

Terms of Reference

FOR

SMART PORT OPERATION SYSTEM (Smart POS)

Design, Development, Migration, Integration, Implementation, Operation and Maintenance

Requested by

**NATIONAL INSTITUTE FOR SMART GOVERNMENT
HYDERABAD**



National Institute for Smart Government

7th April 2026

Disclaimer

The information contained in this Terms of Reference(ToR)/Request for Quotation or subsequently provided to Respondent(s), whether verbally or in documentary or any other form, by or on behalf of the NISG or any of their employees or advisors, is provided to Respondent(s) on the terms and conditions set out in this ToR and such other terms and conditions subject to which such information is provided.

This ToR is not an agreement and is neither an offer nor invitation by the NISG to the prospective Respondents or any other person. The purpose of this ToR is to provide interested parties with information that may be useful to them in the formulation of their Response pursuant to this RFQ (the “Response”) and also to obtain the budgetary estimates to provide the customer. This RFQ includes statements, which reflect various assumptions and assessments arrived at by the NISG in relation to this Project. Such assumptions, assessments and statements do not purport to contain all the information that each Respondent may require. This RFQ may not be appropriate for all persons, and it is not possible for the NISG, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFQ. The assumptions, assessments, statements and information contained in this RFQ may not be complete, accurate, adequate or correct. Each Respondent should therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFQ and obtain independent advice from appropriate sources.

Information provided in this RFQ to the Respondent(s) is on a wide range of matters, some of which depend upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The NISG accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

The NISG, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Respondent or Bidder, under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFQ or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFQ and any assessment, assumption, statement or information contained therein or deemed to form part of this RFQ or arising in any way with shortlisting of Respondents for the implementation of this Project.

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NISG also accepts no liability of any nature whether resulting from negligence or otherwise, howsoever caused arising from reliance of any Respondent upon the statements contained in this RFQ.

NISG may, in its absolute discretion but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFQ.

The issue of this RFQ does not imply that NISG is bound to select and shortlist qualified responders (bidders) for implementation or to appoint the selected Bidder, as the case may be, for this Project. NISG reserves the right to reject all or any of the Responses or Proposals without assigning any reasons whatsoever.

The Respondent shall bear all costs associated with or relating to the preparation and submission of its Response, including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by NISG or any other costs incurred in connection with or relating to its Response. All such costs and expenses will remain with the Respondents and NISG shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Respondent in preparation or submission of the Response, regardless of the conduct or outcome of the Bidding Process.

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1. Purpose of the Request for Quotation

National Institute for Smart Government (NISG) is soliciting responses from potential System Integrators (SI) for the Design, Development, Migration, Integration, Implementation, Operation and Maintenance of Smart Port Operation System (Smart POS) for one of the Port, NISG's associated organization

The primary responsibility of the System Integrator shall be to:

- Study and collect detailed requirements for the Smart POS
- Design, develop, customize, and deploy the Smart POS replacing the legacy e-PIS
- Migrate all data from the existing e-Port Information System (e-PIS) developed in Java/Oracle 10G (~11 GB data)
- Develop and commission all integrations with internal and external systems (NLP-Marine, VTMS, SAP, ULIP, RFID, GIS, Payment Gateway, IoT, etc.)
- Host the solution on MeitY- empanelled Cloud Service Provider with DC and DR within India
- Operate and maintain the complete solution for 5 years post Warranty, with 24x7 technical support

This ToR/RFQ does NOT obligate NISG to award any work. The purpose is only to obtain Budgetary Quotes from prospective Service Providers to finalize the EMD amount and commercial parameters before launching the formal RFP/Tender. NISG reserves the right to accept or reject any quotation at its sole discretion.

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2. Data Sheet

Sl. No	Item	Description
1	Project Title	Request for Quotation for Design, Development, Migration, Integration, Implementation, Operation and Maintenance of Smart Port Operation System (Smart POS)
2	Contact Person	Mr. Chakradhar Vunnava Phone No. +91 98490 21223 chakradhar.vunnava@nisg.org
3	Contact Person (Alternate)	Sarath Pabbaraju, sarath.pabbaraju@nisg.org Rushitha Mandava, rushitha.mandava@nisg.org
4	Address for the purpose of proposal submission	vocpa@nisg.org alternatively, hardcopies can be sent to The Chief Executive Officer, National Institute for Smart Government. YSR Bhavan, TSIC Zonal office building, Financial District, Nanakramguda, Hyderabad – 500032
5	Cost of RFQ	Free and can be downloaded from www.nisg.org
6	Type of enquiry	Open RFQ
7	Last date for submission of response to RFQ	21-04-2026; on or before 5:00 PM
8	Opening of proposals	21-04-2026 at 5:30 PM

3. Solution Requirements:

This Scope of Work (SoW) defines the functional, technical, and operational requirements for Design, Development, Migration, Integration, Implementation, Operation and Maintenance of Smart Port Operation System (Smart POS). The solution shall be a cloud-hosted, next-generation Port Operating System replacing the legacy e-PIS, enhancing operational efficiency, automation, integration capabilities, and stakeholder service delivery.

3.1. Objective:

The primary objective of this envisaged project is to undertake an IT transformation exercise and enable all the processes in the organization through the implementation of Smart Port Operation System. The system objectives are:

- Study, Design, Development, Migration, Integration, Implementation, Operation and Maintenance of Smart Port Operation System (Smart POS) for one of the Port, NISG's associated organizations
- Establish a robust MeitY empaneled cloud infrastructure (DC + DR) within India with $\geq 99.5\%$ uptime
- Deliver improved system performance, scalability, and digital readiness for future business needs.

Upon implementation of the solution, it is expected that the system will establish proper information flow to help and support decision making. The implementation will result in increased customer satisfaction, better financial results, transparency and consistency in business operation and processes of the port operations.

4. Background and Current IT Landscape

4.1. Current IT environment

The port has implemented, e-Port Information System (ePIS) during 2013 for handling activities related to Port operations. The system was developed in Java and Oracle 10G database with various integration of external applications like SAP, VTMS, NLP-Marine (National Logistics Portal-Marine), ULIP, Banks etc. Currently over 1000 stakeholders are using the e-PIS application for various activities of Port. The major functionalities covered by the system are:

- Vessel Operations
- Cargo Operations for Import and Export
- Gate Operations
- Storage Operations
- Call Point & Labour Pool operations
- Tariff/Billing Management
- User Management
- Integration with NLP-Marine, SAP, Bank gateway, VTMS etc
- Operational, Financial and Statistical Reports etc

e-PIS application is currently deployed in cloud data centre with Disaster recovery centre.

Parameter	Details
• e-PIS Technology	• Java / Oracle 10G
• e-PIS Data Volume	• ~11 GB
• e-PIS Users	• ~1,000 active external stakeholders
• GIS Platform	• Web GIS / Apache / PostgreSQL / GeoServer 2.15.1
• Firewall	• SOPHOS XGS2300
• Mail Server	• Microsoft Office 365
• Antivirus	• Symantec Endpoint Protection
• LAN Infrastructure	• HP Aruba 6400 Core with Fibre Optic Backbone

4.2. Operational Modules:

Following are the modules which are currently part of the existing e- Port Information System(e-PIS) system:

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S. No.	PROCESSES	FUNCTIONALITY
1	Vessel Operations	Covers vessel profile submission, registering the voyage of the ship, document submission for vessel registration process requirement and MSW compliances documents, pre arrival notification etc. This system is integrated with NLP-Marine through API.
2	Vessel Movement	Covers the movement of ship from vessel anchored to vessel sailing. VTMS system is integrated with POS to capture arrival and sailing time of the vessel. Pilot tickets for inward/shifting & vacating the berth are generated for movement of ships for billing purpose.
3	Berth Plan	Automatic Berthing plan and provision to customize the berth plan is provided in POS for planning of vessel movement. Tug and Pilot allocation is also scheduled for the vessel movements based on the berth plan created. Also, Payment collection is validated prior to generate berthing plan and Entry/Clearance certificate are generated
4	Vessel Assessment Charges & Billing	<p>Covers the collection of Vessel related charges like</p> <ul style="list-style-type: none"> • Port dues, Pilotage, Beth hire, Anchorages charges etc. It also provides facility to generate demand based on Scale of Rates applied to the service request • Provision to make payment through NLP/ IDBI Payment gateway. • Generating invoices/bills/refunds etc. for vessel-related charges with concession if any applicable. • Generate income & cashbook posting (thru SAP- Finance Module) • Integrated with SAP Finance for income and cash book posting
5	Wharfage Collection	Customs documents like IGM/Bill of Entry/Out of Charge (OOC) for Import operation, Shipping Bill and Let export order for export operations are received from ICEGATE through NLP-Marine. Provision is made in POS to feed this information directly also.

