Ministry of Commerce & Industry

Selection of Managed Service Provider (MSP) for Design, Development, Implementation, Operation & Maintenance of Integrated Logistics Planning and Performance Monitoring Tool (LPPT)

REQUEST FOR PROPOSAL (RFP)

Terms of Reference

2nd September 2020 to 26th November, 2020

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1. About Logistics Division

The Logistics division in the Department of Commerce was created consequent to the amendment to the second schedule of the Government of India (Allocation of Business) Rules, 1961, on 7th July 2017, that allocated the task of "Integrated development of Logistics sector" to the Department of Commerce. The division has the mandate to develop an Action Plan for the integrated development of the logistics sector in the country, by way of recommending policy changes, improvement in existing procedures, identification of bottlenecks and gaps and introduction of technology in this sector.

The planned activities of the Logistics division shall have an impact not only on the domestic movement of goods by bringing down the overall cost and increasing the speed and ease of goods movement, but shall also contribute towards making Indian goods more competitive in the global market.

Logistics division plans to develop an Integrated Logistics Planning and Performance Monitoring Tool (LPPT) to support logistics infrastructure planning, process optimization, and to monitor and track logistics performance in the country.

2. Background

The logistics sector is the backbone of economic growth in the country and is one of the most important accelerator of trade. Despite being a critical driver of economic development, logistics cost in India, at 13-14% of GDP, is high and the sector continues to be highly unorganized. The objective of the creation of the logistics division is to reduce this cost to under 10% of the GDP. Currently, there is a lack of an integrated view on logistics with different parts of the logistics value chain being managed by at least seven different union ministries including Commerce and Industries, Shipping, Civil Aviation, Railways, Road Transport and Highways, Finance, and Home Affairs and state governments. Consequently, development in the field of logistics takes place in a siloed manner. Currently, there is no single place/ portal in the country which tracks and reports metrics across the logistics value chain. Thus, there is significant scope in consolidating, standardizing and driving consistency in data reporting and analytics in the logistics sector.

Additionally, global best practices dictate driving a consolidated approach for logistics which includes creating logistics portals and observatories which can monitor key logistics metrics and provide single window access for information on logistics infrastructure in the country. Such portals also provide add-on tools to the end consumer like interactive maps, trade data and analytics reports. Similarly, for India, there is a need to create a unified data platform and analytics center to drive transparency and continuous monitoring of key logistics metrics.

3. Objective of LPPT

The objectives of Integrated Logistics Performance Planning and Monitoring tool, henceforth referred to as 'logistics tool', is to be a planning and monitoring tool to achieve the following objectives –

1. Support infrastructure planning by determining the nature, size, location of infrastructure required to enhance logistics efficiency and its relevant business case
2. Logistics process optimization by determining areas and nature of inefficiencies in the logistics sector
3. Logistics performance measurement, monitoring, and reporting including monitoring performance of states, various government bodies and ministries, and comparison with global benchmarks
4. Tracking and evaluating interventions identified as part of Integrated National Logistics Action Plan (NLAP)

The objective of this assignment is to engage a Managed Service Provider for Design, Development, Implementation, Operation & Maintenance of the Integrated Logistics Planning and Performance Monitoring Tool (LPPT). The assignment will require the MSP to work in close coordination with Logistics Division, various ministries, and other industry stakeholders. This will require a deep understanding of the logistics and transportation infrastructure sector along with extensive experience in implementing large scale IT projects involving multiple stakeholders.

4. Users of LPPT

The Logistics tool is to be a planning tool. The Logistics Tool will be utilized by

- Officers of the Logistics division, Ministry of Commerce
- Officers of various Ministries, state governments, and government agencies
- General public, private sector entities, Universities and research institutions

The access to data and the analysis for each shall be different and shall be access controlled with robust user management systems

5. Business architecture and requirements

The Logistics tool will have three broad sections- Input section, Output section and a data management section. The input section consists of data layers and data connections whereas the output section consists of the five deliverables as shown in the figure below. The data management section will have the access controlled interface for stakeholders. These have been discussed in detail in the section below.

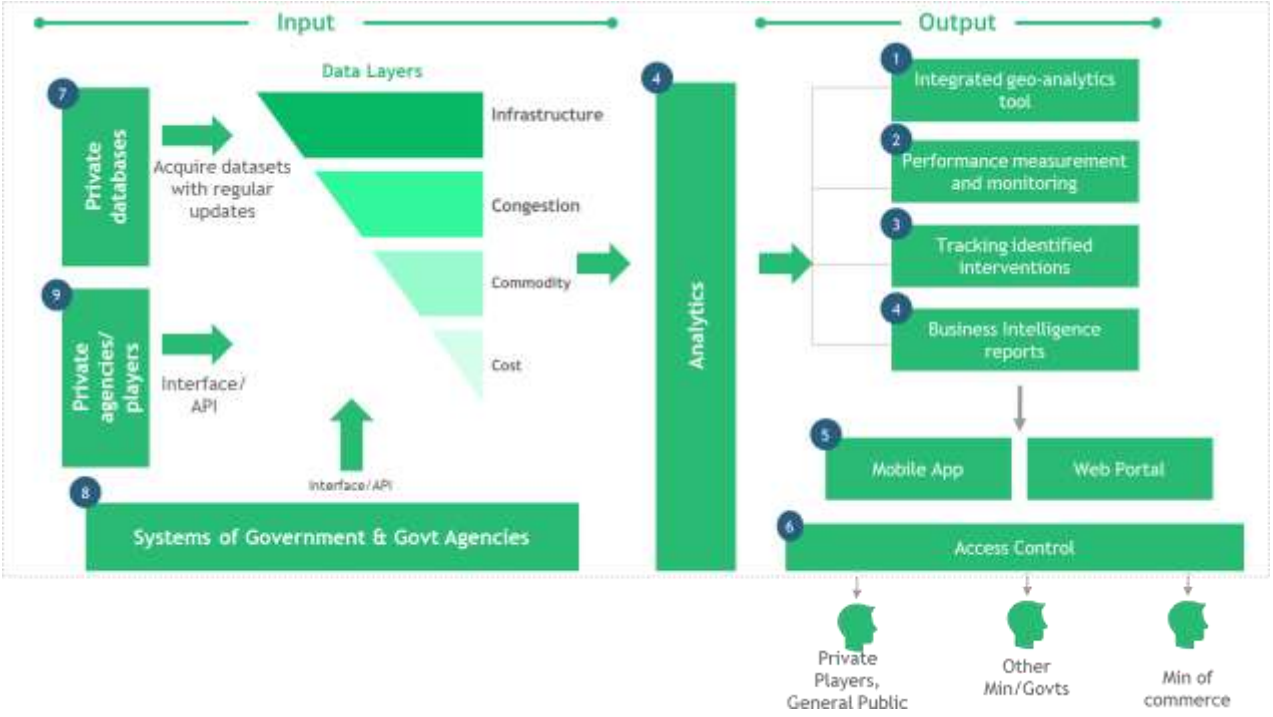

Figure 1 Business architecture of LPPT

5.1 Input Section

The input section consists of four data layers and the connections of the data layers to their respective sources. The details of the data layers and its connections are as follows.

5.1.1 Data Layers

A data layer is a logical grouping of a varied independent datasets. Each dataset further defines a key component of the overall logistics tool. Even though the datasets of one data layer are independent, datasets from each layer are linked to datasets in other layers and all the layers together are used to define a logistics component. As an example, the infrastructure data layer consists of rail network, road network, air network, shipping network, and other elements which are independent and make up transport infrastructure of the country. The road network present in infrastructure layer, road congestion present in congestion layer, freight costs present in costs layer, and road commodity movement present in commodity layer together define the road movement of the country. The layers are only logical grouping of datasets and data structure can be different. The data layers and sample datasets have been given below. Details of exact requirements and the source of data has been discussed in business requirements section. The data layers are as follows:

1. Infrastructure layer
    - Contains geo-data and information on the infrastructure elements relevant to logistics
    - Example - Complete India Road Network, Complete Rail Network with railway stations, National Waterways with terminals, Toll Plazas, airports, Major and Minor ports, Population centers and villages, GDP – village wise, ICD/CFS/AFS and warehouses, including bonded warehouses, Post offices

including foreign post offices, DFC Corridors, industrial parks, logistics parks, SEZ and FTWZs.

2. Congestion Layer
    - This layer is linked to infrastructure layer and provides information of average congestion on the infrastructure identified earlier
    - Example - road congestion, rail utilization or congestion, port dwell time
3. Commodity Layer
    - This layer contains information on the major origin and destination of the principal commodities of India
    - This also contains the information of movement of the selected commodities between the identified origin and destinations
    - The commodities include Coal, Cement, Steel, Iron ore, Food grains, parcels, fertilizers and other commodities. The list of commodities will be decided on mutual agreement with Logistics Division
4. Cost Layer
    - This layer is linked to major modes of commodity movement in the country, namely – road, rail, shipping, inland waterways, air, and pipeline.
    - This contains the average cost information for movement of each commodity by mode including the costs of handling, trans-shipment, re-packaging, long haul etc.
    - The costs vary by commodity and also by region
5. Unclassified data layer
    - This layer consists of other data which cannot be classified in any of above layers but is required for implementing LPPT, for example related to the time-stamping of specific logistics related processes including start and end of regulatory events.

5.1.2 Data Connections

There are four data connections required for collecting the above-mentioned data. The responsibilities of the MSP and Logistics division with respect to each connection have been listed in the subsequent section. These connections are

1. Independent Data sources (Readily Available data)
    - These are independent data agencies which sell/license data. These are the agencies which map infrastructure like road network, rail network.
2. Government and Government Agencies
    a. These are various Ministries and government agencies which have their own systems which collect logistics data such as Railways, Ministry of Road Transport and Highways. A connection to these to extract the relevant data is required.
3. Private Agencies
    a. These are private agencies which do not sell data but can provide linkage to particular datasets. These linkages help in obtaining and refreshing data that does not belong to the government. The data of road congestion from large

mapping agencies, telematics companies is an example of such a source.

b. This also includes data from adhoc sources such as logistics companies,

4. Select surveys to collect data from Individuals or entities or for crowd sourcing data
    a. Certain information is currently not collected and organized in a data set either by government or by private agencies. Such information like information of road freight, handling charges, shipping freight etc. is essential for building the integrated logistics model. Such information is to be collected through select and targeted surveys or through desktop research by the MSP.
    b. The surveys/interviews can either be in-person, telephonic, or online depending on the data required.
    c. Such information needs to be refreshed on need basis. The cadence of refresh may not be fixed and vary by nature of data. APIs for regular refresh of data may not be required here

5.1.3 Responsibility of MSP and Logistics Division

The responsibility of MSP and Logistics Division vary by the source of data.

5.1.3.1 Acquisition of data from independent sources

In this section, the acquiring data from independent sources has been discussed. Independent sources refer to independent data agencies which sell/license data. These are the agencies which map infrastructure like road network, rail network. The MSP is expected to purchase/license the data for use in LPPT. The data must be updated at the frequency mentioned in the RFP. The MSP to ensure that the data is sourced from credible agency. The MSP must get sign off on the source of data from Logistics division.

The MSP is expected to convert/re-format/geo-code the data whenever required. Geocoding refers to converting address information to latitude longitude data. In certain cases, the exact latitude longitude may not be available and MSP may have to convert data from pin codes or from city/locality names to latitude longitudes. The MSP to ensure that the data is seamlessly integrated with the overall Logistics Tool for analysis.

The list of data to be purchased/licensed along with refresh frequency is provided in Appendix B1.

5.1.3.2 Development of APIs or interfaces to capture data from other Ministries and government agencies

The Logistics Tool requires data from a variety of Ministries, state governments, and government agencies. API connectivity or connectivity through other automated means needs to be established to such data sources. The connectivity thus established must ensure that the data is captured, recorded, cleaned, and integrated with the overall Logistics Tool without any human intervention. Minimal human intervention may be used for specific APIs as agreed with Logistics Division. The connectivity must also ensure that

the data is updated at the frequency as mentioned in the Appendix B2.

The MSP is expected to convert/re-format/geo-code the data whenever required. The MSP to ensure that the data needs is seamlessly integrated with the overall Logistics Tool for analysis

The list of such data sources along with minimum desired resolution and the minimum desired update frequency has bene provided in Appendix B2. The list of data connections required is indicative and may change as per mutual agreement between and MSP and logistics division.

5.1.3.3 Development of APIs or interfaces to capture data from private agencies

The Logistics Tool requires data from a variety of private agencies or intermediaries. API connectivity or connectivity through other automated means needs to be established to such data sources. The connectivity thus established must ensure that the data is captured, recorded, cleaned, and integrated with the overall Logistics Tool without any human intervention. Minimal human intervention may be used for specific APIs as agreed with Logistics Division. The connectivity must also ensure that the data is updated at a frequency as required by Logistics division.

The MSP is expected to convert/re-format/geo-code the data whenever required. The MSP to ensure that the data needs is seamlessly integrated with the overall Logistics Tool for analysis

An indicative list of such data sources along with minimum desired resolution and the minimum desired update frequency has bene provided in Appendix B3. This list is only indicative for the reference of MSP and may change as per mutual agreement.

5.1.3.4 Select surveys to collect data from individuals or entities or for crowdsourcing data

As discussed earlier, the Logistics Tool requires data which may not be readily available in consolidated form. The MSP needs to collect this data either through secondary research or through targeted/select surveys and interviews. The surveys/interviews can either be in-person, telephonic, or online depending on the data required.

Such information needs to be refreshed on a need basis. The cadence of refresh may not be fixed and vary by nature of data. APIs for regular refresh of data may not be required here

The MSP is expected to build functionality in the overall Logistics Tool to incorporate such data. The MSP is expected to convert/re-format/geo-code the data whenever required. The MSP to ensure that the data needs is seamlessly integrated with the overall Logistics Tool for analysis.

The responsibility of MSP and the Logistics Division for each has been summarized in the table below.

Data source category	MSP Responsibility	Logistics Division Responsibility
Independent Data sources (Readily available data) (As Mentioned in Appendix B1)	• Acquire/Purchase/License the dataset at least at the resolution listed in Appendix B1 • Source of data to be signed off by the Logistics Division • Update/refresh the data at least at the frequency as listed in the Appendix B1 for at least the maintenance period • Convert/re-format and integrate the data into the overall Logistics Tool for analysis	• Review the source of data and signoff if the source meets the requirement
Government and Government Agencies	• Develop API/automated connectivity to dataset • Ensure auto-update of the data at least at the frequency as listed in the Appendix B2 for at least the maintenance period • Convert/re-format and integrate the data into the overall Logistics Tool for analysis	• Facilitate data availability
Private Agencies	• Develop facility API/automated connectivity to dataset of the private entity • Ensure auto-update of the data at desired frequency for at least the maintenance period • Convert/re-format and integrate the data into the overall Logistics Tool for analysis	• Facilitate MoU or a tie up with private agency
Selective Survey	• Develop capability to enter survey data to system • Conduct survey/interviews to collect data periodically to collect and refresh data	• Review and verify the data thus obtained

Data source category	MSP Responsibility	Logistics Division Responsibility
	• Convert/re-format/digitize and integrate the data into the overall Logistics Tool for analysis • Geo-code data where-ever required	

Table 1 Responsibility of MSP and of Logistics Division for acquisition of data

For all the data, irrespective of the source, it shall be the responsibility of the MSP to integrate the data into the overall Logistics tool. The sources of the data provided in the Appendix are for reference and the source of the data may vary as per mutual agreement between the MSP and Logistics division.

5.2 Output sections

The output sections consist of a web portal (with three sections as defined in section 5.21-5.2.3), a mobile app, and analytics and business intelligence requirements.

5.2.1 Integrated Geo- Analytics tool

The integrated geo analytics tool is to be used by various Ministries, government agencies, and private entities as a comprehensive geo analytics-based planning tool. It is to serve three objectives. These are

a) Logistics Infrastructure development

The aim of the tool is to scientifically identify locations for development of infrastructure to reduce cost of logistics. There are three main types of infrastructure development needs that the tool needs to identify. These are

- Optimizing modal mix – this includes identifying locations where infrastructure needs to be developed to make modal mix optimum. It could be to increase coastal movement or to increase inland waterway movement, or increasing share as appropriate.

- Connectivity enhancement - This includes identifying hinterland areas with low connectivity or industrial areas with poor first mile connectivity or ports with poor rail/road connectivity etc.

- Congestion Reduction – This includes identifying areas of high congestion and the areas for infrastructure development for maximum impact on congestion for all modes of transport including roads, railways, shipping. It also includes projecting congestion and traffic to identify infrastructure bottlenecks likely to occur in future.

- Equity and fairness evaluation: This include identifying different levels of quality of connectivity, transit time, and overall access to logistical infrastructure and services between districts (more developed and backward), income groups, types of industry, size of entity (MSME).

b) Process Optimizations

The aim of the tool is to identify locations where process optimizations can lead to reduction in logistics costs. Some of the areas where analysis can be used among others is,

- Commodity Optimizations - Optimize movements of commodities such as coal, food grains etc.
- User feedback - Identify areas of logistics issues such as graft or high waiting time or poor infrastructure
- Process simplification – Identify areas where simplification or technology introduction to improve process can help improve logistics such as high wait time toll plazas, high dwell time ports, high wait time checkpoints etc.
- Rolling stock availability - Identify areas of shortage or excess rolling stock for rail and road data

c) Query Tool

In addition to pre-defined use cases, the integrated geo-analytics to have a custom query tool. The custom tool is to be used to run queries on the geo-data as and when required

This will be an access-controlled web-portal. Three categories of use cases need to be developed. These are as shown in the figure below. Each category has further multiple use cases. **18 use cases need to be developed initially as base use cases**. The requirements under use cases identified in each category have been detailed in **Appendix A1**.

Infrastructure development	**Process Optimization**	**Query Tool**
Optimize modal mix across commodities **1 Increase Coastal Share** **2 Increase Inland waterway share** **3 Increase railways** share	**Commodity optimizations** **9 Coal Linkage** Rationalization **10** Government **food grain** procurement **(FCI)** **11 MMLP** locations based on commodity centers and commodity flows	**Custom Query tool** 18 Tool to run live queries based on geo-data

Connectivity Enhancement **4 Hinterland connectivity** -	**Simplify processes** **12 Checkpoint** wait time (state borders)	
Villages which have poor road or rail connectivity **5 Port connectivity** **6 First/Last mile** connectivity by industry clusters	**13 Toll Plaza** wait time optimization **14 Port** process improvement	
Congestion Reduction **7 Road Congestion** reduction **8 Railway congestion** reduction	**User based use cases** **15** Heatmap of **high graft** areas **16** Heatmap of **user issues** 17 Availability of trucks, wagons by vehicle type/size/commodity in a particular area	

Table 2 : List of use cases under Integrated geo-analytics tool

The design requirements of each use cases has been provided in the appendix. The exact flow of the use case may vary and it is expected that the MSP shall prepare a detailed design or blueprint document for each use case in consultation with Logistics division, other ministries, and industry stakeholders. The design or blue print will cover at least all the requirements mentioned in the Appendix A1 for each use case. The blue print as approved by Logistics Division only shall be implemented.

As the system matures, more number of use cases shall be required. It is expected that the system be flexible and scalable enough to seamlessly accommodate new use cases along with the new data that the use case requires. The design requirements of the system have been specified in Section 8: Technical architecture guidelines of the RFP.

5.2.2 Logistics Performance Measurement and monitoring

The objective of the performance dashboards is to provide a holistic view on logistics in India. They are critical to monitor and track performance of key stakeholders across the logistics value chain. They would also support the key stakeholders in measuring progress against identified objectives, resolve any bottlenecks along value chain and make better data-backed investment decisions.

The tracking of these metrics would drive swifter and more impactful decision making and will lead to debottlenecking of choke points across the logistics value chain and can

potentially lead to faster resolution of issues which impact turnaround time and costs.

There are seven categories of performance dashboards, six of which are for central ministries and one for the states. The performance dashboards for central ministries are for Roads, Rail, Ports, Airports, Warehouses and Partner Government Agencies (PGAs).

The metrics for the each to be tracked have been outlined in the Appendix A2 along with source and frequency of data collection.

