PHILIPPINE PORTS AUTHORITY

SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF ELECTRONIC TERMINAL MANAGEMENT SYSTEM (ETMS) INCLUSIVE OF CLOUD-BASED UNIFIED ELECTRONIC TICKETING CAPABILITIES FOR THE PHILIPPINE PORTS

BID DOCS
BAC-PGCS-011-2021

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Glossary of Acronyms, Terms, and Abbreviations

ABC – Approved Budget for the Contract.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender.* (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

CDA - Cooperative Development Authority.

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

CIF – Cost Insurance and Freight.

CIP – Carriage and Insurance Paid.

CPI – Consumer Price Index.

DDP – Refers to the quoted price of the Goods, which means "delivered duty paid."

DTI – Department of Trade and Industry.

EXW – Ex works.

FCA – "Free Carrier" shipping point.

FOB – "Free on Board" shipping point.

Foreign-funded Procurement or Foreign-Assisted Project– Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

Framework Agreement – Refers to a written agreement between a procuring entity and a supplier or service provider that identifies the terms and conditions, under which specific purchases, otherwise known as "Call-Offs," are made for the duration of the agreement. It is in the nature of an option contract between the procuring entity and the bidder(s) granting the procuring entity the option to either place an order for any of the goods or services identified in the Framework Agreement List or not buy at all, within a minimum period of one (1) year to a maximum period of three (3) years. (GPPB Resolution No. 27-2019)

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

GPPB – Government Procurement Policy Board.

INCOTERMS – International Commercial Terms.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national

buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

Supplier – refers to a citizen, or any corporate body or commercial company duly organized and registered under the laws where it is established, habitually established in business and engaged in the manufacture or sale of the merchandise or performance of the general services covered by his bid. (Item 3.8 of GPPB Resolution No. 13-2019, dated 23 May 2019). Supplier as used in these Bidding Documents may likewise refer to a distributor, manufacturer, contractor, or consultant.

UN – United Nations.

PHILIPPINE PORTS AUTHORITY

INVITATION TO BID

FOR THE SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF ELECTRONIC TERMINAL MANAGEMENT SYSTEM (ETMS) INCLUSIVE OF CLOUD-BASED UNIFIED ELECTRONIC TICKETING CAPABILITIES FOR THE PHILIPPINE PORTS AUTHORITY

The Philippine Ports Authority, through the Corporate Budget of the Authority for CY 2021, intends to apply the sum of **P500,000,000.00** being the Approved Budget for the Contract (ABC) to payments under the contract for the **Supply, Delivery, Installation and Commissioning of Electronic Terminal Management System (ETMS) Inclusive of Cloud-Based Unified Electronic Ticketing Capabilities for the Philippine Ports Authority (BAC PGCS-011-2021).** Bids received in excess of the ABC shall be automatically rejected at bid opening.

The Philippine Ports Authority now invites bids for the above Procurement Project. Delivery of the services is required within Five (5) years from Final Acceptance of All the Components of the Project. Bidders should have completed, within five (5) years from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

Bidding will be conducted through open competitive bidding procedures using a non-discretionary "pass/fail" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184. Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA 5183.

Prospective Bidders may obtain further information from the Philippine Ports Authority Bids and Awards Committee (BAC) and inspect the Bidding Documents at the address given below during 8:00 a.m. to 5:00 p.m., Monday to Friday.

A complete set of Bidding Documents may be acquired by interested Bidders on **07 July 2021** from the given address and website(s) below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Fifty Thousand Pesos (P50,000.00) Pesos.** The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person.

The Philippine Ports Authority's Bids and Awards Committee will hold a Pre-Bid Conference on **15 July 2021 at 9:00 a.m.** at the PPA Function Room, 7th Floor, PPA Bldg., Bonifacio Drive, South Harbor, Port Area, Manila, and/or through video conferencing or webcasting via zoom, which shall be open to all prospective bidders.

Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below on or before **30 July 2021 at 9:00 a.m.** Late bids shall not be accepted.

A. Bonifacio Drive, South Harbor, Port Area, Manila 1018 Philippines
P.O. Box 436 Manila, Philippines
Tel. No. (+632) 527-8356 to 83 Fax No. (+632) 527-4855
website: www.ppa.com.ph

All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in ITB Clause 14.

Bid opening shall be on **30 July 2021 at 10:00 a.m.** at the 7th Floor, PPA Building, A. Bonifacio Drive, South Harbor, Port Area, Manila. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

The Philippine Ports Authority reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

For further information, please refer to:

BAC Secretariat, Philippine Ports Authority
5th Floor, PPA Bldg., A. Bonifacio Drive,
South Harbor, Port Area, Manila
TelephoneNos. 527-47-35
527-83-56 to 83 loc. 539
PPA Website: www.ppa.com.ph
GPPB Website: www.gppb.com.ph

MARK JON S. PALOMAR
Chairperson, PPA Head Office Bids and Awards
Committee for the Procurement of Goods and
Consultancy Services (HO-BAC-PGCS)

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, PHILIPPINE PORTS AUTHORITY wishes to receive Bids for the Supply, Delivery, Installation and Commissioning of Electronic Terminal Management System (ETMS) Inclusive of Cloud-based Unified Electronic Ticketing Capabilities for the Philippine Ports, with Identification Number BAC-PGCS-011-2021.

The Procurement Project (referred to herein as "Project") is composed of a single lot, the details of which are described in Section VII (Technical Specifications).

2. Funding Information

2.1. The Philippine Ports Authority through its corporate budget for the Calendar Year (CY) 2021 in the amount of FIVE HUNDRED MILLION PESOS (PHP 500,000,000.00).

2.2. The source of funding is the Corporate Budget of the PHILIPPINE PORTS AUTHORITY.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manuals and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or **IB** by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have verified and accepted the general requirements of this Project, including other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, and Coercive Practices

The Procuring Entity, as well as the Bidders and Suppliers, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2 Foreign ownership limited to those allowed under the rules may participate in this Project.