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		<p>Wharfage charges are collected by applying Scale of rate by generating the demand after verification and approval by concerned department. Payment is integrated with NLP/Payment Gateway to generate invoices/bills/refunds with concession if any applicable</p>
6	Berth office operations	<p>It covers cargo loading and unloading at berths, deployment of resources such as labour and equipment, and the capturing shift-wise tally sheets including tonnage handled, stoppages and delays, equipment wise tonnage etc. The system also manages cargo evacuation through pipelines, conveyors, and trucks.</p> <p>These operational data are consolidated to generate statistical reports, evaluate vessel and cargo operation performance, and support billing and other commercial purposes.</p>
7	Equipment Usage	<p>Covers resource request for Equipment allotment for cargo operations, payment of charges, utilization of equipment at berth and billing process. It also covers tonnage handling of equipment' deployed through PPP operators.</p> <p>There is potential scope of Integration with IoT/Smart devices for capturing equipment utilization details as an enhancement during upgradation.</p>
8	Railway operation	<p>Covers the railway cargo movement and related collection of charges, billing etc. It has the scope of integration with FOIS system of Central Railways for process automation as an enhancement during upgradation.</p>
9	Gate operation	<p>Covers the movement of Truck for Import and Export Cargo & container through Port Gates. It has the scope of integration with RFID system for capturing movement time of trucks at various gates and integration with Weighbridge for capturing weight of the cargo as an enhancement during upgradation.</p>
10	Storage Charges	<p>Covers the allocation of storage yard (Covered / Open area) for cargo storage and generation & collection of rent demands for the storage space utilization. This is integrated with GIS system.</p>

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11	CHD - Call point operation	CHD-Call Point Operation' application module is designed for Cargo Handling Division's (CHD). The key process involved are Advance Labor Levy process (interlinked with Biometric attendance Reader & Swipe Card), Gang Allocation, Agent Gang Booking through Labor Incentive, Dust & Crane Allowance Processing, Endorsement and Billing for Stevedore Levy, Refund Order generation etc.
12	License Fee collection	Collection of License fee, issuing Licenses for various type of stakeholders of Port
13	Scale of Rate maintenance	Configuration/Updating of Scale of rate for various Marine and Cargo related Services and provision to update the scale of rates whenever revised. It also provides facility for concessions if any as per Scale of Rates and Trade notices.
14	Customer Registration	It allows Registration of the customer through customer Portal in various categories like Steamer Agent, CHA, Stevedore, Shore handling, Ship Chandling etc., Submission of documents required for registration, Payment of License fees, Validation of license expiry date, Bank guarantee, License validity date etc. to provide alerts on expiry dates. It also integrates with SAP – FICO for customer code generation and revert back the customer code with POS
15	MIS reports & Dashboard:	<p>Some of the categories of reports available in ePIS for facilitating user department are</p> <ul style="list-style-type: none"> ● Performance reports for Vessel and Cargo operation ● Vessel Movement report (Vessel wise/Pilot wise) ● Vessel and Cargo statistics report (Day wise/Month wise/Periodic etc.) ● Income report (Berth wise/Cargo wise/Vessel wise) ● GST / TDS collection report ● Wharfage Collection report ● Gate movements reports ● Railway reports ● Equipment usage report ● MIS reports for management ● CHD operation reports etc.

4.3. System Integrations:

The Current system e-PIS is integrated with several external and third-party applications, including,

S. No.	PROCESSES	FUNCTIONALITY
1	NLP Marine	e-PIS system is integrated with National Logistic Portal – Marine (NLP - Marine) for exchange of 98 messages designed and developed by IPA. The message exchange is done through API calls for sending and receiving messages as per the formats and specification of NLP – Marine
2	ULIP System	e-PIS is also integrated with Unified Logistics Interface Platform (ULIP) system for 3 APIs for sending Vessel voyage information, Import and Export truck movements to ULIP system. API calls are done with JSON Web Tokens (JWT) for authentication.
3	VTMS	e-PIS is integrated with Vessel Traffic Management System (VTMS) system to exchange information of Vessel arrival/sailing time to Port and Pilot tickets for inward/outward/shifting movement of vessels
4	Payment gateway	Payment gateway of IDBI is integrated with e-PIS for enabling payments for vessel and cargo operation against the demand raised for the users.
5	RFID System	Truck movement through Port gate for Import/Export process is done with Truck chit creation, Weighbridge and RFID integration
6	SAP ERP	<p>SAP-Finance Module – For posting income and cashbook during assessment/refund and payments into SAP accounts</p> <p>SAP-HCM Module– For posting monthly incentive for Pilots/Berth supervisors/CHD staff for vessel movements/cargo operations</p> <p>SAP – Plant Maintenance – For getting information of Port equipment/assets for vessel and cargo operations</p>
7	GIS	e-PIS is integrated with GIS for spatial management of port land and assets, with real-time synchronization of SAP RE data. The system provides multi-layer GIS views through intranet and web portals for operational and public use.

5. Scope of Services

NISG invites proposals for Smart POS project - DESIGN, DEVELOPMENT, INTEGRATION, IMPLEMENTATION, OPERATION AND MAINTENANCE OF SMART PORT OPERATION SYSTEM.

5.1. Design, Development & Implementation

5.1.1. Requirement Gathering and SRS Preparation:

- Study existing e-PIS processes and prepare Functional Requirements Specification (FRS) by interacting with various stakeholders of POS for additional features to be incorporated as part of the Smart POS.
- Prepare System Requirements Specification (SRS) covering: user groups/roles, use cases, sequence diagrams, functional logic, interfaces, reporting, data migration, audit and archival requirements

5.1.2. Design and Planning:

- Develop solution based on indicative FRS and prepare process flow documents
- Design workflows, application architecture, infrastructure, and security framework
- Define integration approach, data migration strategy, and QA methodology
- Prepare transition plan for implementation and contract closure
- Ensure adherence to coding standards, best practices, and system guidelines
- Provide configuration, customization, and deployment documentation
- Ensure solution meets standards of scalability, security, interoperability, and usability
- Enable reporting, dashboards, communication (SMS/Email), and data migration support
- Design system flexible to accommodate future requirements and policy changes

5.1.3. Integration Development:

- Integrate Smart POS with internal and external systems including NLP-Marine, VTMS, ERP (SAP), GIS, payment gateways, bank APIs, RFID, weighbridge, ULIP, SMS/Email gateways, and IoT devices
- Design a secure and scalable integration framework using APIs

5.1.4. Testing:

- Unit Testing / Functional Testing of all custom-developed objects
- Integration Testing – cross-functional and end-to-end business processes
- Performance and Load Testing (response times, throughput, transaction volumes)

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- VAPT: Web application security testing per CERT-In guidelines and OWASP Top 10
- User Acceptance Testing (UAT) for migrated data

5.1.5. Data Migration:

- Migrate all data from existing systems, including legacy POS (ePIS), to the proposed Smart POS solution
- Validate, cleanse, and ensure accuracy of master and transaction data prior to migration
- Ensure migrated data is accessible for historical reference and reporting purposes
- Handle migration from existing Oracle 10G database (~11 GB) and Java-based application

5.1.6. Go-Live and Implementation

- Deploy and Go-Live the solution post completion of integrations and user acceptance
- Ensure seamless transition from existing system without disruption to operations

5.1.7. Source Code Handover:

The customized codes & intellectual property rights of all the software/ deliverables developed / customized shall be the exclusive property of the Client.

5.2. Change Management & Training

- Enable smooth adoption of the new system by stakeholders and users
- Develop communication materials (audio/visual/digital) highlighting system changes and benefits
- Provide role-based training for employees, partners, and end users
- Prepare training materials, manuals, and aids
- Conduct end-user training, official training, and train-the-trainer sessions

5.3. Hosting Services

- Provision cloud hosting (DC & DR) through MeitY empanelled providers
- Ensure high availability, business continuity, and near-zero data loss
- Host infrastructure within India in Tier III, ISO-compliant data centers
- Ensure secure, segregated environments and compliance with standards
- Enable redundancy, disaster recovery, and no single point of failure
- Ensure DR supports minimum 50% load with full data replication

5.4. Warranty

- Provide 1-year warranty post Go-Live
- Ensure system stability, performance monitoring, and SLA tracking
- Implement helpdesk and ticketing system
- Complete required audits and certifications (STQC, CERT-In)

5.5. Operations & Maintenance (O&M)

- Provide 5 years of support (extendable) post warranty
- Ensure 24x7 support, system uptime, and performance monitoring
- Handle bug fixes, upgrades, patches, and enhancements
- Manage releases, versions, and configurations
- Follow ITIL and ISO/IEC 20000 standards
- Generate SLA, performance, and compliance reports
- Coordinate with stakeholders for integration maintenance

5.6. Governance, Reporting & Documentation

- Establish governance through periodic reviews (weekly, monthly, quarterly)
- Provide regular reporting (incident reports, SLA dashboards, audit summaries)
- Maintain updated documentation (SOPs, knowledge base, release notes, CMDB)

5.7. Project Timelines

The envisaged project shall cover following three Phases:

Phase 1 – Implementation Phase (12 Months)

The implementation phase shall begin with the project charter, wherein the bidder is expected to clearly detail out the complete project plan & overall project approach. Key activities expected during this phase are requirements gathering, detailed solution design, development of the system, applications, data migration, integrations/interfaces, user trainings, final testing of the overall solution including UAT, final deployment & go-live of the entire system as per scope of work.