Dashboards are to be deployed on the web portal and on the mobile app. The dashboards will include charts, tables, maps, infographic depending on the type of metric and the type of dashboard. The MSP is expected to undertake the following with respect to performance dashboards-

- Development and deployment of well-designed interface which includes user administration, security and development features to create and maintain reports, charts, etc.
- Design and deploy dashboards for different user levels clearly highlighting the action areas at different stages. The dashboards will be access controlled and the charts to be shown will vary depending on the user level accessing the portal.
- Generate reports to be printed or for further analysis. Reports will be both pre-defined format reports and custom reports. Custom reports generator will give the user flexibility to apply filters on pre-defined parameters and generate reports. Further details of reports to be generated is provided in the 'Analytics and Business Intelligence' Section
- Sharing of reports/queries, through portal, across the Ministry based on role based access.
- Creating a Business Intelligence dashboard personalized by job role
- Generate email and/or SMS based alerts for senior management
- Ability to access select dashboards on mobile devices
- Further details are listed in Appendix A2. The metrics in the appendix are indicative and may vary as per mutual agreement between MSP and Logistics Division.

These metrics will evolve and need to be refreshed as the National logistics action plan is developed and also as new priority areas emerge. The overall dashboards should be flexible enough to accommodate changes in design, source of data, and type of data seamlessly.

5.2.3 Identify and track logistics interventions

The Logistics Division is drafting an integrated National Logistics Action Plan (NLAP). The NLAP lists a number of initiatives along with its details such as timelines, targets, responsible agency etc. The Logistics Tool is expected to track the status of each initiative. The action plan is to be updated annually and the list of initiatives shall accordingly change annually.

NLAP is expected to have up to 100 initiatives for tracking. The logistics tool will

track these interventions. The initiatives tracking dashboard will be part of the same web portal as the performance monitoring dashboard.

The initiative tracking dashboard shall contain the following -

- Display summary views of progress across initiatives at national, state & objective level
- Record the stage at which each initiative is currently, and be able to update stages as the initiative progresses
- Display key metrics for a particular initiative relevant to the stage with clear indication of progress over a pre-defined interval (since last month, since last quarter, etc.)
- Classify initiatives based on pre-defined key metrics and segregate critical, delayed and on-track initiatives
- Record and report issues and pending tasks with various internal and external stakeholders with key dates, follow-up required, etc.
- The status of the initiatives will be updated by the nodal officers identified in the various ministries, state governments, and other agencies. The logistics tool will have ability such that the nodal officers can login and update the status of interventions relevant to them.

A summarized version of the above web portal (with all three sections) will be accessible to general public without login. The public portal will be an information disseminating website and it will draw information from the other three sections as defined above. Web Content Management/CMS should be used for maintaining, controlling, changing and reassembling the contents on the portals.

5.2.4 Analytics and Business Intelligence

Logistics Division is seeking the capability to analyze logistics data and transform the data into intelligence and insight. This system would help identify further interventions required for development of logistics in India and at the same time build upon the interventions already identified.

The MSP shall provide comprehensive monitoring through Business Intelligence (Dashboards and reports) and Analytics. The mechanism should allow for generating reports and simple analysis such as time-series analysis, regression analysis etc.

The system should allow customizable reports. The generation of the report shall not impair the System performance. Logistics Division shall prescribe reports to be developed which will be identified at requirements stage or during operations phase. The reporting tool has to be robust enough but at the same time have a powerful interface to enable slicing and dicing of data and new view creation on the fly. Upto a maximum of 40 reports may be required to be generated every month. The reports are expected to be simple n-column reports with certain reports having graphs, maps, and other infographics. The Data Analytics module should also have a user interface to extract raw data for self- analytics

and report generation. The module must support geo-analytics and geo-plotting of results as and when desired. The Data Analytics module should also allow for ad-hoc queries pertaining to the module for quick access to information and allow users to input parameters to view the data from different perspectives.

The MSP would enable Logistics Division to have a complete set of tools to support decision making. These applications will be essential to analyze KPI's in a structured and comprehensive manner.

It is essential that the system be built ready for future requirements. The system should be flexible enough to support advanced analytics, artificial intelligence, and machine learning requirements without significant modifications.

The Tool is to be designed to be easy-to-use, reliable, and capable of handling large volumes of sensitive data. It is to be designed as a platform powered by a faceless Open API architecture. The design considerations and the guiding principles for technology architecture have been provided in Section 8: Technical architecture guidelines of the RFP.

The MSP shall carry out a detailed requirement phase upon award of the contract to review the data analytics requirements of Logistics Division.

5.2.5 Mobile App

LPPT is expected to provide mobile / handheld application-based access to key functionalities like key logistics KPIs, key developments in the sector, initiative progress tracking etc. The MSP is expected to develop a mobile application for major operating systems - Android and iOS to achieve the same. The requirements from the envisaged mobile app are as follows

- display select parameters only to select individuals
- The mobile app to display summarized performance dashboards and intervention summarized tracking dashboard. The app to highlight interventions which are delayed or require attention. The app will not be used to generate dynamic reports or geo-analytics based use cases
- The app to display key developments, news of the logistics sector
- The MSP shall carry out a detailed requirement phase upon award of the contract to review the requirements of the mobile app
- Mobile app should be compatible with all major versions of android and iOS and should provide a consistent UI across major devices and screen sizes. The app should be a native app and should be easy to use.
- MSP will be responsible for submitting the completed app to the Apple App Store and Google Play Store.

- MSP will be responsible for maintaining the app over the maintenance period of the project.

5.3 Controlled user access

The envisaged system will get access to a large amount of data from various agencies. It is imperative that the access to data and to output is restricted to ensure that data is not changed or destroyed, either inadvertently or intentionally, by any user / administrator or an external party.

The MSP shall ensure the following:

- Only authorized person can access the solution
- Authorized person shall have access only to the data which is relevant to them
- Access to the relevant data is further restricted to either read or update depending on the role / responsibility assigned to the person
- The system shall support definition of access rights for all available reports/charts
- System shall provide defining access control matrix for effective segregation of duties implementation.
- System to provide granular level of access control to implement segregation of duties.
- System to provide reports to monitor assigned user access privileges at a granular (transaction and functionality level).

System to provide a historical record of the origin of data, and its access by different entities MSP should ensure to meet all the requirements mentioned the 'Business architecture and requirements' section. In case these are to be sub-contracted, including sub-contracting to a startup, it needs to be done with confirmation from Logistics Division.

6. Non-Functional requirements

This section details the expected service levels for various services to be provided by the MSP. Performance of the Managed Service Provider (MSP) shall be measured against the Service Level Agreements and Key Performance Indicators (KPIs) as explained and detailed in this section and in Appendix D.

The service level targets define the levels of service to be provided by Managed Service Provider to Logistics Division for the duration of this contract or until the stated SLA targets are amended.
The objectives of SLA governance model are to:

- Provide clear reference to service ownership, accountability, roles and/or responsibilities.
- Present a clear, concise and measurable description of service provisioning at each level.
- Match perceptions of expected service provisioning with actual service support and

delivery.

- The SLAs are intended to:
    - Make explicit the expectations that the Logistics Division has for performance
    - Help Logistics Division control and ensure the planned levels and performance of services
    - Trigger a process that brings Logistics Division and Managed Service Provider's management attention to some aspect of performance when that aspect drops below an agreed upon threshold, or target

The details of the Service Levels have been specified in Appendix D

7. Technical Requirements

The MSP shall be responsible for deploying the entire LPPT Solution end to end. This would require –

1. Design, Development and Implementation
2. Deployment on cloud
3. Operations & Maintenance of the system

Each of the above requirement has been explained in detail below

7.1 Design, Development and Implementation

This track comprises of development of the Logistics Tool and all the components as defined in Business Requirements section and other requirements as defined in the technical architecture section and other sections of the Appendix.

The development needs to take place in an agile manner in close coordination with Logistics division and other stakeholders. The project is to be implemented in phases as discussed in the 'Implementation Schedule' section. Each phase will have the following steps

1. Requirements gathering
2. Data collection and API's Management and Usage
3. Analysis, Design and finalization of technical architecture
4. Development, Commissioning, Configuration, and Implementation
5. Testing and user acceptance
6. Go-Live

7.1.1 Requirements gathering

The MSP must perform a detailed assessment of the business and IT solution requirements as mentioned in this RFP. Additionally, the MSP is required to carry out an exhaustive requirements gathering exercise with Logistics Division and other stakeholders for understanding the technical requirements. The requirement gathering phase should not only be limited to officials from Logistics Division but should also include nodal officials

from government agencies, officials from industry bodies depending on the use case such as Cement Manufacturing Association (CMA) for cement related use case etc. A tentative list of stakeholders to be consulted for each use case is given in Appendix A of the RFP. The list of stakeholders for each use case to be finalized in consultation with Logistics Division in the requirements gathering phase. Stakeholder workshops may be conducted to gather requirements of all stakeholders.

While functional details of the envisaged system have been discussed in the business requirements section, some of the processes and designs may undergo changes at the time of implementation. The MSP need to consider this fact while submitting its proposal. No extra cost shall be paid for such changes till the design approval. Any change which requires more than 20 man days of efforts shall be treated as a major change. Such changes (requiring less than 20 man-days) shall be subject to a cap of cumulative 200 man-days. All major changes for each phase shall be handled through change control process.

The Service provider shall as a starting point gather the requirements as specified in the RFP.

7.1.2 Analysis & Design and finalization of technical architecture

The MSP shall build the solution in compliance with the requirements outlined in this RFP. The MSP needs to comply with the Solution Architecture principles and other details mentioned in RFP

The MSP shall ensure that the high level technical architecture is finalized and approved by Logistics division. The MSP shall prepare the detailed architecture for the infrastructure solution (including servers, storage, networking, security etc.) for operationalization of the solution and to provide the services in conformance with the SLA described in RFP.

7.1.3 Data collection and API's Management and Usage

As described in the functional requirements section, MSP is expected to collect data and set up API connection to data as required.

Data exchange between the Logistics Tool and other Internal/External Systems will be carried out through APIs. The MSP, in consultation with Logistics division, will also be required to set up a process for issuance of standards for the Logistics Tool APIs as well as for other systems API's. The MSP needs to set up, operationalize, and maintain system for APIs.

Since other systems may transmit data in CSV/other format; the MSP would build a converter/adapter to convert data into the desired format or vice versa. The convertor/adapter will reside in the Logistics Tool environment and will parse the data as and when received.

A utility will also need to be built to push or pull information to or from the other

departmental systems based on event triggers. Batch integration may be used as a first step for data exchange for cases where API integration is slow and delaying the project. The utility may reside both in the department environment as well as in the Logistics tool environment based on requirement for data exchange and feasibility to change in department side application.

The MSP shall be entirely responsible for proposing the solution which satisfies all features, functions and performance requirements as described in this RFP and relevant documents. The MSP shall be responsible for design, development, and implementation of the proposed solution and shall ensure that the proposed system/application/product, are current to not lower than at N-1 level (where N is the current latest commercially available release) at the cost of the MSP for entire life of the project.

7.1.4 Development, Commissioning, Configuration, and Implementation

The MSP shall consider the scope of work, develop, commission, configure, and implement a solution that meets the Logistics Tool's requirements. In the technical proposal, the MSP needs to elaborate on the proposed approach for software development, commissioning, configuration, and implementation.

Other related requirements are mentioned below:

- The application software developed by the MSP has to be user friendly so that users can access it without having extensive training.
- The lifecycle for each phase should be independent, i.e. different teams should work in parallel to complete the track activities per the given timelines.
- The MSP will be responsible for supplying all the required licenses (including development, test and production licenses) of the application and related software products as well as subsequent installation in order to meet system requirements. All such licenses shall be in the name of Logistics division.
- The MSP shall perform periodic audits to measure license compliance against the number of valid End User software licenses and ensure consistency with the terms and conditions of license agreements, volume purchase agreements, and other mutually agreed upon licensed software terms and conditions. The MSP shall report any exceptions to license terms and conditions at the right time to Logistics division. However, the responsibility of license compliance solely lies with the MSP. Any financial or otherwise penalty imposed on the Logistics Division during the contract period due to license non-compliance shall be borne by the MSP. The audits to be performed twice every year.
- The MSP shall also supply any other tools & accessories required to complete the integrated solution per requirements. For the integrated solution, the MSP shall supply:
    - Software & licenses
    - Databases to be acquired & their licenses
    - Tools, accessories, documentation and prepare a list of items supplied. Tools and accessories shall be part of the solution. Service provider should provide technologies matrix.
    - System Documentation: System Documentation both in hard copy and soft

copy will be supplied along with licenses.

7.1.5 Intellectual Property Rights

The Logistics Division shall have a right in perpetuity to use all newly created Intellectual Property for the applications which have been developed solely for the execution of this Contract, including but not limited to all processes, customizations, specifications, reports, drawings and other documents which have been newly created and developed by the MSP solely for the performance of services and for the purposes of inter-alia use under this contract.

The MSP shall be obliged to ensure that all licenses, permits and rights etc., which are inter-alia necessary for use of the goods/licenses for software and content supplied/installed for this project by the MSP, is provided in the name of Logistics Division, prior to termination of this Contract and which may be assigned by the Logistics Division to the MSP for the purpose of execution of any of its obligations under the terms of the Bid, Tender or this Contract.

The Intellectual Property rights of goods/licenses for software and content shall continue to be with the respective OEMs.

7.1.6 Testing and User acceptance

The MSP shall provide the testing strategy including the traceability matrix and relevant test cases and shall also conduct the testing of various components of the software developed/customized along with the solution as a whole. The testing should be comprehensive and should be carried out at each stage of development as well as implementation.

The MSP shall demonstrate the testing criteria outlined in the table below prior to Go-Live as well as during project operations phase. In case required, parameters might be revised by the Logistics Division in mutual agreement with the MSP and the revised parameters shall be considered as the 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 table below depicts the details for the various kinds of testing activities required for each phase of the project:

Type of Testing	Responsibility	Scope of Work
System Testing	MSP	1. The MSP shall prepare a test plan as well as test cases and maintain it. The Logistics Division may request the MSP to share the test cases and results when required. 2. The testing should be performed through manual as well as automated methods 3. Automation testing tools will need to be provided by the MSP 4. Comprehensive System testing would be performed for each phase of the application development.
Integration Testing	MSP	1. The MSP shall prepare and share with the Logistics Division the Integration test plans and test cases 2. The MSP shall perform Integration testing as per the approved plan 3. Integration testing will need to be performed through manual as well as automated methods 4. Automation testing tools will have to be provided by the MSP 5. Integration testing would include all data exchanged between various stakeholders 6. Integration testing would be performed for each phase of the application development.
Performance and load Testing (Benchmarking)	• MSP • The Logistics Division/ Third Party Auditor (to monitor the performance testing)	1. The solution should demonstrate compliance with performance and load testing requirements as mentioned in the RFP 2. The MSP will need to prepare the test cases for performance and load testing 3. Testing will have to be carried out in the exact same environment/ architecture as the one set up for Production 4. The Logistics Division may also involve third party auditors to perform the audit/review/monitoring.

Type of Testing	Responsibility	Scope of Work
		5. The MSP should fix bugs and issues raised during testing and seek approval on the fixes from the Logistics Division/ Logistics Division appointed third party auditors before production deployment 6. Changes in the application as an outcome of testing shall not be considered as a Change Request. The MSP will need to rectify the observations raised.
Security Testing (including Penetration and Vulnerability testing)	• The MSP • The Logistics Division/ Third Party Auditor (to monitor the security testing)	1. The solution should demonstrate compliance with security requirements as mentioned in the RFP including but not limited to security controls in the application, network layer, cloud, and security monitoring systems deployed by the MSP. 2. The solution shall pass vulnerability and penetration testing for rollout of each phase. The solution should pass web application security testing for the portal and security configuration review of the baseline infrastructure. 3. The MSP should carry out security and vulnerability testing on the developed solution. 4. Security testing will need to be carried out in the exact same environment / architecture as the one set up for production. 5. Security test reports and test cases should be shared with Logistics Division 6. Testing tools if required, will have to be provided by the MSP. 7. During the OHM phase, vulnerability assessment and penetration testing will need to be conducted on a yearly basis. 8. The Logistics Division may also involve third party auditors to perform the audit/review/monitoring of the security testing carried out by the MSP.

User Acceptance Testing of Logistics Division System	• The Logistics Division or Logistics Division appointed third party auditor	1. User acceptance test to be performed by intended users including Logistics Division officials, nodal officials from other government agencies, and industry body depending on the use case 2. An industry stakeholder workshop to be conducted to ensure acceptance by users and industry body 3. The MSP will need to prepare the User Acceptance Testing test cases 4. UAT will have to be carried out in the exact same environment/architecture as the one set up for Production 5. The MSP should fix bugs and issues raised during UAT and seek approval on the fixes from the Logistics Division/Logistics Division appointed third party auditors before production deployment Changes in the application as an outcome of UAT shall not be considered as a Change Request. The MSP will need to rectify the observations raised.

Table 3 Testing activities

Note:

- The MSP needs to provide the details of the testing strategy and approach including details of **intended tools/environment** to be used by the MSP **for testing** in **its technical proposal**.
- The MSP must ensure deployment of necessary resources and tools during the testing phases. The MSP 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 MSP to ensure that the end product delivered by the MSP meets all the requirements specified in the RFP. The MSP shall take remedial action based on outcome of the tests.
- All the Third-Party Auditors (TPA) will be appointed and paid by the Logistics Division directly. All tools/environment required for testing shall be provided by the MSP. The MSP needs to prepare and provide all requisite information/documents to third party auditor and ensure that there is no delay in overall schedule.
- 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 the MSP in its technical proposal. The process will be finalized with the MSP and the Logistics Division.
- The cost of rectification of non-compliances shall be borne by the MSP

7.1.7 Go-live criteria

The project shall Go-Live after completion of each phase of the project. Phases of the project are defined in the Implementation Schedule section. Each phase shall be considered "Go-Live" after completion of the following milestones-

Milestone	Activities to be completed for go-live	Remarks
M-1	Completion of the entire scope of work for the phase	
M-2	Creation of different environments	Including creation of Development, Test, & Production environment
M-3	Completion of the testing activities	Completion of the following testing activities: ▫ System Testing ▫ Integration Testing ▫ Performance and load Testing ▫ Security Testing ▫ User Acceptance Testing along with industry stakeholder workshop
M-4	Go-Live Approval	The approval to the acceptance report by the division shall constitute Go-Live.

Table 4 Go-live criteria

7.2 Deployment on cloud

The MSP shall be responsible for deploying the entire LPPT Solution on a Cloud. The cloud service provider shall be provided by Logistics Division. The MSP is expected to deploy the developed Logistics Tool on a **"Government Community Cloud" (GCC)** of the Cloud Service Provider (CSP) provided by the Logistics division. If the CSP chosen by Logistics division does not have a GCC offering, then MSP may deploy the solution on to a Public Cloud of a CSP (with Logical Separation).

- The MSP is required to prepare and submit along with their technical proposal, the details of methodologies & computations for sizing & capacity of storage, compute, backup, network and security.
- There should be sufficient capacity (compute, network and storage capacity offered) available for provisioning (as per the SLA requirement of the Contract) during any unanticipated spikes in the user load
- The MSP will be responsible for adequately sizing the necessary compute, memory, and storage required, building the redundancy into the architecture (including storage) and load balancing to meet the service levels mentioned in the RFP.
- MSPs shall provide interoperability support with regards to available APIs, data portability etc. for logistics division to utilize in case of:
    - Change of Cloud Service Provider,
    - Migration to in-house infrastructure,
    - Burst to a different cloud service provider for a short duration, or
    - Availing backup or DR services from a different service provider
- Required Support to be provided to Logistics Division in migration of the VMs, data, content and any other assets to the new environment created by the Government Department or any Agency (on behalf of the Government) on alternate cloud service provider's offerings to enable successful deployment and running of the complete Logistics tool solution on the new infrastructure.

8. Technical Architecture guidelines

The Logistics Tool is to be designed to be future ready, easy-to-use, reliable, and capable of handling large volumes of sensitive data. It is to be designed as a platform powered by a faceless Open API architecture.

The design considerations and the guiding principles for technology architecture have been provided here. The MSP is expected to adhere to the design considerations and guiding principles to the extent possible.

