Directorate of Geology and Mining, Madhya Pradesh
29-A, Khanij Bhawan, Arera Hills Bhopal
Phone & Fax: 0755-2551795
Email: dirgeomp@nic.in

Notice Inviting Tender

RFP NO. DGM/IT/ 11617 Bhopal, Dated: ...01../9./23

"Selection of System Integrator for Implementation of AI based Smart Enforcement System to curb illegal transportation of minerals"

Directorate of Geology and Mining invites proposals from System Integrators for Implementation of AI based Smart Enforcement System to curb illegal transportation of minerals.

Eligiblity conditions,timelines,terms and conditions etc for participating in electronic tender are provided in the Tender Document available in electronic form only and can be downloaded from the MP Tender portal (https://mptenders.gov.in) from 02/09/2023.

Intrested and eligible bidders can register themself on the above e-Tender portal. The bidders can participate in the bidding only after online purchase of the Tender Document on the payment of the tender fee from the above e-Tender Portal.Any revision, clearifications, addendum, corrigendum, time extensions etc to the tender document will we posted on the above e-Tender Portal only and no separate notifications shall be issued in the press.

The pre-bid meeting would be organised in hybrid mode on 06/09/2023. The venue, time and VC Link are mentioned in the Tender Document. Last date for submission of the bid is 22/09/2023, on or before 18:00 hours (IST).

1/9/23
(Director)
Administration and Mining

DIRECTORATE OF GEOLOGY AND MINING, MADHYA PRADESH

Government of Madhya Pradesh

REQUEST FOR PROPOSAL

Selection of System Integrator for Implementation of AI-based Smart Enforcement System to curb illegal transportation of mineral

RFP No. DGM/IT/NIT-11617

Directorate of Geology and Mining, Madhya Pradesh
Address: 29-A, Khanij Bhavan, Arera Hills, Bhopal, Madhya Pradesh.
Ph: 0755-2551795

DISCLAIMER

All information contained in this Request for Proposal (RFP) provided is in the good interest and faith. This is neither an agreement nor an offer/ invitation to enter into an agreement of any kind with any party.

Though adequate care has been taken in the presentation of this RFP document, the interested bidders shall satisfy themselves that the document is complete in all respects. The information published in this document is not intended to be exhaustive. Interested Bidders are required to make their own enquiries and assumptions wherever required.

Intimation of a 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 firms submitting their bids are satisfied that the RFP document is complete in all respects.

Directorate of Geology and Mining , Bhopal 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. Directorate of Geology and Mining , Bhopal also reservesthe right to withhold or withdraw the process at any stage with intimation to all who have submitted their bids in response to this RFP.

Directorate of Geology and Mining , Bhopal, reserves the right to change/ modify/ amend any or all of the provisions of this RFP document without assigning any reason. Any such change would be communicated to the bidders by posting it on the website of MP Tenders. Neither Directorate of Geology and Mining , Bhopal nor their employees and associates will have any liability to any prospective Bidder interested to apply or any other person under the law of contract to the principles or resolution or unjust enrichment or otherwise for any loss, expense or damage which may raise 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 Directorate of Geology and Mining , Bhopal or their employees and Bidder or otherwise arising in any way from the selection process for the Assignment.

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

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Abbreviations & Definitions

Authorised Signatory	The proposer's representative/ officer vested (explicitly, implicitly, or through conduct) with the powers to commit the authorizing organization to a binding agreement. Also called signing officer/ authority having the Power of Attorney (PoA) from the competent authority of the respective agency.
Agency	Any Firm / agency/ company/ contractor/ supplier participating in the procurement/ RFP process with the procurement entity
AI	Artificial Intelligence
AMC	Annual Maintenance Contract
Bidder/ Legal Entity	Bidder can be a Proprietorship agency, Partnership agency, Company, LLP or Society registered in India
CMC	Contract Monitoring Committee
Competent Authority	An authority or officer to whom the relevant administrative or financial powers have been delegated for taking decision in a matter relating to procurement. Director, Geology and Mining in this RFP document.
Contract/ Procurement Contract	A contract entered into, between Directorate of Geology and Mining and a successful proposer concerning the subject matter of procurement
Day	A calendar day as per GoMP/ GoI.
Demand Release	A requirement shared on email/work-order by Directorateof Geology and Mining
Directorate	Directorate of Geology and Mining, Govt. of Madhya Pradesh
GoI/ GoMP	Govt. of India/ Govt. of Madhya Pradesh
HR	Human Resource
INR	Indian Rupee
IT	Information Technology
JD	Job Description
NIT	Notice Inviting Tender
Notification	A notification published in the Official Gazette
O&M	Operations and Maintenance
PAN	Permanent Account Number
PC	Procurement/ Purchase Committee
PMU	Project Management Team (Same as Technical Team).
Project Site / Location	Wherever applicable, means the designated place or places
Proposal	A formal offer made in pursuance of an invitation by Directorate of Geology and Mining and includes any tender, proposal or quotation
Proposer	Any person/ agency/ company/ contractor/ supplier/ agency participating in the procurement/ RFP process with the procurement entity

RFP Document	Documents issued by the Directorate of Geology and Mining, including any amendments thereto, that set out the terms and conditions of the given procurement and includes the invitation to Proposals
SI	System Integrator
SITC	Supply, Installation, Testing and Commissioning
SIT	Supply, Installation, and Testing
Solution	End to end complete Solution to curb illegal transportation of mineral
State Government	Government of Madhya Pradesh (GoMP)
Technical Team	Required resources/manpower as part of this contract. It is synonymous with PMU referred in this contract.
Tender Process	The process of procurement extending from the issue of invitation to proposals till the award of the procurement contract or cancellation of the Tender Process, as the case may be
WO/ PO	Work Order/ Purchase Order
WIM	Weigh-in-Motion

1 Schedule of RFP

1	RFP No.	RFP No. DGM/IT/NIT-11617
2	Nature of Work	Selection of System Integrator for Implementation of AI based Smart Enforcement System to curb illegal transportation of minerals.
3	Proposals Invited by	**Director,** Directorate of Geology and Mining, Madhya Pradesh **Address**: 29-A, Khanij Bhavan, Arera Hills, Bhopal, Madhya Pradesh. Ph: 0755-2551795
4	Date of issue of RFP document	**Saturday, 02/09/2023**
5	Date of Pre-Bid Meeting	**Wednesday, 06/09/2023 at 03:30 PM IST** through Hybrid mode. Address for Physical Meeting- Directorate of Geology and Mining, 29-A, Khanij Bhavan, Arera Hills, Bhopal, Madhya Pradesh VC Link is as follows – https://directorateofgeologyminingmp.my.webex.com/directorateofgeologyminingmp.my/j.php?MTID=mf89a18008cb685c99b646746150b4d13
6	Date of Final Publication of Corrigendum/ Clarification	**Friday, 08/09/2023**
7	Start Date for Submission of Proposals	From **Saturday, 09/09/2023 at 11:00 AM IST**
8	Last Date for Submission of Proposals	**Friday, 22/09/2023 till 5:00 PM IST**
9	Date of Opening of PQ cum Technical Bid	**Saturday, 23/09/2023 at 5:00 PM IST**
10	Date of Opening of Financial Proposals	**Wednesday, 27/09/2023 at 11:00 AM IST**
11	Address for Communication	29-A, Khanij Bhavan, Arera Hills, Bhopal, Madhya Pradesh. 462010 Email: **dirgeomn@nic.in**
12	Websites for downloading RFP Document, Corrigendum, Addendums etc.	https://mptenders.gov.in/
13	Cost of Document	**Rs. 10,000/-** along with the e-Procurement Processing fees (to be paid online on mptenders portal)
14	EMD	**Rs. 55 Lakhs** (Fifty Five lakhs) to be paid online on mptenders portal
15	Performance Security	15 % of total Contract Value