Phase 2 – Warranty Phase (12 months from Go Live)

This phase will start after Go Live and continue for 12 months to stabilize the operations of the system after Go Live. This shall include activities like addressing the issues/bugs/changes/improvements in the application and interfaces/integrations as

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per feedback provided from the users, SLA monitoring tool implementation, Security audit certification etc.

Phase 3 – Operational and Maintenance Phase (5 years)

This phase involves dedicated application software support, performance monitoring, adherence to IT policies & procedures, patches/upgrades, configuration and version management, handling user-requested changes, support for all system components, tracking of issues/bugs/defects/improvements, and SLA compliance reporting. The application and supporting infrastructure shall be maintained for a period of 5 years post warranty.

6. Proposal Submission Timeline:

We request submission of your proposal by: **21st April 2026**

Proposals shall be sent to vocpa@nisg.org

7. Contact information:

Name: Mr. Chakradhar Vunnava

Designation; Senior General Manager

Email: Chakradhar.vunnava@nisg.org

Phone: +91 98490 21223

8. Cancellation

NISG reserves the right to withdraw this RFQ, if NISG determines that such action is in the best interest of the organization without assigning any reason whatsoever.

9. Confidentiality

All the information and materials furnished by the respondents as a response to RFQ will be property of NISG with no restrictions on using them for the purpose for which it has been obtained. NISG ensures that all the information shared by the SI will be held in strict confidence and will not be made public unless directed by a court of law.

10. Expenses for responses

The SI or the bidder is solely responsible for the expenses incurred by them, if any, in preparing the response to this RFQ. This would include any costs incurred during initial presentation or subsequent meetings or providing clarifications etc.

11. Applicable Law:

Both NISG and SI accepts that its individual conduct shall (to the extent applicable to it), at all times, comply with all applicable laws, rules and regulations. For the avoidance of doubt the obligations of both NISG and SI are subject to their respective compliance with all applicable laws and regulations.

12. Prices

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- The bidder shall provide the quote as per specified format.
- All the prices will be in Indian Rupees excluding applicable taxes(GST).
- If the price for any of the services is not explicitly quoted in the price bid or mentioned as zero, it is assumed that the price for that element is absorbed in some other service element for which a price has been quoted. NSIG has the right to source services for which no price was quoted or quoted as zero, at no additional price.

13. Bid Submission

1. The bid should be submitted in through eMail provided in this RFQ.

14. Bid Formats

14.1. General Information

Sl. no.	Particulars	Details to be Furnished		
I	Details of the Bidder			
	Name			
	Address			
	Telephone		Fax	
	E-mail		Website	
	Details of Authorized person			
	Name			
	Address			
	Telephone		Email	

14.2. Details of the Organization

Details of the Organization	
Name of the Organization	
Nature of the legal status in India	(Public Ltd. / Private Ltd.)
Nature of business in India	
Address of the Headquarters	
Address of the Registered Office in India	
Date of Incorporation	Date and ROC No.
Date of Commencement of Business	Date and ROC No.
Other Relevant Information	
PAN Number, GST Number, etc.	

14.3. Financial Information

Financial Information			
	FY 2022-23	FY 2023-24	FY 2024-25
Revenue (in INR crore)			
Profit Before Tax (in INR Crore)			
Other Relevant Information			

14.4. Technical covering Letter

(Company letter head)

[Date]

The CEO,

National Institute for Smart Government,

YSR Bhavan

Hyderabad

Dear Sir,

Ref: Budgetary Quotation for Design, Development, Migration, Integration, Implementation, Operation and Maintenance of Smart Port Operation System (Smart POS).

Having examined the ToR/RFQ document, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to provide the Budgetary Quote for above said Project.

We attach hereto the technical response as required by the RFQ document, which constitutes our proposal.

We confirm that the information contained in this proposal or any part thereof, including its exhibits, schedules, and other documents and instruments delivered or to be delivered to the NISG is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead the NISG as to any material fact.

We agree that you are not bound to accept the bid response you may receive. We also agree that you reserve the right in absolute sense to reject all or any of the products/ service specified in the bid response without assigning any reason whatsoever.

It is hereby confirmed that I/We are entitled to act on behalf of our corporation/company/ firm/organization and empowered to sign this document as well as such other documents, which may be required in this connection.

Dated this Day of 2026

Authorized Signatory

Designation

Seal/Stamp of the Bidder

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14.4.1. Price Bid

(Company letter head)

[Date]

CEO,

National Institute for Smart Government

YSR Bhavan

Hyderabad

Dear Sir,

Ref: Price Bid – Budgetary Quotation for Smart Port Operation System (Smart POS – TOR

Having examined the ToR/RFQ Document, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to implement the above-mentioned Project at client place. To meet such requirements and to provide services as set out in the RFQ document, the following is our quotation summarizing our commercial proposal.

Pricing Summary

Sl. No	Cost Item	Unit/Quantity	Taxes (B)	Total Amount (A+B)
1	Smart POS Development (Web & Mobile) – Study, Design, Development, testing, migration, deployment and training	Lumpsum		
2	Cloud Set up including (DC – DR) including configuration & Commissioning	7 years		
3	Resource to be deployed at PORT(Project Manager, Database Administrator, Change Management Specialist, Mobile App Specialist, Solution Architect, Data Center Specialist, Application Support – 4, Developers	7 years		
4	Stabilization & Warranty	1 year		

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	<ul style="list-style-type: none"> ○ Including Audit certification – Post Go-Live 			
5	<ul style="list-style-type: none"> O & M ○ Fixes and enhancements <p>Compliance (SLA, Documentation), Change Management & Training</p>	5 years		
	TOTAL			
Total Amount in Words:				

We attach hereto the price proposal as required by the RFQ document, which constitutes our proposal.

We confirm that the information contained in this proposal or any part thereof, including its exhibits, schedules, and other documents and instruments delivered or to be delivered to the NISG is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead the NISG as to any material fact.

It is hereby confirmed that I/We are entitled to act on behalf of our corporation/company/firm/organization and empowered to sign this document as well as such other documents, which may be required in this connection.

Dated this Day of 2026

(Signature)

(In the capacity of)

Seal/Stamp of bidder

ANNEXURE I

a. Vessel Operation

S. No	Process	Description	Requirements
1	Vessel Profile	Vessel profile is the basic information including dimensions, mandatory certificate validity dates etc. of the vessel which are submitted with softcopy of documents. Vessel profile details will be submitted by the vessel agent through NLP Marine or directly fed in the POS application for approval by Marine department after document verification. Vessel dimension shall also be	<ul style="list-style-type: none"> • Integration with NLP-Marine Portal to receive Vessel Profile information through API • Direct feeding provision for Vessel Profile with document uploading Provision • Integration with Lloyds Register / Marine traffic API or other external system to capture Vessel expected time and Vessel Dimension for automation • Notification through SMS/Email to various stakeholders on Vessel Profile approval/receipt • Classification and P&I should be mandatory (Ref: https://www.dgshipping.gov.in/Content/InsuranceBranch.aspx) • Provision for not allowing edit option for vessel agent after approval of vessel profile in Smart POS

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		<p>integrated with Lloyd's register/any other external system to validate and automate the feeding of vessel dimension and other information</p>	
2	<p>Vessel voyage registration & Pre arrival notification</p>	<p>Voyage registration will be submitted by Vessel agent for intimating Port regarding the vessel arrival to the Port.</p> <p>The arrival of vessel can be automated by integrating with Lloyds register/any other external system to validate and automate vessel estimate time of arrival</p>	<ul style="list-style-type: none"> • Integration with NLP-Marine Portal to receive Voyage Registration through API • Direct feeding provision for Voyage Registration with document uploading Provision • Provision for submitting Declaration from the user during voyage approval to be generated as follows. (Merchant Shipping (Regulations of Entry of ships into Ports, Anchorage, and offshore facilities) Rules, 2012 <ul style="list-style-type: none"> a. Appointment of the Vessel agent is valid from vessel enters the Indian Coastal waters till the vessel leaves the Indian Coastal waters b. All submitted documents are true and correct to the best of his knowledge and belief • Automatic Generation of VCN number for Voyage registration after approval of

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		<p>Vessel voyage registration will be received through NLP Marine integration or by direct feeding. Provision for dangerous good, crew list, pre arrival notification, MSW forms & other related document uploading provision to be made in proposed system to facilitate the voyage registration process. Automatic unique VCN number to be generated during submission of voyage registration</p>	<p>voyage registration details by Marine department</p> <p>Integrate NLP-M to send VCN number to NLP through API</p>
3	Berth Request	Vessel agent will submit	<ul style="list-style-type: none"> Integration with NLP-Marine Portal to receive Berth Request through API