8.1 Design Considerations

The Logistics Tool shall be built following the below design considerations:

8.1.1 Continuous adoption of rapidly evolving Technology

Technology evolves too fast and projects similar to the Logistics Tool with its long procurement cycles do not align naturally to adapt to this trend. Also, any changes to existing implementations require contract changes, new RFP (Request for Proposal), etc. Hence the entire system would be built to be open (standards, open API, plug-n-play capabilities), components coupled loosely to allow changes in sub-system level without affecting other parts, architected to work completely within a heterogeneous compute, storage, and multi-vendor environment.

8.1.2 Support and capability for advanced analytics

The logistics tool aims to integrate and process large quantities of data. It is imperative that capability and support for implementing advanced analytics features such as artificial intelligence, machine learning are built into the tool design.

8.1.3 Provision of a Sustainable, Scalable Solution

The motive of the technological enhancements to provide a system that would be sustainable for the next few years. The expectation is that the system should sustain at least 10 years from Go-Live. The solution would be done keeping in mind the scalability of the system. The simplified procurement processes and ease of compliance is expected to lead to huge growth in contract's base. Every component of the Logistics Tool needs to scale horizontally to very large volume of data

8.1.4 Distributed Access and Multi-channel service delivery

With high penetration of mobile devices and very large percentage of internet usage using mobile devices, it is imperative that all e-Gov applications provide multiple channels of service delivery to constituents. An important consideration is that the access devices and their screen capabilities (including browser variations) are numerous and constantly evolve. Hence, it is imperative to design the system such that an ecosystem of integrated apps also evolves. One of the design considerations is to provide multiple channels/interfaces to stakeholder to interact with the Logistics Tool.

8.1.5 Security & Privacy

Security and privacy of data should be fundamental in design of the system without sacrificing utility. When creating a system of this scale, it is imperative that handling of the sensitivity and criticality of data are not afterthoughts, but designed into the strategy of the system from day one.

8.1.6 Business Rule Driven Approach

All configurations including policy decisions, business parameters, rules, etc. shall be captured in a central place within the system. The system shall provide facility to the decision makers to add new or edit/delete existing policies or make changes with appropriate permission control and audit trace. Managing these in a central repository

ensures only once source of truth is used across many application servers and reduces issues of inconsistent application behavior.
Decoupling of the business parameters/rules/master data from the rest of the solution architecture and making them configurable allows for a great deal of flexibility. There should be a central interface for managing the configurability by authorized user group.

8.1.7 SLA driven solution

Data from connected smart devices to be readily available (real-time), aggregated, classified and stored, so as not to delay the business processes of monitoring and decision making, and will enable appropriate timely sharing across the organization.

Readily available and consumed device data will facilitate timely access of analytics reports at every level and department of the organization and provide timely analysis of data as well as monitoring of KPIs through SLAs resulting in effective service delivery and improved decision making.

8.1.8 Data Distribution Service

As a future roadmap it is envisaged that the functionalities provided by the Logistics Tool should be available as services that could be offered to other states and stakeholders on request. Keeping this in mind the system shall be able to provide data on subscription-publication basis. The organization of the information exchange between modules is fundamental to publish-subscribe (PS) systems. The PS model connects anonymous information producers (publishers) with information consumers (subscribers).

8.2 Guiding Architectural Principles

The IT architecture principles defined in this section are the underlying general rules and guidelines that will drive the subsequent development, use and maintenance of architectural standards, frameworks and future state target architecture. The Logistics Tool would be built on the following core principles:

8.2.1 Platform Approach

The Logistics Tool is envisaged as a faceless system with 100% API driven architecture at the core of it. The integrated geo-analytics tool will be one such application on top of these APIs, rather than being fused into the platform as a monolithic system.
Open APIs designed to be used form the core design mechanism to ensure openness, multi-user ecosystem, specific vendor/system independence, and providing users with choice of using innovative applications on various devices (mobile, tablet, etc.) that are built on top of these APIs.

8.2.2 Performance

A best of breed solution using the leading technologies of the domain should be proposed in the solution ensuring the highest levels of performance. It will also ensure that the

performance of various modules should be independent of each other to enhance the overall performance and also in case of disaster, performance of one module should not impact the performance other modules.

The solution should be designed in a manner that the following can be achieved:

- Modular design to distribute the appropriate system functions on web and app server
- Increase in-memory Operations (use static operations)
- Reduce number of I/O operations and N/w calls using selective caching
- Dedicated schemas for each function making them independent and avoiding delays due to other function accessing the same schema.

8.2.3 Preference to Open Source & Vendor Neutrality

While proposing a solution major emphasis to be given to Open Source Software. While finalizing the solution architecture for the Logistics Tool, policy of Government of India on adoption of open source software issued by Ministry of Electronics and Information Technology, Government of India to be considered. Specific OEM products may only be used when necessary to achieve scale, performance and reliability. Every such OEM component/ service/ product/ framework/ MSP pre-existing product or work must be wrapped in a vendor neutral API so that at any time the OEM product can be replaced without affecting rest of the system.

8.2.4 Scalability

The component in the architecture to be capable of being scaled up to more user requests or handling more no. of input resources in various modules. Even inclusion of additional application functionalities to be catered to by upgrading the software editions with minimal effort. The design of the system to consider future proofing the systems for volume handling requirements

The application functions to be divided logically and developed as Modular solution. The system should be able to scale horizontally & vertically. Scalability could be achieved by adhering to the following architectural principles

- Loose coupling through layered modular design and messaging. The architecture would promote modular design and layered approach with clear division of responsibility and separation of concerns at the data storage, service and integration layer in order to achieve desired interoperability without any affinity to platforms, programming languages and network technologies. The architecture has to be scalable, maintainable and flexible for modular expansion as more citizen

and business services are provided through the Logistics Tool. Each of the logical layers would be loosely coupled with its adjacent layers

- Data partitioning and parallel processing

- Horizontal scale for compute, Network and storage

8.2.5 Security

The security services will cover the user profile management, authentication and authorization aspects of security control. This service run across all the layers since service components from different layers will interact with the security components. The service will authenticate users and allows access to other features of the envisaged application for which the user is entitled to.

The system should be designed to provide the appropriate security levels commensurate with the domain of operation. Also the system will ensure data confidentiality and data integrity.

The application system should have the following

- Data security policies and standards to be developed and adopted across the departments and systems

- In order to adequately provide access to secured information, security needs must be identified and developed at the data level. Database design must consider and incorporate data integrity requirements

- Role based access for all the stake holders envisaged to access and use the system

- Appropriate authentication mechanism adhering to industry good practice of Password Policies etc

- Ability to adopt other authentication mechanism such as Electronic Signature Certificates

- Authorization validity to be ensured for the users providing the Data to the system. Data should be accepted only from the entity authorized

- Data should be visible only to the authorized entity
- Audit trails and Audit logging mechanism to be built in the system to ensure that user action can be established and can investigated if any can be aided. (E.g. Logging of IP Address etc)

- Data alterations etc. through unauthorized channel should be prevented.

- Industry good practice for coding of application so as to ensure sustenance to the Application Vulnerability Assessment

8.2.6 Manageability

It is essential that the application architecture handles different failures properly; be it a hardware failure, network outage, or software crashes. The system must be resilient to failures and have the ability to restart, and make human intervention minimal.

All layers of the system such as application, infrastructure must be managed through automation and proactive alerting rather than using 100's of people manually managing.

8.2.7 Availability

The solution design and deployment architecture will ensure that the application can be deployed in a centralized environment offering system High Availability and failover.

8.2.8 Reconstruction of truth

System should not allow database /system administrators to make any changes to data. It should ensure that the data and file (data at rest) that is kept in the systems has tamper resistance capacity and source of truth (original data of invoices and final returns) could be used to reconstruct derived data such as ledgers and system generated returns. System should be able to detect any data tampering through matching of hash value and should be able to reconstruct the truth.

8.2.9 Levels of Authentication

Based on the security requirements the following levels of authentication should be evaluated.

- The Logistics Division will determine the nature of data with respect to its sensitivity. For applications handling sensitive data it is recommended that in the least one factor authentication key in the form of a password is essential. Strong password complexity rules should be enforced to ensure confidentiality and integrity of the data.
- For applications handling highly sensitive data it is recommended that two factor authentication mechanisms should be considered. The first line of defence is the password conforming to the password complexity rules. Along with the password next user has to provide a one-time password which varies for each session. One-time passwords are valid for each session and it is not vulnerable to dictionary, phishing, interception and lots of other attacks. A counter synchronized One-Time Password (OTP) solution could be used for this purpose.

9. Operations & maintenance (post go-live)

MSP will operate and maintain all the components of the Logistics Tool for a period of five (5) years after Go-live. This is further extendable for two terms of five years each on mutual agreement between MSP and Logistics Division.

The following activities will be performed in this phase:

1. Operations and maintenance related to the application
    a. Applications Support and Maintenance
    b. End user support
    c. Compliance to SLAs
    d. Application Software Maintenance
    e. Database Administration
    f. Security Management
2. Training and capacity building
    a. Training and capacity building
3. Continuous improvement and keeping the Logistics Tool upto date
    a. Data refresh and update
    b. Addition of interventions, reports, dashboards as per the integrated logistics action plan
    c. BI and analytics reports
4. Integration with external sources
    a. Integration with external data sources as per the requirement
5. Development of new use cases

Each of the above section has been explained below.

9.1 Operations and maintenance related to Hardware and Infrastructure

9.1.1 Applications Support and Maintenance

Application support includes, but not limited to, request based services (problem requests/defect fixes), enhancements, configuration management and post release support, bug fixes, enhancements, operational support production monitoring, troubleshooting and addressing the functionality, availability and performance issues, implementing the system change requests etc.

- MSP should undertake the Application Maintenance and Support Services. In case these are to be sub-contracted, it needs to be done with confirmation from Logistics division.
- MSP should commit to provide all necessary resources and expertise to resolve any issues and carry out required changes, optimizations and modification so that complete system as a whole works according to the specified requirements and satisfaction of Logistics division.
- MSP shall require reports to be submitted for a complete ‘health- check’ of all components of the system. MSP shall provide such reports within 2 weeks from

Logistics division's request.

- MSP should ensure that the entire solution as a whole is operational and run according to stipulated performance standards.
- MSP should ensure efficient knowledge transfer on a continuous basis so as to ensure that application knowledge is passed on to new members subsequently joining the team.
- MSP shall keep the application software and all its components in good working order; perform changes and upgrades to applications as requested by the Logistics Division team.
- The MSP is expected to maintain system so that users are able to raise complaints/issues/tickets. All tickets related to any issue/complaint/observation about the system shall be maintained in a comprehensive ticketing solution.

9.1.2 End user support

The end user support would include all activities related to resolving the bugs / defects reported by application users.

- Every bug / defect should be logged. Every bug / defect should be categorized on the severity levels.
- MSP should identify the solution and take necessary approvals from Logistics Division and release the patch for UAT after fixing the defects.
- MSP should document defects / bugs encountered as well as document the resolution of the same. MSP should also update the Consolidated List of Common Errors and their Resolution document.
- MSP activities would be monitored as per SLAs defined in Service Level Agreement.

9.1.3 Compliance to SLAs

MSP shall ensure compliance to SLAs as indicated in this RFP and any upgrades/major changes to the software shall be accordingly planned by MSP ensuring the SLA requirements are met at no additional cost to Logistics Division.

9.1.4 Application Software Maintenance

MSP shall provide unlimited support through onsite team/telephone/Fax/E-mail/Video Conferencing/installation visit as required.

MSP shall address all the errors/bugs/gaps in the functionality in the solution implemented by the MSP at no additional cost during the O&M phase.

All patches and upgrades from OEMs shall be implemented by the MSP ensuring customization done in the solution as per the Logistics Division's requirements are applied. Technical upgrade of the installation to the new version, as and when required, shall be done by the MSP. Any version upgrade of the software / tool by MSP to be done

after taking prior approval of Logistics Division and after submitting impact assessment of such upgrade.

Any changes/upgrades to the application/ software performed during the support phase shall subject to the comprehensive and integrated testing by the MSP to ensure that the changes implemented in the system meets the specified requirements and doesn't impact any other function of the system. Release management for application software will also require Logistics Division approval. A detailed process in this regard will be finalized by MSP in consultation with Logistics Division.

Issue log for the errors and bugs identified in the solution and any change done in the solution shall be maintained by the MSP and periodically submitted to the Logistics Division team.

MSP, at least on a quarterly basis, will inform Logistics Division about any new updates/upgrades available for all software components of the solution along with a detailed action report. In case of critical security patches/alerts, the MSP shall inform about the same immediately along with his recommendations. The report shall contain MSP's recommendations on update/upgrade, benefits, impact analysis etc. The MSP shall need to execute updates/upgrades though formal change management process and update all documentations and Knowledge databases etc. For updates and upgrades, MSP will carry it out free of cost by following defined process.

The MSP has to update all the security patches immediately and may take exceptional approval from Logistics Division.

9.1.4.1 Problem identification and Resolution

Errors and bugs that persist for a long time, impact a wider range of users and is difficult to resolve becomes a problem. MSP shall identify and resolve all the application problems in the identified solution (e.g. system malfunctions, performance problems and data corruption etc.)

Monthly report on problem identified and resolved would be submitted to Logistics Division team along with the recommended resolution.

9.1.4.2 Change and Version Control

All planned or emergency changes to any component of the system shall be through the approved Change Management process. The MSP needs to follow all such processes (based on industry ITSM framework). For any change, MSP shall ensure:

i. Detailed impact analysis

ii. Change plan with Roll back plans

iii. Appropriate communication on change required has taken place

iv. Proper approvals have been received

v. Schedules have been adjusted to minimize impact on the production environment

vi. All associated documentations are updated post stabilization of the change

vii. Version control maintained for software changes

The MSP shall define the Software Change Management and Version control process. For any changes to the solution, MSP has to prepare detailed documentation including proposed changes, impact to the system in terms of functional outcomes/additional features added to the system etc. MSP shall ensure that software and hardware version control is done for entire duration of MSP's contract.

9.1.5 Database Administration

i. MSP shall be responsible for monitoring database activity and performance, changing the database logical structure to embody the requirements of new and changed programs.

ii. MSP shall be responsible to perform physical administrative functions such as reorganizing the database to improve performance.

iii. MSP shall be responsible for tuning of the database, ensuring the integrity of the data and configuring the data dictionary.

iv. MSP will follow guidelines issued by Logistics Division in this regard from time to time including access of data base by system administrators and guidelines relating to security of data base.

v. Database administration should follow the principle of segregation of duties to ensure no single DBA can update production tables/data singularly.

vi. In addition to restrictions on any direct change in Data by any administrator, the Databases shall have Auditing features enabled to capture all activities of administrators.

9.1.6 Security Management

i. Regular hardening and patch management of components of the Logistics Tool as agreed with Logistics Division

ii. Performing security services on the components that are part of the Logistics Division environment as per security policy finalized with Logistics Division

iii. Reporting security incidents and resolution of the same

9.2 Training and capacity building

The MSP shall undertake the trainings and capacity building periodically to train

new users and refresh the understanding of existing users.

Details of training responsibilities of the MSP is mentioned in the section 'Application training & capacity building'.

9.3 Continuous improvement and keeping the Logistics Tool upto date

9.3.1 Data refresh and update

MSP shall be responsible for updating the data as per the data refresh frequency as mentioned in the RFP as agreed with Logistics Division for the entire period of Operations and Maintenance. This shall be done at no extra cost to Logistics Division.

9.3.2 Addition of interventions, reports, dashboards as per the integrated logistics action plan

The Logistics Tool needs to reflect the updated integrated logistics action plan. To do so, the vendor is expected to achieve the following –

- The Integrated logistics action plan lists a number of initiatives along with its details such as timelines, targets, responsible agency etc. The Logistics Tool is expected to track the status of each initiative. The action plan is to be updated annually and the list of initiatives shall accordingly change annually.
- Generate new pre-defined report formats required internally and also required by various external stakeholders. This shall be done at no extra cost to Logistics Division.

9.3.3 Business Intelligence and analytics reports

The MSP is expected to generate BI and analytics reports as per details mentioned in the RFP. This shall be done at no extra cost to Logistics Division.

9.3.4 Additional development

The logistics tool will require additional development support over its lifecycle. The payment for such additional development shall be made as per the guidelines mentioned in the RFP. The MSP is to provide similar maintenance support for the additional development as for the overall tool.

9.3.4.1 Integration with external sources

As the system matures, the Logistics Tool requires data from a variety of Ministries, state governments, government agencies, and private sources. API connectivity or connectivity through other automated means needs to be established to such data sources on a continual basis. The MSP is expected to establish such connectivity as and when required during the maintenance period.

The connectivity thus established must ensure that the data is captured, recorded, cleaned, and integrated with the overall Logistics Tool without any human intervention. Minimal human intervention may be used for specific APIs as agreed with Logistics Division. The connectivity must also ensure that the data is updated at the frequency as required.

9.3.4.2 Development of new use cases

The envisaged Integrated Geo-Analytics tool will have 3 categories of use cases as discussed earlier. Each category has further multiple use cases. A set of base use cases have been defined in the RFP in Appendix A1.
As the system progresses, more use cases need to be added to the system.

The MSP will have the right of first refusal (ROFR) for the development of these new use-cases and associated applications. If another entity is selected for the new application development associated with new use cases, that new entity will be fully responsible for ensuring that such applications are technically fully compatible with the system developed by the MSP

10. Application training & capacity building

It is essential to train the users so that they are able to effectively use the developed portal. The MSP will prepare training material as part of the Logistics Tool Solution to provide training to the users. The purpose of this section is to define the scope of work for training and capacity building to be implemented at various levels namely:

a) Classroom training sessions
b) Audio-visual training
c) Online help/reference

10.1 Classroom training

- In person classroom training sessions to be conducted for officials identified by the Logistics Division.
- The MSP shall initially conduct a Training Needs Assessment to determine the nature of the training which needs to be imparted to such users.
- The MSP to prepare detailed training plan, including the method/ mode of training, the proposed curriculum for each, the locations, duration of each training program and training material.
- The training strategy and material will be finalized and approved by Logistics Division before starting the training program.
- As and when required, classroom training to be conducted for stakeholders subject to a maximum of 4 sessions per quarter for first year and 2 sessions per quarter for the maintenance period.
- MSP should nominate personnel who have the right mix of technical and domain

experience to impart the training.

- These trainings can be arranged any time after UAT till completion of 5 years operation & maintenance period.
- In case of modifications either in the Training Plans or substitutions of the regular trainers, proper correspondence with Logistics Division Team shall be made.
- Training program shall be continuously monitored by Logistics Division so as to ensure quality standards of the Training. It is the responsibility of the MSP to prepare a feedback mechanism (i.e., printed feedback forms, online feedback forms etc.) and get it filled by the participating batch and submits the same on a regular basis to Logistics Division, along with assessment of the trainers themselves.
- A detailed training schedule, including the dates, areas to be covered, time and the training literature (to be supplied by MSP) at various stages of the project cycle and feedback for effectiveness will be agreed to by all parties during the performance evaluation of the MSP as per the Contract.
- It is the responsibility of the MSP to prepare documents including User manuals, technical manuals, and administration manuals, and provide the same to the Logistics Division. The team will provide the necessary inputs for preparing the training material.
- The trainings to be conducted in Delhi NCR. The training infrastructure such as classroom, display requirements etc. to be provided by Logistics Division or the respective government agency as the case may be.

10.2 Audio Visual Training system

- The MSP is also required to provide Audio-Visual Trainings to the users for assistance in operating/navigating through the Portal. The modules/section wise training material, especially in form of Audio-Visual content or animation, apart from PDF version, have be uploaded in each module/sub- module/section of the Portal which can be played at any given point of time through the browser.
- The users should find it easy to understand the process and functionality better by seeing the audio-visual training content for that specific module/sub-module/section and work accordingly as required.
- These Audio-Visual clips will have the functionality to start, stop, pause, back and forward options, so that user can play the training content as per his own free will and requirement.
- All these specific module/sub-module/section wise audio-visual training content should be integrated to form a complete training of the Portal, and uploaded on the portal for free access, download and ready reference.

10.3 Online Help/Reference with Search option

- It is also proposed that the training contents and user manuals will be made available to users in downloadable (PDF) format so that the users may refer/download it for their own personal reference as and when needed.

