGER

- a. GPS client application: Mobile/Handheld devices shall be GPS enabled. A GPS client shall be developed that shall communicate the location (coordinates) based information to the control room (Mobile Thick client) application. This information shall be stored and fed to the presence manager application.
- b. GIS and Map Application: This application shall provide a platform for accessing the geographical information of roads and junction in Kerala which shall be accessed by the enforcement team. The provider must have wide coverage of road information of Kerala and the database shall be in a standard vector data. The provider shall also provide with a rich set of APIs that can help in easy implementation of required functionality. Vendor shall provide maps with a minimum scale of detailed road junctions in State of Kerala along with by-lanes with heavy traffic flow.
- c. Presence manager application: This application shall work on the top of GIS/Map application. This application shall read the location based information received from the Mobile/Handheld devices and plot the information on the Map using standard API provided by the service provider. Shall allow the user to spot an enforcement agent on the map along with his credentials and send an alert or a notification to him.

6.7 EXPECTED DELIVERABLES

Table below gives a list of the expected deliverables for each solution component.

Sr No.	Solution component	Hardware deliverables		Software deliverable	
		Item	Quantity	Item	Quantity

Sr No.	Solution component	Hardware deliverables		Software deliverable	
		Item	Quantity	Item	Quantity
1	Mobile Solution	GPS enabled Mobile/Handheld devices	28	Mobile Thin client application (for each Mobile)	
		Bluetooth enabled Mobile Printers	28	Mobile Thick client application*	1
		Telephone service provider for Mobile connection	1	GPS Client application (for each mobile)	
		Printing stationary	28		
2	Video analytics solution	Fixed CCTV cameras with cabinets (4 Per Junction)	8	Video analytics application	1
		Communication & control units	2		
		Networking components (for each junctions)	2		
		Leased line connectivity (per junction)	2		
		Other Hardware as may be required			
3	Control room set up	Application server	1	OS for server	1
		Database server (for video)	1	OS for PCs	2
		Routers	1	Firewalls and Antivirus	2
		Switches 16-port	2	GPS Application and presence manager application	1
		Network cabling	1	Backend surveillance application (based on video analytics)	1
		UPS 5-KVA	1		
		Racks	1		
		Desktop PC (for mobile application and Video application)	1		
		Desktop junction surveillance	1		

Sr No.	Solution component	Hardware deliverables		Software deliverable	
		Item	Quantity	Item	Quantity
		LCD	1		
		Laser printer	1		
		Other site preparation requirements**	1		
4	State Data center set up***	Application server	1	OS for server	1
		Database server	1	Office suite	1
		Web Server	1	Firewalls and Antivirus	1
		SAN storage	1	Backup software	1
		Routers	1	RDBMS	1
		Switches 16-port gigabit	2		
		Network ¹ cabling	1		
		UPS 10-KVA	1		
		Racks	1		
		Other site preparation	1		

Above requirements are suggestive and the applicant can analyze and recommend required hardware components based on their interpretation of the solution requirements. Applicants shall also provide detailed specifications of the hardware that they will procure and install for enforcement automation as a part of their response for the RFP. Format for providing the specification is given at the end of the document in Form XII. Detailed Functional Requirements are given in Annexure

Applicant shall also take care that the solution provided for pilot implementation shall be flexible and scalable to at least 100 traffic junctions, and 200 Mobile devices.

* Mobile Thick client application is to be installed in the control room.

** Site preparation for control room does not include space for control room as the control room shall be set up in the Transport Commissionerate, Trivandrum.

*** Deliverables for the State Data Center setup shall be set up in the existing State Data center as additional components for the Enforcement Automation solution.

SECTION 7

FORMS AND FORMATS

7 FORMATS FOR INFORMATION REQUIRED FROM BIDDERS

7.1 FORM I – COVERING LETTER

Form I

Covering letter

To,

.....

.....

Proposal No:

We, the undersigned, wish to apply for the above referred project and declare the following:

1. We have read the provisions of bid and confirm that these are acceptable to us.
2. Having examined the Proposal document, the receipt of which is hereby acknowledged, we the undersigned offer to take up project of installing and commissioning Intelligent Enforcement System including all solution components mentioned in Scope of Work in Section-6 and program management for implementation, in full conformity with the mentioned terms of reference as per proposal document.
3. We undertake, if our bid is accepted, to commence work on this project and to implement all solution components till acceptance within the respective timelines stated in the proposal document.

4. If our bid is accepted, we undertake to provide a Performance Guarantee in the form and amounts within the timelines specified in the Proposal.

5. We agree to abide by this bid, consists of this letter, the Price Schedules, the Bid Security, the duly notarized written power of attorney, and Attachments [*specify: the number of attachments*] to this Proposal, for a period of bid validity from the date fixed for submission of bids as stipulated in the Proposal, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

6. Until the formal final Contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding contract between us.

Dated.....

Authorized Signatory (in full and initials):

Name and title of signatory:

Duly authorized to sign this Proposal for and on behalf of

[Name of PA/Consortium]

Name of PA:

Address:

7.2 FORM II – PROPOSAL SUBMISSION LETTER**Form II****Proposal Submission letter**

Date:

To,

.....

.....

.....

Project Name:

We, the undersigned, wish to apply to be pre-qualified for the above referred project and declare the following:

- a. We have thoroughly examined and have no reservations to the pre-qualification document
- b. We, including any consortium partner, subcontractors or suppliers for any part(s) of the contract resulting from this pre-qualification, do not have any conflict of interest in accordance with section 3.2 of the RFP document.
- c. We are a _____ entity (Private/Public/Government)
- d. We, in accordance with section 3.2 of RFP document, plan to subcontract following key activities or parts of the work against each of the mentioned partners

Partner firm activities		
Sr. No.	Name of the Partner firm	Activity to be performed

- e. We understand that you may cancel the pre-qualification process at any time and that you are not bound either to accept any application that you may receive or to invite the pre-qualified applicants to bid for the contract subject to this pre-qualification process, without incurring any liabilities to the applicants, in accordance with section 3.2 of the RFP document.