5.3. Pursuant to Section 23.4.1.3 of the 2016 revised IRR of RA No.9184, the Bidder shall have an SLCC that is at least one (1) contract similar to the Project the value of which, adjusted to current prices using the PSA's CPI, must be at least equivalent to at least fifty percent (50%) of the ABC.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.1 of the 2016 IRR of RA No. 9184.

6. Origin of Goods

There is no restriction on the origin of goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN, subject to Domestic Preference requirements under **ITB** Clause 18.

7. Subcontracts

7.1 The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than twenty percent (20%) of the Project.

The Procuring Entity has prescribed that:

Subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address at the PPA Function Room, 7th Floor, PPA Building, Bonifacio Drive, South Harbor, Port Area, Manila and/or through videoconferencing/webcasting} as indicated in paragraph 6 of the **IB.**

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.

10.2. The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within five (5) years prior to the deadline for the submission and receipt of bids.

10.3. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. Similar to the required authentication above, for Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

11. Documents comprising the Bid: Financial Component

11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.

11.2. If the Bidder claims preference as a Domestic Bidder or Domestic Entity, a certification issued by DTI shall be provided by the Bidder in accordance with Section 43.1.3 of the 2016 revised IRR of RA No. 9184.

11.3. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

11.4. For Foreign-funded Procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Bid Prices

12.1. Prices indicated on the Price Schedule shall be entered separately in the following manner:

a. For Goods offered from within the Procuring Entity's country:

i. The price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable);

ii. The cost of all customs duties and sales and other taxes already paid or payable;

iii. The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and

iv. The price of other (incidental) services, if any, listed in e.

b. For Goods offered from abroad:

i. Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted delivered duty paid (DDP) with the place of destination in the Philippines as specified in the **BDS**. In quoting the price, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.

ii. The price of other (incidental) services, if any, as listed in **Section VII (Technical Specifications).**

13. Bid and Payment Currencies

13.1. For Goods that the Bidder will supply from outside the Philippines, the bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies, shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

13.2. Payment of the contract price shall be made in Philippine Pesos.

14. Bid Security

14.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

14.2. The Bid and bid security shall be valid for One Hundred Twenty (120) calendar days from the date of the opening of bids. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

15. Sealing and Marking of Bids

Each bidder shall submit one copy of the first and second components of the Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

16. Deadline for Submission of Bids

16.1. The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB.**

17. Opening and Preliminary Examination of Bids

17.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

17.2. The preliminary examination of bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

18. Domestic Preference

18.1. The Procuring Entity will grant a margin of preference for the purpose of comparison of Bids in accordance with Section 43.1.2 of the 2016 revised IRR of RA No. 9184.

19. Detailed Evaluation and Comparison of Bids

19.1. The Procuring BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*," using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of the 2016 revised IRR of RA No. 9184.

19.2. If the Project allows partial bids, bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, as the case maybe. In this case, the Bid Security as required by **ITB** Clause 15 shall be submitted for each lot or item separately.

19.3. The descriptions of the lots or items shall be indicated in **Section VII (Technical Specifications)**, although the ABCs of these lots or items are indicated in the **BDS** for purposes of the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184. The NFCC must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder.

19.4. The Project shall be awarded as one Project having several items that shall be awarded as one contract.

19.5. Except for bidders submitting a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation, all Bids must include the NFCC computation pursuant to Section 23.4.1.4 of the 2016 revised IRR of RA No. 9184, which must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder. For bidders submitting the committed Line of Credit, it must be at least equal to ten percent (10%) of the ABCs for all the lots or items participated in by the prospective Bidder.

20. Post-Qualification

20.1. Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

21.1. The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Bid Data Sheet

ITB Clause	
5.3	For this purpose, contracts similar to the Project shall be: a. Contract on information and technology solution project either in a provide or government entity with the same functionality as electronic terminal management or electronic ticketing system. b. completed within five (5) years prior to the deadline for the submission and receipt of bids.
7.1	Subcontracting is not allowed.
12	The price of the Goods shall be quoted DDP *[Manila]* or the applicable International Commercial Terms (INCOTERMS) for this Project.
14.1	The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts: a. The amount of not less than Ten Million Pesos (Php10,000,000.00), if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b. The amount of not less than Twenty Five Million Pesos (Php25,000,000.00) if bid security is in Surety Bond.
15	Each Bidder shall submit **ONE (1) original and SIX (6) copies** of its Technical and Financial Components of its Bid in two (2) separate sealed bid envelopes, which should be submitted simultaneously. Each of the bid documents should be individually sealed. All bid documents shall be book-bound, hard-bound and properly labelled with index tabs.
19.3	Partial bid is not allowed. The goods are grouped in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.
20.1	No additional requirements.
21.1	No additional requirements.

Section IV. General Conditions of Contract

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

Additional requirements for the completion of this Contract shall be provided in the **Special Conditions of Contract (SCC).**

2. Advance Payment and Terms of Payment

2.1. Advance payment of the contract amount is provided under Annex "D" of the revised 2016 IRR of RA No. 9184.

2.2. The Procuring Entity is allowed to determine the terms of payment on the partial or staggered delivery of the Goods procured, provided such partial payment shall correspond to the value of the goods delivered and accepted in accordance with prevailing accounting and auditing rules and regulations. The terms of payment are indicated in the **SCC**.

3. Performance Security

Within ten (10) calendar days from receipt of the Notice of Award by the Bidder from the Procuring Entity but in no case later than prior to the signing of the Contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR of RA No. 9184.

4. Inspection and Tests

The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Project specifications at no extra cost to the Procuring Entity in accordance with the Generic Procurement Manual. In addition to tests in the **SCC, Section IV (Technical Specifications)** shall specify what inspections and/or tests the Procuring Entity requires, and where they are to be conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

All reasonable facilities and assistance for the inspection and testing of Goods, including access to drawings and production data, shall be provided by the Supplier to the authorized inspectors at no charge to the Procuring Entity.

5. Warranty

6.1. In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier as provided under Section 62.1 of the 2016 revised IRR of RA No. 9184.

6.2. The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, repair or replace the defective Goods or parts thereof without cost to the Procuring Entity, pursuant to the Generic Procurement Manual.