16	Proposal’s Validity	180 days from the Proposal’s submission date.
17	Method of selection	Lowest Price offer “L1”

Note:

1. Directorate of Geology and Mining reserves all the rights to cancel the process and reject any or all of the proposals at any time.
2. No contractual obligation whatsoever does arise from the RFP document/process unless and until a formal contract is signed and executed between Directorate of Geology and Mining and the successful proposers.
3. Directorate of Geology and Mining disclaims any factual or other errors in the RFP document (the onus is purely on the individual proposers to verify such information) and the information provided therein are intended only to help the proposers to prepare a logical proposal.

2 Background Information

2.1 About Department of Geology and Mining

The mainfunctions & activities of the department are survey and assessment of the mineraldeposits of the State, their exploitation, administration of mines and mineralconcession, checking illegal mining and enforcement of measure for curbing illegalmining and collection of mining revenue. Besides ensuring strict environmentalmeasures are being adhered to.

2.2 About Current Vehicle Registration and eTP Service

Department of Geology and Mining has a e-Khanij portal which has work flow Vehicle Registration and Electronic Transit Pass (eTP).

2.3 Project Background

The Directorate of Geology & Mining deals with mines of various minerals and transports them to the market for commodity sale. The Department typically engages close to 35,000 Vehicles within the State of Madhya Pradesh and around a similar number of Vehicles ply from other bordering States like UP, Rajasthan, Chhattisgarh, Maharashtra, and Gujarat.
As the State expands its network of available mines, it is imperative that checks and measures be put in place to ensure the mining activity is undertaken within the scope of approval of Environmental clearance and safeguard the interest of the state exchequer. Moreover, the balance of mining activity versus the natural replenishment of minerals is needed to be maintained
The Department is looking for a solution that prevents the illegal transportation of minerals with the technology intervention through Check Gates.
The proposed solution shall be integrated with the existing eTP Service for eTP validation using the combination of the RFID Tag on the vehicle's windscreen and the registration plate. The solution shall also address the use cases defined in the scope of the project. And the overall outcomes shall help in the differentiation between legal and illegal transportation of minerals.

2.4 Objective and Envisaged Benefits / Outcomes

The objectives of the Directorate to Prevent leakage of revenue through the illegal transportation of minerals.

The following benefits/outcomesare to be derived from the AI-powered Check gates including but not limited to:

- Validation of Electronic Transit Pass during transit
- Registration Number Plate Forgery Detection
- Checking Vehicle Overloading

- Mineral Mismatch Detection
- Multiple Round detection on single Transit Pass
- Alerts and Notifications to multi-stakeholders
- Decision Support System for Directorate

3 Pre-Qualification/EligibilityCriteria

A proposer participating in the tender process shall possess the following minimum pre-qualification/ eligibility criteria.

Sr.No.	Basic Requirement	Specific Requirements	Documents Required
1	Legal Entity	The Bidder/ Consortium Members shall be a legally registered entity in India and shall have been in operation for at least 5 (five) years as on bid submission date. Note: 1. The above shall be applicable for all members of the Consortium in case of Consortium 2. Maximum 2 Entities are allowed for Consortiums including Lead Bidder	Certificates of incorporation ***or*** Registration Certificates Note: In case of Consortium a copy of Memorandum of Understanding (MoU) executed by the Consortiummembers along with the complete details of the members, roles and responsibilities, financial division , Contractual obligations, their technical expertise etc.
2	Financial Turnover	The average annual turnover of the bidder , lead bidder / combined in case of consortium shall be at least Rs 25 Crores in any of the three financial years during last 5 Financial Years i.e. for the year ending March 31, 2018-19, 2019-20, 2020-21, 2021-22, and 2022-23 as per audited financial statements.	CA Certificate along with UDIN clearly defines the turnover as per the format given in Annexure 13 along with Audited Financial Statements (Balance sheet & Profit & Loss statement). In case the financial statements for FY 2022-23 are not audited, then provisionally certified financial statements by a chartered accountant can be provided
3	Bidders Experience	The Bidder should demonstrate experience (combined experience in case of the consortium) which should include : SITC and O&M for all but not limited to the below project componentsin	Related Work orders/ Agreements/ Purchase Order ***along with a*** Duly sealed signed work completion certificate

Sr.No.	Basic Requirement	Specific Requirements	Documents Required
		the Mining Sector / Smart Cities/ Airports / Shipping Ports / Multi-Modal Transport and Logistic Hubs / Warehouses in State or Central Government / under State or Central Government undertaking / private sector companies listed on BSE/NSE and having minimum turnover of 500 Crore. Project components: Command and Control Center, Applications of Artificial intelligence on images and videos and set up of field infrastructure of IT Systems with connectivity. The bidder/consortium is required to provide an overall project experience of Rs. 25 Crore minimum. The bidder/consortium is allowed to submit multiple projects (not less than Rs. 2.5 Crore per project) with a combined total value of Rs. 25 Crore or above. • SITC: Supply, Installation, Testing, and Commissioning • O&M: Operations and Maintenance	from the Client for such work. (communication/ testimonials etc. would not be considered) **Note:** 1. At least any one of the above documents should clearly define the value of the order. 2. The ongoing project can be considered if the bidder has received a minimum payment of Rs. 2.5 crores, which should be substantiated by a Client Certificate or Chartered Accountant certificate with UDIN. 1. Project details are to be enclosed as per Annexure 6 given.
4	Statutory Registrations	Shall have been registered with: - 1. GST 2. PAN	Registration copies of such certificates shall be enclosed as proof.
5	Mandatory Undertaking	Shall not have been blacklisted by any Central or State Government department as on date of RFP.	An undertaking to this effect should be submitted on its letterhead as per **Annexure 10:** Self-Declaration

Note:Multiple citation of Projects are permitted

<u>Any non-compliance to above criteria may lead to the disqualification of bidder from PQ Evaluation.</u>

4 Technical Evaluation

Technical evaluation will be carried out only for those bidders who qualifies the Pre-qualification stage. The Technical evaluation will be carried on the below parameters:

Technical Evaluation Criteria			
Sr.No.	**Criteria**	**Maximum Marks**	**Documents Required**
Organizational Financial Strength			
1	The average annual turnover of the bidder , lead bidder / combined in case of consortium shall be at least Rs 25 Crores in any of the three financial years during last 5 Financial Years i.e. for the year ending March 31, 2018-19, 2019-20, 2020-21, 2021-22, and 2022-23 as per audited financial statements. The financial strength weightage shall be based on below average annual turnover ranges: - Rs. 25 Crore to Rs. 35 Crore: 15 Marks - Above Rs 35 Crore: 25 Marks	25	CA Certificate along with UDIN clearly defines the turnover as per the format given in Annexure 13 along with Audited Financial Statements (Balance sheet & Profit & Loss statement). In case the financial statements for FY 2022-23 are not audited, then provisionally certified financial statements by a chartered accountant can be provided.
Bidder's Project Experience			
2	The Bidder, lead bidder / combined in case of consortium should demonstrate experience which should include SITC and O&M for all but not limited to the below project components inMining Sector / Smart Cities/ Airports / Shipping Ports/ Multi-Modal Transport and Logistic Hubs / Warehousesin State or Central Government / under State or Central Government undertaking/ private sector companies listed on BSE/NSE and having minimum turnover of 500 Crore.private sector companies listed on BSE/NSE and having minimum turnover of 500 Crore	25	Related Work orders/ Agreements/ Purchase Order along with a Duly sealed signed work completion certificate from the Client for such work. (communication/ testimonials etc. would not be considered) Note: 1. At least any one of the above documents should clearly define the value of the order. 2. The ongoing project can be

Technical Evaluation Criteria			
Sr.No.	**Criteria**	**Maximum Marks**	**Documents Required**
	Project components: Command and Control Center, Artificial Intelligence, and Set up of field infrastructure of IT Systems with connectivity. The experience strength shall be based on the below ranges : If the total project value is: - Rs 25 Cr to Rs 35 Cr: 15 marks - above Rs 35 Cr : 25 Marks		considered based on a payment received, which should be substantiated by a Client Certificate or Chartered Accountant certificate with UDIN. 3. Project details are to be enclosed as per Annexure 6 given.
Experience in the implementation and installation of AI-based Smart Enforcement System			
3	Bidder should have successfully implemented and installed an AI-based Enforcement System of project value of not less than 2.5 Cr having Image Recognition and Video Analytics (ANPR and Vehicle Identification) in the last Five (5) Yearsin State or Central Government / under State or Central Government undertaking / private sector companies listed on BSE/NSE and having minimum turnover of 500 Crore. The experience strength shall be based on the below ranges : If the total no of projects is: - 2 Project: 15 marks - 3 Project: 20 marks - above 3 Projects: 25 Marks	25	Related Work orders/ Agreements/ Purchase Order along with a Duly sealed signed work completion certificate from the Client for such work. (communication/ testimonials etc. would not be considered) Note: 1. At least any one of the above documents should clearly define the value of the order. 2. The ongoing project can be considered if the bidder has received a minimum payment of Rs. 2.5 crores, which should be substantiated by a Client Certificate or Chartered Accountant certificate with UDIN. 3. Project details are to be enclosed as

Technical Evaluation Criteria			
Sr.No.	**Criteria**	**Maximum Marks**	**Documents Required**
			per Annexure 6 given.
Value of a single project assignment with SITC and O & M			
4	The Bidder should demonstrate one single largest project which should include SITC and O&M for all but not limited to the below project components inMining Sector / Smart Cities/ Airports / Shipping Ports/ Multi-Modal Transport and Logistic Hubs / Warehousesin State or Central Government / under State or Central Government undertaking/ private sector companies listed on BSE/NSE and having minimum turnover of 500 Crore. Project components: Command and Control Center, Artificial Intelligence and Set up of field infrastructure of IT Systems with connectivity. The experience strength shall be based on below ranges : If total project value is: - Rs 10 to 20 Cr : 15 marks - > Rs 20 Cr to 30 Cr : 20 Marks - above Rs 30 Cr : 25 Marks	25	Related Work orders/ Agreements/ Purchase Order along with a Duly sealed signed work completion certificate from the Client for such work. (communication/ testimonials etc. would not be considered) Note: 1. At least any one of the above documents should clearly define the value of the order. 2. The ongoing project can be considered if the bidder has received payment as per the defined range in criteria, which should be substantiated by a Client Certificate or Chartered Accountant certificate with UDIN. 3. Project details are to be enclosed as per Annexure 6 given.

Note:Multiple citation of Projects are permitted

The minimum Technical Score (TS) required to be qualified is: 70 marks

Bidders, whose bids are responsive, based on minimum qualification criteria / documents as in Pre-Qualification Criteria, and score the required marks in the Technical Evaluation Criteria as above, would be considered technically qualified. Price Bids of such technically qualified Bidders alone shall further be opened.

5 Consortium

In case the Bidder is a Consortium, the members thereof should furnisha Power of Attorney in favour of any member, which member shall thereafter beidentified as the Lead Member.

Where the Bidder is a Consortium entity, it shall be required to complywith the following additional requirements:

i. Number of members in a Consortium shall not be more than 2(Two).
ii. A member of Consortium firm shall not be permitted toparticipate either in individual capacity or as a member of another Consortium firm in the same tender.
iii. The tender form shall be purchased and submitted only in the name of Consortium firm and not in the name of any constituent member.
iv. The Bid should contain the information required for each member of Consortium
v. Once the tender is submitted, the MOU shall not be modified/altered/terminated during the validity of the tender. In case the bidder failsto observe/comply with this stipulation, the full Earnest MoneyDeposit(EMD) shall be liable to be forfeited.
vi. The Bid should include a detailed description of the roles andresponsibilities of individual members, particularly with reference tofinancial, technical and/or other obligations;
vii. Members of the Consortium shall enter into a binding JointBidding Agreement, for the purpose of submitting a Bid. The Joint BiddingAgreement, to be submitted shall, inter alia:

a. Convey the intent for the purpose of domiciling theProject and no other purpose, with shareholding/ commitments inaccordance with this tender, which would enter into the Agreementand subsequently perform all the obligations in terms of theAgreement, in case the Project is awarded.
b. Clearly outline the proposed roles and responsibilities,if any, of each member;
c. Subject to approval from the Lenders and the Authority,after the trial run period has finished, non-lead Member of the Consortium can exit , subject to the approval of the LeadMembers.
d. Include a statement to the effect that all members oftheConsortium shall be liable jointly and severally for allobligations of the RFP in relation to the Project until the FinancialClosure of the Project is achieved in accordance with theagreement; and
e. Except as provided under this document and theBidding Documents, there shall not be any amendment to the JointBidding Agreement without the prior written consent of theAuthority
f. Any entity which has been barred by the Central/StateGovernment, or any entity controlled by it, from participating inany project, and the bar subsists as on the date of the Bid, wouldnot be eligible to submit a Bid either individually or a member of aConsortium.
g. A Bidder including any Consortium Member,in the last 5 (five) years, have neither failed to perform on anycontract, as evidenced by imposition of a penalty by an arbitral orjudicial authority

or a judicial pronouncement or arbitration awardagainst the Bidder, Consortium Member, as the case may be, norhas been expelled from any project or contract by any public entitynor have had any contract terminated any public entity for breachby such Bidder, Consortium Member.