- It is required that the downloadable training content should have proper indexing and internal references, mapped with key words in order to allow any user to search and reach the desired content with the help of those key words.
- It envisaged that any user will be able to search and read the directions/information for only the part required by him/her rather than looking through the entire PDF document and manually searching for the right content.
- On entering the key words for search criteria, the system should pull out and display the links to the content as mapped. This feature should be dynamic with real time search availability, i.e. as soon as the key words are changed; a new set of content links with page/chapter references within the document should appear for selection. Once the selection is made by the user, the system should display the PDF content.

11. Implementation Schedule

This section outlines the key delivery timelines and the implementation schedule for the MSP. It draws reference to the scope of managed and technology services outlined in this RFP. It describes the overall existing contract timelines and the milestones for MSP. Agile methodology needs to be followed during development phase by the MSP.

T shall be the date of signing of contract between Logistics Division and the MSP. Key milestones specified here shall form the basis for service level measurements. All days specified in this section, unless explicitly mentioned, refer to calendar days.

#	Activity/Task/Milestone	Timeline	Remarks
1	Inception Report including mobilization of Resources and commencement of work	T+4 weeks	
Phase 1 : Development of 1 use case, 1 performance monitoring dashboard			
2	Requirements gathering	T+8 weeks	
3	Industry stakeholder workshop	T+15 weeks	
4	Application Design, Development and data collection	T+16 weeks	
5	Go-Live	T+21 weeks	
6	Training workshop for intended users	T+ 25 weeks	To be done in parallel to other development works

#	Activity/Task/Milestone	Timeline	Remarks
Phase 2 : Development of 3 use cases, performance dashboards, and intervention tracking dashboard			Exact number of use cases to be developed in each phase to be finalized with Logistics Division
7	Requirements gathering	T+23 weeks	
8	Industry stakeholder workshop	T+27 weeks	
9	Application Design, Development and data collection	T+28 weeks	
10	Go-Live	T+29 weeks	
11	Training workshop for intended users	T+32 weeks	To be done in parallel to other development works
Phase 3 : Development of 4 use cases, dashboards and mobile app			Exact number of use cases to be developed in each phase to be finalized with Logistics Division
12	Requirements gathering	T+31 weeks	
13	Industry stakeholder workshop	T+35 weeks	
14	Application Design, Development and data collection	T+36 weeks	
15	Go-Live	T+37 weeks	
16	Training workshop for intended users	T+41 weeks	To be done in parallel to other development works
Phase 4 : Development of 5 use cases and dashboards			Exact number of use cases to be developed in each phase to be finalized with Logistics Division
17	Requirements gathering	T+38 weeks	
18	Industry stakeholder workshop	T+41 weeks	
19	Application Design, Development and data collection	T+42 weeks	
20	Go-Live	T+43 weeks	

#	Activity/Task/Milestone	Timeline	Remarks
21	Training workshop for intended users	T+47 weeks	To be done in parallel to other development works
Phase 5 : Development of 5 use cases and dashboards			Exact number of use cases to be developed in each phase to be finalized with Logistics Division
22	Requirements gathering	T+45 weeks	
23	Industry stakeholder workshop	T+47 weeks	
24	Application Design, Development and data collection	T+48 weeks	
25	Go-Live	T+49 weeks	
26	Training workshop for intended users	T+ 50 weeks	To be done in parallel to other development works

Table 5 Implementation Schedule

12. Payment Schedule

The detailed payment schedule has been provided the in this section. The terms of payment are mentioned in the Master Services Agreement of the RFP.

i. Bidders shall quote for the entire scope of contract on an "overall responsibility" basis such that the total bid price covers all the bidder's obligations mentioned in or to be reasonably inferred from the bidding documents in respect of providing the product/services.
ii. Prices quoted by the bidder shall remain firm during the entire contract period and not subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.
iii. The bid submitted will clearly mention the following
    a. P1 : Price quoted for application development and other related obligations as mentioned in the RFP
    b. P2 : Price quoted for operations and maintenance over 5 years and other related obligations as mentioned in the RFP
    c. The total contract value defined as P = P1 + P2 should be explicitly quoted in the contract
    d. Either of the price should not be conditional or adjustable. A bid submitted

with an adjustable or conditional price quotation or where the total contract value is different from as calculated using the formula in (c) will be liable for rejection.

e. Either P1 or P2 should not be less than 20% of the total contract value.

iv. The milestones/phases are defined for payment are as per milestones/phases defined in the project timelines section.

v. In case of delay in milestone, which is not attributable to MSP, the SLAs will not be applicable. If the delay leads to major shift in timelines for activities, the MSP shall provide a revised project plan within next 1 week and the revised timelines for those activities may be approved by Logistics Division in discussion with MSP. However, timelines for all other non-related activities will be followed based on original revised project plan. SLAs for the activities with revised timelines will be calculated accordingly

#	Activity/Task/Milestone	Payment Percentages
1	Inception Report	15% of P1
2	Go-live of Phase 1	20% of P1
3	Go-live of Phase 2	15% of P1
4	Go-live of Phase 3	15% of P1
5	Go-live of Phase 4	15% of P1
6	Go-live of Phase 5	15% of P1
7	Training and capacity building for all phases including audio visual training system and online help	5% of P1
5	O&M Phase	P2 • Payment to be made quarterly • 10% of P2 every 6 months for 5 years

Table 6 Payment schedule

vi. Supplier will render a separate invoice for each milestone. Invoices should be payable within 30 days from submission of invoice.

vii. The Logistics Division shall examine the invoices raised by the MSP and shall reconcile the payments every quarter. The due payments shall be released to MSP after reconciliation and deduction of applicable LDs/ penalties (in any) per the SLAs defined in the RFP

12.1 Payment for additional developments

i. Developments which classify as additional developments as defined in the RFP will require additional payment
ii. For every additional development during the maintenance period, the MSP is expected to provide a quote for the additional development required.
iii. Logistics Division reserves the right to accept or reject the quote and can ask the MSP to submit a revised quote.
iv. Logistics Division reserves the right to get the additional developments developed through a third party vendor.
v. The MSP shall be given the Right of First Refusal and an opportunity to match the offer made by the third party
vi. Logistics division will intimate MSP through fax / letter / registered email id about the quote from the third party and offer the MSP to match the lowest price quoted
vii. The MSP shall respond within 7 (seven) days from the date of issue of this intimation whether it wants to match the lowest price or not. In case the MSP successfully matches the lowest price within the stipulated timeframe, then the additional development shall be awarded to the MSP. However, in case the MSP is not able to match the lowest price within the timeframe stipulated, or in case the MSP fails to fulfill the requirements of the division or in case MSP withdraws or is not considered for any reason, then the additional development will be awarded to the lowest bidder.
viii. The MSP is expected to provide complete support to the third party for development of the use case.
ix. The MSP shall continue maintaining the system as per existing practices. The maintenance of the additional development by the third party shall be the responsibility of the third party.

13. Handling change requests

Due to the evolving nature of the project requirements and the complexity of the project, Logistics Division recognizes that changes may be required before, during and after launch of LPPT. Logistics Division also recognizes that these changes may require modification to the software, infrastructure and underlying processes and may, thus, have a financial impact.

MSP is required to work with the Logistics Division to ensure that all changes are discussed, managed, and implemented in a constructive manner. This section describes the procedure to be followed in the event of any proposed change to the scope of work and SLAs. Such change shall, inter alia, include:

1. Requests for requirements changes (additions, deletions, modifications, deferrals) in Scope of Work (including software)

2. Reports for problems in current production systems

3. Requests for enhancements in current production systems

4. Requests for new development projects

The Change Control process applies to base-lined work products created or managed by the members of the LPPT project. The Change Control process excludes any work products that are still under development.

13.1 Institutional framework for change management

Given below is the overall Institutional Framework required to be setup for managing Change Requests:

Role	Description
Change Advisory Board (CAB) Chairperson	• Designated Chairperson of the Change Advisory Board; • Logistics Division employee or Logistics Division nominated individual • Final decision-making authority if CAB does not reach an agreement; • Deputes a member from the Board to be the evaluator for each change request • Deputes additional member (part of MSP team) to be the modifier for each approved change request
Change Advisory Board	• Constitution of Change Advisory Board (CAB): o Logistics Division o MSP o Any agency nominated/engaged by Logistics Division • CAB decides whether to approve or reject proposed changes for a specific project
	• Authorized to review, approve and schedule all changes to the computing environment including software • Decision of CAB will be final and binding on all parties involved
Originator	The person who submits a new change request
Evaluator	The person whom Logistics Division asks to analyse the impact of a proposed change
Modifier	The person who is assigned responsibility for making changes in a work product in response to an approved change request; updates the status of the request over time
Verifier	The person who determines whether a change was made correctly

Table 7 Institutional framework for managing change requests

13.2 Change request process

The entire change request process will be implemented as mentioned below. The proposed timelines for each steps/activity and the corresponding responsibility center is also shown in the table below:

Steps	Process	Primary Responsibility
Step 1	Authorized official from the CAB/Logistics Division (Originator) requesting a change will initiate a request for change by sending an official email to 1. CAB members 2. MSP Project Manager	CAB/Logistics Division
Step 2	CAB members will evaluate the change request report for risks, process of evaluating & implementing change, time required for completing the change(s) and any other additional requirement/information needed to clarify the Change requested; and will provide its recommendations.	CAB
Step 3	MSP will be required to study the Change requested and submit their queries/suggestions on the requested change to CAB. This will be done by the authorized representative of the MSP.	MSP
Step 4	CAB will discuss and provide adequate responses to the queries/suggestions from the MSP on the requested change. It will further decide on the responses to the queries/suggestions and furnish the same to the MSP.	CAB
Step 5	Based on the responses provided by CAB, MSP will prepare and submit a techno commercial proposal.	MSP
Step 6	CAB will evaluate the techno commercial proposal submitted by MSP and decide on the final status.	CAB
Step 7	If CAB does not approve the proposal in its entirety, then CAB will initiate negotiation with the MSP based on any of the aspects like cost, time, resources, impact on systems and/or operations and additional parameters, whichever applicable.	CAB
Step 8	Once CAB approves the proposal in its entirety, the Change Request sign-off between CAB and MSP will be initiated.	CAB
Step 9	The authorized signatory from CAB as well as the MSP will sign the Change Request Evaluation and Finalization form (at first place) and accordingly a formal go-Ahead will be provided by CAB. This form will be signed in two copies; one for the MSP and other for CAB.	CAB and MSP
Step 10	MSP will then initiate the change following a standard predefined procedure along with proper documentation at each stage.	MSP
Step 11	Once the Change is completed as per agreed timelines and specifications, CAB representatives will do the User acceptance testing and auditing respectively to provide Comments/ recommendations to the committee members.	CAB

Steps	Process	Primary Responsibility
Step 12	If any further activities need to be carried out as per the Recommendations during UAT and Audit, it will be done by the MSP.	MSP
Step 13	Once the test version is accepted, an Acceptance Certificate will be issued to MSP by CAB, along with the instructions for deployment/implementation, again as per standard deployment plan. This will follow a second sign-off on the 'Change Request Evaluation & Finalization' Form.	CAB
Step 14	MSP will deploy the changed solution and notify CAB.	MSP
Step 15	CAB will finally review and confirm the deployed solution as per agreed standard, specifications and requirements, and a final sign off will be done on the 'Change Request Evaluation & Finalization' Form. A completion Certificate will be issued to the MSP by CAB. A copy of this completion certificate will have to be submitted by the MSP to Logistics Division along with the invoices for this change implementation.	CAB

Table 8 Change Request process

13.3 Proposed categories of change

1) Application Software
   a) Description
      i) Change request for any new module/change in module/ functionality/Process re- engineering etc., any new services and any new forms, etc.
   b) Method of Evaluation
      i) Man-months
   c) Documents Required
      i) Detailed Project Plan
      ii) Effort Estimates (Module wise/Process wise/Screen wise, as applicable)
      iii) Resource Deployment Plan/Types of Resources
      iv) Resource Plotting Sheet
      v) CVs/Profiles of Resources (if required)
      vi) Techno-Commercial Proposal

Note: The details of description and the documents required provided above are only indicative and these may be changed as per directions from Logistics Division.

13.4 Change control procedure guidelines

1. Change requests in respect of the Agreement, the Project Implementation, or the SLA will emanate from the Parties' respective authorized officials, who will be responsible for obtaining approval for the change and will initiate the Change Request.

2. Parties, while evaluating and finalizing the Change Request, shall consider the change in the context of the following parameter, namely whether the change is beyond the scope of Services including ancillary and concomitant services required and as detailed in the sign-off version of all required documents.
3. Change requests will be reported monthly to Logistics Division who will prioritize and review progress.
4. MSP shall be required to implement any proposed changes once approved with effect from the date agreed for implementation.
5. On evaluation of the financial impact, the charges for such a change will be decided between CAB and the MSP and will be a part of the Change Control Notice (Evaluation and Finalization). The payment for such changes will be as per the Terms of Payment to be decided by Logistics Division.
6. On receiving any Change Request from CAB, the MSP must submit its proposal with all the required information in the prescribed format for CAB's perusal.
7. MSP must not deny the implementation of any Change requested by CAB under any circumstances, unless technical feasibility is in question. In all such matters, Logistics Division's decision will be final and binding on all parties.
8. The MSP must provide the list of deliverables within timelines.
9. The acceptance criteria for any such 'Change' will remain the same as described in the RFP with respect to the performance and quality parameters.
10. The final sign-off and "Acceptance Certificate" would be provided by CAB. CAB will in all such cases revert within predefined number of working days after final implementation of the change and provide satisfactory completion certificate or the reasons for non-acceptance. Till that certificate is issued, all such changes will be deemed unaccepted.
11. The MSP must take all necessary steps to implement the change as per the project plan submitted without compromising on quality and performance standards. If the MSP fails to comply with the acceptable standards & requirements of implementing of the requested change, or denies implementation of the requested change at any stage during the contract period, CAB will have complete authority to get the change implemented from any of the third party/nominated government agency independently. In all such cases the entire cost of change implementation will be recovered completely from the MSP, along with applicable interest. Also, CAB reserves the right to impose any other financial or legal penalties depending upon the gravity of impact on the Service Delivery due to non-implementation of the requested Change. In all such matters the decision of CAB will be final and binding on all parties.
12. If CAB gives any new requirement or change request, the MSP should follow the change management procedure to implement the change on additional payment basis. The requirements for required infrastructure to implement the change should

be specified by the MSP so that CAB can make necessary provisions. The change request procedure would be considered complete only when the training is imparted to the target users for whom the change is being done and the feedback is evaluated by CAB.

13. It is proposed that the prevailing rates for all kinds of change, as and when initiated by CAB will be taken into consideration and the proposals accordingly evaluated. In all such matters the decision of the CAB will be final and binding on all parties.

14. Selection Process for Bidders

14.1 Opening of Bids

The Proposals will be opened by the Logistics Division in the presence of Bidders or their representatives who may be present at the time of opening through a virtual meeting.

There will be one bid-opening event for Cover – 1 (Pre-Qualification).

The date and time for bid-opening events for the Pre-qualification bid is mentioned in the **Data Sheet**. Those who qualify the pre-qualification bid shall be invited and data shall be shared for the development of the use case applications. The data for submission of Technical Bids is mention in the data sheet.

The Commercial Bids of only those bidders will be opened who score equal to or more than qualifying marks in Technical Bid.

14.2 Preliminary Examination of Bids

The Logistics Division will examine the Bids to determine whether they are complete, whether the documents have been properly signed and the Bids are generally in order. Any Bids found to be non-responsive for any reason or not meeting any criteria specified in this RFP, will be rejected by the Logistics Division and shall not be included for further consideration.

Initial Bid scrutiny will be held and the Bids will be treated as non-responsive, if Bids are:

- Not submitted in the format as specified in this RFP document;
- Received without the Letter of Authorization (Power of Attorney);
- Found with suppression of details;
- Submitted with incomplete information, subjective, conditional offers and partial offers;
- Submitted without the documents required under this RFP;
- Non-compliant to any of the clauses mentioned in this RFP;
- With lesser validity period than prescribed in this RFP.

14.3 Clarification on Bids

During the bid evaluation, the Logistics Division may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid shall be sought, offered, or permitted.

14.4 Evaluation Process

The Logistics Division shall evaluate the responses to this RFP and scrutinize the supporting documents documentary evidence. Inability to submit the requisite supporting documents documentary evidence, may lead to rejection. The decision of the Logistics Division in the evaluation of proposals shall be final. No correspondence will be entertained outside the process of evaluation with the Logistics Division. The Logistics Division may ask for meetings with the Bidders to seek clarifications or conformations on their proposals. During the Bid Evaluation, the Logistics Division reserves the right to reject any or all the Proposals. Each of the responses/Proposals shall be evaluated as per the criteria and requirements specified in this RFP.

The steps for evaluation are as follows:

14.4.1 Stage 1: Pre-Qualification

a) The Logistics Division shall open "Cover 1" marked "Pre-Qualification Bid". The Pre-Qualification bid MUST contain all the documents mentioned in "Annexure- Formats for Submission of the Pre-Qualification Bid". Each of the Pre-Qualification condition mentioned is MANDATORY. In case the Bidder does not meet any one of the conditions, the bidder will be disqualified.

b) Response to the Pre-Qualification Requirements shall be evaluated in accordance with the requirements specified in this RFP. A checklist has to be created with proper page-wise indexing of all supporting documents.

c) Results of the Pre-Qualification Bid opening will be published.

14.4.2 Stage 2: Technical Evaluation

a) Cover 2 marked as "Technical bid" will be opened only for Bidders who succeed in Stage 1

b) The Logistics Division will review the technical bids of the short-listed bidders to determine whether the technical bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at the Logistics Division's discretion.

c) The bidders' technical solutions proposed in the bid document will be evaluated as per the requirements specified in the RFP and technical evaluation framework as mentioned in the RFP.

d) Bidders shall present the bid to the Logistics Division as per the agenda mentioned.

e) Each Technical Bid will be assigned a technical score out of a maximum of 500 marks. Only the bidders who get an aggregate Technical score of **60%** or more will qualify for commercial evaluation stage. Failing to secure minimum marks shall lead to technical rejection of the Bid and Bidder.

f) Bidder should also score at least 50% in individual sections of Technical Evaluation as mentioned in Technical Evaluation Framework. Failure to score more than 50% in even one section will lead to Technical Disqualification of the bid.

14.4.3 Stage 3: Commercial Evaluation

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

b) The commercial bids for the technically qualified bidders will then be opened on the notified date and time and reviewed to determine whether the commercial bids are substantially responsive. Bids that are not substantially responsive are liable to be disqualified at the Logistics Division's discretion.

c) Commercial Bids that are not meeting the condition mentioned in the RFP shall be liable for rejection.

d) The Normalized commercial score of the technically qualified bidders will be calculated, while considering the Total Contract Value given by each of the Bidders in the Commercial Bid as follows:

Normalized Commercial Score of a Bidder = {Lowest Bidding Parameter Value/Bidder's Bidding Parameter Value} X 1000 (adjusted to 2 decimals)

Example:

Bidders	Commercial Bidding Parameter Value (in %)	Calculation	Normalized Commercial Score
Bidder-	0.20 %	(0.20/0.20)*1	1000.00
Bidder-	0.25 %	(0.20/0.25)*1	800.00
Bidder-	0.30 %	(0.20/0.30)*1	666.66
Bidder-	0.35 %	(0.20/0.35)*1	571.42

1. The Bidding Parameter Value (P) will include all duties, levies, taxes, etc. except Service Tax/ GST.
2. Any conditional bid would be rejected
3. Errors & Rectification: Arithmetical errors will be rectified on the following basis:
    - If there is a discrepancy between words and figures, the amount in words will prevail

- If the Bidder does not accept the error correction, its Bid will be rejected and its EMD may be forfeited.

14.4.4 Stage 4: Final score calculation through QCBS

1. The final score will be calculated through Quality and Cost selection method based with the following weight-age:

   Technical: 70
   Commercial:30

2. Final Score = (70* Normalized Technical Score) + (30* Normalized Commercial Score)

3. The bidder with the highest Final Score shall be treated as the Successful bidder.

4. In the event the Final scores are ‘tied’, the bidder securing the highest technical score will be adjudicated as the Best Value Bidder for award of the Project.