6. Liability of the Supplier

The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Supplier is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

Section V. Special Conditions of Contract

Special Conditions of Contract

GCC Clause	
1	**Delivery and Documents –** For purposes of the Contract, "EXW," "FOB," "FCA," "CIF," "CIP," "DDP" and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of INCOTERMS published by the International Chamber of Commerce, Paris. The Delivery terms of this Contract shall be as follows: *[For Goods supplied from abroad, state:]* "The delivery terms applicable to the Contract are DDP delivered [*indicate place of destination*]. In accordance with INCOTERMS." *For Goods supplied from within the Philippines, state:*] "The delivery terms applicable to this Contract are delivered *[indicate place of destination].* Risk and title will pass from the Supplier to the Procuring Entity upon receipt and final acceptance of the Goods at their final destination." Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in Section VI (Schedule of Requirements). For purposes of this Clause the Procuring Entity's Representative at the Project Site are the Philippine Ports Authority-Head Office, Manila and the Port Managers of the following Port Management Offices: 1. PMO – Batangas; 2. PMO – Mindoro; 3. PMO – Misamis Occidental/Ozamiz; 4. PMO – Zamboanga; 5. PMO – Bohol; 6. PMO – Bicol; 7. PMO – Panay/Guimaras; and 8. PMO – Davao. **Incidental Services –** The Supplier is required to provide all of the following services, including additional services, if any, specified in Section VI. Schedule of Requirements: a. performance or supervision of on-site assembly and/or start-up of the supplied Goods; b. furnishing of tools required for assembly and/or maintenance of the supplied Goods; c. furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods; d. performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided

that this service shall not relieve the Supplier of any warranty obligations under this Contract.

The Contract price for the Goods shall include the prices charged by the Supplier for incidental services and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

Spare Parts –

The Supplier is required to provide all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

a. such spare parts as the Procuring Entity may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under this Contract; and

b. in the event of termination of production of the spare parts:

   i. advance notification to the Procuring Entity of the pending termination, in sufficient time to permit the Procuring Entity to procure needed requirements; and
   ii. following such termination, furnishing at no cost to the Procuring Entity, the blueprints, drawings, and specifications of the spare parts, if requested.

The spare parts and other components required are listed in **Section VI (Schedule of Requirements)** and the cost thereof are included in the contract price.

The Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spare parts or components for the Goods for a period of ten (10) years after the last day of manufacturing of the specific model.

Replacement of spare parts shall be made within four (4) hours of reported incident.

Packaging –

The Supplier shall provide such packaging of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in this Contract. The packaging shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packaging case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

The packaging, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly

provided for in the Contract, including additional requirements, if any, specified below, and in any subsequent instructions ordered by the Procuring Entity.

The outer packaging must be clearly marked on at least four (4) sides as follows:

Name of the Procuring Entity
Name of the Supplier
Contract Description
Final Destination
Gross weight
Any special lifting instructions
Any special handling instructions
Any relevant HAZCHEM classifications

A packaging list identifying the contents and quantities of the package is to be placed on an accessible point of the outer packaging if practical. If not practical the packaging list is to be placed inside the outer packaging but outside the secondary packaging.

Transportation –

Where the Supplier is required under Contract to deliver the Goods CIF, CIP, or DDP, transport of the Goods to the port of destination or such other named place of destination in the Philippines, as shall be specified in this Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.

Where the Supplier is required under this Contract to transport the Goods to a specified place of destination within the Philippines, defined as the Project Site, transport to such place of destination in the Philippines, including insurance and storage, as shall be specified in this Contract, shall be arranged by the Supplier, and related costs shall be included in the contract price.

Where the Supplier is required under Contract to deliver the Goods CIF, CIP or DDP, Goods are to be transported on carriers of Philippine registry. In the event that no carrier of Philippine registry is available, Goods may be shipped by a carrier which is not of Philippine registry provided that the Supplier obtains and presents to the Procuring Entity certification to this effect from the nearest Philippine consulate to the port of dispatch. In the event that carriers of Philippine registry are available but their schedule delays the Supplier in its performance of this Contract the period from when the Goods were first ready for shipment and the actual date of shipment the period of delay will be considered force majeure.

The Procuring Entity accepts no liability for the damage of Goods during transit other than those prescribed by INCOTERMS for DDP deliveries. In the case of Goods supplied from within the Philippines or supplied by domestic

	Suppliers risk and title will not be deemed to have passed to the Procuring Entity until their receipt and final acceptance at the final destination. **Intellectual Property Rights –** The Supplier shall indemnify the Procuring Entity against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.
2.2	Payment shall be made in Philippine Currency and shall be per milestone according to the following schedule:

Milestone	% on Contract Price
Site Preparation: For on-premise hardware to be installed, site preparation shall be performed by the project contractor in the location that will be specified in the Contract.	
Delivery of Project Inception Report	10.00%
Delivery of Detailed Project Implementation and Management Plan	1.00%
Delivery of Detailed Functional Use Cases and Workflow Specifications	1.00%
Delivery of Detailed Inventory of Software Components	0.25%
Delivery of Systems Architecture	1.00%
Delivery of Data Architecture and Complete ERD	1.00%
Delivery of Detailed Data Flow Design	1.00%
Delivery of Data Quality Management Design	1.00%
Delivery of Data Warehousing Design	1.00%
Delivery of Integration Architecture	1.00%
Delivery of Inventory of Reports and Visualization Artifacts	0.25%
Delivery of Private Vessel Operator Functional On-boarding Procedure, Methodology and Plan	1.00%
Delivery of ETMS with e-Ticketing Functional Test Scripts	0.50%
Delivery of the Detailed Technical Support and Customer Help Desk Design	0.50%
Delivery of the Detailed Design of the API Web Service Endpoint for Private Vessel Operators	0.50%
Delivery of the Detailed Design of the Payment Aggregation Service	0.50%
Delivery of the Detailed Design of the API Web Service Endpoint for Payment Gateways	0.50%
Delivery of the Security, VAPT and Threat Monitoring Design and Plan	0.50%
Delivery of the Full Technical Deployment Design	0.50%
Delivery of the Installed and Staging-Environment Configured Technology Infrastructure Environment and Associated Licenses/Subscription inclusive of: • Cloud IaaS • Virtual Machines • Storage • Middleware	6.00%