Name:

In the capacity of:

Signed:

Duly authorized to sign the application for and on behalf of:

Stamp / seal:

7.3 FORM III – PRIME APPLICANT INFORMATION FORM**Form III****Primary Applicant Information form**

Date:

S.no.	Particulars	Details to be furnished
Details of Primary Applicant		
1	Name	
2	Address	
3	Telephone	
4	Email	
5	Fax	
6	Website	
Details of Authorized Personnel of Primary Applicant		
7	Name	
8	Address	
9	Telephone	
10	Email	
Information about the company		
11	Status of Company(Public, Private)	
12	Registration details	Date- Ref No.-
13	Number of professionals	
14	Locations and Address	
15	Service Tax Registration No.	
16	PAN Card No.	
17	Latest VAT/STCC details	
18	Years in the business	
19	Details of services offered	

Attached are the copies of following original documents:

- ✓ Authorization to represent the firm or Consortium named in above, in accordance with section 3.2 of the RFP document
- ✓ Binding copy of Letter of Association to form a consortium in accordance with section 3.2 of the RFP document

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.4 FORM IV – PARTNER INFORMATION SHEET**Form IV****Partner Information sheet** (As per section 4.2)*(Each member of the consortium shall fill this form)*

Date:

S.no.	Particulars	Details to be furnished
Details of Partner Firm		
1	Name	
2	Address	
3	Telephone	
4	Email	
5	Fax	
6	Website	
Details of Authorized Coordinator from Partner Firm		
7	Name	
8	Address	
9	Telephone	
10	Email	
Information about the company		
11	Status of Company(Public, Private)	
12	Registration details	Date-
		Ref No.-
13	Number of professionals	
14	Locations and Address	
15	Service Tax Registration No.	
16	PAN Card No.	
17	Latest VAT/STCC details	
18	Years in the business	
19	Details of services offered	

Attached are the copies of following original documents:

- ✓ Authorization to represent the firm or Consortium named in above, in accordance with section 3.2 of the RFP document
- ✓ Binding copy of Letter of Association to form a consortium in accordance with section 3.2 of the RFP document

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.5 FORM V - PENDING LITIGATION FORM**Form V****Pending litigation form***(To be filled by each member of the consortium)*

Date:

Applicant/ Consortium Partner Legal name:

Declaration of no pending litigation:

List of pending litigations:

Year	Matter in dispute	Value of pending litigation	Value of pending claim as a % of net worth

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.6 FORM VI – FINANCIAL DETAILS**Form VI****Financial details***(To be filled by each member of the consortium)*

Date:

Applicant/ Consortium Partner Legal name:

	Audited financial data for previous 3 years [INR crores]		
	FY 2005-2006	FY 2006-2007	FY 2007-2008
1. Gross Sales			
2. Profit before tax			
3. Profit after tax			

Attach copies of the Audited balance sheets, including all related notes, and income statements for the last three years, as indicated above, complying with the conditions given below

- ✓ All such documents reflect the financial situation of the Applicant or partner to a consortium, and not sister or parent companies.
- ✓ Historic financial statements must be audited by a chartered accountant.
- ✓ Historic financial statements must be complete, including all notes to the financial statements.
- ✓ Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be accepted).

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.7 FORM VII – AVERAGE ANNUAL TURNOVER FROM SALE OF SIMILAR SOLUTION**Form VII****Average Annual Turnover from Sale of solution components***(To be filled by each member of the consortium)*

Date:

Applicant/ Consortium Partner Legal name:

Annual Turnover data for the last three years

Year	Amount	Currency	INR Equivalent
2005-2006			
2006-2007			
2007-2008			
Average Annual Turnover			

The information supplied should be the Annual turnover of the applicant or each member of the consortium in terms of the amounts billed to clients for each year for assignments completed or in progress, converted to INR at the rate of exchange at the end of the period reported

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.8 FORM VIII – GENERAL EXPERIENCE FORM**Form VIII****Relevant experience form***(To be filled by each member of the consortium)*

Date:

Applicant/ Consortium Partner Legal name:

Client name & address	Role of applicant	Software involved if any	Brief project description	Project duration	Number of sites/ locations	Number of users

Note: Provide details for projects executed in last 3 years only

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.9 FORM IX – SUMMARY OF RELEVANT EXPERIENCES WITH PARTNER FIRMS**Form IX****Summary of relevant experiences with partner firms***(To be filled by the PA)*

Date:

In sale /implementation of Traffic Management Solutions

Applicant/ Consortium Partner Legal name:				
Project details				
Contract title				
Award date		Completion date		
Contract Amount	INR			
If partner in a consortium, specify participation of total contract amount	Percent of total amount: _____	Amount: _____ (INR)		
Client's Name				
Industry sector				
Description of the work done				
List of components supplied	Hardware	Software	Name of Responsible firm	Role (Vendor/Partner)
Features/ functionality of the total solution	✓ <i>List in bullet points</i>			
Brief description of the project				

Note:

1. Provide details for projects executed in last 3 years only

2. Fill up one form per contract

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.10 FORM X – DETAILS OF LOCAL PRESENCE**Form X****Details of local presence**

Date:

This is to certify that _____ (Company name) having its
registered office at (address) _____
and local office at (address) _____ has the following
centers in Kerala

Location/ address	Company name	Contact person details

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.11 FORM XI – DETAILS OF EMPLOYEE STRENGTH**Form XI****Details of employee strength***(To be filled by each member of the consortium)*

Date:

This is to certify that _____ (Company name) having its
registered _____ office _____ at _____ (address)
_____ and local office at
(address) _____ has total direct and permanent
employee strength of _____ (No.) with _____ (nos.) in the local office.

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.12 FORM XII – DETAILED SPECIFICATION OF EQUIPMENT TO BE PROVIDED

Form XII
Details specification of equipment to be procured

Date:

Video Analytics				
Sr No.	Equipment (include software)	Make/ Model	Other Specifications	Functionality
Mobile Solutions				
Sr No.	Equipment (include software)	Make/ Model	Other Specifications	Functionality
Control room requirements				
Sr No.	Equipment (include software)	Make/ Model	Other Specifications	Functionality
State data center requirement				
Sr No.	Equipment (include software)	Make/ Model	Other Specifications	Functionality

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.13 FORM XIII – CLEAN TRACK RECORD**Form XIII****Declaration of Clean Track Record**

Date:

To,
The Transport Commissioner,
MVD, Kerala.

This is to certify that _____ (Company name) having its registered office at (address) _____ and local office at (address) _____ have carefully gone through the terms and conditions contained in the RFP document No. [], regarding implementation of Intelligent Transport Systems for automating the Enforcement Wing of MVD, Kerala.

We hereby declare that our company/ consortium has not been debarred/ black listed by any Government or Semi government organization.

We further certify that Mr./Mrs./Ms. _____ is a competent authority and our Company has authorized him/her to make this declaration.

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.14 FORM XIV – COMMERCIAL BID FORMAT**Form XIV****Commercial Bid Format**

Date:

To,
The Director IT,
KSITM, Kerala.

Proposal No:

We, the undersigned, wish to apply for the above referred project and bid at following price/cost:

S.No.	Solution Component/Service	Total Cost
1	Video Analytics	
2	Mobile Solution/Handheld	
3	Control room	
4	State Data Center	
5	Training and Manuals	
6	Staffing and Onsite support	
7	AMC and Warranty	
8	GRAND TOTAL (in words).....	(In figures).....