14.5 Pre-qualification criteria

A table of qualification criteria will be added here as below

#	Parameter	Pre-qualification criteria description	Evidence required
1	Legal Entity	The Bidder, Lead Bidder, Consortium Partner (if any), and all sub- contractors under this RFP, should be • A company incorporated in India under the Companies Act, 1956/ Limited Liability Partnership (LLP) registered under LLP Act, 2008 and subsequent amendments there to Registered with the Service Tax and VAT Authorities in India • Should have been operating in India, for the last three financial years (FY 2015-16, FY 2016-17, FY 2017-18) • Lead bidder should have present for providing similar services for last 10 years	˅ Copy of Certificate of Incorporation ˅ Copy of Registration Certificates with the Service Tax/VAT Authorities ˅ Copy of audited Balance Sheets and ˅ Profit & Loss Statements for the last three financial years (FY 2015-16, FY 2016-17, FY 2017-18) The aforementioned documents shall be required from the Bidder/Lead Bidder, Consortium Partner (in any), and all the sub- contractors under this RFP
2	**Sales Turnover**	**The Bidder/Lead Bidder/Consortium partner** should have an average annual revenue of at least **INR 75** Crores each in last 3 financial years (FY 2015-16, FY 2016-17, FY 2017-18) from management consulting services in India, IT services, systems integration projects, software consultancy, software development, geo-analytics services, Location based solutions and services, Products & services in telematics, navigation for travel and transportation segment, value added data products licensing *(Note: Turnover, from sales of 3rd party OEM software licenses or hardware, not sold as part of any system integration projects, to be excluded while calculating this turnover* *Turnover of any parent or holding companies or subsidiaries, association of other related entity will not be considered. Turnover of only the Bidder shall be considered.* *Combined turnover of the bidder and the Sub-Contracting*	Copy of audited Balance Sheets and Profit & Loss Statements for the last three financial years (FY 2015-16, FY 2016-17, FY 2017-18) In case the P&L Account shows consolidated revenues, then a Certificate from the Statutory Auditor/Chartered accountant of the bidder, is required to be submitted to corroborate that the revenues of the Bidder/Lead Bidder. In case Chartered Accountant certificate is submitted the said certificate also needs to be counter signed by Company Secretary of the Bidder.

#	Parameter	Pre-qualification criteria description	Evidence required
		partners will not be considered)	
3	Relevant Experience	The bidder/lead bidder/consortium partner should have demonstrated experience in: ➢ Implementation and maintenance of IT platforms ➢ Database management and system integration ➢ Data analytics, including expertise in Geo-spatial analytics ➢ Development of systems and analytics services for Government and Public Sector entities ➢ Entities with experience in having executed projects for logistics network management (Logistics & Transportation monitoring and Analytics/Navigation systems with live traffic congestion information, or implementation and planning/technology deployment in sectors such as Roads, Railways, Shipping, inland waterways, Civil Aviation, and Multi Modal Logistics Parks) with a focus on GIS, mapping and telematics related functionalities would receive preference Such demonstrated experience should include at least 2 projects implemented in the last five years - Project start date must be inside 5 years from the issue date of RFP - Only projects with a minimum contract size of INR 2 crore will be considered for evaluation - Both ongoing as well as completed projects are relevant In addition, the Bidder/lead bidder/consortium partner should have the experience in projects of similar nature in India/ delivered from India in last 5 financial years (FY 2013-18) including Software Application design, development & maintenance, data center operations, operations &	Citation clearly mentioning key project details and relevance to RFP **AND** Copy of Work Order **AND** Completion Certificates from the client; **OR** Work Order **AND** Self Certificate of Completion certified by the Statutory Auditor Company Secretary; **OR** Work Order **AND** Phase Completion Certificate from the client; **OR** Copy of client certificate/ public case studies as documentary proof for the stated criteria and implementation status; **OR** Certificate by the Company Secretary of the bidder for the stated criteria and implementation status. [**Note 1** – In case of integrated/System Integration project, relevant certificate from the Statutory Auditor confirming value of relevant work to be submitted. **Note 2** – All the projects cited should be in the name of the Bidder and not in name of any parent, subsidiary or affiliate entity **Note 3** – All the supporting documents mentioned above shall be required from all the bidding entities (Lead Bidder as well as Consortium Partner, in case of Consortium) for compliance.

#	Parameter	Pre-qualification criteria description	Evidence required
		maintenance, managed services, Data Licensing, Integration of data validation, standardization and geocoding for at least 2 Cr addresses/Implementation and maintenance of Services platform for Telematics in Transportation & Logistics segments for large fleet . The above project(s) should meet the following requirement: At least one (1) such project of value of INR 20 Cr or more OR At least two (2) such projects each of value of INR 10 Cr or more OR At least three (3) such projects each of value of INR 7 Cr or more	
4	Certifications	**Bidder/ lead bidder/consortium partner** should possess valid CMMi Level 3 or better, ISO 9001:2015 or better, ISO 27001:2013 or better certificate as on the date of submission of the bid.	Copy of the valid requisite certificates or proof of application for the certification Note: The certificates have to be in the name of the Bidder/Lead Bidder) In case the Bidder submits the "proof of application" for a certificate, the valid certificate must be submitted before the execution of contract.
5	**Blacklisting**	Any of the Bidder, Lead Bidder, Consortium Partner (if any), or Sub-Contractors under this RFP, should not be blacklisted by Govt. of India/State Government/Central PSU at the time of bid submission date.	Self-certificate letter undertaking to this effect on company's letter head signed by company's authorized signatory from Bidder/Lead Bidder, Consortium Partner (if any), and Sub-Contractors separately

Table 9: Pre-qualification criteria

Note: In case the Bidder, lead bidder, consortium partner has undergone corporate restructuring (including merger, demerger, hive off, slump sale etc.) in the last three financial years (FY 2015-16, 2016-17, 2017-18), it may showcase credentials of its erstwhile current entity provided sufficient documentary proof is submitted with the bid to evince that such credentials have accrued to transferred to are in the name of the bidding entity and the bidding entity is authorized to use such credentials. Notwithstanding the foregoing, credentials of parent entity, holding entity, subsidiaries or affiliates etc. cannot be used (and shall not be considered) unless such parent entity, holding entity, subsidiaries or

affiliates etc. is an integral part of the consortium and is itself bidding.

All the citations that have to be provided for pre-qualification criteria shall be as per the format provided in Appendix.

14.6 Technical Evaluation Framework

The bidder's technical solution proposed in the technical evaluation bid document will be evaluated as per the evaluation criteria mentioned in the table below:

#	Evaluation Criteria	Total Marks	Minimum qualifying marks
1	Bidder’s Experience	100	50 (Minimum 50% in each section)
2	Proposed Solution	120	60
3	Approach & Methodology	180	90
4	Proof of Concept/ Demonstration and Technical Presentation	100	50
	Total	500	300 (Minimum Total Technical score of 70%)

Table 10 Technical evaluation framework

The Normalized technical score of the technically qualified bidders will be calculated as follows:

Normalized technical score of a Bidder = {[Total score as calculated above] x 1000/[Highest Technical score secured]}(adjusted to 2 decimals)

The Logistics Division (or a nominated party) reserves the right to check/ validate the authenticity of the information provided in the Pre-qualification and Technical Evaluation criteria and the requisite support must be provided by the Bidder. The following sections explain how the Bidders will be evaluated on each of the evaluation criteria.

14.6.1 Bidder's Experience

#	Citation	Citation details	Documentary Evidence	Marks Allotted
1	Relevant Experience	The bidder, lead bidder or consortium partner having experience in systems integration, database management and analytics related projects/ in India/ delivered from India in last 5 financial years (FY 2013-2020) of at least INR 2 cr each. The projects should be of similar nature in the area of public infrastructure (roads, rail, shipping, inland waterways, civil aviation, Multi-modal logistics parks), transportation, or logistics. ▫ 3 citations (atleast 1 should be successfully completed) = 50 marks, ▫ 2 citations (atleast 1 should be successfully completed) = 35 marks, ▫ 1 citation (successfully completed) = 20 marks In addition, the bidder, lead bidder or consortium partner having experience in projects of similar nature in India/ delivered from India in last 5 financial years (FY 2013-18) includinggeo-spatial analytics, telematics data center operations, operations & maintenance	• Citation clearly mentioning key project details and relevance to RFP **AND** • Copy of Work Order AND Completion Certificates from the client; **OR** Work Order **AND** Self Certificate of Completion certified by the Statutory Auditor/ Company Secretary; **OR** Work Order **AND** Phase Completion Certificate from the client; **OR** Copy of client certificate/ public case studies as documentary proof for the stated criteria and implementation status; **OR** Certificate by the Company Secretary of the bidder for the stated criteria and implementation status.	100

#	Citation	Citation details	Documentary Evidence	Marks Allotted
		least INR 10 Cr each ▫ 3 citations (atleast 1 should be successfully completed) = 40 marks, ▫ 2 citations (atleast 1 should be successfully completed) = 25 marks, ▫ 1 citation (successfully completed) = 15 marks ▫ Additionally, upto 10 marks if at least 1 of the above mentioned projects significantly involves advanced analytics capabilities such as machine learning, artificial intelligence and others Projects for which the UAT and 'Go-Live' Stage have been completed and which are currently in Operations phase shall also be considered as 'Completed'.	[**Note 1** - In case of integrated project, relevant certificate from the Statutory Auditor confirming value of relevant work to be submitted. **Note 2** - All the projects cited should be in the name of the Bidder and not in name of any parent, subsidiary or affiliate entity **Note 3** - All the supporting documents mentioned above shall be required from all the bidding entities (Lead Bidder as well as Consortium Partner, in case of Consortium) for compliance.]	

14.6.2 Proposed Solution

#	Citation	Citation details	Documentary Evidence	Marks Allotted
1	Overall Logistics Tool Solution	Overall Logistics Tool solution including the following - • Integrated Geo-Analytics tool use cases	Proposal and presentation	40

#	Citation	Citation details	Documentary Evidence	Marks Allotted
		• Performance measurement and monitoring • Tracking interventions identified under integrated logistics action plan • Mobile Application		
2	Overall Solution Architecture	Functional architecture, Application architecture, Integration architecture, & Infrastructure deployment architecture proposed and presentation covering at minimum the below key aspects: • Modularity of the system • Scalability to handle future load, and particularly ability to include advanced analytics capability in the future including machine learning, artificial intelligence • Suitability of Tools/Components & Technologies proposed including capacity to handle large volumes • How the system is compliant to architecture principles as required • Approach to develop the API based system and approach for interfacing with other systems • Risk and mitigation plan • Plan to handle multiple stakeholders • Use of open standards and open source products. If open source is not being used for certain products, then plan to ensure vendor transferability should be added	Proposal and presentation	80
Total				120

14.6.3 Approach & Methodology

#	Citation	Citation details	Documentary Evidence	Marks Allotted
1.	Understanding of Business and Scope of work and all aspect of the Project	Demonstrated level of understanding of the business processes, the project purpose and scope of work. Understanding of the international best practices, risks & mitigation.	Proposal and presentation	10
2.	Approach for implementation of business requirements	Understanding of the issues and challenges involved in implementing the required solution • Activities / tasks / initiatives, project planning, resources planning, effort estimate etc, with milestones and time frame for completion • Clarity of deliverables at each stage of the work • Plan for acquisition of data from independent sources • Plan for development of APIs or interfaces to capture data from other Ministries and government agencies • Plan for development of APIs or interfaces to capture data from private agencies, individuals, and to crowdsource data • Plan for data collection through surveys, interviews and secondary research	Proposal and presentation	60
2.	Approach for development of the tool Implementation of technologies	Approach for project implementation and bidder's plan for performing the required services as detailed in scope of work in the RFP and to meet the desired SLAs	Proposal and presentation	30
3.	Operation and Maintenance plan	Approach for operation and maintenance resource deployment etc.	Proposal and	20

#	Citation	Citation details	Documentary Evidence	Marks Allotted
			presentation	
4	Quality of the proposed team with domain knowledge	All members/experts proposed by the bidder will be assessed basis the relevance of their past experience for the scope of this RFP 1. Project Manager / Project Coordinator-Full time – 1 (One) required – 15 marks • Should have relevant postgraduate professional qualification such as Masters in Economics, Commerce or Business Administration • Should have minimum of 6 years' of professional experience, with increasing levels of responsibility in the field of logistics/ transport/ warehousing/ road infrastructure/ railway infrastructure/ EXIM processes • Should have experience with Indian or global public sector organizations / ministries / departments / enterprises / undertakings in strategy or action plan or road map preparation / policy formulation – at least 1 project of project value greater than INR 3 crores • Should have experience of managing long term program / project of duration of one year or more with accountability and responsibility for performance including quality, budget schedule, client and stakeholder management – at least 1 project of project value greater than INR 3 crores • CVs will be evaluated for relevance to the project 2. Subject matter experts – 15 marks each; Max 45 marks • All Subject Matter Experts (SMEs) proposed by the bidder should have a graduate degree or above • All SMEs should have minimum professional experience of 10 years in the relevant fields in India and in other leading geographies.	Certified CVs by the authorized signatory of the bidder	60

#	Citation	Citation details	Documentary Evidence	Marks Allotted
		• The SMEs will be assessed basis the relevance of their past experience for the scope of this RFP Logistics SME - 1 expert: • Experience in logistics sector on projects related to optimizing logistics cost and time/strategic planning / logistics operations or program management. • Should have experience of working in logistics industry with minimum 2 of the following industries o Road transport o Railways o Shipping o Civil Aviation • Should have completed at least two projects dealing with logistics/ strategy/ operations/ cost optimization/ in each of the above industry to qualify for that industry • Weightage shall be given to SME having global experience in these areas Data and Analytics SME - 1 expert: • Experience in implementing large scale projects in the field of complex data and analytics / Machine learning/Artificial intelligence • Weightage shall be given to SME having experience in the logistics industry particularly in geo-analytics • Weightage shall be given to SME having global experience in these areas		

#	Citation	Citation details	Documentary Evidence	Marks Allotted

		Industry SME -1 experts:
		
		• Should have experience of working in minimum 2 of the following industries:
		  ○ Coal
		  ○ Cement
		  ○ Iron & Steel
		  ○ Food grains
		  ○ E-commerce/ parcels
		• Should have completed at least two projects dealing with logistics/ strategy/ operations/ cost optimization/ in each of the above industry to qualify for that industry		

Total				180

14.6.4 Proof of Concept/ Demonstration and Technical Presentation

#	Citation	Citation details	Marks Allotted
1.	Proof of concept/ Demonstration: This will be done along with the Technical presentation • It shall be conducted with sample data that will be provided by Logistics Division • Logistics Division will provide the list of use cases/ models	Factors to be considered while rating the POC are • Understanding of use case • Approach to the use case (e.g. parameters considered, risk, factors, etc.) • Solution design – Ease of use, innovation, - • Visualization and dashboards	100

#	Citation	Citation details	Marks Allotted
	which to be showcased during the POC stage. • In addition to above, the bidder may showcase any other use case on the provided data • POC will be completed in 15 days after providing data	• Outcome • Answer to queries • Quality of presentation • Completeness of solution	

15. Award of Contract

15.1 Notification of Award

The Logistics Division will notify the successful Bidder in writing that its bid has been accepted.

15.2 Signing of Contract

Within 15 days of the notification of award, the successful bidder shall execute the Master Services Agreement as provided in this RFP. Within 15 days of receipt of the notification of award, the successful Bidder shall also submit the Performance Bank Guarantee (PBG) in accordance with the terms of this RFP. If the successful bidder fails to execute the MSA or furnish the PBG within such 15 days period (or such other extended timelines as agreed by the Logistics Division in its sole discretion), the Logistics Division shall have the right to forfeit the EMD of successful bidder and award the work to the next successful bidder.

15.3 Performance Bank Guarantee (PBG)

The successful Bidder shall at his own expense submit to the Logistics Division an unconditional, irrevocable and continuing Performance Bank Guarantee (PBG) from a scheduled bank, in the format prescribed in the RFP, payable on demand, for the due performance and fulfilment of the contract by the Bidder.

The PBG shall be submitted within 15 working days from the date of issuance of the PO/Letter of Intent or Award.

The Value of the PBG shall be equal to 10% of bid price. Except as otherwise provided in RFP, no interest shall be payable on the PBG. In case the project is delayed beyond the project schedule, the Performance Bank Guarantee shall be accordingly extended by the Bidder till completion of Scope of Work and three months thereafter.

15.4 Failure to agree with the Terms & Conditions of the RFP

Failure of the successful bidder to agree with the Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event the Logistics Division may award the contract to the next best value bidder or call for new proposals. In such a case, the Logistics Division may invoke the PBG and/or forfeit the EMD.

16. Appendix A

16.1 Appendix A1 List of use cases to be developed

16.1.1 Use case 1 Optimize modal mix (Coastal)

Basework Required

(These are not the data requirements Data requirements are present in appendix B)

- Plot the major origin-destination (O-D) movement of all available commodities on an India Map.(>60% of movement by weight)
- Ensure to plot the route/corridor along with indicative quantity and not just a straight line connecting origin-destination
- Calculate the cost of movement between the O-D by road and by rail
- For all the available commodities, plot the movement between the same origin-destination through coastal route (wherever possible) and calculate the cost of the same.
- Ensure to include the first/last mile, handling charges while calculating cost

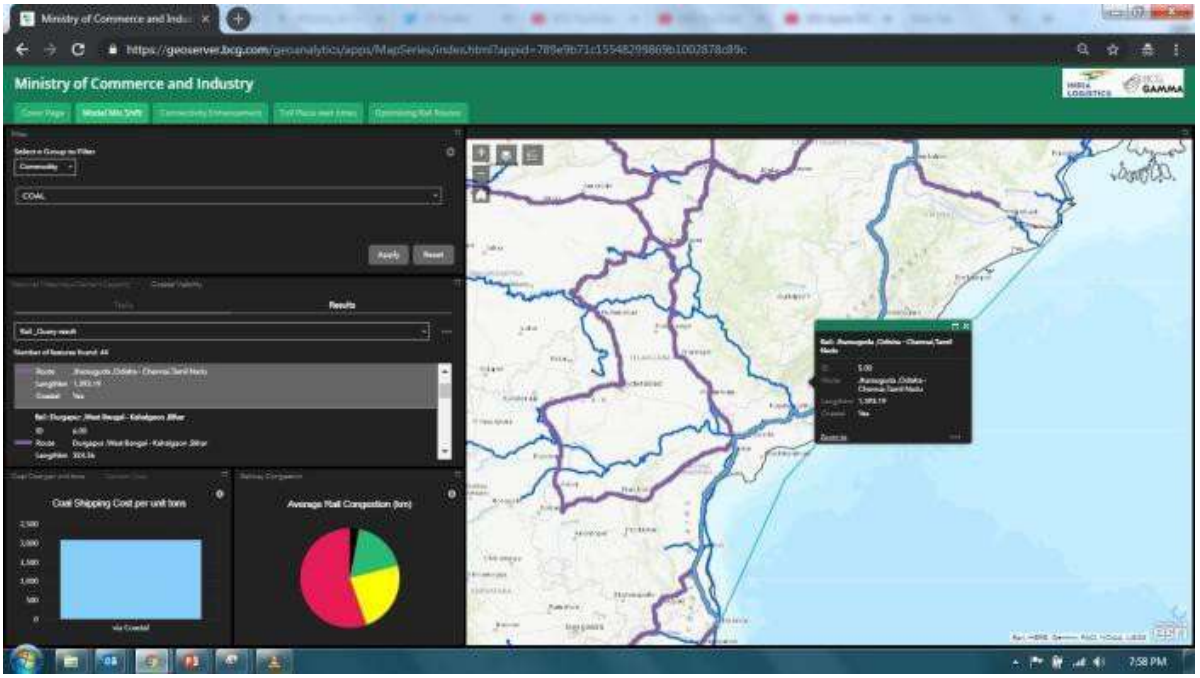

Figure 2 Use case illustration : Optimize modal mix (Coastal)