• Database • API Gateway • Electronic Terminal Management with Electronic Ticketing System	
Delivery and On-site Installation of 14 Internet Connected Kiosk Equipment	6.00%
Delivery and On-site Installation of 11 Internet Connected Kiosk Equipment	5.00%
Delivery of a Fully Tested and Operational Electronic Ticketing System	3.00%
Delivery of a Fully Tested Standard API Web Service Endpoint for Vessel Operators	3.00%
Delivery of a Fully Tested Standard API Web Service Endpoint for Payment Gateways	3.00%
Delivery of a Fully Operational Data Warehousing System	3.00%
Delivery of 15 PPA-Specified Reports and Fully Functional Reports and Visualization System	3.00%
Commissioning of 25 Kiosk Ticketing Systems	5.00%
Production Go-Live of Full System	10.00%
Completion of 1/10 Manage Services 6-month Period	2.00%
Completion of 2/10 Manage Services 6-month Period	2.00%
Completion of 3/10 Manage Services 6-month Period	2.00%
Completion of 4/10 Manage Services 6-month Period	2.00%
Completion of 5/10 Manage Services 6-month Period	2.00%
Completion of 6/10 Manage Services 6-month Period	2.00%
Completion of 7/10 Manage Services 6-month Period	2.00%
Completion of 8/10 Manage Services 6-month Period	2.00%
Completion of 9/10 Manage Services 6-month Period	2.00%
Completion of 10/10 Manage Services 6-month Period	2.00%
Completion of the 5 year Managed Service Period	10.00%

4	The inspection and tests that will be conducted are: The Philippine Ports Authority – Head Office shall have the right to inspect and/or test the software, equipment and peripherals to confirm conformity with the Terms of Reference and Contract. The winning bidder shall furnish test equipment, instrumentation, personnel and supplies necessary to perform all testing. PPA – Head Office shall be given a five (5) working day notice prior to tests. Burn-in tests will be conducted on the different IT equipment which shall be delivered. It shall be series of hardware intensive tests for a period of 12 to 24 hours or more to determine defective component during the burn-in period.

Section VI. Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

Item Number	Description	Quantity	Total	Delivered, Weeks/Months
	Supply, Delivery, Installation and Commissioning of Electronic Terminal Management System (ETMS) Inclusive of Cloud-Based Unified Electronic Ticketing Capabilities for the Philippine Ports			Within five (5) years from Final Acceptance of all the components of the Project.
	<u>Components</u>			
	Fully Configured Cloud Infrastructure Environment, Installation and Setup of Foundational Software and Database Services and Components			NTP + 10 calendar days
	Installed and Fully Functional ETMS and e-Ticketing Software System			NTP + 20 calendar days
	Fully configured, UAT-ready ETMS and e-Ticketing Software System			NTP + 40 calendar days
	Completed provisioning of API standard specifications to 15 Vessel Operators			NTP + 60 calendar days
	Configuration of Payment Aggregation Service and			

	Integration to the PPA specified Third Party Payment Gateway system			NTP + 80 calendar days
	Completed Deployment and Training to five (5) initial major ports (inclusive of the delivery, setup, configuration, and testing of Kiosks)			NTP + 90 calendar days
	Fully configured the following data registries and data marts: Passenger Registry, Vessel Registry, Voyage Registry			NTP + 100 calendar days
	Security Hardened ETMS and e-Ticketing Software System			NTP + 120 calendar days
	Completed Deployment and Training to five (5) additional high traffic ports (inclusive of the delivery, setup, configuration, and testing of Kiosks)			NTP + 130 calendar days
	Fully Tested ETMS with Cloud based e-Ticketing Software System			NTP + 140 calendar days

Section VII. Technical Specifications

Technical Specifications

Item	Specification	Statement of Compliance
		[Bidders must state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid

		evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]
	GENERAL DESCRIPTION	
	The Project which will be implemented simultaneously in the herein mentioned ports, is a package solution that consists of software, hardware, equipment and peripherals including system installations, adjustment of updates, testing, training, system support and the installation and set up of necessary network infrastructure. It will include five (5) years operation and maintenance services. In particular, the package solution must be: a. a cloud-native system that is accessible via any browser using any internet-connected endpoint device such as a personal computer or workstation or laptop, a smart phone, or tablet. b. A Commercial-Off-The-Shelf product (COTS) with the capability to: • Process a minimum of 100 million passengers per year; • Process a minimum of 16,500 tickets per day; • Process a minimum of 2,500 tickets per hour (via kiosks); • Enable a minimum of 10 ports with check-in, boarding and ticket kiosks; • Connect ferry/vessel operators covering PPA ports. c. Easily configurable even by non-programmers to meet the specifications of the PPA. d. An API Web services capable, using standard encapsulation formats such as JSON or XML.	

e. A full-turnkey, scalable and upgradable solution complete with the following essential technology stack provision:

- Cloud Infrastructure (Compute and Storage)
- Identity Access Management System
- Virtualization System
- Standards-based Server Operating System
- Public Key Infrastructure (PKI) System
- Standards-based SQL Database System
- Standards-based Middleware System
- Standards-based API Gateway System
- Data Warehousing System
- Reports Generation and Visualization System
- Payment Aggregator and secure API connector services to standard, local, and international payment gateway systems and/or electronic money issuers
- Security and Threat Analysis

f. Capable to be setup in kiosks with the required equipment, peripherals, and design specifications including system configuration common to all of the following ports:

PMO	Port	Kiosk Count
Batangas	Baseport Batangas	5
Mindoro	Baseport Calapan	5
Misamis Occidental / Ozamiz	Baseport Ozamiz	3
Zamboanga	Baseport Zamboanga	2
Bohol	Baseport Tagbilaran	2
Bicol	Matnog	2
Panay/Guimaras	Baseport Iloilo	2
Panay/Guimaras	Port of Dumangas	2
Davao	Babak / Samal	1
Zamboanga	Basilan	1

Kiosk must be transferrable and configurable to another site when the Authority so requires with no additional cost to PPA.