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	<p>Berth request to intimate Port regarding the expected arrival time and departure time of the vessels and the required berth, cargo loaded in the vessel, manifest quantity etc.</p> <p>This information will enable Port to plan for vessel berthing and resource allocation process</p> <p>This information will be received through NLP Marine integration or by direct feeding.</p>	<ul style="list-style-type: none"> • Direct feeding provision for Berth Request with document uploading Provision • Validating missing details in berth request submitted through NLP. For eg. Berth, cargo details and provision to modify/add any missing information • Provision to add additional information like Shipper/Consignor/Backloading information, Vessel Discharge/Loading plan information etc. with uploading of documents required as per One Process-One Port initiative, MSW forms, prearrival notification etc. • Provision to add Dangerous Goods/PANS/Stowage Plan details etc. for the voyage of the vessel through NLP-Marine integration and direct feeding of these details with document uploading facility • Approval of Voyage by Traffic Department and Marine department separately • Provision for adding declaration by Vessel agent that submitted information are correct. <p>Notification through SMS/Email to various stakeholders on VCN Generation / Dangerous goods notification / PANS submission etc.</p>
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4	Expected Time of Arrival	<p>Based on the voyage registration and berth request submission, the expected vessel time will be published. Change of ETA can be made by the vessel agent through NLP-Marine integration or direct feeding in the system</p>	<ul style="list-style-type: none"> • Publishing Vessel in Expected vessels list to Customer Portal / Website • Notification to various stakeholders on approval of Voyage to Vessel agent, Port Officials, PHO, MMD and other stakeholders <p>Provision to receive change of Expected Time of Arrival from NLP (Marine) through integration or directly feeding to the system and Send acknowledgement message to NLP Marine</p>
5	Vessel Assessment	<p>Vessel Assessment is made by the Vessel agent to pay the vessel related charges prior to vessel arrival.</p> <p>During the stay of vessel at berth, the reassessment of charges shall also be</p>	<ul style="list-style-type: none"> • Integration with NLP to receive Request for Vessel Assessment charges through API and Provision for User to direct submission request for Assessment of Vessel Charges by selecting required services, hours/quantity of service required etc. • Provision for customer to generate self-assessment to view the tentative charges for various services by applying Scale of rate on the selected parameter by the customer and generated Preliminary assessment for berth hire, pilotage, port dues, priority charges based on voyage details submitted

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		<p>made to collect any dues</p> <p>Assessment of charges are the prerequisite for berthing the vessel and providing any service at Port for a vessel</p> <p>Vessel readiness will be flagged based on the payment of assessment charges.</p> <p>Vessel Arrival date will be considered for exchange rate application for calculation of charges as per Scale of rate</p>	<ul style="list-style-type: none"> • Initial assessment shall be made by the users as per productivity norms as per Scale of rates applied for berth hire assessment hours. In case of change of berth hours in assessment, AO approval is mandatory • Note to be given during assessment that if the vessel stays after assessed hours for berth hire, system will generate automatic assessment for 12 hours till the vacation of the vessel • Auto assessment for excess stay for berth hire/Pilotage & anchorage hours after berthing of the vessel • Provision to upload documents for assessment • Provision for concession request (if any) for the assessment along with uploading of supporting documents • Provision to generate Auto calculations applied with Scale of rates for selected services and posting of income to SAP – Finance • Exchange rate shall be applied based on date of entry to Port limit for all the charges calculation • After berthing of the vessel, if Anchorage assessment are pending, auto assessment for anchorage stay hours shall be generated automatically by the system • If vessel entered to Port limit and sailed without both berthing and anchorage, Port dues should be collected
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			<ul style="list-style-type: none">• If vessel entered to Port limit and sailed without berthing but anchored, Port dues and Anchorage charges to be collected after sailing of the vessel• Provision for sending Acknowledgement message to NLP-Marine for Request of vessel assessment charges• if Vessel stay hours exceeds berth hire hours assessed, notification/alerts to be sent to Signal station, Traffic, Finance and Finance department can generated assessment or send request through system to Vessel agent for making assessment• Multiple payment mode option to be provided for Payment of Charges by User through NLP-Marine, Payment Gateway integration or other payment modes• Provision for collecting shifting charges as per Scale of rates including Turnaround of the vessel• Provision for obtaining approval from Traffic department for shifting of vessels on Port convenience or Agent convenience• Payment clearance integration with SAP – Finance for cashbook posting• Provision to flag Vessel Readiness status based on Payment of Assessment of charges for generating vessel berthing plan
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			<ul style="list-style-type: none">• Notifications to User/Port on completion of payment• Notification sent to Port officials regarding request submission for assessment of vessel related charges to initiate verification /approval by Marine/Traffic / Finance Department• Provision for Marine/Traffic/Finance department for recording the comments / any action required from the Vessel agent. i.e. Reassessment/Submission of missing documents and Provision for Marine/Traffic/Finance department to initiate assessment of charges for the Vessel Agent with indicating the reasons• Provision for the Vessel Agent to do reassessment/resubmission of documents for Vessel Assessments based on queries/comments of Port officials• Provision for Concession request with document uploading• Concession request for Vessel/Cargo charges – TM approval is mandatory (Provision for uploading TM note approval document to be made)• Assessment for Zone B Vessels, operation/nonoperation period, vessel movement• Notifications and Alerts for any payment dues
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			<ul style="list-style-type: none"> • Provision for the system to auto generate assessment if the stay of berth/anchorage has exceeded assessed hours, pilotage movement, priority charges etc if assessment is not done by the Vessel Agent • Validation for outward berthing plan based on berth hire payment, 2hrs excess based on expected vacated time • Provision for Voyage Conversion, Turn around option for Berthing plan • Provision for auto assessment after sailing of the vessel • Provision For vessel/cargo related service based on Deposit account balance amount, provision to top up deposit amount, view payment Status based on deposit balance, adjusting from deposit amount, refund of deposit etc.
6	Vessel Anchored/ Vessel Arrived	Vessel Arrival is captured through VTMS system automatically and anchored time is collected by Marine Signal station and fed in the system	<ul style="list-style-type: none"> • Provision to capture vessel arrival time through VTMS integration and direct feeding into the system • Provision for Capturing Vessel Anchored time at Port by Signal station • Provision to capture vessel anchored and arrival time through VTMS integration or direct feeding of information at signal station • Publishing Vessel arrival time to website /customer portal • Sending Vessel arrival message (VESARR) to NLP-Marine through API integration

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		<p>Arrival time/ Anchored time will be effective date for applying scale of rates for any charges</p> <p>Anchorage charges is also applicable to the vessel as per Scale of rate</p>	<ul style="list-style-type: none"> • Email/SMS notification for Intimation of Vessel anchored to Vessel agent, Port Officials, PHO, MMD and other stakeholders • Provision for other stakeholders like PHO/MMD to update any remarks based on their inspection of the vessel through integration with NLP Marine
7	Vessel Readiness Time Feeding	<p>Vessel readiness time can be flagged based on the payment of assessment charges as well as vessel agent's intimation</p> <p>Berthing plan will be generated based on the Vessel</p>	<ul style="list-style-type: none"> • Provision for the users to feed the vessel readiness time by the user regarding vessel ready to berth • Vessel readiness shall also be marked based on assessment and payment of charges also • Intimation to concerned officials for berth plan creation • Provision for the user to provide any request / comments regarding vessel arrival/delays/service request etc. as part of virtual berth meeting for vessel and cargo operations with workflow • Provision to receive notification of vessel readiness for inward, shifting • Provision for enabling vessel readiness only if no queries from Port are pending to be responded by the Users

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		Readiness time	
8	Berth Allocation	Berth plan will be generated based on the Vessel readiness and vacancy of the berth. Berthing policy will be applied for generating berth plans	<ul style="list-style-type: none"> • Automatic berthing plan based on berthing policy and availability of berth • Validation of payment dues/vessel readiness prior to berth allocation • Provision to configure and amend berth policy, cargo norms etc. for automatic berthing plan • Provision for making any changes in berthing plan generated by the system as per operational requirements by Traffic and Marine department • Provision for Productivity preview tool along with tentative completion time by allocating a berth/crane to a vessel. • Mobile app for feeding vessel readiness, pilot request etc. • Provision to send berth allotment message (BERALT) to NLP Marine through API integration • Provision to receive Pilot memo request from NLP-Marine and send acknowledgement for Pilot Memo to NLP-Marine • Provision to request Pilot memo through Mobile APP • Provision to record comments/feedback/response from Port officials/Vessel Agent against the berthing plan generated • Generation of Entry certificate for the vessel after validating the payment