6 Overall Evaluation

The Bids received will be evaluated using Lowest Price offer “L1”

After the Pre-Qualification and Technical evaluation, the evaluation committee will evaluate each of the Qualified bidders’ response on the basis of commercial parameters. Lowest Price offer of the Qualified Bidder would be termed as L1 bidder.

7 Availability of Tender Document

The Tender document is available and downloadable on following websites: https://mptenders.gov.in/

Tender Fees: of an amount as mentioned in section 1 – Schedule of RFP along with online processing charges, non-transferable & non-refundable must be paid online at e-procurement portal (https://mptenders.gov.in/)

8 Earnest Money Deposit (EMD)

I. The bidder shall submit Earnest Money Deposit (EMD) of an amount as mentioned in section 1 -Schedule of RFP, which shall be deposited online during the submission of the tender on e-Procurement portal.

II. Unsuccessful bidder’s EMD will be released within 30 working days of issuing of work order or signing of agreement with successful agencies.

III. The successful bidder’s EMD will be returned after submission of performance security as per clause 6.

IV. The EMD may be forfeited in the following cases:

   a. If a bidder withdraws his proposal or increases his quoted prices during the period of proposal validity or its extended period, if any; or

   b. In the case of a successful bidder, if it fails within the specified time limit to sign the agreement.

9 Performance Security

I. The successful bidder shall submit a Performance Guarantee of an amount 15% of the total project cost, the form of Performance Bank Guarantee (PBG) for the engagement period plus 90 days. All charges with respect to the Performance Security shall be borne by the bidder.

II. The Performance Security shall remain with Directorate for the engagement period plus 90 days.

III. The Performance Security shall be returned upon being satisfied that there has been due performance of the obligations of the bidder under the contract. However, no interest shall be payable on the performance security.

IV. This security may be invoked on violation of any of the conditions given below:

a) Bidder is not able to deliver services as per SLA.

b) The bidder or his employee is involved in any unlawful activity during its engagement with DIRECTORATE.

c) If the Bidder is non-responsive to the Scope of Work requirements raised by Department for 3 consecutive times.

10 Scope of Work

The Directorate of Geology and Mining is considering the appointment of aSystem Integrator (SI) to set up AI based Smart Enforcement System to curb illegal transportation of mineral.

Components of Project Scope

Sr. No.	Description	Quantity
1.	SITC of Command and Control Centre (CCC) of State	01
2.	SITC of Control Centre (CC) of District	30
3.	SITC of Check gate with Smart AI based Enforcement System with connectivity to SDC	40
4.	SITC of Handheld Devicewith SIM Card and connectivity (2 for each district)	104
5.	Deployment of Manpower	38
6.	SITC of weigh in motion	02
7.	Application Software, Mobile App (with hosting on Google Play Store and Apple App Store) and Integration with other systems	01
8.	Supply Installation and Testing of RFID Tags	2,00,000

10.1 Site Survey, System Study and Report

In this phase, the SI shall prepare a detailed report on system study, requirements, Site Survey, and shall discussions with the Departmental Officials wherein required data and information shall be collected. Successful Bidder shall be expected to depute a dedicated team especially skilled at gauging site constraints / suitability, technical / geographical / infra-structural parameters for Project Study and preparation of Detailed Report. The detailed report shall cover all the locations, sites, infrastructure and hardware to be deployed component-wise, software to be developed and main features along with the real-time dashboard, locations, data analytical tools etc. The above-mentioned list is indicative in nature and Successful Bidder shall provide the complete detailed report based on the actual survey based on which locations will be decided.

During study, team shall cover but not limited to following:

- Strategic identification of Check Gatelocation in consultation with the Governmental officials

- The Successful Bidder shall collect all required data(Technical & Administrative) for the implementation of AI based Smart Enforcement System to curb illegal transportation of mineral
- The system integrator shall gather all the inputs/outputs and respective processes and activities being carried out.
- The Successful Bidder will identify all risk, necessaryamenities required and its availability for commissioning andfunctioning of the Check Gates.
- Successful Bidder will also draft a detailed technicalrepresentation for the approval of PWD or NHAI (as applicable) of theDistrict/State to ensure all rules, regulations and safety norms areadhered to avoid any ambiguities/discrepancies during the installationphase.
- Names of the project team members, their roles and responsibilities
- Risks Identification and mitigation plan
- Detailed project plan specifying dependencies between various project activities / sub-activities and their timelines in line with schedule / milestones of RFP
- Installation locations geo-mapped on GIS Maps to visually identify the geographical area

Successful Bidder will also be responsible to get the Survey Report approved from Directorate of Geology and Mining

Additionally, the SI shall provide the To-Be design with following details:

1. High level design (including but not limited to) application architecture, logical and physical database design, data dictionary and data definitions, ER diagrams and other data modelling documents and physical infrastructure design for devices on the field
2. Application component design with deployment views, control flows, etc.
3. Low level design (including but not limited to) application flows and logic including GUI design (screen design, navigation, etc.), database architecturedefining data structure, data dictionary as per standards laid-down by Government of India
4. Location of all field systems and components proposed at the junctions (KML /KMZ file plotted on GIS platform like google earth etc.)
5. Height, foundation and other mounting structures for field devices
6. Location of junction box if any
7. Electrical power provisioning

The SIshall also identify the customizations/ workaround that would be required for successful implementation and operation of the project.

The SI should take into consideration following guiding principles:

1. Scalability - Technical components of the architecture must support scalability to provide continuous growth to meet the growing demand of the Project. The system should also support vertical and horizontal scalability so that depending on changing requirements from time to time, the system may be scaled upwards. There must not be any system-imposed restrictions on the upward scalability in number of field devices.

   Note : The DC would be provided at State Data Center of MP

2. Availability - Components of the architecture must provide redundancy and ensure that are no single point of failures in the key project components. Considering the high sensitivity of the system, design should be in such a way as to be resilient to technological sabotage. To take care of remote failure, the systems need to be configured to mask and recover with minimum outage. The SI shall make the provision for high availability for all the services of the system.
3. Security - The architecture must adopt an end-to-end security model that protects data and the infrastructure from malicious attacks, theft, natural disasters etc. SI must make provisions for security of all equipment. Furthermore, all the system logs should be properly stored & archived for future analysis and forensics whenever desired. Directoratemay carry out the Security Audit of the entire system post acceptance / operationalization through a Third-Party Auditor (TPA).
4. Manageability - Ease of configuration, ongoing health monitoring, and failure detection are vital to the goals of scalability, availability, and security and must be able to match the scalability of the system.
5. Interoperability - The system should have capability to take inputs from other third-party systems as per situational requirements.
6. Open Standards - System should use open standards and protocols to the extent possible without compromising on the security.

10.2 Permissions for Check Gate Installation

The SIshall assist with documentation, coordination to Directoratefor compliances/necessary permissions from various departments and authorities of Central, State and Local Government for installations of Check Gates.

10.3 SITC of Check Gates

To curb illegaltransportation of minerals, the SI shall install unmanned monitoring system which shall work on 24 X 7 X 365 days basis at selected locations (Refer Annexure : 14), for specifications Ref.Annexure : 4 and Annexure : 16 for indicative solution).