The prospective bidder must have the following ISO Certifications:

1.ISO 9001:2015

2. ISO 27001:2013

	3. ISO 27017:2015 4. ISO 27018:2014 5. ISO 27701:2019 All certifications must be current and active at the time of bid submission	
	The prospective bidder must have been in continuous operation with a total of ten years combined experience as information system provider, software developer and system integrator at the time of bid submission but experience for each type of service should not be less than one year.	
	The prospective bidder must already have an available software of an Electronic Terminal Management Systems inclusive of Cloud-based Ticketing solution during post qualification.	
	The prospective bidder must conduct a self-rating using the form in Annex A of the Terms of Reference (TOR). The duly accomplished form must be submitted together with the technical proposal.	
	The prospective bidder must be able to conduct a systems demonstration for the purpose of verifying if functional requirements are at least 70% fit in accordance with the specifications provided in Annex A of the TOR.	
	SCOPE OF WORK	
	Deliver, install, deploy and implement an Electronic Terminal Management System with a cloud-based ticketing system, inclusive of server for Head Office and twenty-five (25) Kiosks distributed, installed and configured in PPA ports with network requirements.	
	Provide support services necessary to ensure exchange of information as well as hardware, software, network, databases and information systems/application systems which are fully integrated and operational.	
	Include in its Maintenance and Support Plan, among others, the following information: a. Staffing plan and Number of Support Staff b. Location and Operational Processes	

	c. Minimum Service Levels, such as: 1. Immediate Help desk response time for various classes of problems 2. On-site support within 4 hours of reported incident 3. Replacement of spare parts within 4 hours of reported incident d. Usage statistics	
	Provide risk management plan detailing the strategies and appropriate measures to be undertaken. The plan should detail the following: a. Risk Management Organization and Responsibilities b. Risk Management Structure and Procedures for planning, identification, assessment, handling and monitoring.	
	Provide a Disaster Recovery Plan which must contain the comprehensive procedures necessary to resume business to its normal operation in the least possible time for emergency response, backup and recovery	
	Provide a complete documentation for every deliverable. PPA shall own all documents and shall reserve the right to reproduce at no additional cost	
	COMPONENTS	
	Technology	
	1. Electronic Terminal Management System inclusive of an Electronic Ticketing Software Application (with perpetual licensing and annual support and maintenance included for the whole duration of the Contract.) 2. Cloud Infrastructure (Compute and Storage) 3. Identity Access Management System 4. Virtualization System 5. Standards-based Server Operating System 6. Public Key Infrastructure (PKI) System	

	7.Standards-based RDBMS System 8. Standards-based Middleware System 9. Standards-based API Gateway System 10.Data Warehousing System 11.Reports Generation and Visualization System 12.Payment Aggregator and secure API connector services to standard, local, and international payment gateway systems, and/or electronic money issuers 13.Cloud security and Threat Analytics 14.Server and Network	
	Services	
	1. Supply, Delivery, Installation and Commissioning of an Electronic Terminal Management System with Electronic Ticketing System 2. Server and Kiosk Setup, Engineering, Implementation, and Support Services 3. Project and Technical Implementation Services 4. Systems Administration Services 5. Dedicated Technical and Helpdesk Support Staff 6. Operations Management Services 7. Private Vessel Integration Support Services (exclusive of customization or API development)	
	Network Connectivity	
	1. Provisioning of a minimum committed information rate (CIR) of 4mbps high-speed line broadband per terminal to connect deployed in the specified terminals to the cloud-based application or system and CIR of 200 mbps for Head Office. 2. The final bandwidth throughput per terminal will be commensurate with the number of installed kiosks but must not be lower than 4mbps CIR per port terminal.	

	3. Provisioning of network redundancy which shall be different from PPA's existing connection or provider.	
	Courseware Materials and Training Conducts	
	1. The winning bidder shall provide the courseware for training of administrators and private-vessel operator end-users that will use the ticketing system. 2. Training shall be conducted for designated administrators at the main office, and for end-users and functional line personnel in each of the 10 terminals. 3. Self-help user guides shall also be made available and accessible via the software system as an online FAQ service.	
	Post-Production Vessel Operator On-Boarding Support	
	1. The winning bidder must provide, upon successful deployment of the system into production environment, the necessary technical and functional support services to on-board private vessel operators onto the electronic ticketing system of the PPA. 2. The winning bidder must also provide, upon successful deployment of the system into a production environment, the necessary technical support services to assist the connectivity of private vessel operators using the PPA prescribed standard API web services. 3. The winning bidder shall be responsible in ensuring that all API terminations are secure and execute with minimal transactional latency.	
	Post-Production Software and Equipment Support and Maintenance	
	1. The winning bidder shall provide, upon the successful deployment of the system into production, 5 years of software support and maintenance services to PPA, at no additional cost to government, for the continued maintenance of the system inclusive of the application of security patches, functional de-bugging, and to ensure compliance to the service level uptime commitments as specified by the PPA. 2. The winning bidder shall also provide a replacement for all damaged kiosks and equipment that are covered under the prescribed warranty period, within 24-hours of	

	being reported as inoperable or at the time the same has come to the knowledge of the service provider, whichever comes first.	
	Technical Support and Customer Help Desk	
	1. The winning bidder must provide the personnel for technical support and customer help desk services to assist technical administrators and users of the system in accordance with the minimum Service Level as specified in the TOR. 2. Services must be available eight (8) hours per day/ seven (7) days a week for a period of five (5) years.	
	OPERATIONAL AND FUNCTIONAL REQUIREMENTS, DESCRIPTIONS AND SPECIFICATIONS OF THE ELECTRONIC TERMINAL MANAGEMENT SYSTEM INCLUSIVE OF CLOUDBASED TICKETING SYSTEM	
	Electronic Terminal Management	