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

7.15 FORM XV – DETAILED COMMERCIAL BID

Form XV					
Detailed Commercial Bid Format					
S.No	Solution Component	Hardware	Quantity	Cost per unit	Total Cost(INR) (Qty X Cost per unit)
1	Mobile Solution	GPS Enabled Mobile/Handheld Device	28		
		Bluetooth mobile printers	28		
		Printing stationery	28		
		Software Applications			
		Mobile Thin client(for each mobile)	28		
		Mobile Thick Client	1		
		GPS Client application	28		
		Telecom service provider	1		
		A	Total Mobile Solution cost		
2	Video Analytics Solution	Fixed CCTV Cameras with cabinets	8		
		Communication and control units	2		
		Networking unit for each junction	2		
		Leased line for each junction	2		
		Other hardware as per requirements for each junction			
		Software Applications			

		Video Analytics Application	1		
B	Total Video Analytics Solution Cost				
3	Control Room Set up Solution	Application Server	1		
		Database server/Video analytics	1		
		Routers	1		
		Switch 16 Port	2		
		Network cabling	2		
		UPS 5 KVA	1		
		Racks	1		
		Desktop PC	2		
		LCD	1		
		Laser printers	1		
		Other hardware as per requirement			
		Software Applications			
		OS for server	1		
		OS for PC's	2		
		Firewall and Antivirus	1		
		GPD Application and Presence manager application	1		
		Video Analytics Application for surveillance	1		
C	Total Control Room Solution Cost				
4	State Data Center	Application Server	1		
		Database server	1		
		Disaster Recovery Server	1		
		Web Server	1		
		Tape Drive storage	1		
		Routers	1		
		Switch 16 Port	2		

		Network cabling	1		
		UPS 10KVA	1		
		Racks	1		
		Other site preparation requirements			
		Software Applications			
		OS for server	1		
		Office suite	1		
		Firewall and Antivirus	1		
		Backup software	1		
		RDBMS	1		
		D	Total State Data Center Solution Cost		
E	Miscellaneous cost				
6	Grand Total of cost (A+B+C+D+E)			Rs	
Total cost in words : Rs. _____					

Name:

In the capacity of:

Signed:

Duly authorized to the application for and on behalf of:

Stamp/ Seal:

SECTION 8

CHECKLIST OF DOCUMENTS

8 CHECKLIST OF DOCUMENTS TO BE SUBMITTED

Please tick the documents submitted along with the proposal

Sr. No.	Document to be submitted by PA	Yes/No
1.	Certified copy Letter of Association in case of Consortium	
2.	Duly filled Covering letter	
3.	Duly filled Form I & II	
4.	Registration certificates of PA	
5.	Service Tax, PAN and PF number (certificate copies) of PA	
6.	Self attested copy clean track record from PA – Form X	
7.	Duly filled form IV from PA	
8.	Duly filled Form V and VI by PA	
9.	Audited financial statements for last 3 years of PA	
10.	Attested copies of Valid certifications from PA	
11.	Duly filled for X from PA	
12.	Duly filled form VII from PA along with copy of client credentials	
13.	Duly filled Form VIII	
14.	Copies of client credentials or completion certificate from client	
15.	Duly filled form IX from PA	
16.	Duly filled form XI by PA	
17.	Complete, concise and comprehensive proposal document	
18.	Duly filled Commercial Bid Format-FORM-XIV	

19.	Duly filled FORM-XV	
Sr. No	Documents to be submitted by partner firms	Yes/No
1.	Duly filled form III from partner firms	
2.	Registration certificates of partner firms	
3.	Service Tax, PAN and PF number (certificate copies) of partner firms	
4.	Self attested copy clean track record from partner firms – Form X	
5.	Duly filled Form IV from partner firms	
6.	Duly filled Form V & VI by partner firms	
7.	Audited financial statements for last 3 years of partner firms	
8.	Attested copies of Valid certifications from partner firms	
9.	Duly filled Form X from partner firms	
10.	Duly filled Form VII from partner firms along with client credentials	
11.	Duly filled form IX from partner firms	

SECTION 9

ANNEXURES

9 ANNEXURES

9.1 ANNEXURE I - HARDWARE SPECIFICATIONS

S.No	Equipment	Specifications	
1	Application Server Database Server Disaster Recovery Server	Processor	Dual Core-Intel Xeon 5205 upto 2.66 Ghz and upto 1333Mhz front side bus
		No. of processors	Two
		L2 Cache	2X6MB dual core
		Memory	1GB upgradable upto 32GB, fully buffered DIMM 667 Mhz
		Expansion Slots	3 PCI express, 2 PCI-X
		Maximum Storage	6 TB hot swap SATA
		Network Interface	Integrated gigabit Ethernet
		RAID Support	Integrated RAID -0/-1/-10, optional RAID-5
		Others	1 Serial port, 3 USB port
2	Routers	1 GB DRAM, Gigabit LAN Ports-4FE, 4GE, 16 Ports, Support STM1,4, FTP, SNMP, RMON, 3DES encryption, 10/100/1000 Ethernet ports	
3	Switches	16 Port, IEEE 802.1	
4	Desktop PC	Minimum 100GB HDD, 1 GB RAM, Intel Duo Core, 1.67Ghz at least, 1-Serial Port, 3-USB ports,802.1	
5	LCD	Minimum 40 Inch	
6	Printers-Laser	Range is 10000 to 20000	
7	UPS- 5 KVA	Minimum 3 Hrs backup	
8	UPS- 10 KVA	Minimum 3 Hrs backup	
9	Racks	4 Post Rack	
10	Tape drive storage	Minimum 1.6TB compressed capacity, 240MB/sec compressed data transfer rate, AES 256 data encryption	

S.No	Equipment	Specifications
11	Network Cabling	CAT-5
12	Leased Line connectivity	Minimum 2 Mbps
MOBILE SOLUTION HARDWARE		
13	Mobile/PDA	Windows Mobile, GPS enabled, Min1.3 Megapixel Camera, Bluetooth, GPRS
14	Mobile printers	Laser printer, Bluetooth connectivity

VIDEO ANALYTICS- CAMERA SPECIFICATIONS

S.No	Feature	Specifications	Details
1	Image	Device	CCD/CMOS
		Size	1/3 inch
		Effective pixels	811 X 508(NTSC); 795 X 596(PAL)
		Horizontal resolution	480 TVL/ 380 TVL
2	Minimum Illumination	B/W	0.05 Lux
		Color	0.15 Lux
3	Synchronization	Sync. system	Internal
4	Day/Night function	Day/Night switching	Mechanical IR Cut filter; Auto; Color/Monochrome
5	Functions	Motion detection	Yes
		Electronic shutter	AES On 1/60~1/100000 sec(NTSC);AES Off 1/60sec(NTSC); AES On 1/50~1/100000 sec(PAL);AES Off 1/50 sec(PAL)
		AGC	On/Off switchable
		BLC	On/Off switchable
		White Balance	AWB/PWB switchable
		Auto Iris control	Video/DC switchable
		Flicker	On/Off switchable
6	S/N ratio	S/N ratio	Better than 48 db