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			<p>dues and approval by Marine department</p> <ul style="list-style-type: none"> • Pilot and Tug allocation for vessel by Marine Department through system and mobile APP • Notification to Pilots/Tug station/Vessel Agent/Signal Station etc. regarding Berth plan • Pilot/Tug allotment modification provision is needed for any movement for Signal Station due to various reason from Agent/Port reasons • Pilot cancellation after allocation of Pilot to be charged as per SOR • Provision for creating Roster for Pilot, Mooring Crew, Launch Crew • Tug utilization - Automatic listing of tugs allotted by Signal station for Vessel movement to be provided to Tug station for feeding Time and fuel efficiency of Tugs. • Provision for capturing Start and End Time with Fuel efficiency, Make Fast of Vessel, Cast off from Vessel is required for Floating craft section to feed the information • Reports for Tug utilization with Fuel Efficiency is required
9	Pre -berthing delays	Vessel waiting hours from arrival till berthing due to various	<ul style="list-style-type: none"> • Provision for the agent to communicate various delay of the ship till berthing

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		<p>reasons are captured by Traffic department. This will be used for calculating key performance indicator of the vessel</p>	<ul style="list-style-type: none"> • Provision to record pre berthing delays of the vessels on Port account and non-Port account • Provision for Vessel agent to feed Non-Port account delays
10	Pilot Boarding for inward movement	<p>Pilot will be allocated for inward movement of the ship as per berthing plan. Pilot and Tugs will be moved to anchorage for movement of vessel to the berth</p>	<ul style="list-style-type: none"> • Provision to record Pilot boarded time at Tug station • Provision for collecting Vessel Movement timing captured in VTMS Pilot tickets through integration • Vessel Position at berth is published in Website / customer portal • Notification / Alerts regarding berthing of the vessel • Provision for indicating Port Account/Agent Account for TUG Usage in Tug Allotment by Signal station
11	Vessel Shifting from berth to berth	<p>Each movement of the vessel including Turnaround time as per Berthing plan, allocation of pilot, tugs</p>	<ul style="list-style-type: none"> • Provision to check payment dues for shifting movement (Pilotage/Berth hire etc.) • Provision to generate berth plan for shifting vessel including Turnaround of the vessel • Pilot and Tug allocation for vessel by Marine Department

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		etc. will be made for shifting.	<ul style="list-style-type: none"> • Provision for collecting Vessel Movement timing captured in VTMS Pilot tickets through integration • Vessel Position at berth is published in Website/Customer Portal • Notification / Alerts regarding shifting of the vessel
12	Back loading of vessel	An import Vessel can also have export operations after the import is completed. The back loading details like export cargo and quantity, shipper details etc. will be provided by the Vessel agent	<ul style="list-style-type: none"> • Provision for Updating Backloading details • Provision for Assessment and Payment for Backloading operation • Capturing backloading operation and tonnage handled details like • Agency change for cargo operation, new Vessel number generation, Assessment creation without Port dues, capturing manifest tonnage details etc.
13	Barge Operations	Barge allocation for handling of cargo in the vessel will be made with required charges for	<ul style="list-style-type: none"> • Provision for request Barge operation by Vessel Agent • Linking Barge and Tug (as a single entity) VCN and delinking while change over and link another VCN • Linking Barge operation for a mother vessel

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		<p>the barge.</p> <p>The tonnage handled by Barge also captured in the system for statistics purpose</p>	<ul style="list-style-type: none"> • Provision for Assessment and Payment for Barge operation • Provision for recording Barge vessel handling details attached with a mother vessel
14	Water Supply, Bunkering, Cruise operations, shore power, waste oil disposal, garbage, and other special services	<p>Various special services like Water supply, bunkering, cruise operations etc. will be provided for a vessel and billing is applicable as per scale of rate</p> <p>Vessel Agent will request for various services required for a vessel</p>	<ul style="list-style-type: none"> • Provision for requesting services for Water supply, Bunkering, Cruise operation, or any other special services • Provision for generating Assessment as per Scale of Rate • Provision for making Payment through various payment modes • Provision for recording utilization of services • Provision for endorsement and billing
15	Vessel Outward movement	<p>Berthing plan will be made by Traffic department for outward</p>	<ul style="list-style-type: none"> • Provision for Vessel agent to indicate Notice to Vacate Berth • Provision Checking payment dues to allow vacating the berth and generate

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		<p>movement of vessel after validating the payment dues</p> <p>Tug and Pilot allocation shall be made for the scheduled outward movement</p>	<p>demands automatically if any dues are identified by system</p> <ul style="list-style-type: none"> • Provision for allowing Finance/Marine/Traffic department to generate any demand for assessment prior to vacate the berth • Provision to Generate Clearance Certificate automatically after validating the payment dues and approval by Marine department • Provision to receive Unberthing request from NLP-Marine integration • Provision to Generate Berthing plan for Outward movement • Provision to Pilot and Tug allocation for vessel and generate notification to Pilots and Tug station • Provision for Capturing Vessel outward movement time through Pilot tickets generated in VTMS through integration • Vessel position at berth is updated to Website / Customer Portal • Provision to record Vessel waiting time at anchorage prior to Vessel sailing • Provision to capture vessel sailing through integration from VTMS • Vessel Sailing is updated to Website / Customer Portal • Vessel Departure message (VESDEP) will be sent to NLP- Marine with Vessel arrival & departure information • Notification/Alerts to all stakeholders regarding sailing of the vessel
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16	Tug Allocation Process	<p>Tug resource request will be submitted by Vessel agent for other than vessel movements</p> <p>The charges are applicable as per Scale of rates</p> <p>Tug utilization will be recorded in the system for billing purpose</p>	<ul style="list-style-type: none"> • Provision for requesting Tug Service for other than vessel movement • Provision for making Tug assessment and payment • Alert/Notification sent to Marine department and Finance department regarding the Tug request/assessment • Provision for Marine department for recording Tug allotment and Utilization • Provision for Tug Endorsement after vessel sailing
17	Misc. Charges	<p>Any other Misc. service request shall be submitted by Vessel agent and endorsement will be recorded in the system for billing purpose</p>	<ul style="list-style-type: none"> • Provision for making Misc. Assessment and payment by Vessel agent/Port department • Alert/Notification sent to Vessel Agents/Port officials regarding the Misc assessment • Provision for recording actual service usage against Misc. assessment • Provision for Misc. Endorsement after vessel sailing
18	Voyage conversion/Agent	<p>Vessel voyage conversion,</p>	<ul style="list-style-type: none"> • Provision for Vessel agent to submit request for Voyage conversion/ Agent

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	<p>conversion/Voyage cancellation</p>	<p>Voyge cancellation and Agent conversion request shall be submitted by the Vessel agent</p> <p>Charges calculation shall be applicable as per Scale of rate.</p> <p>Conversion date will be the key parameter for deriving the calculations</p>	<p>conversion/Voyage cancellation etc. with uploading of supporting documents</p> <ul style="list-style-type: none"> • Provision for Approval of request for Voyage conversion/ Agent conversion/Voyage cancellation etc. by Port Officials • Provision for generation assessments and billing based on the approved request for Voyage conversion/ Agent conversion/Voyage cancellation etc. • Provision to check Next Port declaration from Clearance certificate for identifying voyage conversion
<p>19</p>	<p>Vessel Endorsement and Billing</p>	<p>After the vessel sailing, Pilot tickets will be sent to Finance department for final Endorsement and billing of the vessel</p>	<ul style="list-style-type: none"> • Provision for Viewing Summary of Vessel Movements • Provision for <u>viewing consolidated assessments and actual utilization</u> for all Vessel related services along with documents uploaded for a vessel • Provision for raising additional assessment for any service on approval of actual utilization by Finance department • Notification/Alerts to Vessel agent regarding pending dues

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			<ul style="list-style-type: none"> • Payment of dues by Vessel agent through NLP/Payment gateway • Provision for generating Final Bill Generation and Refund generation • Income posting to financial account for refunds • Payment of Refund by Port • Provision for generating credit notes/ Tax invoices/ GST reports/TDS reports/ invoices report etc. • Refund payments for vessel and cargo operation – Provision to select refundable items and send to bank for payment • Refund – dues within 10 days, 15 days, 20 days etc. to be highlighted in the report to track and monitor the refund pending payment items • Provision for requesting TDS refund for every user by selection of transactions, uploading of form 16. On approval by Finance department, the refund of TDS processing to be made • Integration with SAP for e-Invoice downloading in POS • Bank account number to be reflected in Final Bill
20	Incentive Process for Pilot	Pilot incentive process will be made based on the movements done by the pilot for the	<ul style="list-style-type: none"> • Provision for incentive report generation for movement of vessels done by Pilots • Provision to post the incentive at the end of the month to SAP HR