The proposed solution shall monitor the traffic lane wise, the system shall broadly comprise of below but not limited to components:

- Mounting structure (Gantry)

- Varifocal Cameras (for mineral images and footage as well as top, front and side view of vehicle in motion)
- Automatic Number Plate Recognition (ANPR),
- RFID reader(Minimum vehicle speed 40 kms / Hr)
- LPU with local computing capacity with necessary software and storages to address all use cases to support decision support system in real time (response time 30 Seconds)
- Network connectivity and uninterruptedelectricity supply
- LED Lights

The SI shall design supply, install, test, commission and operationalise a the Check gates with following :

1. Mounting structure (gantry), civil and electrical work with uninterrupted electricity supply.
2. The uninterruptedelectricity supply shall be integrated hybrid Solar power management system with minimum 8-hours of secondary power backup to cater theentire Load factor at particular location.
3. All cameras including varifocal, ANPR with required filters , connectors, accessories and fixtures
4. The RFID reader with minimum 20 meters range
5. All of the necessary equipment for the local processing system, including but not limited to compute, storage etc. and shall make all the connections to the cameras and respective field equipment.
6. Connectivity with SDC from Check Gates during project tenure
7. Electrical connection , meter and supply during project tenure

Shifting of the Check Gate:

If required in future, the SI shall also do shifting of the Check Gate at the desired location during project tenure as per the directorate's order; this will include dismantling of existing check gate, transportation to desired location, installation, testing, commissioning and operationalise. All other terms and condition will remain same.

10.4 SITC of State's Command and Control Centre

The SI shall establish a state-of-the-art Command and Control Centre (CCC) at the space provided by Directorate of Geology and Mining at Bhopal. The size of the facility would be approx. 500 Sq Feet at Bhopal.

The SI shall do CCC site preparation with design and interior work, false ceiling , Renovation / painting work, firefighting equipment, internal CCTV surveillance system, rodent repellent.

The SI is responsible for SITC of Video Wall (3 X 2) System, Workstation with 2 Monitors (Specifications refer Annexure – 4), Active Networking Components (LAN Switches etc.) , Passive Networking Components (Structured cabling), Electrical Cabling for IT equipment and Necessary Illumination Devices, Furniture for 06 Operators Workstations and other required furniture.

The uninterrupted power supply along with DG Set to cater the electrical load of CCC shall be provided by the SI.

The SI shall be required to submit a detailed installation report post installation of all the equipment. The report shall be utilized during the acceptance testing.

10.5 SITC of District Control Center:

The SI shall set up a control centre at District(s) forcontinuous surveillance of the information captured by Check gates around Districts. The Command Center will coordinate with the Departments Mobile Units in exchanging information received .

The setup shall comprise of operator's workstation with accessories and peripherals, all required software and application, wall mounted 2 led screen (46" LED display) to display dashboards / actionable / camera stream, connectivity and table and ergonomic chair for operator. Refer Annexure : 14 for locations and Annexure : 4 for specifications

Note : The District command center room (100 Sq ft approx.) shall be provided by particular district authority.

10.6 SITC of Weigh in Motion System

The SI shall be responsible for supply, installation, testing, commissioning of weight in motion system at two locations (Refer Annexure : 14 for locations and Annexure : 4 for specifications).
The SI shall be responsible for integration of weight in motion system with enforcement work flow.
The objective of the system shall monitor, record multi axle vehicle weights without stopping or slow down the vehicle at specified locations and generate alerts.

The detailed scope of work for this project includes the design, installation, and commissioning of an Integrated Weigh-In-Motion (WIM) System with minimum excavation and rework of road. The system should be capable of measuring the weight of vehicles while they are in motion and provide real-time data to decision support system. The system should be able to measure all types of vehicles, including heavy commercial trucks, tractors etc

The system should include the following components:

- WIM sensors installed on the road surface that will accurately measure the weight of vehicles in motion with minimum excavation and rework of road.
- Data acquisition unit that will collect data from the WIM sensors and transmit it to the decision support system.
- The WIM software shall be integrated with decision support system and provide real-time information on the weight and classification of vehicles.
- Necessary infrastructure such as uninterrupted power supply, communication network, and installation tools.

The system should be designed and installed in compliance with relevant national standards plus the International Organization for Standardization (ISO) standards for Weigh-In-Motion Systems.

Refer Annexure : 4for technical specifications for a Weigh-In-Motion (WIM) system.

10.7 Connectivity

The SI shall provide the connectivity between check gates and SDC. SI shall also provide SIM connectivity for handheld devices.

10.8 Software Applications and Integrations

Web Application for DSS (Decision Support System) , e- TP Validation, e-Notice and evidence capture

SI shall design and develop of Decision Support System (DSS) along with Monitoring System with Alert, Notification and integrated dashboard with following functionality and features:

- Decision Support System (DSS) shall enable the District Administration to track activities from district level Mini Command Center based on video feeds, real time data captured from AI/IoT devices.
- Configuration, Mapping and Installation track of RFID tag to ensure mandatorycompliance of RFID Tag for all mineral carrying vehicles (MP and Other States)
- Monitoring of live Check Gates& their activities via live camera.
- Monitoring of the transit pass related anomalies (24 x7)
- Monitoring on-spot verification activities by concerned officers toprevent illegal mineral transportation using Mobile App.
- Challansystem that will generate appropriate e-Challan as per governmentrule with Collection of evidences to support e-Challan
- The application shall facilitate the ground staff to do audits of mines using the handheld device

- Integration of DSS with MoRTH portal for online vehicle details
- Integration of DSS with departmental penalty payment mechanism.
- Integration of various departmental services (all type of Transit Pass)with DSS to prevent issuance of various Transit Pass in case of anychallan is not paid yet.

Mobile Application(s) :

SI shall develop a mobile Application for Android and iOS platform. The application shall have functionality for onsite inspection/ audit (of vehicles, warehouses / mines), alerts & notification for Lessees & Transporters. The Mobile App shall perform all type of reconciliation & verification on single request like vehicle's eTP / ISTP(Transit Pass) validation, eTP expiry, RFID Tag Status etc. It shall allow the user to collect all types of evidence like vehicle photo, vehicle document photo, eTP photo, driver details, mines etc.

The Mobile App shall also provide instant alerts, notifications and various MIS reports for different users like Lessees, Stockists, Transporters, District Administration and Mining Officer.

Web application for equipment's health monitoring :

The SI shall provide a web application for all hardware/ equipment's / end point health monitoring system.

- Key Monitoring Areas:
- Link status
- Power status
- ANPR Camera
- Varifocal Camera
- RFID Reader
- All LPU and Storage
- Surveillance using Cameras
- Connectivity status

Dashboard and Data Analytics :

The SI shall built a dashboard, MIS and Analytical Reports to enables the administration and to curbillegal mining practices and restrict the anomalies of mineralmovement.

Note:

All applications shall follow the principles of single sign on with role-based user management and high availability (HA).