S.No	Feature	Specifications	Details
7	Video compression	Compression	MPEG-4 ASP compliant
		Resolution	720X480 NTSC; 720X586 PAL
		Bit rate	28K~2Mbps
		Image frame rate	30 FPS NTSC; 25 FPS PAL
		Multi stream	Upto 4 configurable frame rate/bit streams for preview and recording
8	Video output	Composite output	CVBS, 1.0 Vp-p with 75 Ohm loading,
		Built in alphanumeric display	Yes
10	Network	LAN	Ethernet(10/100Base-T), RJ 45
		WAN	Ethernet(10/100Base-T), RJ 45
		Protocol	TCP,UDP,IP,HTTP,DHCP,PPPoE,RTP,RTSP,FTP,SMTP
11	Software	Web browser	Microsoft Internet Explorer 6.0 or above
		SDK	Active X control, C SDK
		Security	Password protection, configured by administrator
12	Operations	Temperature	5 - 50 degree Celsius/ 40 - 122 degree Fahrenheit
13	Power	Power requirement	DC 12V, PoE(IEEE 802.3af); AC 24V
		Power consumption	9-12 W

VIDEO ANALYTICS- VIDEO SERVER SPECIFICATIONS

S.No	Specifications	Details
1	Hardware	CPU: Intel Pentium 4, 3.4Ghz, LGA775 800Mhz system bus 2MB cache.
		Chipset: Intel Q 965
		Main Memory: 2GB DDR2 RAM, 667 Mhz 240 pin
		Upgradeable to 8 GB(4X DIMM slots)
		Video: Intel GMA 3000 onboard graphics sub system

S.No	Specifications	Details
		Audio: Intel HD Audio
		LAN: Intel 82566DM Gigabit Ethernet Controller
		DVDRW
		NIC: Dual TCP/IP integrated 10/100/1000 Base-T
2	Disk capacity	Upto 4X digital RAID edition 2 SATA II HDD 7200 rpm
		Maximum storage 2 TB using 500GB HDDs
3	Supported Operating Systems	Windows XP or above, Linux Red Hat
4	Interfaces	PS/2 Mouse port X1
		PS/ 2 Keyboard port X1
		DB-15 VGA port X1
		USB 2.0 ports X4
		RJ 45 LAN port X1
		Firewire portX1
		Serial communication
5	Environmental storage	Temperature: -20 to 65 degree Celsius, Humidity- 5 to 90%.
6	Others	Firewall and Antivirus software's, latest editions

9.2 ANNEXURE II - FUNCTIONAL REQUIREMENT SPECIFICATIONS**ASSUMPTIONS**

Sr. No.	Assumptions
1	On-field officers shall have Mobile/ Handheld devices
2	All the Mobile/ Handheld devices shall be GPS/ GPRS enabled
3	The SMART Mobile Thin Client shall be installed on the Mobile / Handheld device
4	Mobile/ Handheld devices shall be blue tooth enabled
5	The SMART Mobile Thick Client shall be installed on the Desktop PC
6	Latest and updated Map data of Kerala shall be available with the service provider
7	SMART Move Mobile application shall not assume a uniform operating environment
8	SMART Move Mobile application shall support both connected and disconnected users
9	SMART Move Mobile application must be flexible enough to incorporate any regulatory changes that may arise during the development and implementation of the solution
10	SMART Move Mobile application shall use technology that shall support other applications running in the Transport Department
11	Contact details of all the citizens of Kerala are authentic and updated
12	All the applications will be developed on open source platform.
13	Should be compatible with existing PGS Database at SDC, Trivandrum
14	Applications are to be developed in coordination with NIC with reference to integration with existing IT Applications

FUNCTIONAL SPECIFICATION - SMART MOVE MOBILE THIN CLIENT

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F 1.0	General requirements					
F1.1	Shall provide the user with a user friendly interface which is easily accessible on the Mobile/ Handheld device	L	GUI			
F1.2	Shall display a homepage once logged in	M	GUI	Based on user access rights. Contents shall include following- 1- Verification 2- Booking 3- Reporting 4- Inbox 5- Contact control room Visibility of the above contents shall depend on the work flow	Process Nos. 1.0, 2.0, 3.0	
F1.3	Shall allow user to store data locally on the Mobile/ handheld device	H	Storage	Incase of no connectivity to the SDC server		

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F1.4	Shall update data automatically to SDC server once saved/ submitted	H	Storage	When connectivity is available. Shall include both Real time and offline data		
F1.5	Shall generate appropriate error messages while handling data	M	Error handling	Errors may include following: 1. Data validation errors 2. Incomplete data entry 3. Data retrieval errors 4. Connectivity errors		
F1.6	Shall save draft of the unsaved data incase of power loss/ loss of connectivity	L	Exception handling			
F1.7	Shall allow user to complete interrupted transactions	M	Exception handling			
F1.8	Shall save draft of unsent messages	L	Exception handling	In case of accidental log-outs, sessions being timed out		
F1.9	Shall check for data redundancy and manage conflicts	H	Conflict resolution	When data being accessed by more than two users at the same		

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
				time		
F1.10	Shall maintain a log of all the exceptions and errors for each user	M				
F 2.0	Authentication, Access, Authorization & Security					
F2.1	Shall allow access to the system using a proper authentication mechanism through the Mobile/ Handheld device	H	Authentication	Using Login id & password		
F2.2	Shall block access to the system if credentials not authenticated	M	Authentication	After 3 unsuccessful logins		
F2.3	Shall display options to the user based on access rights assigned	H	Access	Options shall include: 1. Read only 2. Write Access 3. Full Access		
F2.4	Shall allow only authorized users to alter data	H	Authorization	Alteration of data may include 1. Changing status 2. Approvals 3. Cancellations		

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F2.5	Shall close down active sessions on the Mobile/ Handheld device	H	Security	If inactive for more than 15 minutes		
F2.6	Shall allow only authorized users to alter code	H	Security	Generally the system admin		
F2.7	Shall transfer data between Mobile /Handheld device and Server in an encrypted manner	H	Security	Using feasible encryption mechanisms		
F2.8	Shall allow access to the system only through appropriate client certificates	H	Security			
F 3.0	Connectivity					
F3.1	Shall allow the user to connect his Mobile/ Handheld device to the server via using the GPRS/ GPS connectivity	H	Connectivity	As provided by the TSP		
F3.2	Shall allow the SMART Move Mobile Server to connect to the SDC via KSWAN	M	Connectivity			
F3.3	Shall use HTTPS and SOAP protocols for data exchange between SDC and SMART Move	H	Protocols			