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		specific period.	
21	Vessel anchored and sailed without berthing and Vessel shifted to Outer roads and sailed	Billing for Vessel sailed without berthing or vessel sailed after shifted to outer roads	<ul style="list-style-type: none"> • Provision for billing with anchorage charges as per SOR applicable • Provision for capturing Anchorage and departure time entered by Signal station • Provision to capture Vessel Sailing time from port limit from VTMS integration • If vessel arrived and sailed without berthing and without anchorage, Port dues to be collected • If vessel arrived and sailed without berthing but anchored, Port dues and anchorage charges are applicable as per Scale of Rates
22	Other Requirements		<ul style="list-style-type: none"> • Provision for Marine department to intimate vessel agent to vacate berth for specific reasons • Vessel WITH Ballast to be marked by Pilots in Vessel movement ticket and based on selection, amount to be calculated. Draft verification and validation with maximum draft of Vessel Profile. More than 50% of draft indicates vessel is loaded with Cargo. • Vessel not calling for Cargo Operation, to be endorsed by Marine/Traffic department in voyage registration with document evidences • Provision for online meeting/communication from the

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			users for vessel and cargo operations with work flow
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b. Cargo Operations:

S. No	Process	Description	Requirements
1	ICEGATE information through NLP-Marine	ICEGATE system is centralized system of Indian Customs. ICEGATE system is integrated with NLP-Marine system to share information from Customs system & Ports through NLP-Marine	<ul style="list-style-type: none"> • Receive Customs information IGM/Shipping Bill/Bill of Entry/Out of Charges/Let export Order Agent delivery order etc. for new and amendments from NLP through ICEGATE integration • Provision for direct feeding of the above information with document uploading provisions
2	Wharfage Filing	Wharfage payment is the critical process based on customs documentation for enabling the cargo landing and loading operation at Port wharf area	<ul style="list-style-type: none"> • Provision for Cargo handling agent / Stevedore for Submission of wharfage assessment request based on IGM & BE for Import cargo and Shipping Bill for export cargo along with supporting document uploading • Provision for wharfage of transshipment cargo/container/ship stores supply etc. as per Scale of rate • Mapping of HSN code with Cargo code as per Scale of rates of Port

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S. No	Process	Description	Requirements
			<ul style="list-style-type: none"> • mapping of GLs for wharfage income for the different parameters for e.g. Zone B location, Coal Jetty cargo • Notification to Traffic department regarding Assessment request submission • Calculation of wharfage charges and approval by Traffic department • Provision for change of ownership of cargo/ back to town/shut out cargo etc. • Payment through Payment gateway / NLP- Marine / other payment modes • Income posting and Cashbook posting in SAP- FICO • Provision to View of document/information and Payment status in consolidated manner for Wharfage service against the selected vessel • Endorsement of Wharfage based on Tally/Cargo log sheet prepared at berth • Documents uploading shall be in line with One Nation One Process guidelines as per Ministry • Provision to be made for submitting a declaration that the information submitted are correct and CHA will be responsible for any wrong information submission • Billing and Refund • Wharfage Endorsement based on Tonnage handled in Cargo log sheet with validation

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S. No	Process	Description	Requirements
			<p>on quantity based on Bill of entry (Manifest tonnage)</p> <ul style="list-style-type: none"> • Tax invoice generation • GST/TDS/income reports for wharfage • Mapping of Cargo with HSN code in SOR • Cargo Norms as per in SOR • Provision for generating Revenue share report (for e.g. NCB III vessels) <p>Wharfage for Project Cargo</p> <p>a. Provision for payment of deposit against selected cargo against vessel not nominated for wharfage charges and calculate permissible ton for admission of cargo</p> <p>b. Generate export application for wharfage based on deposit (with nil payment). Validate tonnage to be within permissible ton and display balance ton for every export application filing</p> <p>c. On endorsement of export application - deposit will be recouped with the endorsed ton</p> <p>Wharfage for Shut out cargo</p> <p>a. Provision for shut out cargo delivery from Port and related process to be created</p>
3	Import/Export / Transshipment Cargo (Non containerized) Landing	Non containerized cargo movement for Import, Export	<ul style="list-style-type: none"> • Provision for feeding Cargo Log sheet/Tally sheet for tonnage handling at berth with deployment of Port owned equipment/gangs/supervisors etc.,

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S. No	Process	Description	Requirements
		<p>and transshipment loading, discharge and movement at berth are captured through cargo log sheet. The details of resource deployment like equipments, gangs etc are captured</p>	<ul style="list-style-type: none"> • Provision for feeding cargo handling through Pvt. Equipment like HMC Crane / Hopper Handling for Revenue share calculation • Integration with IoT/smart devices for cargo operation tonnage capturing (For eg. HMC/Hopper etc) • Provision for feeding Idle time and delays during Pre/during/Post Cargo operation • Provision to feed Cargo operation commencement/completion time • Provision for feeding Draft Survey report /Ullage recording etc • Provision for transit shed movement for import and export cargo • Provision to send Terminal performance message to NLP-Marine regarding performance of vessels at berth • Calculation for demurrage charges, demand generation, payment for demurrage charges for import and export cargo as per Scale of rate
4	<p>Import/Export/Transshipment Container Landing</p>	<p>Container handling is done by PPP operators. Revenue and operation details shall be collected through</p>	<ul style="list-style-type: none"> • PPP operator provides container TUEs handled at berth • Integration with Terminal Operating System • Provision to send Terminal performance message to NLP-Marine regarding performance of container vessels at berth

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S. No	Process	Description	Requirements
		integration with PPP operators	
5	Movement Cargo/Container through Truck	Truck movement through Port gate for Import/Export process is done with Truck chit creation, Weighbridge and RFID integration	<ul style="list-style-type: none"> i. Provision for receiving of LEO, OOC, EIR chit (for container) and Agent delivery order from ICEGATE integration or direct feeding ii. Provision to create Truck Chit (Bulk entry of Trucks) for release of cargo after validating Agent delivery order and OOC/LEO iii. Provision for validating Pass validity through RFID iv. Provision for intercarting v. Provision to modify Truck engagement ((during truck repair/rescheduling) vi. Provision for integrating RFID for Admission of Truck at Gate vii. Provision for integrating RFID and Loading of Cargo at wharf or Storage Yard into Truck viii. Provision for integrating with Weighbridge with truck chit or Direct feeding of weight with document proof uploading ix. Provision for Movement of Truck loaded with Cargo to Storage yard or Gate out with capturing of movement time with RFID integration or direct feeding of Movement time with location x. Provision for movement trucks from Berth/Transit area/Storage Yards to Gate out

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S. No	Process	Description	Requirements
			xi. Provision to record various mode of delivery/evacuation & admission of cargo xii. Provision for allowing admission of cargo on customs permission basis (customs Let export order data will not be available) and generating demurrage charges for admitted cargo <ul style="list-style-type: none"> • Provision for uncleared cargo process
6	Movement Cargo/Container through Rail	Cargo movement through Railway is captured along with payment charges for wagon movements as per Scale of rates	a. Provision for generating rake movement b. Provision for integration with FOIS or direct feeding of information for Railway charges c. Provision for creating Railway receipt d. Provision for submitting request for Assessment of Wagon charges with documents uploading e. Provision for payment of charges f. Provision for Movement of Wagon through gate g. Provision for validating Pass for Wagon in and Out movement h. Provision for integrating with weighbridge or entry of weight with document proof upload i. Provision Endorsement of Railway charges and Billing & Refunds j. Generating Tax invoices k. TDS/GST/income reports
7	Direct Port entry operation	Container Direct Port	<ul style="list-style-type: none"> • Provision for collection of Direct Port Entry fees for container

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S. No	Process	Description	Requirements
		entry process is covered with various services provided for customs examination in DPE area at Port	<ul style="list-style-type: none"> • Provision for collection of charges for optional services like weightment/Reefer charges and service utilization details capturing • Provision for collection of charges and service utilization for Destuffing, Stuffing, Resealing etc for container examination by Customs • Provision for generating invoice for Direct Port entry facilities availed • Provision for permitting container delivery from DPE area • Provision for tracking payments and various services provided for Direct Port entry <p>MIS reports and Dashboard</p>
8	Equipment Charges	Port owned equipment service request, allotment and payment of charges are covered by Equipment process	<ul style="list-style-type: none"> • Provision for submitting request for Equipment service with document uploading • Provision for Payment of charges • Provision for Utilization of Equipment Service • Provision for making endorsement, billing and refund
9	Misc. Charges	Any Misc services shall be provided by payment of misc charges	<ul style="list-style-type: none"> • Provision for submitting request for Misc. service with document uploading • Provision for Payment of charges • Provision for Utilization of Misc. Service • Provision for making endorsement, billing and refund

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S. No	Process	Description	Requirements
			<ul style="list-style-type: none"> • Generating Tax invoices • TDS/GST/income reports
10	Stevedore Levy and Gang Booking	Gang booking and stevedore levy payment is made through system for Gang allotment, tonnage handling etc	<ul style="list-style-type: none"> • Provision for Gang booking request submission by Stevedore • Provision for Levy Assessment and payment based on Wharfage Application Number • Provision for Roster preparation, Gang Allotment, Biometric attendance capturing • Provision to assign Gang allotment to log sheet • Provision to record Tonnage handling by Gang allotted for a vessel • Provision Incentive calculation for the month and posting to SAP HR • Alerts and notification for Levy assessment/Payment/Gang allotment etc
11	Storage Yard Allotment Process	Storage yard (Open and covered) allotment, vacation. Rental demand generation and payment process will be made through the process.	<ul style="list-style-type: none"> • Provision for CHAgent / Stevedore for Requesting storage yard area with support document • Provision for Traffic department to approve and generate storage allotment • Provision for generating allotment order and payment demand for Advance amount • Demand generation process for Rent on weekly or monthly basis as per effective Scale of rates. • Penalty calculation during payment for the demand • Provision for requesting Vacation of plot