Working of the Use Case

- The overall layout to contain dropdowns and options to identify the optimum coastal route as shown in the figure
- Have an option to select commodity in the first dropdown
- Based on commodity selection, plot all the existing movement of the commodity as identified earlier.
- Ensure the thickness of the route connecting the O-D varies by the total weight

of commodity movement on the route

- Have an option to select the desired mode in the second dropdown : coastal, national waterway, road, rail, air
- On selecting coastal, highlight the routes where cost of coastal is lesser than the cost of existing movement as per current O-Ds
- Also display the list of such coastal routes
- On selecting, any of these routes display the route properties such as breakup of costs, total quantity, savings etc.
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Ministry of Shipping, Ministry of Railways, IWAI, Ministry of Road Transport & Highways, selected industry bodies for commodities such as for Coal, Cement, Steel, Food grains as agreed with Logistics Division

16.1.2 Use case 2 Optimize modal mix (Railways)

Basework Required

- Plot the major origin-destination (O-D) movement of all available commodities on an India Map by road and by rail (>60% of movement by weight) as done earlier.
- Ensure to plot the route/corridor and not just a straight line connecting origin-destination along with indicative quantity.
- Calculate the cost of movement between the O-D by both - road and by rail
- Ensure to include the first/last mile, handling changes in the cost
- Plot rail congestion for all rail routes
- Plot DFC- Dedicated freight corridors (current and upcoming), inland waterways, coastal route and the cost of movement of each commodity by IW and coastal

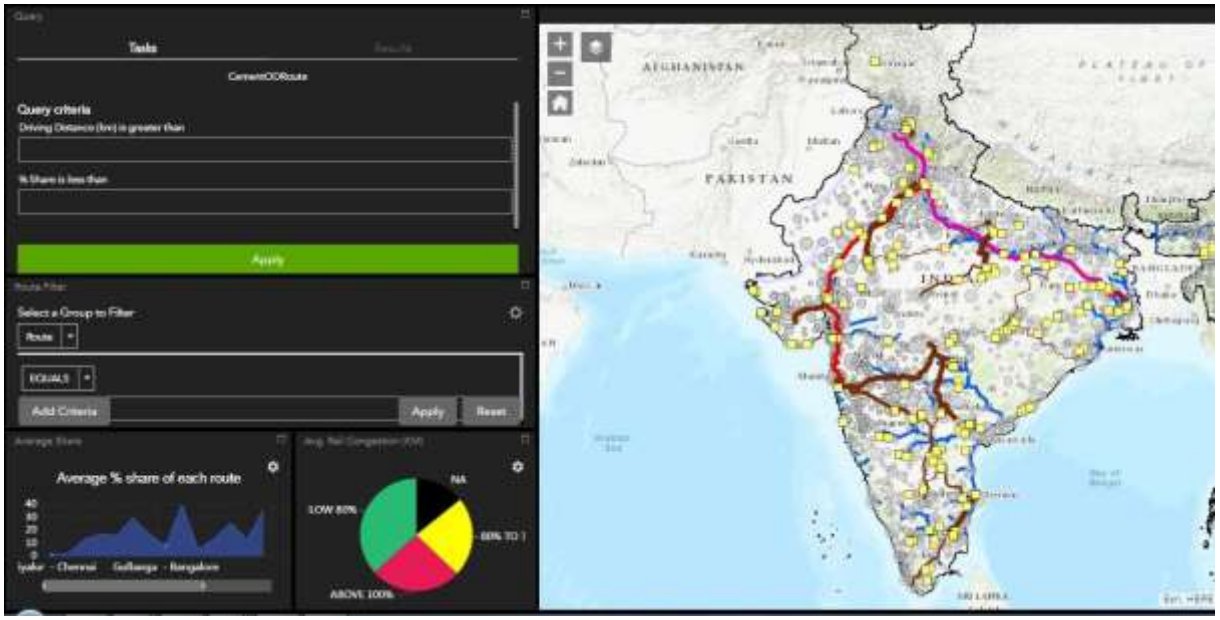

Figure 3 Use case illustration : Optimize modal mix (Rail)

Working of the Use Case

- The overall layout to contain dropdowns and options to identify the optimum route as shown in the figure
- Have an option to select commodity in the first dropdown
- Based on commodity selection, plot all the existing movement of the commodity as identified earlier by road and by rail
- Option 1: Identify non-optimal rail routes
  - Calculate the modal share of railways on ODs
  - Shortlist ODs where rail is cheaper than road
  - Check if alternate modes –coastal, IW is cheaper than rail for the selected ODs
  - Check if DFC is present here
  - If rail is the cheapest route among all routes for an OD pair, then display the OD pair along with its rail modal share
  - Have an option to export routes and data for further analysis

Tentative list of stakeholders for the use case: Ministry of Shipping, Ministry of Railways, IWAI, Ministry of Road Transport & Highways, selected industry bodies for commodities such as for Coal, Cement, Steel, Food grains as agreed with Logistics Division

16.1.3 Use case 3 Optimize modal mix (Inland Waterways)

Basework Required

- Plot the major origin-destination (O-D) movement of all available commodities on an India Map. (>60% of movement by weight) as explained earlier.

- Ensure to plot the route/corridor along with indicative quantity and not just a straight line connecting origin-destination
- Calculate the cost of movement between the O-D by road and rail.
- For all the available commodities, plot the movement between the same origin-destination through Inland Waterways (IW)(wherever possible) and calculate cost of the same
- Ensure to include the first/last mile, handling charges, and other costs as discussed with Logistics division in the IW cost

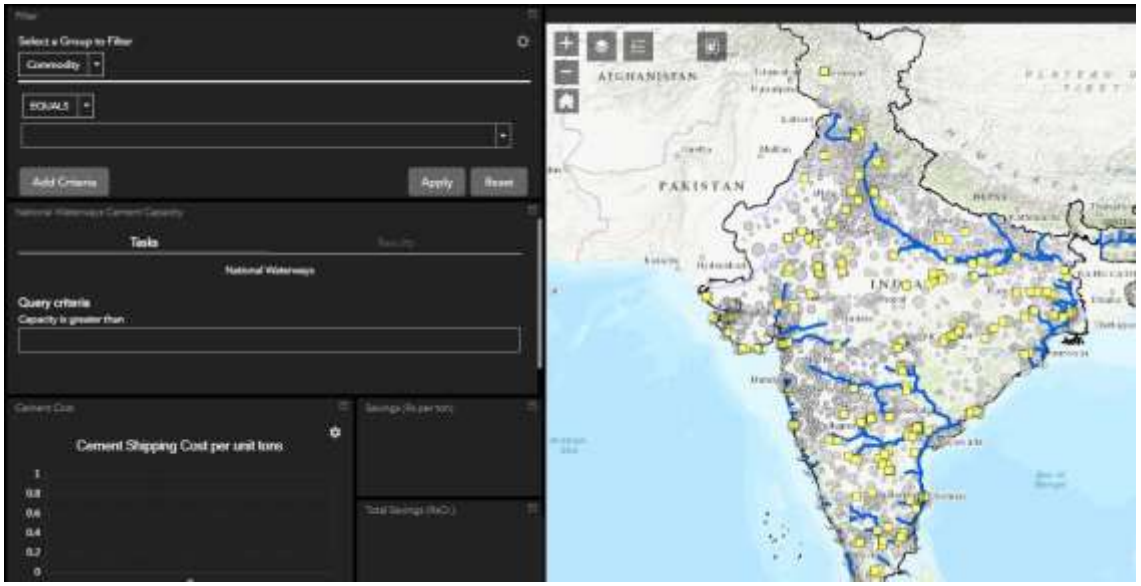

Figure 4 Use case illustration : Optimize modal mix (Inland Waterways)

Working of the Use Case

- The overall layout to contain dropdowns and options to identify the optimum IW route as shown in the figure
- Have an option to select commodity in the first dropdown
- Based on commodity selection, plot all the existing movement of the commodity as identified earlier.
- Ensure the thickness of the route connecting the O-D varies by the total weight of commodity movement on the route
- Have an option to select the desired mode in the second dropdown : coastal, national waterway, road, rail, air
- On selecting IW, highlight the routes where cost of IW is lesser than the cost of existing movement as per current O-Ds
- Also display the list of such routes
- On selecting , any of these routes display the route properties such as breakup of costs, total quantity, savings etc.
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Ministry of Shipping, Ministry of Railways, IWAI, Ministry of Road Transport & Highways, selected industry bodies

for commodities such as for Coal, Cement, Steel, Food grains as agreed with Logistics Division.

16.1.4 Use case 4 Hinterland connectivity

Basework Required

- Plot all population centers in India –villages, towns, districts etc.
- Plot the detailed road network with village connectivity roads, district roads, state and national highways etc.
- Calculate the congestion on the detailed road network using historic congestion data.

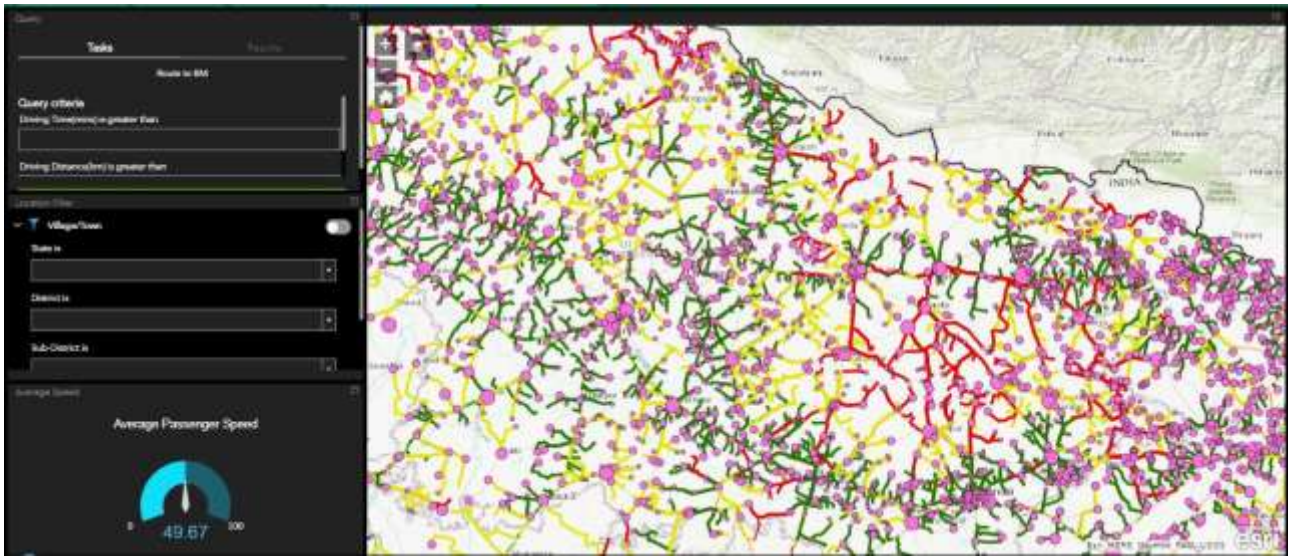

Figure 5 Use case illustration : Hinterland Connectivity

Working of the Use Case

- Dropdown to select Origin – National Highway, state highway, major cities
- On selecting the 'Origin' calculate the time taken from origin to all population centers. For example, on selecting National highway – time taken to reach a village from the nearest point on the closest national highway should be calculated
- Have an option to filter population centers which are more than *x* mins or *x* km away from the origin
- Plot and display the filtered population centers and the corresponding route
- Have options for custom filters such as all villages with population >x, GDP>y, and >z mins away from national highway
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Ministry of Rural Development, Ministry of Shipping, Ministry of Railways, IWAI, Ministry of Road Transport & Highways.

16.1.5 Use case 5 Port connectivity

Basework Required

- Plot major industry clusters in India
- Plot all ports – major and minor ports
- Plot the detailed road network with village connectivity roads, district roads, state and national highways etc.
- Plot the rail network, IW network, coastal routes.
- Calculate the congestion on the detailed road network and congestion on rail network

Working of the Use Case

- Dropdown to select Port
- On selecting a port, plot the route and time taken to/from industrial clusters to/from the port
- Have an option to filter industry clusters which are more than x mins or x km away from the port
- Ensure to include both rail congestion and road congestion while calculating the travel time
- Plot inter-port comparison of time taken to reach port from major industry clusters
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Ministry of Shipping, Ministry of Railways, IWAI, Ministry of Road Transport & Highways

16.1.6 Use case 6 First/Last mile connectivity by industry clusters

Basework Required

- Plot industry clusters in India along with its manufacturing locations. Ensure to include MSME and other rural industries in it
- Plot the detailed road network with village connectivity roads, district roads, state and national highways etc.
- Plot the rail network, IW network, coastal routes
- Calculate the congestion on the detailed road network, congestion on rail network

Working of the Use Case

- Calculate the average time taken from manufacturing locations to reach closest national highway and railway station
- Plot the route and time taken to/from industrial clusters

- Have an option to filter industry clusters which are more than x mins or x km away from the highway or railway station
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: DIPP, Ministry of Road Transport & Highways.

16.1.7 Use case 7 Road Congestion

Basework Required

- Plot the detailed road network with village connectivity roads, district roads, state and national highways etc.
- Calculate the congestion on the detailed road network using historic traffic data
- Identify network by NH, SH, district roads and other information such as number of lanes etc.
- Plot all commodity movement by road

Working of the Use Case

- Have an option to filter all major roads for road freight movement
- Identify areas/stretches/points on road where road speed is low or congestion is high
- Calculate seasonality/time of day for high congestion points(subject to data availability)
- Compare states for average road speed comparison
- Display speed information by number of lanes, type of road etc.
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Ministry of Road Transport & Highways, state governments, truck/transporter associations.

16.1.8 Use case 8 Railway Congestion

Basework Required

- Plot the detailed rail network and rail congestion using historic railway traffic and congestion data.
- Identify network by railway zones, division and type of track etc.
- Plot all commodity movement which should go by rail as identified in use case 2

Working of the Use Case

- Identify the major routes of current/potential rail movement
- Identify areas/stretches where rail congestion is high
- Plot and show the exact areas of high congestion and calculate opportunity cost of congestion for each routes basis potential movement
- Compare railway regions, divisions for average rail congestion comparison
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Ministry of Railways

16.1.9 Use case 9 Coal Linkage rationalization

Basework Required

- Plot all coal mines, and power plants and their linkages along with type/grade of coal
- Plot the rail network, first/last mile network and calculate cost of movement between all mines and power plants

Working of the Use Case

- Run optimization to determine-
  - The pair of mine to power plant which is most efficient
  - The most efficient route of transportation
- Build in option to enter constraints in the model such as addition of a washery in the supply, restriction on certain pairs, boiler technology constraints etc.
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Coal India Ltd, Ministry of Power, Ministry of Coal, Ministry of Railways.

16.1.10 Use case 10 Government food grain procurement (FCI)

Basework Required

- Plot all major food grain growing areas along with grade/type
- Plot food grain demand centers
- Plot the rail network, first/last mile network and calculate cost of movement between all source and demand

Working of the Use Case

- Run optimization to determine-
  - The pair of source to demand which is most efficient
  - The most efficient route of transportation
- Build in option to enter constraints in the model
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Food Corporation of India, Ministry of Agriculture & Farmers' Welfare, Ministry of Shipping, Ministry of Railways, IWAI, Ministry of Road Transport & Highways.

16.1.11 Use case 11 : MMLP locations based on commodity centers and commodity flows

Basework Required

- Plot current MMLP, Logistics Park, ICD, AFS, SEZ, FTWZ & CFS locations and

tag commodity to each, wherever feasible
- Plot available land parcels already identified as warehouse zones/MMLP zones, ICD or CFS and tag them by commodity
- Plot O-Ds by commodity as explained earlier
- Plot the rail network, road network, IW network, coastal network

Working of the Use Case
- Plot existing warehouse zones color coded by commodity along with capacity/area. Have an option to search warehouses by commodity, area, city, state etc.
- Plot the available zones for new warehouses/new MMLPs/ICD/CFS. Have an option to search warehouses by commodity, area, city, state etc.
- Run optimization to determine the optimum locations of warehouses, MMLPs, ICD, warehouses (methodology to be agreed with logistics division)
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Selected state governments, Ministry of Road Transport & Highways, selected industry bodies for commodities such as for Coal, Cement, Steel, Food grains as agreed with Logistics Division.

16.1.12 Use case 12 : Checkpoint process optimization

Basework Required
- Plot all checkpoints – inter-state checkpoints and other checkpoints where trucks are stopped
- Plot road network and plot road congestion and speed for freight vehicles
- Calculate wait times at check points. Wait times to be based on historical congestion data. The time period to be mutually agreed with Logistics division
- Plot O-Ds by commodity as explained earlier
- Plot the rail network, road network, IW network, coastal network

Working of the Use Case
- Option to shortlist checkpoints where wait time is greater than x minutes
- Display information about the checkpoints such as inspecting authority, proximity to closest NH toll plaza
- Calculate opportunity cost of wait times basis freight flow
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Selected state governments, Ministry of Road Transport & Highways.

16.1.13 Use case 13 : Toll plaza wait time optimization

Basework Required
- Plot all toll plazas – NH and SH toll plazas
- Plot road network and plot road congestion and road speed for freight vehicles
- Calculate wait times at toll plazas. Wait times to be based on historical

congestion data. The s time period to be mutually agreed with Logistics division
- Plot O-Ds by commodity as explained earlier
- Plot the rail network, road network, IW network, coastal network

Working of the Use Case
- Option to shortlist toll plazas where wait time is greater than x minutes
- Display information about the toll plazas such as national or state highway toll plazas, number of toll lanes, number of ETC lanes
- Calculate opportunity cost of wait times basis freight flow
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Selected state governments, Ministry of Road Transport & Highways.

16.1.14 Use case 14 : Port process improvement

Basework Required
- Plot all ports – major and minor
- Plot detailed port layouts (The layout must take into account the individual layout of specific terminals). Plotinformation of port dwell times, custom release times. In the case where port has multiple terminals, these metrics must be calculated for each terminal.
- Plot key port operation KPIs by function to the extent possible (handling and throughput by terminal, wait time in parking plazas, wait time at terminal entry gate, no DPE and DPD containers handled etc.)[1] Plot the rail network, IW network, coastal routes.

Working of the Use Case
- Dropdown to select Port
- On selecting port, plot times taken for different processes at the port along with benchmarks
- Plot inter-port comparison of various parameters
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Selected port associations, Ministry of shipping

16.1.15 Use case 15 : Heatmap of high graft areas

Basework Required
- Get data of graft as reported by users
- Plot the detailed road network with village connectivity roads, district roads, state and national highways etc.

[1] List of specific KPIs that can be feasibly captured, and the source of origin data, and level of integration with operator ERP/terminal operating systems/Port community systems would be finalized with the help of an advisory committee of sector experts

- Plot all checkpoints, toll plazas as identified earlier

Working of the Use Case

- Plot a heatmap of the graft instances reported
- On clicking a particular area in the heatmap, provide details such as checkpoint name, inspecting authority etc.
- Provide inter-state comparison
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Select transport associations, Ministry of Road Transport & Highways, Select state governments

16.1.16 Use case 16 : Heatmap of user issues

Basework Required

- Get data of logistics issues as reported by users
- Plot the detailed road network with village connectivity roads, district roads, state and national highways etc.
- Plot all checkpoints, toll plazas as identified earlier

Working of the Use Case

- Plot a heatmap of logistics issues as reported
- On clicking a particular area in the heatmap, provide details such as checkpoint name, inspecting authority, highway name etc.
- Provide inter-state comparison
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Select transport associations, Ministry of Road Transport & Highways, Select state governments

16.1.17 Use case 17 : Rolling stock availability

Basework Required

- Plot near-real time data of commodity movement
- Plot near real time data of railway wagon movement
- Plot historical demand of trucks and of wagons for major demand centers
- Plot current and expected supply of trucks and wagons basis the data above to major demand centers
- Plot the detailed road network with village connectivity roads, district roads, state and national highways etc.
- Plot rail network

Working of the Use Case

- Option to select rolling stock - truck or rail wagons
- On selecting an option, calculate the shortage/surplus of the rolling stock using

current supply, historical supply and historical demand
- Plot the shortage/surplus a heatmap
- Provide inter-state comparison
- Have an option to export such routes for further analysis

Tentative list of stakeholders for the use case: Select transport associations, Ministry of Road Transport & Highways.