Integration:

SI shall do Integration of all required software application in the ecosystem of mining department. The systems shall also integrate with Master Data of Contractor, Stockiest and Transporters, VAHAN, Inter State Transit Pass (ISTP) and otherElectronic Transit Pass (for Contractor, Stockiest).

Domain Registration and SSL Certificate:

SI shall do Domain Registration and SSL Certificate for project tenure. In the Domain registration process, the bidder shall reserve a unique name and associated internet address for the web-based applications with consent from Directorate.

The bidder shall handover all credentials of domain and ssl to Directorate.

SMS Gateway :

The SI shall provide SMS communication / alert facility with required SMS Gateway, Integration with Web based Application and SMS package.
The SMS Management shall facilitate :

- Create templates for sending SMS
- Create various formats as per the set standard under SIS
- Send Bulk SMS
- Send Reports
- Generate MIS Reports
- Review last bulk SMS sent
- Manage user accounts
- Help Module for ground staff
- Summary Report

10.9 Supply Installation and Testing of RFID Tags on Registered Vehicles

As per the department'sguidelines, minerals are supposed to be transported into the vehicles registered with department of Geology and Mining only.

To identify these vehiclesthe solution shall have minimum two mechanisms as below:

- Vehicle Registration Plate reading with ANPR and
- RFID Tag Reading

To implement above mechanism; all the registered vehicles shall have these tags on vehicle's wind screen. The SI shall set up a system to supply, install, testRFID Tags on all registeredvehicles with department and also during onboarding of new vehicles. For visual recognition, these tags shall have necessary branding based on requirement and approval of directorate.

The registration / mapping of these RFID tags with the systems and databases shall be responsibility of the SI. SI shall develop a web application for RFID tag management with features to buy and report damage of RFID tags. This web application shall be integrated with various existing systems.

This would be paid service for the transporter. The transporter shall pay directly to SI for SIT and mapping of RFID Tag . The rate shall be as per the rate discovery through this tender.

For the earliest penetration and timely implementation of project; the SIT and mapping of these Tags with system / databases shall remain with SI only.

The RFID shall contain minimum following vehicle information :

- Vehicle number
- Owner name
- Owner number
- Type of Vehicle
- Owner address
- Loading capacity
- Number of wheels
- Registered for which lease of mine
- Type of Mineral

SI shall facilitate the transporter with a web portal and mobile App to check mapping as well as Tag status of their particular vehicle.

The SI shall also setup a 24 X 7 X 365 helpdesk at CCC. This help desk shall offer technical support to address queries related to the RFID Tag.

10.10 Handheld Devices

The SI shall be responsible for providing handheld devices with RFID reader, Camera for evidence capture, SIM Card, network connectivity and built in application with all functionalities and workflows to get communication from command center.

The SI shall do regular software and securitypatch updates on handheld devices to keep them secure and up to date. The user management with SSO shall be responsibility of SI

The SI shall train the staff for the usage of these devices.

10.11 State Data Center (SDC) and DR

The Data Centre (Compute, storage etc) shall be provided by State Data Center (located at 47-A, Arear Hills Bhopal) as per the computing and storage requirement.

The SI shall be responsible for supply configuration testing of all the necessary Application Software's (Enterprise Licences)required at Data Center

The DR shall be as per the available/ upcoming facility with SDC.

Storage/Recording Requirements :

The SI shall do storage estimation and shall also factor following requirements:

- Data on storage would be over-written automatically by newer data after the stipulated time period jointly decided by Directorateand SI.
- The flagged data by Enforcement Agency / Command Center Operators (or by designated personnel) shall be stored for longer duration as per requirements.
- Full audit trail of reports to be maintained for 90 days.
- Archival/Backup as per SOP decided in consultation with Directorate

- The recording servers / system, once configured, shall run independently and continue to operate in the event that the video management system is off-line.
- The system shall support H.264 or better
- The system shall record the native frame rate and resolution supplied by the camera or as configured by the operator.

10.12 Pilot , Training, Capacity Building, Security Audit and Certification

Bidder shall do Pilot Check Gates and District CCC at 3 districts suggested by Directorate. Based on the learning of pilot, the further implementation shall be carried out.

The training and Capacity building of users shall be responsibility of SI.

The SI shall also do Security Audit and Certification of the complete Solution.

10.13 Documentation of Business Requirements Documents, SRSand User Acceptance Testing (UAT)

Bidder is required to make and submit BRD, SRS, as –is and to-be documents, scenarios, test cases and UAT documents.

10.14 Testing, Acceptance Criteria and Go-Live

The SI shall demonstrate the following mentioned acceptance criteria prior to acceptance of the solution as well as during project operations phase, in respect of scalability and performance etc. The SI may propose further detailed Acceptance criteria which the Directorate will review. Once Directorate provides its approval, the Acceptance criteria can be finalized. In case required, parameters might be revised by Directorate in mutual agreement with the SI and the revised parameters shall be considered for acceptance criteria. A comprehensive system should be set up that would have the capability to log & track the testing results, upload & maintain the test cases and log & track issues/bugs identified.

The following table depicts the details for the various kinds of testing envisaged for the project:

Type of Testing	Responsibility	Scope of Work
System Testing	SI	1. SI to perform systemtesting 2. SI to prepare test plan and test cases and maintain it. Directoratemay request the SI to share the test cases andresults 3. Should be performed through manual as well as automatedmethods 4. Automation testing tools to be provided by SI, Directorate doesn't intend to own these tools.
Integration Testing	SI	1. SI to perform integrationtesting 2. SI to prepare and share with Directoratethe integration test plans and testcases 3. SI to perform integration testing as per the approvedplan 4. Integration testing to be performed through manual as well as automatedmethods 5. Automation testing tools to be provided by SI. Directoratedoesn't intend to own these tools

Type of Testing	Responsibility	Scope of Work
Performance and Load Testing	SI	1. SI to do performance and loadtesting 2. Various performance parameters such as transaction response time, throughput, page loading time should be taken intoaccount 3. LoadandstresstestingoftheProjecttobeperformedon business transaction volume 4. Test cases and test results to be shared withDirectorate 5. Performance testing to be carried out in the exact same architecture that would be set up forproduction 6. SI need to use performance and load testing tool for testing. Directoratedoesn't intend to own thesetools 7. Directorateif required, could involve third party auditors to monitor/validate the testing. Cost forsuchaudits to be paid by Directorate
Security Testing (including Penetration and Vulnerability Testing)	SI Note:Directorate may involve TPA (Third Party Auditor) in addition	1. The solution should demonstrate the compliance with security requirements including but not limited to security controls in the application, at the network layer, network, data center(s), security monitoring system deployed by the SI 2. The solution shall pass vulnerability and penetrationtesting for rollout of each phase. The solution shouldpass web application security testing for the portal,mobile app and other systems and security configurationreview of the infrastructure 3. SI should carry out security and vulnerability testing on the developed solution 4. Security testing to be carried out in the exact same environment/architecture that would be set up for production 5. Security test report and test cases should be shared with Directorate 6. Testing tools if required, to be provided by SI. Directoratedoesn't intend to own these tools 7. During O&M phase, penetration testing to be conducted on yearly basis and vulnerability assessment to be conducted on half-yearly basis 8. Directoratewill also involve third party auditors to perform the audit/review/monitor the security testing carried out by SI. Cost for such audit shall be paid by Directorate.