BUSINESS REQTS (BRs)	FUNCTIONAL REQUIREMENTS (FRs)	
BR#1	Online	
	FR#1	Browser-based web application
	FR#2	Accessible via the internet anywhere, anytime as needed
	FR#3	Allows the user to make real-time look-up or update of data
BR#2	Secure	
	FR#1	Secure connections to data via the internet
	FR 2	Sensitive data is encrypted in accordance with data privacy policy
BR#3	Mobile Device Compatible	
	FR#1	Must provide an Android and iOS native mobile application
BR#4	Inter-operable with Other Systems	
	FR#1	Must provide API interfaces with PPA's current systems as well as systems external to PPA like the Bureau of Customs, terminal operator systems,

			other third-party systems, etc.		
		BR#5	Modularity and Portability		
			FR#1	Modular systems so that modules can be activated or deactivated as needed	
			FR#2	The system grows with PPA's operations so that data volume and system transactions are still supported over time without system performance suffering	
			FR#3	Must provide for a backup network connectivity service to ensure availability of connectivity	
		BR#6	Reports Configuration and Visualization		
			FR#1	Customizable reports that can be summarized or drilled down to detail level as needed	
			FR#2	Filtering, sorting, and grouping options that allows the user to show as little or as much information as needed in a report	
			FR#3	Supports highly customized or special ad hoc reports.	
		BR#7	Includes port/berth planning module		
			FR#1	Includes port map with berth information with allocation and scheduling that can be used during berthing meetings.	
			FR#2	Interfaces with PPA's existing module of Notice of Arrival/Application for Berth and Anchorage (NOA/ABA) to capture vessel particulars and vessel arrival information that will be used for berth planning (e.g. Advanced vessel information with their measurements for berth planning, cargo information to estimate working time, etc.)	
			FR#3	Facility for data input for berth/anchorage allocation which shall be available to shipping lines/stakeholders for real-time notification.	
			FR#4	Interfaces with existing Vessel Traffic Management System (VTMS) and also allows data input or interface with other existing systems to capture real-time movement of vessels.	
			FR#5	Interfaces with the sailing information module of the cloud-based ticketing system	
		BR#8	Includes gate information and ticketing module		

			FR#1	Captures and stores entrance and exit data of vehicles, pedestrians and cargo at the port gates.	
			FR#2	Must have a facility to check in the system if vehicle, pedestrian and cargo is allowed for entry/release to/from the port.	
			FR#3	Must have an integrated reporting module that can generate reports of cargo/vehicles and pedestrians which entered/exited through the gates.	
			FR#4	Issues temporary gate pass ticket for vehicle/pedestrian/cargo.	
			FR#5	Consolidates all cash ticket issued and interfaces the data to PPA's existing financial system.	
		BR#9	Interfaces to the PTB Operator's system		
			FR#1	Captures real-time information of passengers entering or exiting the Passenger Terminal Building (PTB) with interface to the gate management module.	
			FR#2	Captures the name of passenger, age, gender and carrying vessel as well as the total Terminal Fee collected. This way, real time capture of data and information regarding passenger traffic will be easily recorded and transmitted to PPA higher management, including the early response to the request of some private and government entities.	
			FR#3	Able to reconcile data from PTB Operator's System, Shipping Lines and other sources using analytics on the quality and correctness of information for real-time reconciliation of passenger embarking/disembarking	
		BR#10	Integrates passenger/terminal ticketing module		
			FR#1	Issues passenger ticket through the electronic booking module as specified in 9.2	
			FR#2 FR#3	Consolidates all cash tickets issued for passenger ticket transactions and interfaces the data to PPA's existing financial system	
		BR#11	Captures and stores passenger's ticket information		
			FR#1	Interfaces with the shipping line's systems to capture the passenger manifest details needed: name of passenger, age and gender in order to	

			obtain the needed passenger statistics of the total number of embarked/disembarked passengers, total passengers per age, and total passengers' gender.	
		BR#12	Integrates Roll-On/Roll-Off (RoRo) ticketing module	
			FR#1	Captures and stores RORO information needed for computation of charges/RoRo cash ticket
			FR#2	Issues the RoRo cash ticket through a mobile application or point of sale (POS) machine/software
			FR#3	Consolidates all cash tickets issued for Roro transactions and interfaces the data to PPA's existing financial system
		BR#13	Integrates non-containerized cargo ticketing capability	
			FR#1	Captures and stores real-time cargo information needed for computation of charges of non-containerized cargoes
			FR#2	Issues the cargo ticket through a mobile application or Point-of-Sale (POS) machine/software
			FR#3	Consolidates all cash tickets issued for non-containerized cargoes and interfaces the data to PPA's existing financial system
		BR#14	Creates repository of movement of cargo/vessel and pedestrian within the port area	
			FR#1	Supports monitoring of vehicle/person/cargo movement within the port premises.
			FR#2	Integrates a cargo storage module where PPA users can enter or view the actual location of cargo within the port area.
			FR#3	Integrates vehicle movement module where PPA users can enter or view the actual location of vehicle within the port area.
			FR#4	Integrates passenger/pedestrian module where PPA users can locate passenger/pedestrian within the port area.
	Electronic Booking			
	1. The electronic booking module must be a multi-tenant, configurable and scalable solution that is fully responsive supporting use on any browser using any internet-connected endpoint device including mobile devices,			

	tablets, desktop computers, as well as onsite kiosk machines. 2. PPA must have full control over the content of the electronic booking module. It should support "widget logic" functionality, allowing blocks of content to appear only conditionally, based on criteria including aspects of the customers making the booking and the content they are looking to book. 3. The following online functions must be supported by the Electronic Booking module: a. Customer Login - The customer login for frequent travelers is available on all the booking pages. b. Journey Booking – Must allow for journey booking that allow the listing of alternative departures and alternative prices in a best price overview that also allows the functionality to book passengers and vehicles (public utility and private). c. Miscellaneous Journey-based items - Up-selling pages can be added to book on-board services such as meals and pre-purchased services on the journey. d. Extras (Ashore Tickets – no Inventory) - Up-selling of simple services that are not connected to a journey can also be provided. e. Pay for In-House Bookings - A log in feature using the booking number and a PIN code issued on the booking confirmation allows a passenger to pay for their booking in the web booking. f. Enter Group Names - This feature provides the possibility for a group leader to go online and enter the individual names for everyone in their party. g. Create and Modify Customer Profile - A customer profile can be created as part of the booking process by checking a box in the customer information page and giving a password. Using the customer reference or email address and the password the customer can then update his personal information himself. There must be functionality for the recovery of lost password. h. Save to Calendar - A booking can be saved to your calendar.	