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
	Mobile Server					
F3.4	Shall allow the user to connect his Mobile/ Handheld device to the Mobile printer using Bluetooth connectivity	H	Connectivity			
F 4.0	Data query					
F4.1	Shall allow the user to query database for retrieving Vehicle/ Driver information using the Mobile/ Handheld interface	H	Query	Query parameters shall include: 1. Vehicle Registration Number 2. Driver License Number 3. Permit Number	Process No. 1.0	Connect to the SMART MOVE database

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F4.2	Shall retrieve & display driver/ vehicle data from the SMART MOVE server based on query entered	H	Retrieval	Shall display following details 1- Name 2- Address 3- Vehicle Registration number 4- Chassis number 5- Vehicle type 6- Last date of tax payment 7- Maker name 8- Vehicle color 9- Registration RTO 10- Past 3 offences 11- Tax or Penalty due(if any)	Process No. 1.1	Retrieve data from SMART MOVE database (Read only)
F4.3	Shall display appropriate message if data is not retrievable	L	Error handling		Req. F1.5	
F4.4	Shall keep a copy of the retrieved data on the Mobile/ Handheld device incase if connectivity is lost	H	Exception Handling	Data shall be stored in the cache till transaction is complete	Req. F1.6	
F4.5	Shall prompt the user before deleting data from the cache	M	Storage			

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F4.6	Shall allow user to view existing reports using the Mobile/ Handheld device	H	Retrieval	Using the report ID		
F 5.0	Booking					
F5.1	Shall generate a case id/ booking id for each offence and map it to the respective Vehicle registration number/ Driver License Number	H	Mapping		Process No. 3.0	
F5.2	Shall allow user to book an offence using Mobile/ Handheld device	H	Booking		Process No. 3.0	
F5.3	Shall display driver/ vehicle owner information while booking an offence	H	Retrieval	Details to be displayed 1- Name of offender 2- Vehicle Registration number 3- MVI officer name 4- Date 5- Case id 6- Past offences 7- Penalty due	Process No. 3.0	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F5.4	Shall allow user to enter other required information while booking an offence	H	Data entry	Other details shall include: 1. Relevant Act (drop down list) 2. Offence (drop down list) 3. Location 4. Time	Req. F1.5, Process No. 3.0	
F5.5	Shall display penalty to be paid for each offence	H	Retrieval	Penalty shall be displayed based on Act and offence selected	Process No. 3.0	
F5.6	Shall compute total penalty to be paid by the offender	H	Computation	Shall calculate cumulative/ incremental penalty. Total amount to be paid = Current amount due + penalty for current offence + additional charge (incremental component)	Process No. 3.0	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F5.7	Shall allow user to select payment options	H	Compounding	Display 2 click buttons with following messages 1- Pay now 2- Pay later/ Contest in court	Process No. 3.0	
F5.8	Shall display respective forms based on the payment option selected	H	Compounding	Forms shall include: 1. TR - 5 or Challan 2. Check Report 3. Mazahar	Process No. 3.0	
F5.9	Shall display list of documents to be compounded	H	Compounding	Shall display list of documents to be compounded against the offence identified	Process No. 3.0	
F5.10	Shall allow user to select the documents that are compounded	H	Compounding	Shall provide check boxes besides each document which the user select or unselect	Process No. 3.0	
F5.11	Shall allow user to identify and select nearest Police station	M	Compounding	When vehicle is to be seized	Process No. 3.0	
F 6.0	Forms					
F6.1	Shall display the TR-5 form	H		when "Pay Now" option	Process No. 3.0	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
				is selected		
F6.2	Shall generate a unique TR-5 no. and map it to the respective case/ booking id	H	Mapping		Form - TR5	
F6.3	Shall retrieve & display existing details based on the driver license no. or vehicle registration number on the TR-5 form	H	Retrieval	Following details shall be displayed 1- Name of offender 2- Vehicle Registration number 3- Penalty to be paid 4- Relevant Act of offence 5- MVI officer name 6- Date 7- Case id/ Case no. 8- TR-5 no.	Form - TR5	
F6.4	Shall allow user to enter other TR-5form details	H	Data entry	Other details shall include: 1. Amount collected 2. Amount due (if any) 3. Other remarks	Form - TR5	
F6.5	Shall display the Mazahar form	H		When vehicle is to be seized	Process No. 3.0	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F6.6	Shall generate a unique Mazahar no. and map it to the respective case/ booking id	H	Mapping		Form - Mazahar	
F6.7	Shall retrieve & display existing details based on the driver license no. or vehicle registration number on the Mazahar form	H	Retrieval	Once "Seize the vehicle" option selected, shall display Mazahar with following details 1- Name of offender 2- Vehicle Registration number 3- Penalty to be paid 4- Relevant Act of offence 5- List of documents compounded 6- MVI officer name 7- Date 8- Case id/ Case no.	Form - Mazahar	
F6.8	Shall allow the user to enter other details in the Mazahar form	H	Data entry	User shall enter following details 1- Police station details 2- Details of officer on duty	Form - Mazahar	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F6.9	Shall display the check report form	H		Once an offence is booked	Process No. 3.0	
F6.10	Shall generate a unique Check Report Id and map it to the respective case/booking id	H	Mapping		Form - Check report	
F6.11	Shall retrieve & display existing details based on the driver license no. or vehicle registration number on the Check report form	H	Retrieval	Report shall contain the following information: 1- Name of offender 2- Vehicle Registration number 3- Penalty paid / to be paid 4- Relevant Act of offence 5- MVI officer name 6- Date 7- Case id/ Case no. 8- List of documents compounded (if any) (When pay later option 9- Vehicle seized details (if seized) a. Police station details b. Details of officer	Form - Check report	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
				on duty c. Mazahar ID		
F6.12	Shall allow the user to enter other details in the Check report form	H	Data entry	Other details shall include: 1. Actions to be taken 2. Due date 3. Other remarks	Form - Check report	
F6.13	Shall display the Accident Investigation Report form	H		When user is verifying accident cases	Process No. 5.0	
F6.14	Shall generate a unique Accident Investigation report ID and map it to the respective vehicle registration number/s	H	Mapping		Form - Accident Investigation report	
F6.15	Shall allow the user to capture details in the Accident Investigation report form	H	Data entry	Following details shall be captured 1- Location 2- Number of vehicles affected 3- Vehicle registration number 4- Information on casualty 5- Causes of accident	Form - Accident Investigation report	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
				6- Actions taken		
F6.16	Shall provide user with a facility to cancel the fitness certificate of the vehicle	H		If mechanical factors are involved	Form - Accident Investigation report	
F6.18	Shall allow the user to save and submit each form that he has prepared	H	Storage	Shall be saved and updated to the server directly		
F6.19	Shall allow user to print multiple copies of various reports when required using the mobile printer	M	Printing	Reports shall include 1. TR-5 2. Mazahar 3. Check Report 4. Accident investigation report		
F6.20	Shall allow user to prepare a check report for vehicles with unidentifiable vehicle nos.	M	Booking	This form shall contain following information: 1. Act 2. Offence 3. Date 4. Time 5. Location 6. MVI name 7. Actions taken	Process No. 1.0	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F 7.0	Alerts, Notification & Chat					
F7.1	Shall allow the user to send quick alerts to the control room	H	Alert	Incase of emergency. Alert shall contain information like: 1- Location 2- Offending vehicle registration number 3- Vehicle type and physical details like color etc 4- Date and Time 5- Remarks if any 6- Actions to be taken	Process No. 1.0	
F7.2	Shall alert the user on receipt of message/ alerts from the control room	H	Notification	Shall provide a sound alert and an SMS or a "New message" Flash	Process No. 6.0, 5.0	Based on co-ordinates given by the SMART MOVE Presence manager application
F7.3	Shall allow user to save notifications received on the Mobile/ Handheld device	H	Storage			
F7.4	Shall allow user to create messages and send it to the selected recipients within the	L	Messaging	For on-field collaboration		