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S. No	Process	Description	Requirements
			<ul style="list-style-type: none"> • Provision to check pending dues as on date prior to generate vacation advice/note • Generate Refund of advance amount collected for Vacation of plot • Provision to adjust advance amount against pending dues • Alerts and notification for allotments/payments/rent demand dues/Vacation of plot • Provision for integration with GIS for viewing status of plots and request allotment • Provision for generating various reports for storage rent demands, allotments, payment dues etc.
12	Pass Collection		<ul style="list-style-type: none"> • Provision to be made for collecting charges for various pass for Trucks/Drivers/Visitors etc as per Scale of Rate • Integration with RFID system and Pass validity • Integration with Payment gateway with various mode of payment • Provision for integrating collection of charges with SAP income posting and Cashbook posting
13	PPP Operations	The operations through PPP operators involves	<ul style="list-style-type: none"> • Provision for generating demand for PPP operators as per Revenue share / agreement for PPP Operators

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S. No	Process	Description	Requirements
		revenue share collection	<ul style="list-style-type: none"> • Provision for submission of documents/details for revenue share collection from PPP operators. • Provision for capturing service details provided by PPP operators like vessel handled, cargo operations, TEUs handled etc. as per agreement with PPP operators • Provision for making Payment by PPP operators • Provision for Posting income and Cashbook to SAP – FICO income posting • Generating Tax invoices • Billing and refund process
14	Coast Guard and Navy Vessels, Zone B Vessels	The coast guard, Navy Vessels and Zone B vessels have a different operational approach	<ul style="list-style-type: none"> • One time registration for all vessels available with Coast Guard and Navy • Vessel Name of Coast Guard & Navy Vessels shall be masked for security reasons while publishing in reports for external stakeholders • Vessel Movement schedule can be requested by Coast Guard/Navy Vessel, Provision to choose Pilot and Tug requirements • Provision for making payment of Vessel related charges after movement on cumulative basis (Monthly/selective) for Coast Guard and Navy vessels • Provision for creating Berth Plan for Coast Guard and Navy vessels

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S. No	Process	Description	Requirements
			<p>(Designated berth or movement to any berth)</p> <ul style="list-style-type: none"> • Pilot movement can be made by Vessel Master also with exemption of Pilotage charges applicable for Vessel Less than 200 GT, Zone B Vessels, Coast Guard, Navy etc • Pilotage charges is applicable for more than 200 GT Vessels • Provision for Movement by Vessel Master by default for Zone B, Coast Guard, Navy vessels and provision to allot pilot if required for vessel. • Provision for feeding timing for Vessel Movement for Zone B Vessels, Navy, Coast Guard by Signal Station • Once the movement timing is fed for Zone B Vessels by Signal station, Assessment for Berth hire and Port dues should be validated and alert and notification to be given for making assessment • For Zone B Vessels, Tonnage handling to be allowed only based on assessment, validation is required • Lean period is applicable only for Sailing vessels to be validated • Provision for creating Unberthing Plan for Zone B and Coast Guard/Navy Vessels

C.Other Critical Operation

S. No.	Process	Requirements
1	Scale of Rate configuration	<ul style="list-style-type: none"> • Provision to create any new services and make amendments in existing services and map a service with Scale of Rates for effective period, amendments etc • Provision to map cargo with HSN code and other mapping of master data which are required for integration with NLP-Marine and other third party systems • Provision for configuring the services and scale of rates mapping. Few indicative services are <ul style="list-style-type: none"> ○ Vessel and cargo related services ○ Concession for Vessel and Cargo Charges ○ Zone B Operation ○ Ballast Operation ○ Barge Operation ○ Cruise Vessels ○ PPP operators Revenue Share ○ Royalty payment ○ Priority berthing charges ○ Performance penal charges ○ Misc charges ○ Penalty etc • Provision to make configure Services and scale of rate incorporations and tariff revision with effective dates • Mapping of income GLs for various services and specific scenarios • Provision to collect different charges for same service for different customers for eg.

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S. No.	Process	Requirements
		<p>TNPL vessels handling in specific berths, Wharfage charges for NCB berth etc.</p> <ul style="list-style-type: none"> • Provision to configure concessions as per trade notice for any service, scale of rate with concession with effective dates and conditions • Provision to upload documents related to revision of scale of rates/tariff/concession etc • Provision to automate billed rebate/concession as per quality criteria (ref. MGT, No. of Vessels/trips within a defined period, vessel route & period etc) • Provision to configure scale of rates for different category of vessels (research vessels, supply vessels, pleasure yachts, oil rigs and other non cargo vessels excluding Passenger Ships, Navy & Coast Guard Ships and Ships & Barges for bunkering etc). • Performance Norms based Incentive and Penalty Scheme for cargo operations at port in accordance with the Berthing Policy issued by the Ministry of Shipping, Government of India • Mapping of Cargo with HSN code in SOR • Cargo Norms as per in SOR
2	Exchange Rate	<ol style="list-style-type: none"> 1. Provision for receiving exchange rate from Bank through API 2. Provision for feeding exchange rate directly
3	Customer Master registration	<ol style="list-style-type: none"> 1. Provision for Customer Registration request from Vessel Agent/Stevedore /Ship chandling with document submission

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S. No.	Process	Requirements
		<ol style="list-style-type: none"> 2. Provision for payment for License fee applicable 3. Provision to maintain master for various category of customer, documents required for registration, license fee applicable etc 4. Various categories of users are CH Agent, Steamer Agent, Stevedore, Other (PPP operators, TNEB, NTPL) , Ship Chandling etc. 5. Each user category will be registered by collecting different information / application form, documents, license fees etc for registration process with Port. 6. Provision for online submission from the user to request customer registration. 7. Approval work flow process is required to verify & approve the information submitted by various categories of the users. Provision for reject an application indicating reason by Traffic department and revert back to the user for resubmission of application 8. License fee payment provision for enabling users to make payment of license fees for various category of licenses 9. Provision for Customer code creation in SAP based on the details shared from POS through integration. Customer code shall be sent back to POS from SAP. 10. Provision for Income posting to respective customer code & GL account for accounting License fee collection 11. Provision for issuing online certificate for licenses

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S. No.	Process	Requirements
		<p>12. Provision for License validity date configuration during issue/renewal of licenses</p> <p>13. Provision for collecting GST number, Bank details, Mapping TDS applicable or not etc for every user with required documents submission.</p> <p>14. Refund of license fee in case of license cancellation</p> <p>15. Provision to checking no dues, validity dates of License fee, Triparty agreement validity etc</p> <p>16. Alerts and notifications on expiry of validity dates, blocking of services, allowing renewal of licenses etc</p> <p>17. Provision for submitting application for renewal of license/cancellation of license/refund of license etc</p> <p>18. Downloadable specimen format/template for stevedoring license/ship handling license/EDP agreement/Application form etc to be made available for the customers</p> <p>19. Refundable Deposit to be mapped with every customer. Provision for refund of deposit, adjusting deposit to pending dues during refund etc</p> <p>20. Provision for mapping Deposit account with topup provision for every user to make use for vessel and cargo operations.</p> <p style="padding-left: 40px;">I. Provision to create user id and role access automatically based on customer code & category of the customer for accessing Smart POS portal</p>

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S. No.	Process	Requirements
		<p>II. Notification to customer through email/SMS with customer code and User id details for accessing Smart POS portal</p> <p>III. Validation of license validity, payment dues and related parameters to control utilization of services/access to Portal by the customer</p> <p>21. Provision For vessel / cargo related service based on Deposit account balance amount, provision to top up deposit amount, view payment Status based on deposit balance, adjusting from deposit amount, refund of deposit etc.</p>
4	Internal User Registration	<ul style="list-style-type: none"> • Provision for generating User id for the Port Internal User based on employee master details received from SAP HR integration • Provision for assigning Role for access <p>Provision for changing Password by the users</p>
5	Role based access control	<ul style="list-style-type: none"> • Provision for creating roles and access control based user category – internal and external • Provision to assign rights for various roles/users for access of various services/screens available in the system • Assigning work flow customization for every process for each role/user
6	MIS Reports	<ul style="list-style-type: none"> • Creation of all reports already available • Provision for customized report generation with queries by the user as per the requirements. The report can be printable format and also exported to PDF/Excel or any other format as per decision by the user