	i. Tag Manager and E-Commerce Tracking – must include a tool for maintaining and configuring small snippets of code known as tags which need to be inserted into the web pages. Tags let you measure traffic and visitor behavior, understand the impact of online advertising and social channels, use remarketing and audience targeting, test and improve your site, and more. j. Directions to Port – must provide the functionality to search for the route to a specific port and fetch the list of applicable departures from the port. The feature must be enabled with a standard maps API to calculate the directions and the time needed to arrive to the destination and it is possible to launch the maps application to start the navigation to the selected port. k. Modify Booking, Including Remove Journey – must support the removal of a single journey from an existing booking without needing to go through the full booking flow to re-submit the changes. It must provide the functionality to select to remove a journey from the Booking Confirmation page and directly from the list of bookings generated. l. Open Return Add-On – must provide a feature that enables the "Open Journey" option visible next to the return calendar. m. Ashore Parking Module – must provide a feature that adds a parking booking to the customer's main booking.	
	Reservations and Ticketing	
	1. The reservations and ticketing module must include booking and data administration functionality as well as routines and management of batch jobs. 2. The base module for booking management process should hold the following functionalities that can be added or removed as needed: a. Booking, amendment and cancellation of any services that are available in the system. b. Booking history, possibility to view who, when and how a booking has been changed as well as the possibility to roll back the booking to a previous version and to reinstate a cancelled booking. c. Supports the feature of Waiting Lists and Standby Lists. Controls are provided to limit the number of	

	waitlists that can be booked against each of the primary on-board resource: Passengers, Vehicle and Cabins. d. New bookings are not permitted against resources that are waitlisted unless the available space exceeds the waitlist count. e. Product configuration controls if waitlist or standby is available at the fare being booked and a unique sequence number is assigned for each booking at individual departure level. f. Waitlist status can be applied at booking row or whole journey level if anyone of the required resources unavailable. g. Deposit and Balance payments must support specific quotation, confirmation and chaser documents which can be customized. h. Multiple payments, in different currencies, using different payment types, can be registered to a booking and there is also support for deposits and balancing transactions. i. Currently the following payment types must support the applicable validation routines: (Cash, Credit, Debit and Charge Cards, Invoices, or Vouchers). j. Integrated cash reconciliation including routines for cashier statements and cashier reporting. k. Printing of documents must support in-house and at-home printing of PDF format documents (tickets or reservations). l. Routines can be scheduled to update and adjust information in the system. Amongst others the following routines are configured based on business rules: m. Set Departure Status for Booking and Check-in n. No show routine o. Auto-cancellation routine p. Accounting routine q. Housekeeping routines r. Invoicing or Statement of Account generation must be automated to produce invoices to print or send out as PDF	

	files in emails based on the invoice settings on each credit customer. s. Booking and Inventory Control for Passenger Traffic – must have the functionality for booking of passengers, including registration of passenger names and details, which can be made mandatory or optional based on route settings. Passenger types are user defined along with qualifying ages which may differ on a route-by-route basis with automatic assignment to generic Adult, Child and Infant classifications for Manifests and Port Reports. Full contact details for phone, postal mail, email and mobile phone are collected for each booking or maybe imported from the Customer Register. t. Must provide features for the use of dynamic booking templates to aid efficiency in the Port at the time of departure where similar bookings are required on a repetitive basis. u. Booking and Inventory Control for Passenger Vehicle Traffic – Must provide features for vehicle booking to include recording of vehicle sizes, license plate details, country of registration and driver name which can be selected from a list drawn from the Passenger name list. Must provide features that enable vehicle pricing using parameters such as per unit or a combination of length, width and weight. v. Booking and Inventory Control for Assigned Cabins - Functionality for booking cabins including the assignment of individual passenger names to their respective accommodations. w. Cabin types and numbering sequences are defined by the user along with occupancy levels, features and facilities. Adjoining and adjacent cabin logic is supported along with controls limiting which cabins are suitable for cots and the number that can be accommodated. x. Cabin assignment can be run as a pre-departure routine or in real time during the booking process. Gender based sharing is fully supported and rules can be configured. 3. Booking and Inventory Control for Assigned Seating - Functionality for booking sleeper seats including the assignment of individual passenger names to their respective seat.	

	a. Seat assignment can be run as a pre-departure routine or in real time during the booking process. b. Seats can be defined for both graphical and list-based selection during the booking process if pre-assigned seating is required. c. Pricing can be varied based on the location and desirability of the seat in order to generate additional revenues. d. Access to premier areas of the vessel can also be inventory controlled with the added feature of being able to have magnetic, barcoded or RFID access cards generated in order to control physical access. 4. Template Booking – This feature makes it possible to create booking templates to be used for quick booking. By using a Booking Template, the User can create new bookings with pre-defined values. The booking template can consist of one or more departures. 5. Freight and Commercial Vehicle Booking - Trucks, lorries and freight units can be booked by dimensions, keep license plate and unit ID details, country of registration as well as driver name. Unit pricing can be per unit or a combination of length, width and weight. Supplements and charges can be added based on length or weight. A Commercial Vehicle Register fulfils a similar role for freight bookings where regularly shipped units can be setup along with their characteristics. Information about shipper, transporter and consignee can be registered as well as cargo content and custom classes. Also, hazardous goods can be set up and a request for shipment process for Dangerous cargo can be managed. a. Dangerous Goods (IMDG) - Must support IMDG codes (i.e., "International Maritime Dangerous Goods codes") in the Cargo booking form when defining hazardous goods loaded on a cargo vehicle. b. Cargo Content and Customs Codes – Must provide a feature that enables the PPA to define Customs Codes in the Cargo booking form. c. Yielding - The reservation module supports multiple Pricing Models which can be linked to Yield 'Buckets' to support revenue management strategies if required. Dynamic or Fluid Pricing where the price varies based on the current booked load and/or the time remaining to departure can be combined within a revenue management	