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
	enforcement team					
F7.5	Shall allow user to save unsent messages / drafts on the Mobile/ Handheld device	L	Storage			
F7.6	Shall allow user to maintain an address book on the Mobile/ Handheld device	L	Storage	Other than phone book contacts		
F7.7	Shall send automatic alerts or messages to respective offenders for offence booked offline	H	Notification	Alerts shall contain following information: 1. Vehicle registration number 2. Driver license number 3. Offence 4. Act 5. Date 6. Time 7. Location 8. Penalty to be paid 9. Name of booking officer 10. Due date 11. Hearing date (Incase of court case)	Process No. 3.0, 6.0, 4.0	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F7.8	Shall allow user to initiate chat sessions with the other enforcement team members/ control room/ MVD	L	Chat			
F7.9	Shall display list of all team members who are online	L				
F7.10	Shall display list of all the active chat sessions	L				
F 8.0	Offline functionalities					
F8.1	Shall allow the user to work offline on his Mobile/ Handheld device	H		When there is no connectivity available	Process No. 3.0	
F8.2	Shall provide the user with all the forms required for booking an offence allowing him to enter all the necessary details	H		Forms shall have a similar look n feel as in Req. F6.0. However, system generated data shall be automatically added and updated when connectivity is established	Req. F6.0	

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F8.3	Shall allow user to capture basic details while booking an offender	H	Booking	Details to be captured shall include 1. Driver License number 2. Vehicle registration number 3. Act 4. Offence 5. Documents compounded 6. Actions to be taken 7. Details if vehicle is seized		
F8.4	Shall allow user to print multiple copies of various reports when required using the mobile printer	H		Reports made offline with available information		
F8.5	Shall automatically Update data, to the server once connectivity is established	H				
F 9.0	Presence Manager/ GPS application					

Req. ID	Requirement description	Priority (H/M/L)	Type	Notes/ Issues	Process/ Format references	Integration requirements
F9.1	Shall automatically send the users coordinates to the control room via his Mobile/ Handheld device	H		Using the GPS application. This shall be done every time there is a significant change in the coordinates (Latitude and Longitude) new coordinates shall be sent to the control room	Process No. 1.0, 5.0	
F9.2	Shall automatically update the new coordinates in the Map Server	H		This shall be done against the user id		

FUNCTIONAL SPECIFICATION - SMART MOVE MOBILE THICK CLIENT

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F 1.0	General requirements					
F1.1	Shall provide the user with a user friendly interface which is easily accessible on a Desktop PC	L	GUI			
F1.2	Shall display a homepage once logged in	H	GUI	Based on user access rights. Contents shall include following- 1- Verification 2- Booking 3- Reporting 4- Inbox 5- Contact on-field officer		
F1.3	Shall allow user to store data locally on the Desktop PC	H	Storage	Incance of no connectivity to the SDC server		
F1.4	Shall update data automatically to SDC server once saved/ submitted (Both offline and real time)	H	Storage/ Synchronization	When connectivity is available. Shall include both Real time and offline data		

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F1.5	Shall generate appropriate error messages while handling data	M	Error handling	Errors may include following: 1. Data validation errors 2. Incomplete data entry 3. Data retrieval errors 4. Connectivity errors		
F1.6	Shall save draft of the unsaved data incase of power loss/ loss of connectivity	H	Exception handling			
F1.7	Shall allow user to complete interrupted transactions	H	Exception handling			
F1.8	Shall save draft of unsent messages	L	Exception handling	In case of accidental log-outs, sessions being timed out		
F1.9	Shall check for data redundancy or any other conflicts and manage conflicts before updating data to the system	H	Conflict resolution	When data being accessed by more than two users at the same time		
F1.10	Shall maintain a log of all the exceptions and errors for each user	M				

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F1.11	Shall maintain a log of all the transactions on a daily basis for each user logged in to the system	M				
F1.13	Shall allow the user to preview changes made to existing data before they are submitted	L	Synchronization	Confirm with the user before updating/ saving the data		
F 2.0	Authentication, Access, Authorization & Security					
F2.1	Shall allow access to the system using a proper authentication mechanism through the Desktop PC	H	Authentication	Using Login id & password		
F2.2	Shall block access to the system if credentials not authenticated	M	Authentication	After 3 unsuccessful logins		
F2.3	Shall display options to the user based on access rights assigned	H	Access	Options shall include: 1. Read only 2. Write Access 3. Full Access		
F2.4	Shall allow only authorized users to alter data	H	Authorization	Alteration of data may include 1. Changing status 2. Approvals 3. Cancellations		

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F2.5	Shall close down active sessions on the Desktop/PC	M	Security	If inactive for more than 15 minutes		
F2.6	Shall allow only authorized users to alter code	H	Security	Generally the system admin		
F2.7	Shall transfer data between Desktop PC and Server in an encrypted manner	H	Security	Using feasible encryption mechanisms		
F2.8	Shall allow access to the system only through appropriate client certificates	H	Security			
F 3.0	Connectivity					
F3.1	Shall allow the user to connect his Desktop PC to the server via using KSWAN	H	Connectivity			
F3.2	Shall allow the SMART Move Mobile Server to connect to the SDC via KSWAN	M	Connectivity			
F3.3	Shall use HTTPS and SOAP protocols for data exchange between SDC and SMART Move Mobile Server	H	Protocols			