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S. No.	Process	Requirements
		<p>Few indicative reports are</p> <p>Vessel operation reports</p> <ul style="list-style-type: none"> • Movement of Ships • Assessment and Endorsement of charges • TDS and GST reports • Vessel performance reports • Vessel income and tonnage handling reports • Various MIS reports as per requirements of Marine/Traffic/Finance department etc <p>Cargo Reports</p> <ul style="list-style-type: none"> • Tonnage handling report • Statistical reports for Ministry • Performance reports • Wharfage income reports • Berthwise Tally report • Equipment usage report (Hopper/HMC crane etc) • Gate Movement Report • Stock Position of Cargo at various location • Container/Commoditywise Handling Report • PPP operation summary and details • Payment of Charges and dues etc.,
7	Email/SMS notification	<ul style="list-style-type: none"> • Configure Email/SMS/Notification for each Process to various users /departments for different events/scenarios • Customisation and Mapping of mobile number/email id as per the requirement and process needed

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S. No.	Process	Requirements
		<ul style="list-style-type: none"> • Auto mailing of Tax invoices to the customer with tracking of auto mailing to resend during failure of sending mails • Email/SMS//Notifications can be configured for any event in a process and trigger to a specific user or a group of users • Customization should be provided to customize and configure SMS/Email//Notifications through application for any event/process/users
8	Interactive Dashboard	<ul style="list-style-type: none"> • Provision for generating dashboard with various report • Allow customization with various queries to generate reports as per the needs and requirements • Generate Interactive reports to filter, sorting, export & print features • Each user (internal/external) user shall get different view of dashboard based on the role and category of the user • Few indicative information to be available in dashboard shall be <ul style="list-style-type: none"> ○ Vessel Position ○ Vessel/ Cargo summary and details handled during the selected period ○ Payment history/dues ○ License validity, Balance deposit amount etc.
9	Document Management	<ul style="list-style-type: none"> • Provision to capture documents related to entire life cycle of Vessel and cargo operation in Document section for a vessel or a process • The documents and details uploaded by a specific customer can be restricted to view

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S. No.	Process	Requirements
		<p>only the permitted information to that particular customer</p> <ul style="list-style-type: none"> • Internal user can view any information as per the role assigned to them • Provision to track all documents related to a vessel or a process • Provision to Configure document uploading requirements with name of the document, type of the document etc. for each process. • System shall allow document exchange of document type: pdf/jpeg/jpg • System shall scan and check the document for spyware/adware or viruses. • In case the document is infected, system shall delete the document immediately and shall notify the uploader through email and SMS.
10	Payment gateway integration	<ul style="list-style-type: none"> • Provision for allowing user to make payments through various mode of payment like <ul style="list-style-type: none"> ○ Payment Gateway with any bank identified by Port (○ Integration through NLP Payment gateway ○ UPI payment ○ Point of Sale machine integration etc • System shall provide proper error handling payment mechanism. In case of payment issues such as failure in reaching the payment gateway, system shall try for either reconciliation mechanism or re-try mechanism

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S. No.	Process	Requirements
		<ul style="list-style-type: none"> • Validation of payment dues at various stages to allow utilizing services only after payment dues are cleared • Support secure integration with Payment Service Provider. • Present a unified interface to integrate with all Payment Service Providers • Support integration with Payment Service Providers using web services over secured protocols such as HTTP/S • Support bank accounts reconciliation • Should provide and preserve all logs for all transactions • Submit Periodic Reconciliation Report to respective authorities • Support transaction reports to monitor and track payments • Support settlement directly to merchant account • Should support real time integration with SMS and emails • Should be compliant to standards like PCI DSS
11	Mobile App	<p>Mobile app for</p> <ul style="list-style-type: none"> • identified process to interact with respective stakeholders • Viewing status of payments/vessels/cargo at different stage etc • Recording status / updates by Pilots/Signal Station/Berth supervisors and other offshore activities through mobile app for vessel and cargo operations

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S. No.	Process	Requirements
		<ul style="list-style-type: none"> Customizing Mobile app for various process/users with selected functionalities
12	Secure Login Management	<ul style="list-style-type: none"> System shall have two factor authentication System shall use masking for password/ OTP input in login form System shall inform user of a failure through an appropriate message in case the wrong login credentials User credentials (e.g.: passwords) must be validated in an encrypted/hashed format (secured mechanism) Login shall be carried out in a secure and encrypted session System shall maintain the detailed audit trails for the user login in the system including the date and time of login <p>System shall be highly secure and security measures should be up- to-date to prevent existing/new cyber attacks</p>
13	Other Features	<ul style="list-style-type: none"> Provision for Ticketing tool to generate tickets through system/email for reporting any issues to Helpdesk/system technical team Provision for addressing any queries/issues/troubleshooting etc through system based mechanism along with tracking of status. Audit log for all the transactions creation/modifications with user details and IP address Provision for easy navigation to different process/screens, search with various parameters, sorting/filtering & export/print features at each Process/sub process level

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S. No.	Process	Requirements
		<ul style="list-style-type: none"> • Work flow configuration and customization at each process and sub process level so that user/department level authorizations (multilevel) shall be mapped for any process and subprocess • The workflow mechanism shall be flexible and System administrator of Port can define their workflow in the system without need of approaching technical team • Provision to view every transaction with the log details including user, date of created/modified/authorized and related logs for review • Validating and controls applied for business process and logic for each process through customization at system level • Configuring Scale of rates and trade notices for any services with document uploading provisions and mapping of any services with concession/rebates with certain conditions/scenarios for vessel and cargo charges etc • Customer Portal for accessing information without login. Few indicating information and Provision to be available in customer portal are <ul style="list-style-type: none"> ○ Customer Registration request provision with submission of documents required for customer registration ○ Assessment charges preview for selected services by applying effective scale of rate

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S. No.	Process	Requirements
		<ul style="list-style-type: none"> ○ Publishing Vessel Position reports like Vessel expected, vessel at berth, Vessel movements, vessel sailed, Cargo handling statistics etc. ○ MIS and dashboard report for vessel and cargo handling achievements by Port ○ To view scale of rates/trade notices (current and archived) ○ Publish any news/achievements/notices to Trade ○ Help documents / SOPs for Trade etc ● Provision for Business Analytics & Predictive Model application for facilitating various operations. Few indicative items are <ul style="list-style-type: none"> ○ Early warning for loading/unloading, ○ transport of dangerous goods ○ Predictive analysis for Vessel & Cargo Handling Projection ○ Automated Berthing planning ○ Payment dues ○ Resource planning ○ Dwell time monitoring for Vessel and Cargo operation etc
14	Data Migration	<p>All data & application from existing POS application & database (ePIS) including Master and transaction data shall be migrated to Proposed solution for statistical and historical purpose.</p> <p>Migrated Data & application should be referred at any time whenever needed by Port for reference purpose.</p> <ul style="list-style-type: none"> ● The existing database is in Oracle 10G which

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S. No.	Process	Requirements
		consists of around 11 GB data and the ePIS application was developed in Java platform.

d. Integration:

S. No.	Process	Requirements
1	NLP-Marine	All messages integration through API for receipt of information and sending response/acknowledgement of messages to NLP. The list of critical messages of NLP are listed in section 8. Also, refer NLP Marine website download section for message specifications for NLP message integrations
2	VTMS	For capturing Vessel arrival/sailing/berth movement timings and pilot ticket details based on the Pilot movement of vessels
3	Payment Gateway/Point of Sale Machine/UPI payment etc.	For collecting payment of Vessel and cargo related charges . Various modes of payments and bank gateways shall be integrated as per requirement of Ports.
4	GIS integration	for plots and yards allocations and tracking status of plots
5	Bank API	for capturing exchanges rate
6	Lyods Register integration	to capture vessel expected and vessel dimensions. This integration will be done through paid API subscription and subscriptions need to be availed by the bidder.
7	ULIP	For sharing Vessel voyage details, truck movement for import and export to ULIP system from Port through TOS api. Pl refer https://goulip.in/home#apis-tabs for TOS API specifications for VOC Port and ULIP integration
8	RFID	to capture truck movement time at various gates, Pass validity of trucks at Port designated locations
9	Weighbridge	to capture weight of the cargo loaded in the truck
10	SMS Gateway	SMS notification for any Port operations related events. Alerts can be customizable by Port for the identified events
11	Email	Email notification for any Port operations related events. Alerts can be customizable by Port for the identified events
12	Website	For real time publishing details of Vessel expected, Vessel Anchored, Vessels Position at berth and Vessel sailing report
13	SAP ERP Application	SAP-Finance Module – For posting income and cashbook during assessment/refund and payments into SAP accounts

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S. No.	Process	Requirements
		SAP-HCM Module – For posting monthly incentive for Pilots/Berth supervisors/CHD staff for vessel movements/cargo operations SAP – Plant Maintenance – For getting information of Port equipment/assets for vessel and cargo operations
14	iOT/Smart devices	For capturing cargo tonnage handed at berth through Harbour Mobile Cranes / Equipment etc. as per requirement of Port



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