Type of Testing	Responsibility	Scope of Work
User Acceptance Testing of Project	Directorateand PMC or Directorate's AppointedThird Party Auditor	1. Directorate / PMC or Directorates'appointed third party auditor to perform user acceptance testing 2. SI to prepare user acceptance test cases 3. UAT to be carried out in the exact same environment/architecture that would be set up for production 4. SI should fix bugs and issues raised during UAT and get approval on the fixes from Directoratebefore production deployment 5. Changes in the application as an outcome of UAT shall not be considered as Change Request. 6. SI shall rectify the observations.

Note:

1. The SI needs to provide the details of the testing strategy and approach including details of intended tools/environment to be used by SI for testing in its technical proposal. Directorate does not intend to own the tools.
2. The SI shall work in a manner to satisfy all the testing requirements and adhere to the testing strategy outlined. The SI must ensure deployment of necessary resources and tools during the testing phases. The SI shall perform the testing of the solution based on the approved test plan, document the results and shall fix the bugs found during the testing. It is the responsibility of the SI to ensure that the end product delivered by them, meets all the requirements asked by Directorate. The SI shall take remedial action based on outcome of the tests.
3. The SI shall arrange for environments and tools for testing and for training as envisaged. Post Go-Live; the production environment should not be used for testing and training purpose. If any production data is used for testing, it should be masked and it should be protected. Detailed process in this regard including security requirement should be provided by SI
4. All the Third Party Auditors (TPA) as mentioned above will be appointed and paid by Directoratedirectly.
5. STQC/ Other agencies appointed by Directorateshall perform the role of TPA. SI needs to engage with the TPA at the requirement formulation stage itself. This is important so that unnecessary re-work is avoided and the audit is completed in time. The audit needs to be completed before Go-Live of different phases. SI needs to prepare and provide all requisite information/documents to third party auditor and ensure that there should not be delay in overall schedule
6. The cost of rectification of non-compliances shall be borne by the SI

Final Acceptance Testing :

The final acceptance shall cover 100% of the Project Scope, after successful testing by the Directorateor its PMU ; a Final Acceptance Test Certificate (FAT) shall be issued by the Directorate.

Pre-requisite for carrying out FAT activity:

- Detailed test plan shall be developed by the SI and approved by Directorate. This shall be submitted by SI before FAT activity to be carried out.
- All documentation related to Project and relevant acceptance test document (including IT Components, Non IT Components etc.) should be completed & submitted before the final acceptance test to the Directorate
- The training requirements as mentioned should be completed before the final acceptance test.
- Successful hosting of all Application and Software

Complete documentation / manuals / brochures / Data Sheets shall be submitted to Directorate

The FAT shall include the following:

1. All hardware and software items must be installed at respective sites as per the specification.
2. Availability of all the defined services shall be verified.
3. The SI shall be required to demonstrate all the features / facilities / functionalities asked by Directorate
4. The SI shall arrange the test equipment required for performance verification and shall also provide documented test results.
5. The SI shall be responsible for the security audit of established system to be carried out by a certified third party as agreed by Directorate.

Note :

I. Any delay by the SI in the Final Acceptance Testing shall render him liable to the imposition of appropriate Penalties. However, delays identified beyond the control of SI shall be considered appropriately and as per mutual agreement between Directorate and SI.

Go-Live :

Post FAT the system shall be considered as Go Live.

10.15 Operations Management

Bidder shall provide manpower for operations at State's CCC and Mini Command Center for complete contract period.

Note - The consumables like diesel for DG at State CCC shall be provided by bidder and shall be billed on actual.

10.16 Warranty and Maintenance Support

The SI shall provide threeyearson site OEM warranty and maintenance support post go-live for project duration.

10.17 Change Management and Control

Change Orders / Alterations / Variations:

1. The SI shall agree that the requirements given in the Bidding Documents are minimum requirements and are only indicative. The SI shall study requirement in details at the time of preparing the study report prior to actual implementation. It shall be the responsibility of the SI to meet all the requirements of technical specifications and any upward revisions and/or additions of quantities, specifications sizes given in the Bidding Documents required to be made during execution of the works, shall not constitute a change order and shall be carried out without a change order and shall be carried out without any time and cost effect to Purchaser.

2. Further upward revisions and or additions required to make SI's selected equipment and installation procedures to meet Bidding Documents requirements expressed and to make entire facilities safe, operable and as per specified codes and standards shall not constitute a change order and shall be carried out without any time and cost effect to Purchaser
3. Any upward revision and/or additions consequent to errors, omissions, ambiguities, discrepancies in the Bidding Documents which the SI had not brought out to the Purchaser's notice in his bid shall not constitute a change order and such upward revisions and/or addition shall be carried out by SI without any time and cost effect to Purchaser.

Change Order

1. The Change Order will be initiated only in case,

a) The Purchaser directs in writing to the SI to include any addition to the scope of work covered under this Contract or delete any part of the scope of the work under the Contract,

b) SI requests to delete any part of the work which will not adversely affect the operational capabilities of the facilities and if the deletions proposed are agreed to by the Purchaser and for which cost and time benefits shall be passed on to the Purchaser,

c) The Purchaser directs in writing to the SI to incorporate changes or additions to the technical specifications already covered in the Contract.

2. Any changes required by the Purchaser over and above the minimum requirements given in the in the Bidding Documents before giving its approval to detailed design or Engineering requirements for complying with technical specifications and changes required to ensure systems compatibility and reliability for safe operation (As per codes, standards and recommended practices referred in the Bidding Documents) and trouble free operation shall not be construed to be change in the Scope of work under the Contract.

3. Any change order as stated in above clause comprising an alteration which involves change in the cost of the works (which sort of alteration is hereinafter called a "Variation") shall be the Subject of an amendment to the Contract by way of an increase or decrease in the schedule of Contract Prices and adjustment of the implementation schedule if any.

4. If parties agree that the Contract does not contain applicable rates or that the said rates are inappropriate or the said rates are not precisely applicable to the variation in question, then the parties shall negotiate a revision of the Contract Price which shall represent the change in cost of the works caused by the Variations. Any change order shall be duly approved by the Purchaser in writing.

5. Within Ten (10) working days of receiving the comments from the Purchaser or the drawings, specification, purchase requisitions and other documents submitted by the SI for approval, the SI shall respond in writing, which item(s) of the Comments is/are potential changes(s) in the Scope of work covered in the Contract and shall advise a date by which change order (if applicable) will be submitted to the Purchaser.

6. Any change in future will be done through the change management process. The SI shall quote efforts / material cost for each of the components and the same shall be vetted by Directorate and its appointed PMC.

11 Responsibility Matrix

R: Responsible
A: Accountable
C: Consulted
I: Informed.