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F3.4	Shall allow the user to connect his Desktop PC to the control room printer using LAN connectivity	H	Connectivity			
F 4.0	Data query					
F4.1	Shall allow the user to query database for retrieving Vehicle/ Driver information using the Desktop PC interface	H	Query	Query parameters shall include: 1. Vehicle Registration Number 2. Driver License Number 3. Permit Number 4. Period 5. Offence type	Process No. 2.0	Connect to the SMART MOVE database

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F4.2	Shall retrieve & display driver/ vehicle data from the SMART MOVE server based on query entered	H	Retrieval	Shall display following details 1- Name 2- Address 3- Vehicle Registration number 4- Chassis number 5- Vehicle type 6- Last date of tax payment 7- Maker name 8- Vehicle color 9- Registration RTO 10- Past 3 offences 11- Tax or Penalty due(if any)	Process No. 2.0	Retrieve data from SMART MOVE database (Read only)
F4.3	Shall display appropriate message if data is not retrievable	L	Error handling		Req. F1.5	
F4.4	Shall keep a copy of the retrieved data on the Desktop PC incase if connectivity is lost	M	Exception Handling	Data shall be stored in the cache till transaction is complete	Req. F1.6	
F4.5	Shall prompt the user before deleting data from the cache	M	Storage			

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F4.6	Shall allow user to view existing reports using the Desktop PC	H	Retrieval	Using the report ID		
F 5.0	Booking					
F5.1	Shall generate a case id/ booking id for each offence and map it to the respective Vehicle registration number	H	Mapping		Process No. 3.0	
F5.2	Shall allow user to book an offence using Desktop PC	H	Booking		Process No. 3.0	
F5.3	Shall display vehicle owner information while booking an offence	H	Retrieval	Details to be displayed 1- Name of offender 2- Vehicle Registration number 3- MVI officer name 4- Date 5- Case id 6- Past offences 7- Penalty due	Process No. 3.0	

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F5.4	Shall allow user to enter other required information while booking an offence	H	Data entry	Other details shall include: 1. Relevant Act (drop down list) 2. Offence (drop down list) 3. Location 4. Time 5. Video stream details 6. Link to the video stream	Req. F1.5, Process No. 3.0	
F5.5	Shall display penalty to be paid for each offence	H	Retrieval	Penalty shall be displayed based on Act and offence selected	Process No. 3.0	
F5.6	Shall compute total penalty to be paid by the offender	H	Computation	Shall calculate cumulative/ incremental penalty. Total amount to be paid = Current amount due + penalty for current offence + additional charge (interest)	Process No. 3.0	

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F5.7	Shall allow the user to attach/ map the video clipping for the offence identified	H	Booking	Video clipping shall be mapped to the respective booking id	Process No. 6.0	
F5.8	Shall display the check report form based on the payment option selected	H	Compounding		Process No. 3.0	
F5.9	Shall display list of documents to be compounded	H	Compounding	Shall display list of documents to be compounded against the offence identified	Process No. 3.0	
F 6.0	Forms					
F6.1	Shall display the check report form	H		Once an offence is booked	Process No. 3.0	
F6.2	Shall generate a unique Check Report Id and map it to the respective case/booking id	H	Mapping		Form - Check report	

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F6.3	Shall retrieve & display existing details based on the vehicle registration number on the Check report form	H	Retrieval	Report shall contain the following information: 1- Name of offender 2- Vehicle Registration number 3- Penalty to be paid 4- Relevant Act of offence 5- MVI officer name 6- Date 7- Case id/ Case no. 8- List of documents to be compounded (if any)	Form - Check report	
F6.4	Shall allow the user to enter other details in the Check report form	H	Data entry	Other details shall include: 1. Actions to be taken 2. Due date 3. Other remarks	Form - Check report	
F6.5	Shall allow the user to save and submit each form that he has prepared	H	Storage	Shall be saved and updated to the server directly		

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F6.6	Shall allow user to print multiple copies of various reports when required using the mobile printer	L	Printing	Reports shall include 1. TR-5 2. Mazahar 3. Check Report 4. Accident investigation report		
F 7.0	Alerts, Notification & Chat					
F7.1	Shall allow the user to send quick alerts to the on-field MIVs/ AMVIs	H	Alert	Incase of emergency. Alert shall contain information like: 1- Location 2- Offending vehicle registration number (if available) 3- Vehicle type and physical details like color etc 4- Date and Time 5- Remarks if any 6- Actions to be taken	Process No. 6.0, 1.0	
F7.2	Shall alert the user on receipt of message/ alerts from on-field MVIs/ AMVIs	H	Notification	Shall provide a sound alert and an SMS	Process No. 1.0	Based on co-ordinates given by the SMART MOVE Presence manager

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
						application
F7.3	Shall allow user to save notifications received on the Desktop PC	M	Storage			
F7.4	Shall allow user to create messages and send it to the selected recipients within the enforcement team	L	Messaging	For on-field collaboration		
F7.5	Shall allow user to save unsent messages / drafts on the Desktop PC	L	Storage			
F7.6	Shall allow user to maintain an address book on Desktop PC	L	Storage			

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F7.7	Shall send automatic SMS alerts or EMAIL - messages to respective offenders for offence booked through the control room	H	Notification	Alerts shall contain following information: 1. Vehicle registration number 2. Driver license number (If available) 3. Offence 4. Act 5. Date 6. Time 7. Location 8. Penalty to be paid 9. Name of booking officer 10. Due date	Process No. 6.0, 3.0	
F7.8	Shall allow user to initiate chat sessions with the other enforcement team members/ control room/ MVD	L	Chat			
F7.9	Shall display list of all team members who are online	L				
F7.10	Shall display list of all the active chat sessions	L				

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F7.11	Shall allow the user to send quick alerts to the on-field MIVs/ AMVIs in case of an accident	H		Information shall include: 1. Exact location of incident 2. Actions to be taken 3. Reasons of the alert	Process No. 5.0	
F7.12	Shall allow the user to send alerts or messages to more than one recipients at the same time	H			Process No. 5.0	
F 8.0	Presence Manager					
F8.1	Shall allow the user to view the presence of enforcement team on a Map	H	Presence management	Based on the coordinates received from the Mobile/ Handheld device	Process No. 1.0	
F8.2	Shall allow the user to query the application to locate an on-field officer	H	Data query	Query parameters shall include: 1. Location Name 2. Name ID of MVI	Process No. 1.0	
F8.3	Shall be able to identify approximate Latitude and Longitude of the location name specified	M	Map service	Based on the MAP database, in case of emergency	Process No. 1.0	