16.1.18 Use case 18 : Custom query tool

Basework Required

- Plot all data as plotted earlier

Working of the Use Case

- Custom query tool to be used to run geo-based queries on data plotted above
- Query input to be in easy to understand English syntax
- Query tool to be easy to operate without coding/technical background
- All results of query to be plotted on a map instantaneously
- Have an option to export such routes for further analysis

16.1.19 Use case 19 : Airport process

improvement Basework Required

- Plot all Airports
- Plot detailed port layouts and information of port dwell times, custom release times
- Plot key Airport operation KPIs by function to the extent possible (ground handling, terminal handling related KPIs)[2]
- Plot the road network connecting to the airport, average congestion and change in congestions levels in the roads leading up to the air cargo complex

Working of the Use Case

- Dropdown to select Airport
- On selecting port, plot times taken for different processes at the Airport along with benchmarks
- Plot inter-Airport comparison of various parameters

16.1.20 Use case 20 : ICD process improvement

[2] List of specific KPIs that can be feasibly captured, and the source of origin data, and level of integration with operator ERP/terminal operating systems/Airport community systems would be finalized with the help of an advisory committee of sector experts

Base Work Required

- Plot all ICDs
- Plot detailed ICD layouts and information of ICD dwell times, custom release times, taking into account average facility handling capacity and throughput
- Plot key ICD operation KPIs by function to the extent possible (city-side handling, yard handling, container loading, container unloading)[3]
- Plot the road network connecting to the ICD, average congestion and change in congestions levels in the roads leading up to the ICD

Working of the Use Case

- Dropdown to select ICD
- On selecting port, plot times taken for different processes at the ICD along with benchmarks
- Plot inter-ICD comparison of various parameters

[3] List of specific KPIs that can be feasibly captured, and the source of origin data, and level of integration with operator ERP/ICD operating systems would be finalized with the help of an advisory committee of sector experts

16.2 Appendix A2: Performance dashboards[4]

16.2.1 Performance Metrics for Roads

Type of Metric	Objective	Metric	Frequency
Outputs	Increase Average Speed	1. Measure average speed on top 30 O-D stretches at peak intervals, (9am to 12pm) and (6pm to 10pm) every day for 1 month	Half Yearly
	Reduce Average Wait time at tolls, and checkpoints	2. Average wait time at peak intervals, (9am to 12pm) and (6pm to 10pm) at NH tolls – on the above ~30 O-D stretches	Half Yearly
Input-Infrastructure	Improve Fleet mix	3. % interstate movement > 300 km on 26T-40T trucks	Half Yearly
	Improve Fleet mix	4. % interstate movement > 300 km on > 40T trucks	Half Yearly
	Improve road infrastructure	5. % lane configuration of top 50 corridors (6 NC and 44 Economic corridors) (by km) a.% 2 lane b.% 4 lane c.% 6 lane d.% 8 lane e.% expressways	Yearly
		6. % on time completion of projects to address specific choke points on the top 50 corridors - Target date for each project and % projects on track to complete within xx (tbd) months of target	Half yearly
		7. % completion of MoRTH driven port and airport connectivity projects	Quarterly
Input-Processes	Reduce idle time at tolls	8. % toll plazas Hybrid ETC enabled a)PPP toll plazas b)NHAI/MoRTH managed toll plazas	Quarterly

[4] The performance metrics listed here are indicative of the type of analytics required of this tool. The final list of such metrics would be prepared in consultation with respective Ministries and Departments responsible for data generation, and with a committee of sector experts.

		9. % toll plazas fully ETC enabled a)PPP toll plazas b)NHAI/MoRTH managed toll plazas	
		10. ETC transactions as a % total transactions a)PPP toll plazas b)NHAI/MoRTH managed toll plazas	Quarterly
		11. % trucks ETC enabled	Quarterly
	Increase no of drivers	12. Total number of registered drivers for HCV and LCV	Quarterly

Table 11 Performance metrics for road

16.2.2 Performance Metrics for Rail

Type of Metric	Objective	Metric	Frequency
Output	Increase Average Speed	1. Average speed on top 50 stretches	Monthly
	Improve Predictability	2. % variation from agreed service levels on top 50 stretches	Monthly
Input - Processes	Fast-track construction of rail sidings	For rail sidings- 3. % projects completed on time 4. Average time projects are pending for approval 5. Average time from approval to start of construction 6. Average time for construction	Quarterly
	Improve rake ordering service levels	7. Wagon lead time – ordering a rake to receiving it for top 100 corridors	Monthly

Table 12 Performance metrics for rail

16.2.3 Performance metrics for Ports

Type of Metric	Objective	Metric	Frequency
Output	Reduce vessel turnaround	Container	Monthly

	time for all major ports	1. Average vessel turnaround time for container ports	
		Bulk cargo	
		2. Average vessel turnaround time for bulk cargo ports	
		3. Avg. vessel turnaround time (hours) (coal- conventional)	
		4. Avg. vessel turnaround time (hours) (coal- mechanized)	
		5. Avg. vessel turnaround time (hours) (iron ore)	
		6. Avg. vessel turnaround time (hours) (fertilizers)	
		7. Avg. vessel turnaround time (hours) (POL)	
		8. Avg. vessel turnaround time (hours) (Other Liquids)	
	Reduce port dwell time	IMPORTS	Monthly
		Total containers	
		9. % DPD containers	
		Port dwell time (import)	
		10. Port Dwell Time for CFS Bound Containers (Imports)	
		11 Port Dwell Time for ICD Bound Containers (Imports)	
		12. Port Dwell Time for DPD Containers	
		13. Transit time (CFS)	
		14. Transit time (ICD)	
		Average customs clearance time	
		15. CFS (gate in at CFS to customs clearance)	
		16. ICD (rake discharge to customs clearance)	
		17. DPD (queuing time1 + processing time)	
	Reduce port dwell time	18. EXPORTS	Monthly
		Port dwell time (export)	
		19. Port Dwell Time for CFS Origin Containers (Exports)	
		20. Port Dwell Time for ICD Origin	

		Containers (Exports)	
		21. Port Dwell Time for Factory stuffed Containers	
		22. Transit time (CFS)	
		23. Transit time (ICD)	
		Average customs clearance time	
		24. CFS (gate in –OOC)	
		25. ICD (rake discharge at ICD to OOC)	
		26. Factory stuffed containers (queuing time1 + processing time)	
Input - Processes	Improve berth productivity	Container ports	Quarterly
		27. Gross berth productivity (TEU / hour)	
		Bulk cargo ports	
		28. Gross berth productivity (gross MT/ day) (coal- conventional)	
		29. Gross berth productivity (gross MT/ day) (coal- mechanized)	
		30. Gross berth productivity (gross MT/ day) (iron ore)	
		31. Gross berth productivity (gross MT/ day) (fertilizers)	
		32. Discharge rate (MT per hour) (POL)	
		33. Discharge rate (MT per hour) (Other Liquids)	

Table13 Performance metrics for ports

16.2.4 Performance Metrics for Air freight

Type of Metric	Objective	Metric	Frequency
Outputs	Reduce aircraft turnaround time	1. Average turnaround time for all-cargo aircrafts for top 10 airports	Monthly
		2. Average turnaround time for combination aircrafts for top 10 airports	
	Reduce airport dwell time	DOMESTIC	Monthly
		3. Average dwell time at airport for	

Type of Metric	Objective	Metric	Frequency
		domestic inbound cargo	
		4. Average dwell time at airport for domestic outbound cargo	
		IMPORT	
		5. Average dwell time at airport for inbound cargo	
		6. Average time for customs clearance	
		EXPORT	
		7. Average dwell time at airport for outbound cargo	
		8. Average time for customs clearance	
Inputs - Processes	Improve Gate Productivity3	9. Gross Gate Productivity(MT/day)	Monthly
		10. ULD2 Gate Productivity(ULDs)(MT/day)	
		11. Pallet Gate Productivity(MT/day)	
		12. Bulk Gate Productivity(MT/day)	

Table 14 Performance metrics for air freight

All-cargo aircrafts carry only freight, combination aircrafts carry both freight and passengers 2. ULD = Unit Loading

Device 3. Tentative, based on discussions with Air cargo operators

16.2.5 Performance Metrics for PGAs

Type of Metric	Objective	Metric	Frequency
Output	Reduce dwell time with PGAs	Import clearance time	Monthly
		FSSAI(total)	
		1. BoE to Application	
		2. Application to Scrutiny	
		3. Scrutiny to Payment	
		4. Payment to Sample	
		5. Sample to NOC	
		Plant Quarantine (total)	
		1. BoE to Application	
		2. Application to Sampling	
		3. Sampling to Report	

Type of Metric	Objective	Metric	Frequency
		4. Report to NOC	
		Animal Quarantine (total)	
		1. BoE to Application	
		2. Application to Sampling	
		3. Sampling to Report	
		4. Report to NOC	
		Drug Control (total)	
		1. BoE to Application	
		2. Application to Sampling	
		3. Sampling to Report	
		4. Report to NOC	
		% of consignments examined	
		1. FSSAI	
		2. Animal Quarantine	
		3. Plant Quarantine	
		4. Drug Control	

Table 15 Performance metrics for PGAs

16.2.6 Performance Metrics for Warehouses

Type of Metric	Objective	Metric	Frequency
Inputs - Infrastructure	Increase Capacity	Total Capacity	Yearly
		1. Cold chain Capacity as a % of fresh produce production	
		2. ICD/CFS Capacity as a % of EXIM cargo handled	
		3. Agri-WH Capacity as a % of agricultural production	
Inputs - Processes	Increase Standardization	4. % WH graded	Yearly
		5. Of which, % WH graded A	

Table 16 Performance metrics for warehouses

16.2.7 Performance Metrics for States

Type of Metric	Objective	Metric	Frequency
Output	Increase Average Speed	1. Average speed for roads connecting district HQs to state capitals	Half Yearly/Yea rly
Inputs – Infrastructure	Improve first mile/ last mile connectivity	2. % villages at 2011 census population >1K connected by continuous stretch of 2-lane paved shoulder road at minimum - to a state highway/ national highway	Half yearly/ Yearly
		3. % village at census population >10k connected to the nearest rail head through a 2 lane pave shoulder road	
	Capacity and Quality of State Highways	4. NH + SH density per 100 sq.km	Half yearly/ Yearly
		5. Lane configuration of state highways % 2 lane % 4 lane % 6 lane and above	
		6. % completion of identified projects to decongest state highways (In addition to laning - e.g. Bypasses/ flyovers)	
		7. % district HQ to be connected to nearest port by atleast 4 lane road	
		8. % district HQ to be connected to nearest airport by atleast 4 lane road	
		9. % district HQ to be connected to nearest rail head by atleast 4 lane road	
	Improve Quality of storage and handling	Cold chain: 10. Total cold chain capacity as a percentage of total production of fruits, vegetables, marine products and other perishables	Yearly
		ICD/CFS: 11. Total ICD/CFS capacity as a percentage of EXIM cargo	

	Increase number of MMLPs	12. % consumption centers (> xx population) with at least 1 MMLP	
		13. % production centers (Industrial cluster> xx sqkm) with at least 1 MMLP 14. If the state has ports; % ports with MMLP.	
Inputs – Processes	Reduce waiting times at checkpoints	15. Number of checkpoints on key prioritized O-D stretches running through the state(SH and NH)	
	Reduce idle time at State highway tolls	16. % toll plazas ETC Enabled PPP toll plazas State PWD managed toll plazas	Quarterly
		17. ETC transactions as a % total transactions PPP toll plazas State PWD managed toll plazas	Yearly
		18. % trucks ETC enabled	
	Reduce barriers to entry to logistics industry	19. Time taken to obtain a commercial driving license	
	Increase number of drivers and logistics personnel	20. No of people trained in skill center on logistics	
		21. Total number of registered drivers for HCV and LCV	

Table 17 Performance metrics for states

17. Appendix B

17.1 Appendix B1 : List of data required from independent source

This appendix provides the list of data to be acquired from independent sources. Only these datasets are to be purchased/licensed by the MSP. The MSP is expected to build the cost of acquiring these in the overall offer.

List of data required along with minimum resolution and refresh frequency

S. No	Data Layer	Geo-data Required	Description/Resolution of data	Purpose	Data Source	Minimum refresh frequency
1	Infrastructure	Complete Road Network	Location information of all national highways, state highways, district roads, city roads, and village roads with names/numbers of roads, lane information '- Information such as lanes	- Required for the geo-analytics tool - Lane information required for performance dashboards	Private mapping databases such as TomTom, HERE Maps and MapMyIndia	Annual
2	Infrastructure	Complete Rail Network	Completed network of Indian railways	- Required for geo-analytics tool	Private mapping databases	Annual
3	Infrastructure	Major and minor Ports	All government and private ports	- Location required for geo-analytics tool	Private mapping databases	Annual
4	Infrastructure	Towns and Villages with population and GDP	All cities, towns, villages with population and GDP information. (Village level GDP information may not be available for all villages)	- Location data required for geo-analytics tool	Private mapping databases	Annual

Table 18 List of data required from independent sources

Some of the agencies among others which provide the above data in India are TomTom, HERE Maps and MapMyIndia, NATMO, and Survey of India.

17.2 Appendix B2 : List of datasets required from government and government agencies

This appendix provides the tentative list of datasets required from government and government agencies. As mentioned in the RFP, Logistics division shall facilitate the connectivity to the various departments and agencies. It shall be the responsibility of the MSP to establish an API link to draw data and to ensure the data gets refreshed automatically at least the frequency mentioned here.

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
1	Infrastructure	Toll Plazas- State and NH	All toll plazas of state and national highways with number of lanes, number of ETC lanes	- Number of ETC lanes - ETC collection details	- MoRTH databases - State PWD	Annual
2	Infrastructure	Major and minor Ports	All government and private ports	- Layout required for geo-analytics tool - Wait times/process times data required for dashboards and geo-analytics tool	Ministry of Shipping partnership	Annual
3	Infrastructure	Post Offices	Location of the post offices of India Post	- Location data required for geo-analytics tool	Bhuvan, India Post	Annual
4	Infrastructure	National Waterways	Mapping of the identified national waterways along with terminals	- Location data required for geo-analytics tool	IWAI	Annual
5	Infrastructure	Dedicated freight corridor	Dedicated freight corridor routes with its feeder routes	- Location data required for geo-analytics tool	DFCC	Annual

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
6	Infrastructure	ICD/CFS	All ICD and CFS with capacity of each	- Location data along with capacity and required for geo-analytics tool	Ministry of commerce/Customs	Annual
7	Infrastructure	Warehouses, MMLP, cold chains	Warehouses location, capacity, commodity, area, ownership structure, grading, and other parameters for all India	- Location data along with capacity, commodity, area etc and required for geo-analytics tool	State governments, Ministry of commerce '- Various govt bodies such as CRWC, FCI etc	Annual
8	Infrastructure	Airports	All airports in India with their cargo handling capacity	- Location data required for geo-analytics tool	Ministry of Civil Aviation	Annual
9	Congestion	Rail congestion – Near real time	Average speed, congestion, or utilization of the rail network identified earlier - Averaged over 1 week	- Required for geo-analytics tool - Required for performance dashboards and logistics interventions	Indian Railways API	Monthly
10	Congestion	Airport Congestion	Average airport performance parameters such as dwell time - Averaged over 1 week	- Required for performance dashboards and logistics interventions	Ministry of Civil Aviation partnership	Monthly
11	Congestion	Railway service levels	- % variation from agreed service levels on top 50 stretches - Wagon lead time – ordering a rake to receiving it for top 100 corridors	- Required for performance tracking	- Railways partnership	Monthly
12	Congestion	Railway coach utilization	- Average utilization of luggage compartment of SLR on top 50 OD stretches - Diesel Locomotive Utilization on top 50 OD stretches	- Required for performance tracking	- Railways partnership	Monthly

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
			- Electric Locomotive Utilization on top 50 OD stretches			
13	Congestion	Dwell time with PGAs	- Process time for FSSAI, plant quarantine, animal quarantine, drug control,	- Required for performance tracking	- Partnership with PGAs	Monthly
14	Commodity	O-D movement route for commodities by rail	- The principal routes of movement along with quantity on each for major commodities by rail - Wagon type, time taken for movement - Total of 3 years	- Required for geo-analytics tool	- Ministry of railways	Annual
15	Commodity	O-D movement route for commodities by road	- The principal routes of movement along with quantity on each for major commodities by road - Truck sizes - Total of 3 years	- Required for geo-analytics tool	- Eway bill data - Road survey	Annual
16	Commodity	O-D movement route for commodities by ship/coastal movement	- The principal routes of movement along with quantity on each for major commodities by coastal/ship - Total of 3 years	- Required for geo-analytics tool	- Ministry of shipping partnership - Independent surveys	Annual
17	Commodity	O-D movement route for commodities by air	- The principal routes of movement along with quantity on each for major commodities by air - Total of 3 years	- Required for geo-analytics tool	- Ministry of civil aviation partnership - Independent surveys	Annual

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
18	Commodity	Industrial Clusters	- Geo-information of industrial clusters by commodity	Required for geo-analytics tool	- DIPP	Annual
19	Cost	Rail Cost	Cost of movement of goods by rail for each commodity	- Required for geo-analytics tool	Indian Railways	Half yearly
20	Cost	Shipping Cost	Cost of movement of goods through sea for each commodity	- Required for geo-analytics tool	- Ministry of shipping partnership - Independent surveys - API with National logistics portal	Half yearly
21	Cost	IWW Cost	Cost of movement of goods on national waterways for each commodity	- Required for geo-analytics tool	- Ministry of shipping partnership - Independent surveys - API with National logistics portal	Half yearly
22	Cost	Air cargo cost	Cost of movement of goods through air for each commodity	- Required for geo-analytics tool	- Ministry of civil aviation partnership - Independent surveys - API with National logistics portal	Half yearly
23	Infrastructure	Infrastructure project status	- Project details like lane augmentation, rail track doubling - Expected completion date - Planned completion date - Cost - Lat/long of project	- Required for performance dashboards and tracking	- Partnership with various ministries executing the project - To be updated by nodal officials in the Ministry	Monthly

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
24	Other	Vehicle data - % of trucks which are ETC enabled	- Monthly information	- Required for performance tracking	MoRTH databases	Monthly
25	Other	Number of registered drivers for HCV and LCV	Number of registered drivers for HCV and LCV	- Required for performance tracking of skilling initiatives	MoRTH databases	Monthly
26	Other	Skill training	No of people trained in skill center on logistics	- Required for performance tracking of skilling initiatives	- Partnerships with state governments	Monthly
27	Other	Local Weather information	Historical average weather information over last 3 years	- Required for geo-analytics tool	- Partnership with IMD	Monthly
28	Other	Multi-region input-output table	Quantitative economic model that represents the interdependencies between different branches of a national economy or different regional economies	- Required for calculating economic impact of logistics interventions	- IO Tables are compiled by Central statistics office MoSPI	Annually

Table 19 List of datasets required from government and government agencies

17.3 Appendix B3: List of datasets required from private partnerships

This appendix provides the tentative list of datasets required from private partnerships. As mentioned in the RFP, Logistics division shall facilitate the connectivity to the various private agencies. It shall be the responsibility of the MSP to establish an API link to draw data and to ensure the data gets refreshed automatically at least at the frequency mentioned here.

S. No	Data Layer	Geo-data Required	Minimum Data resolution	Description	Data Source	Minimum refresh frequency
1	Congestion	Road Congestion – Near real time	Average speed or congestion on the road network identified earlier - Averaged over 1 week	- Required for geo-analytics tool - Required for performance dashboards and logistics interventions	Google API or telematics partnership with large truck operators	Monthly
2	Congestion	Toll Waiting Time- Near real time	Average waiting time at toll plazas identified earlier - Averaged over 1 week	- Required for geo-analytics tool - Required for performance dashboards and logistics interventions	Google API or telematics partnership with large truck operators	Monthly

Table 20 List of datasets required from private partnerships

17.4 Appendix B4: List of datasets required from stakeholder surveys, interviews, and secondary research

This appendix provides the tentative list of datasets required from stakeholder surveys, interviews, and secondary research. These datasets may overlap with datasets mentioned above. Multiple sources of the same dataset may be used to enhance accuracy of data. Also, independent sources of data are preferred over government data to get an independent view of data.