Sr No.	Key Activities	SI	PMU	Directorate
1.	Project Kick Off	R/A	C	C
2.	Survey, Feasibility, Assess the Requirement of IT Infrastructure and Non IT Infrastructure, DPR	R/A	C	C
3.	Assessment of Business Processes	R/A	C	C
4.	Assessment Software Requirements	R/A	C	C
5.	Assess Integration Requirements	R/A	C	C
6.	Assessment Training Requirement	R/A	C	C
7.	Compliances / necessary permissions from various departments and authorities of Central, State, and Local Government for installations of Check Gates.	C	C	R/A
8.	Detailed Design of Solutions	R/A	C	C
9.	Development of Test Cases (Unit, System Integration and User Acceptance)	R/A	C	C
10.	Preparation of Final Bill of Quantity and Material for Infra Resources from SDC	R/A	C	C
11.	Procurement of Software Licenses etc.	R/A	C	I
12.	Installation	R/A	C	I
13.	Development, Testing and Production Environment Setup	R/A	C	C
14.	Software Application Customization (if any)	R/A	C	C
15.	Development of Bespoke Solution (if any)	R/A	C	C
16.	Data Migration	R/A	C	I
17.	Integration	R/A	C	C
18.	Unit and User Acceptance Testing	R/A	C	I
19.	Implementation of Solutions	R/A	C	I
20.	Preparation of User Manuals, Training Curriculum and Training Materials	R/A	C	C
21.	Role-based Training(s)	R/A	C	C
22.	SoP Implementation	R/A	C	C
23.	Go Live	R/A	C	I
24.	Operation and Maintenance	R/A	C	I
25.	SLA and Performance Monitoring	R/A	C	I
26.	Logging, Tracking and Resolution of Issues	R/A	C	I
27.	Application Enhancement	R/A	C	C
28.	Patch & Version Updates	R/A	C	I
29.	Helpdesk Services	R/A	C	I

12 Service Level Agreement

The purpose of this SLA is to clearly define the levels of service to be provided by System Integrator to Directorate during of the Implementation and maintenance phase or until this SLA has been amended.

The objectives of this SLA are to:

- Trigger a process that applies Directorate and Contractor management attention to some aspect of performanceonlywhenthataspectdropsbelowanagreeduponthreshold,ortarget.
- Makes explicit the performance related expectations on performance required byDirectorate
- Assist the Directorateto control levels and performance of services provided by contractor

Subject to Scope conditions of Contract if the successful bidder fails to deliver or perform the services within the period(s) specified in Milestones indicated in Deliverables, competent authority shall, without prejudice to its other remedies under the Contract, deduct from the invoices or PBG, as penalty, deduction would be undertaken as per the penalties defined.

12.1 General principles of Service Level Agreements

The Service Level Agreements have been logically segregated in the following categories:

Liquidated Damages :

The liquidated damages shall come into effect once the notification of Award has been issued by the Authority. It would be mainly applicable on the implementation phase of the project.

Service Level Agreements (SLA) :

SLA shall become the part of Contract between Directorateand the SI. SLA defines the terms of the SI's responsibility in ensuring the timely delivery of the Deliverables and the correctness of the same based on the agreed Performance Indicators as detailed in this section.The SI has to comply with service level requirements to ensure adherence to Project Timelines, quality and availability of services, throughout the period of this Contract i.e. for a period mentioned in the project timeline of RFP. The SI has to supply appropriate software/hardware/tools as may be required to monitor and submit reports of all the SLAs mentioned in this section.For purposes of the SLA, the definitions and terms as specified in the Document along with the following terms shall have the meanings set forth below:

I. "**Total Time**" - Total number of hours in the quarter (or the concerned period) being considered for evaluation of SLA performance.

II. "**Uptime**" – Time period for which the specified services/outcomes are available in the period being considered for evaluation of SLA. Formulae for calculation of Uptime: Uptime (%) = {1-[(Downtime)/(Total time- scheduled maintenance time)]}*100

III. "**Downtime**"- Time period for which the specified services/components/outcomes are not available in the concerned period, being considered for evaluation of SLA, which would exclude downtime owing to Force Majeure & Reasons beyond control of the successful bidder.

IV. "**Scheduled Maintenance Time**" - Time period for which the specified services/components with specified technical and service standards are not available due to scheduled maintenance activity. The successful bidder is required to take at least 10 days prior approval from DIRECTORATE for any such activity. The scheduled maintenance should be carried out during non-peak hours (like post mid-night, and should not be for more than 4 hours. Such planned downtime would be granted max 4 times a year.

V. "**Incident**" - Any event/abnormalities in the service being rendered, that may lead to disruption in normal operations and services to the end user.

VI. "**Response Time**" - Time elapsed from the moment an incident is reported in the Helpdesk over phone or by any applicable mode of communication, to the time when a resource is assigned for the resolution of the same.

VII. "**Resolution Time**" - Time elapsed from the moment incident is reported to Helpdesk either in person or automatically through system, to the time by which the incident is resolved completely and services as promised are restored.

12.2 Purpose of Service Levels

The purpose is to define/measure the levels of the Service provided by SI to the Authority for the duration of the Contract. The benefits of this are:

a) Implement a process to define Service level parameters or permissible threshold within which SI would be required to perform the Services, and failure of performing the Services by SI within the said acceptable parameters would be considered as a deficiency in Services;

b) Help the Authority to control the levels and performance of SI's Services; and

c) TheSI to improve its Services and/or remove deficiencies in Services in case the Service Levels agreed between the Authority and SI are breached by SI

12.3 Implementation Phase SLA

The SLA during the implementation shall be as below:

Definition	Timely delivery of Deliverables would comprise entire bill of material and the application systems, and as per successful UAT of the same.
Service Level Requirement	All the Deliverables defined in the Contract / Project Schedule has to be submitted on-time on the date as mentioned in the Contract with no delay.
Measurement of Service Level Parameter	To be measured in Number of weeks of delay from the timelines mentioned in the section “Project Timelines”
Penalty for non- achievement of SLA Requirement	Any delay in the delivery of the Project Deliverables (solely attributable to vendor) would attract a liquidated damage per week of 0.2% of the CAPEX of Contract / Order value per week for first 8 weeks and 0.3% per week for every subsequent week. If the liquidated damage reaches 10% of the total Contract value, Authority may invoke termination clause. Liquidated Damage will be computed on Capex value of Contract/ order value of the particular phase

12.4 Post Implementation SLAs

These SLAs shall be used to evaluate the performance of the Services onQuarterly basis.Penalty levied for non- performance as per SLA requirements shall be deducted through subsequent payments due from Directorate or through the Performance Bank Guarantee.The SLA parameters shall be measured for each of the sub systems’ SLA parameter requirements and measurement methods, through appropriate SLA measurement tools. All such required tools should be provided by the SI. Directorate will have the authority to audit these tools for accuracy and reliability.The upper limit of penalty would be capped at 10% of the OPEX value for each quarter. In case the calculated penalty crosses 10% penalty of the OPEX value in 2 subsequent quarters, Directorate reserves the right to invoke the termination clause.

1. **SLAs for Check Gate IT infrastructure and Equipment**

#	Uptime SLA (Monthly)	Penalty Clause
1	Uptime >= 98%	No Deduction