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F8.4	Shall allow user to zoom into a selected location on the Map	M	Map service	As per the MAP services	Process No. 1.0	
F8.5	Shall allow user to identify the nearest enforcement team to a location specified	H	Map service	In case of emergency, using Latitude & Longitude information	Process No. 1.0	
F8.6	Shall allow the user to identify the shortest distance to a specified location from a given location	H	Map service		Process No. 1.0, 5.0	
F 9.0	MIS					

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F9.1	Shall allow user to generate various statistical reports	H	MIS	Reports may include: 1. No. of offences identified - By location - By type - By mode (On-field/ video analytics) 2. Total Penalty - Penalty received - To be received 3. No. of vehicles seized - By location - By Type 4. No. offences identified but not booked - By location - By type		

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F9.2	Shall allow user to generate various analytical reports	H	MIS	Reports may include: 1. Growth rate of offences - By Type - By Location 2. Collection trend of penalties 3. Booking efficiency - By on-field team - By Control room 4. Vehicle seizing pattern - By location - By type 5. Comparative reports year wise 6. Driving/ speeding patterns 7. Volume data - Based on time - Based on location		

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F9.3	Shall allow user to select report format	H	Reporting	Format may include 1. Tabular format 2. Graphical format - Bar Chart - Pie Chart - Line Chart		
F9.4	Shall allow the user to select the periodicity type of the report	H	Reporting	Period shall include: 1. Daily 2. Weekly 3. Monthly 4. Quarterly 5. Bi-Annually 6. Annually		
F9.5	Shall also provide the user with an option to generate report for a specific period	H	Reporting	Shall allow the user to enter Start date and End date		

FUNCTIONAL REQUIREMENTS - VIDEO ANALYTICS

Req. ID	Requirement description	Priority	Type	Notes/ Issues	Process/ Format references	Integration requirements
F 1.0	Data Capture & storage					
F1.1	Shall accept live video stream from all the active CCTV cameras	H	Data Capture		Process No. 6.0	
F1.2	Shall capture and store a live video stream for a specified time period	H	Storage		Process No. 6.0	
F1.3	Shall generate a unique Video Id for each periodic stream of video captured	H	Storage	Id shall include date, time & location	Process No. 6.0	
F1.4	Shall store each stream of video captured in the Video analytics database	H	Storage		Process No. 6.0	
F1.5	Shall attach other details with the video stream while storing it in the database	H	Storage	Other details shall include: 1. Location / Junction name 2. Date 3. Time 4. Actions taken (If any)	Process No. 6.0	
F 2.0	Connectivity					

F2.1	Data captured by CCTV cameras shall be compressed and send to the control room via leased lines	H	Data transfer		Process No. 6.0	
F 3.0	Configuration					
F3.1	Shall allow the user to configure virtual loops on the screen	H	Configuration	For identification of over speeding	Process No. 6.0	
F3.2	Shall allow the user to configure the software for detection of Red signal crossing	H	Configuration	Software shall get activated on the activation of a Red signal for respective direction (camera)	Process No. 6.0	
F3.3	Shall allow the user to configure the time period for which the video stream needs to be captured	H	Configuration		Process No. 6.0	
F3.4	Shall allow user to configure speed limits at each junction	H	Configuration	With respect to the configured speed limit, over speeding shall be detected	Process No. 6.0	
F 4.0	Detection					

F4.1	Shall detect over speeding vehicles	H	Detection	Using the loops configured for each road on CCTV enabled junctions. Speed of vehicle shall be calculated using the following formula: Speed = Distance between configured loops / Time taken by the vehicle to travel the distance between loops	Process No. 6.0	
F4.2	Shall detect vehicles crossing Red signal	H	Detection	Vehicles crossing once the Red signal has been activated	Process No. 6.0	
F 5.0	Alerts & Video analysis					
F5.1	Shall alert the control room when over speeding or red signal crossing is detected	H	Alert	1. Over speeding shall be detected when a speed of vehicle as calculated in F4.1 is greater than the configured speed limit for the junction 2. Red signal crossing is detected, when a vehicle is crossing the junction after the Red signal activation has	Req. F3.1, Process No. 6.0	

				been done		
F5.2	Shall provide both a sound alert as well as a message notification.	H	Notification	Notification shall contain following details 1. Offence type 2. Date 3. Time 4. Location/ junction name 5. Video Id (along with a link to the video) Shall flash the message till it is attended	Process No. 6.0	
F5.3	Shall allow the user to query a video stream from the video database	H	Query	Query parameters shall include: 1. Location/ junction name 2. Time / Timeframe 3. Date/ period	Process No. 6.0	
F5.4	Shall store a copy of the retrieved video stream/s in the cache	M	Storage	Temporary storage	Process No. 6.0	

F5.5	Shall allow the user to analyze a selected video stream	H	Analysis	Analysis shall include following actions: 1. Zoom in 2. Zoom out 3. Appending two video streams 4. Cutting a video stream into snapshots 5. Adjusting contrast and color of the video 6. Adjusting clarity of the video stream 7. Compressing the video stream	Process No. 6.0	
F5.6	Shall allow the user to view alerts and notifications as and when required	H	Alerts			
F5.7	Shall store all alerts and notification in the users inbox	L	Storage	Alerts received through Video analytics shall be flagged separately		
F5.8	Shall allow user to archive/delete alerts received	L				

F5.9	Shall allow user to save changes made to the original video streams separately	H	Storage	Shall attach following details with the changed files: 1. Date 2. Time 3. Original video id 4. User name 5. Action taken	Process No. 6.0	
F5.10	Shall save and update all modified files to the video database	H	Synchronization		Process No. 6.0	
F5.11	Shall allow user to preview changes made to the video before saving it to database	M	Synchronization		Process No. 6.0	
F5.12	Shall allow the user to enter details on action taken for each highlighted video	H	Analysis	Shall provide with following options: 1. Enter details 2. Attach forms prepared on the basis of the video	Process No. 6.0	
F 6.0	General requirements					
F6.1	Shall provide the user with a user friendly GUI for video analysis	M	GUI			

F6.2	Shall provide the user with a Video analysis homepage	H	GUI	Homepage shall contain following options: 1. Alerts/ Notifications 2. Retrieve Video 3. Analyze video 4. Book offence (Link to the booking module)	Process No. 6.0	
F6.3	Shall generate appropriate error messages while handling video	M	Error handling	Errors may include following: 1. Video retrieval errors 2. Connectivity errors		
F6.4	Shall maintain a log of interruptions while capturing videos	M	Exception handling	Interruptions may be due to power loss. Details shall include: 1. Time 2. Date 3. Location 4. Duration		