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
1	Commodity	Commodity Production centers	Manufacturing locations and capacity of major commodities and of micro, small, and medium enterprises(MSME)	- Required for geo-analytics tool	- Ministry of commerce - Partnership with stakeholders	Annual
2	Commodity	Commodity Demand centers	Demand centers with demand of the major commodity and for products of MSME	- Required for geo-analytics tool	- Ministry of commerce - Partnership with stakeholders	Annual
3	Commodity	O-D movement route for commodities by road	- The principal routes of movement along with quantity on each for major commodities by road - Truck sizes - Total of 3 years	- Required for geo-analytics tool	- Eway bill data - Road survey (Survey to be done to validate the govt data on certain key routes)	Annual
4	Commodity	O-D movement route for commodities by ship/coastal movement	- The principal routes of movement along with quantity on each for major commodities by coastal/ship - Total of 3 years	- Required for geo-analytics tool	- Ministry of shipping partnership - Independent surveys (Survey to be done to validate the govt data on certain key routes)	Annual
5	Commodity	O-D movement route for commodities by air	- The principal routes of movement along with quantity on each for major commodities by air - Total of 3 years	- Required for geo-analytics tool	- Ministry of civil aviation partnership - Independent surveys(Survey to be done to validate the govt data on certain key routes)	Annual
6	Cost	Road Cost	Cost of movement of goods by road for each commodity for various truck sizes	- Required for geo-analytics tool	- Large Truck vendors survey - API with National logistics portal	Half yearly

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
7	Cost	Shipping Cost	Cost of movement of goods through sea for each commodity	- Required for geo-analytics tool	- Ministry of shipping partnership - Independent surveys - API with National logistics portal	Half yearly
8	Cost	IWW Cost	Cost of movement of goods on national waterways for each commodity	- Required for geo-analytics tool	- Ministry of shipping partnership - Independent surveys - API with National logistics portal	Half yearly
9	Cost	Air cargo cost	Cost of movement of goods through air for each commodity	- Required for geo-analytics tool	- Ministry of civil aviation partnership - Independent surveys - API with National logistics portal	Half yearly
10	Cost	Handling charges	Handling charges for the commodity at port, station, siding, warehouse as the case may be. This includes costs such as loading charges, unloading charges, port handling charges, airport handling charges etc.	- Required for geo-analytics tool	- Independent surveys - API with National logistics portal	Half yearly
11	Congestion	Road Congestion – Near real time	Average speed or congestion on the road network identified earlier - Averaged over 1 week	- Required for geo-analytics tool - Required for performance dashboards and logistics interventions	Google API or telematics partnership with large truck operators	Monthly

S. No	Data Layer	Geo-data Required	Description	Remarks	Data Source	Minimum refresh frequency
12	Congestion	Toll Waiting Time- Near real time	Average waiting time at toll plazas identified earlier - Averaged over 1 week	- Required for geo-analytics tool - Required for performance dashboards and logistics interventions	Google API or telematics partnership with large truck operators	Monthly

Table 21 List of datasets required from stakeholder surveys, interviews, and secondary research

18. Appendix D Service Level Agreements (SLAs)

The SLA's specify the levels of service to be provided by the MSP to Logistics Division. This level is also called the baseline. Any degradation in the performance of the solution and services is subject to levying liquidated damages as specified in this section. The liquidated damages mentioned in this RFP are not the sole and exclusive remedies available with Logistics Division for any breach and MSP shall not be relieved from any obligations by virtue of payment of such liquidated damages.

A set of parameters has been identified as key to the successful implementation of the Project. If the performance of the MSP in respect of any parameter falls below the prescribed tolerance limit, liquidated damages are imposed for the breach. All the payments to the MSP are linked to the compliance with the SLA metrics specified in this section. During the contract period, it is envisaged that there could be changes to the SLAs, in terms of addition, alteration or deletion of certain parameters, based on mutual consent of both the parties i.e. Logistics Division and MSP.

18.1 Definitions

a. The business hours are 9:30AM to 6:00PM on all working days (Mon-Sat) excluding Public Holidays or any other Holidays observed by Logistics Division. The MSP however recognizes the fact that Logistics Division may require to work beyond the business hours on need basis.

b. Non-Working Days: All Sundays and Public Holidays declared by Government of India Days: All Working and Non-working days (365 days in a calendar year)

c. "Scheduled Maintenance Time" shall mean the time that the System is not in service due to a scheduled activity as defined in this SLA. The scheduled maintenance time would not be during 16X7 (7:00 am to 11:00 pm) timeframe. Further, scheduled maintenance time is planned downtime taken after permission of Logistics Division.

d. "Scheduled operation time" means the scheduled operating hours of the System for the month. All scheduled maintenance time on the system would be deducted from the total operation time for the month to give the scheduled operation time. The total operation time for the systems and applications within the DC will be 24X7X365 (per year).

e. "System or Application downtime" means accumulated time during which the System is totally inoperable within the Scheduled Operation Time but outside the scheduled maintenance time and measured from the time a call is logged with the MSP of the failure or the failure is known to the MSP from the availability measurement tools to the time when the System is returned to

proper operation.

f. “Availability” means the time for which the services and facilities are available for conducting operations on the Fraud Analytics system including application and associated infrastructure. Availability is defined as: {(Scheduled Operation Time – System Downtime)/(Scheduled Operation Time)} * 100%

g. “Incident” refers to any event/abnormalities in the functioning of the any of IT Equipment/Services that may lead to disruption in normal operations of the Data Centre, System or Application services.

18.2 Interpretation & General Instructions

a. SLA parameters shall be monitored on a monthly/ quarterly basis as per the individual SLA parameter requirements or as agreed with logistics division. In case the service levels cannot be achieved at service levels defined in the tables below, it shall result in a breach of contract and shall invoke liquidated damages. Logistics Division at its discretion may choose not to invoke damages.

b. A Service Level breach will occur if the MSP fails to meet Minimum Service Levels on a monthly / quarterly basis for a particular Service Level. Root cause analysis (RCA) to be prepared for all cases of breach in SLA’s and shared with Logistics Division.

c. Liquidated damages are mentioned as a percentage of certain components of cost. The maximum liquidated damages are capped at 10% of the Total Project Value. If the liquidated damages exceed 10% of the Total project value, then Logistics Division reserves the right to terminate the contract. The termination shall be as per termination terms mentioned in the RFP.

d. In case there are successive breaches of SLA’s for two quarters, Logistics Division can issue show cause notice to the MSP to explain their non-performance. Also Steering Committee meeting may be called wherein MSP needs to explain the action taken to prevent such recurrences in future. This is without prejudice to other rights of Logistics Division.

e. It may be noted that the MSP has to provision for the required tools to measure the SLA parameters. Logistics division reserves the right to appoint Third Party for the audits. MSP shall make provisions that requisite permissions be given to the Third Party Agency for carrying out the audit process as and when required.

18.3 SLAs Definition and targets

18.3.1 Implementation SLAs

SLA	Definition	Target /Service Level	Penalty	Remarks
Implementation timeliness	Delivery of project milestones as per defined project schedule.	<=3 Weeks delay	No penalty	The timelines may change as per mutual agreement between MSP and Logistics Division. Delivery of a milestone is determined only after final approval by logistics division
Implementation timeliness	Delivery of project milestones as per defined project schedule.	>3 weeks and <=6 weeks delay	3% of milestone payment	
Implementation timeliness	Delivery of project milestones as per defined project schedule.	>6 weeks and <=9 weeks delay	6% of milestone payment	
Implementation timeliness	Delivery of project milestones as per defined project schedule.	>9 weeks delay	10% of milestone payment	

Table 22 Implementation SLAs

18.3.2 Application Support SLAs

18.3.3 Incident Classification

(a) Severity 1 Incidents

The incident has an immediate impact on the Logistics division's ability to service its users or the tool's ability to perform critical functions or has a direct impact on the organization.

(b) Severity 2 Incidents

The incident has an impact on Logistics Division's ability to service their users that while not immediate, can cause service to degrade if not resolved within reasonable time frames

(c) Severity 3 Incidents

The failure to fix the incident has no direct impact on Logistics Division's ability to serve their user units, or perform critical office functions.

The severity of the individual incidents will be mutually determined by the Logistics Division and MSP

SLA	Definition	Severity Level	Target /Service Level	Penalty	Remarks
Resolution time	Time taken to resolve the incident	1	4 hours	No penalty	
Resolution time	Time taken to resolve the incident	1	8 hours	0.3% of milestone payment per breach	
Resolution time	Time taken to resolve the incident	1	16 hours	0.6% of milestone payment per breach	
Resolution time	Time taken to resolve the incident	1	>16 hours	2% of milestone payment per breach	
Resolution time	Time taken to resolve the incident	2	8 hours	No penalty	
Resolution time	Time taken to resolve the incident	2	24 hours	0.3% of milestone payment per	

				breach	
Resolution time	Time taken to resolve the incident	2	72	0.6% of milestone payment per breach	
Resolution time	Time taken to resolve the incident	2	>72 hours	1% of milestone payment per breach	
Resolution time	Time taken to resolve the incident	3	72 hours	No penalty	
Resolution time	Time taken to resolve the incident	3	144 hours	0.3% of milestone payment per breach	
Resolution time	Time taken to resolve the incident	3	288	0.6% of milestone payment per breach	
Resolution time	Time taken to resolve the incident	3	>288 hours	1% of milestone payment per breach	

Table 23 Application support SLAs

19. Appendix E : Indicative user base

Web Portal

#	Parameter	Description	Estimates
1	Users	Users from various ministries and industry stakeholders	5000 users with 10% YoY growth
		Views from General Public	500,000 views per month with 10% YoY growth
		Mobile app	To be used by users from various ministries and industry stakeholders
2	Concurrent users	At 10% of total users	500 internal users 10% YoY growth 50,000 views from general public with 10% YoY growth

Table 24 Indicative user for LPPT

Application stack needs to have the provision of scalability. Initial volumes are likely to be low but expected to improve half year post go-live.

20. Appendix F Templates for submission of bid

20.1 Annexure-1: Template for Pre-Bid Queries

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

#	Volume No	Page No	Section (Name & No.)	Statement as per tender document	Query by bidder	Reason for Query
1						
2						
3						
4						
5						

20.2 Formats for Submission of the Pre-Qualification Bid

20.2.1 Pre-Qualification Bid Covering Letter

<Location, Date>
To,
Special Secretary (Logistics),
Department of Commerce, Udyog Bhawan
New Delhi - 110 107

Subject: Submission of the Pre-Qualification bid for <"Name of the Bid">

Dear Sir,
We, the undersigned, offer to provide Design, Development, Implementation, Operation & Maintenance of Integrated Logistics Planning and Performance Monitoring Tool (LPPT) with reference to your Request for Proposal dated <insert date> and our Proposal. We are hereby submitting our Pre- qualification bid.

We hereby declare that all the information and statements made in this Pre-qualification bid are true and accept that any misinterpretation contained in it may lead to our disqualification.
We agree to abide by all the terms and conditions of all the volumes of this RFP document.
We would hold the terms of our proposal valid for the number of days as stipulated in the RFP document.
Yours sincerely,
(Authorised Signatory) Signature:
Name:
Designation:
Address:
Seal:
Date:

20.2.2 Profile of the Bidding Firms

To be filled separately by both consortium members & Subcontractor(s)
Documentary evidence to be provided separately to the form

A. Background Information				
Name of the firm:				
Role:				
Registered Office Address:				
Name of the contact person and contact details (Note: For MSP, the contact person should be the Authorised Signatory):				
Name and details of the CEO:				
B. Financial Information (last three years)				
Financial Year	**Audited Annual Turnover (INR Crores)**	**Audited Annual Profit (INR Crores)**	**Audited Annual turnover from SI, Software Development & implementation services (as mentioned in RFP) (INR Crores)**	**Audited Annual turnover from management consulting services (as mentioned in RFP) (INR Crores)**

C. Other Information				
No of years of Operation				
Total number of Employees				
Total number of Employees in India				
CMMi Certification Details (Documentary evidence attached separately)				
Documentary evidence attached				

20.2.3 Pre-Qualification Citations

S. No.	Item	Bidder's Response
1.	Name of Bidder entity	
2.	Assignment Name	
3.	Name of Client	
4.	Name of the entity engaged in the Assignment	
5.	Country	
6.	Contact Details *(Contact Name, Address, Telephone Number)*	
7.	Approximate Value of the Contract	
8.	Duration of Assignment (months)	
9.	Award Date (month/year)	
10.	Completion Date (month/year)	
11.	Narrative description of the project	
12.	Details of Work that defines the scope relevant to the requirement	
13.	Documentary Evidence attached	

20.2.4 Self-certificate for non-blacklisting clause

We confirm that our Company <> as on date of submission of the proposal is not blacklisted by any Central/State Government/PSU entity in India for corrupt, fraudulent

or any other unethical business practices.
Sincerely,
Name & Designation of the Authorized Signatory

20.2.5 No Deviation Certificate

This is to certify that our offer is exactly in line with your tender enquiry/RFP (including amendments) no._____dated_____. This is to expressly certify that our offer contains no deviation on Technical (including but not limited to Scope of Work, Business Requirements Specification, Functional Requirements Specification, Cloud Requirements Specification and Technical Requirements Specification), legal or Commercial aspects in either direct or indirect form.
(Authorised Signatory)
Signature:
Name:
Designation:
Address:
Seal: Date:

20.3 Template for Integrity Pact

As mentioned in terms of the link provided below

http://www.cvc.nic.in/guidelines/tender-guidelines

Please refer to the latest CVC guidelines for integrity pact.

20.4 Bank Guarantee Format for Earnest Money Deposit (EMD)

(To be stamped in accordance with Stamp Act if any, of the country for issuing bank) Ref.: Bank Guarantee:
Date:
Dear Sir,

In consideration of Logistics Division, Department of Commerce, Government of India (hereinafter referred as "the Client" which expression shall, unless repugnant to the context of meaning thereof include its successors, administrators and assigns) having awarded to M/s [name of the firm] a [type of company], established under laws of

[country] and having its registered office at [address] (hereinafter referred to as the "Company" which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and permitted assigns), an Assignment for preparation of [name of assignment] Work order by issue of the Client's Work order Letter of Award No. [reference] dated [date] and the same having been unequivocally accepted by the Company, resulting in a Work order valued at Rs. [amount in figures and words] for (Scope of Work) (hereinafter called the "Work Order") and the Company having agreed to furnish a Bank Guarantee amounting to Rs. [amount in figures and words] to the Client for performance of the said Agreement.

We [Name of Bank] incorporated under [law and country] having its Head Office at [address](hereinafter referred to as the Bank), which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators executors and assigns) do hereby guarantee and undertake to pay the Client immediately on demand an or, all monies payable by the Company to the extent of Rs. [amount in figure and words] as aforesaid at any time up to [date] without any demur, reservation, contest, recourse or protest and/ or without any reference to the Company. Any such demand made by the Client on the Bank shall be conclusive and binding notwithstanding any difference between the Client and the Company or any dispute pending before any Court, Tribunal, Arbitrator or any other authority.

We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable until the Client discharges this guarantee.

The Client shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee, from time to time to vary the advance or to extend the time for performance of the Work order by the Company nor shall the responsibility of the bank be affected by any variations in the terms and conditions of the work order or other documents. The Client shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Client and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Work order between the Client and the Company any other course or remedy or security available to the Client. The Bank shall not be relieved of its obligations under these presents by any exercise by the Client of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Client or any other indulgence shown by the Client or by any other matter or thing whatsoever which under law would but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Client at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Company and notwithstanding any security or other guarantee that the Client may have in relation to the Company's liabilities.

This Guarantee shall be irrevocable and shall remain in full force and effect until discharge by the Bank of all its obligations hereunder.

This Guarantee shall not be affected by any change in the constitution or winding up of the Company /the Bank or any absorption, merger or amalgamation of the Company/the bank with any other Person.

Notwithstanding anything contained herein above our liability under this guarantee is limited to Rs. [amount in figure and words] and it shall remain in force up to and including [date] and shall extend from time to time for such period(s) (not exceeding one year), as may be desired by M/s [name of Company] on whose behalf this guarantee has been given.

Date this [date in words] day [month] of [year in 'yyyy' format] at [place].

WITNESS

1. [signature, name and address]
2. [signature, name and address]

[Official Address]

[Designation]
[With Bank Stamp]
Attorney as Per Power of Attorney No
Strike out, whichever is not applicable

The stamp papers of appropriate value shall be purchased in the name of bank which issues the Bank Guarantee. The bank guarantee shall be issued either by a bank (Nationalized/Scheduled) located in India or a foreign bank through a correspondent bank (scheduled) located in India or directly by a foreign bank which has been determined in advance to be acceptable to the Government of India.

20.5 Formats for Submission of the Commercial Bid

20.5.1 Commercial Bid Covering Letter

To,
Special Secretary (Logistics),
Department of Commerce, Udyog Bhawan
New Delhi - 110 107

Subject: Submission of the Commercial bid for "<Name of the RFP>"

Dear Sir,

We, the undersigned, offer to provide Design, Development, Implementation, Operation & Maintenance of Integrated Logistics Planning and Performance Monitoring Tool (LPPT) with reference to your Request for Proposal dated <insert date> and our Proposal. Our attached Commercial Bid is for the amount of <<Amount in words and figures>>.

1. PRICE AND VALIDITY

All the prices mentioned in our bid are in accordance with the terms as specified in the RFP documents. All the prices and other terms & conditions of this Bid are valid as per the bid validity specified in the final RFP document.

We hereby confirm that our prices include all taxes except applicable GST (Service Tax).

We understand that the actual payment would be made as per the existing indirect tax rates during the time of payment.

2. UNIT RATES

We have indicated in the relevant forms the unit rates.

3. RFP PRICING

We further confirm that the prices stated in our bid are in accordance with your instruction to Bidders included in RFP documents.

4. QUALIFYING DATA

We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information/documentary proof in this regard before evaluation of our bid, we agree to furnish the same in time to your

satisfaction.

5. BID PARAMETER

We declare that our Bid Parameter Value (P) is for the entire scope of the work as specified in all the Volumes of this RFP and Annexure thereto. Our bid parameter value is mentioned in the submitted Commercial Bid.

6. PERFORMANCE BANK GUARANTEE

We hereby declare that in case the contract is awarded to us, we shall submit the Performance Bank Guarantee as specified in this RFP document.

Our Commercial Bid shall be binding upon us subject up to expiration of the validity period of the Proposal, i.e., [Date].

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

We agree to abide by all the terms and conditions of all the volumes of this RFP document.

We hereby declare that our bid is made in good faith, without collusion or fraud and the information contained in the bid is true and correct to the best of our knowledge and belief.

Yours sincerely,

(Authorized Signatory) Signature:
Name:

Designation:

Address:

Seal: Date:

20.5.2 Commercial Bid Format

All prices to be quoted in Indian Rupees.

Particulars		Value in Indian Rupees(Numeral)	Value in Indian Rupees (in Words)
Value for application development and other related obligations	P1		
Value for maintenance for 5 years and other related obligations	P2		
Total Bid Value (P)	P=P1+P2		
Applicable GST (Service Tax) %			

20.5.3 Schedule for selection process

The Client will follow the following schedule:

Date of Issue of RFP	02-09-2020
Last date for receiving queries/requests for clarification	08-09-2020
Pre-bid meeting	15-09-2020
Client's response to queries/requests for clarification	21-09-2020
Proposal due date	12-10-2020
Opening of pre-qualification proposal	15-10-2020
Provision of Data for implementation of Use-Case application development demonstrator by entities qualifying to submit Technical Bid. As outlined in the requirements for the Technical bid process, bidders would be expected to use this data to develop a demonstrator app addressing the problem statement and solution requirement for specific use cases identified for bidder evaluation	10-11-2020
Opening of Technical bids of the applicants meeting the pre-qualification criteria Presentation of Pre-Qualified bidder before the TEC	13-11-2020 20-11-2020 and 23-11-2020
Opening of Financial Bid	26-11-2020

Note: It is requested to send any queries/clarifications related to the proposal at any stages at the e-mail id: lppt2020log@gmail.com. For telephonic queries/clarifications, please call at the following mentioned Contact Nos. :

011-23061024/011-23063265.