	structure or deployed independently based on operator preferences and market conditions. 6. The ticketing module must be designed to make the ticket sales process for new passengers not to exceed 10 minutes and for returning passengers, not to exceed 5 minutes. The user experience must feature functions that enable anyone with sales experience to sell tickets or guide new users through the ticketing process. It must have the following features: 7. Journeys - Multiple journeys can be sold from the same ticket office and you can control how much of the schedule that can be made available for sales. 8. Multi-leg Journeys - If a journey has several stops, the alternative ports should be presented as options. a. Open outward, open return - Tickets can be sold with no connection to a particular sailing, only connected to a certain route. These tickets take no capacity, until they are either changed to a fixed journey or scanned to at the gangway to a particular departure. b. Multiple tickets on one payment – Users can create multiple bookings in one go. All bookings can be paid for in one transaction. c. Ticketing Cloning – Allows users to clone a ticket (frequently booked voyages) in the shopping basket. An identical booking then gets added to the shopping basket. d. Retrieving existing bookings - Allows users to retrieve an existing ticket or booking by entering a booking number. The booking details should be shown in a popup where you can check-in or cancel the booking. e. Validating e-tickets and ticket books - The ticketing module must have the capability to scan a QR code on a printed ticket or on via a mobile phone.	
	Sailing Information	
	The sailing information module presents details on vessel trip schedule as well as special messages to customers on terminal screens or via the passenger's own devices. Sailing information from the schedule setup in the reservations system should be displayed together with specific message that is configurable in real time. The following features must be available:	

	1. Location settings - For each location or port, you should be able to configure what information is displayed and how many departures and arrivals to be visible. Several screens can show the same information at the same location. 2. Departure Information - The departure information from the reservation system lists all sailings and scheduled times. You can add expected departure times which will, if later than scheduled time, display a delay in the departure information on the information screens. You can also display if a sailing is cancelled and any type of messages you would like to display together with the arrival or departure information. 3. Integration - The port information module should be fully web-based to have the ability to integrate in several mode of displays including passengers' own devices.	
	Back-Office Administration	
	The back-office and administration module must allow PPA and assigned users to configure the ticketing system. The following required modules and features of the Product and Pricing module are described below: 1. Data Registry, Product Brochure or Catalog - A container for a set of data registries and products set by the administrator. 2. Required Rules Definition Features: a. Package Rules – this feature makes it possible to define whether the booked Product(s) should be booked as a Package by defining a Package Rule on the Product. A Package can include both journey and ashore services. b. Pax Included Rules - The Pax included rule is used to limit the allowed number of passengers to be booked as included in a vehicle when booking a Product where the Pax included rule is defined. The Pax included rule consists of two tabs, Pax included rule and Pax included definitions. c. Product Type - The Products to be sold in the booking form allows products to be divided into different Product Groups (Product Types). One or several Product Types can be applied to an existing Product. The Product Type definitions can be used as a target marked segment and does not fulfil any other function in the system. Product Type is also included in some reports. When searching for	

	Products, either in the booking form or in the Product Definition form, it is possible to search by Product. d. User Group Rule - All Users in the system must belong to different User Groups. It is possible to define a User Group Rule on a Product to limit the User Groups allowed to book the Product. Only Users belonging to a User Group included in the User Group Rule will be able to use the Product. It is possible to limit the allowed User Groups further by defining rules for when the Product is possible to book or amend. e. Insurance Rule - By applying a Product Insurance Rule on the Product, administrators can limit the possible Insurance Categories when booking a Product. It is possible to book the Product without selling any Insurance. If the Product does not have an Insurance Rule defined, any Insurance Category can be booked and no validation against booked quantity will be done. f. Amendment Free Rule – Makes it possible to define an Amendment fee rule to be triggered when changing a booking. The Amendment fee rule can be configured to only be triggered if the value of the journey or the booked Category Group (or both) decreases. A separate Category should be used as Amendment fee. The Category Group must be connected to Module M and the checkbox "Extras" should be ticked. The Category should have checkbox "Fee" ticked in the Category structure, indicating that this Category is to be used as a fee. Categories defined as Fee will be available to choose in the Amendment fee rule form. The Amendment fee is calculated when the booking is saved. Cancellation (i.e., delete) of one journey can trigger an amendment fee calculation but the fee will be calculated from the Cancellation rule stated in the Amendment fee. g. Ashore Rule - An Ashore Rule for the Product, makes it possible to define which services (hotels, restaurants, tourist venues, etc.) are allowed to be booked with the active Product and to specify whether certain Category is mandatory or not allowed. h. Cancellation Rule - The system will display a message when cancelling the booking, telling the User how much the cancellation fee would be charged. The User can either proceed with the cancellation or choose to return to the booking. Cancellation fees are calculated based on: i. Cancellation Rule defined on the booked Product.	

ii. Ashore Cancellation Rule defined for a Premise.

iii.Default Cancellation Rule defined as a System Parameter.

i. Category Rule - The Product Category Rule can be used to limit which Categories and combinations of Categories that can be booked when using a Product where the Category Rule is defined.

j. Discount Rule - It is possible to attach a Discount rule to a Product. This rule can be used for example as an "Early Booking Discount" or special discount when booking through internet. The Discount rule is also used to calculate rebate when using a Promotion Code in the booking. Discount Rules can also be configured as Each N Free (for example "Buy one, Get one for free"). When the User books a Product where Discount rule is defined, the system will alert the User that a discount can be triggered, the text "DISCOUNT" is displayed in the booking price/booking balance field.

k. Price Rule - Price Rules must be defined for the Product for the pricing procedure to collect the prices when creating bookings. When a Product is linked to a certain Price Rule, the Price Rule controls the Price Groups to be concerned when booking a Product for a specific period. The actual Category prices are defined in the Price Groups, and Price Group(s) should be connected to the Price Rule.

l. Product Price Group - By assigning a Product Price Group on a Product, it is possible to override the ordinary prices for the Product for a specific departure only.

m. Promotion Rule - The Product Promotion Rule is an exception rule which can be defined on Product to limit the promotions available on that Product.

n. Supplement Rule - A Supplement rule can be defined on a Product to make it possible to add for example Port Fees, Taxes or other Booking Fees to a booking without using booking attachments. The Supplements work in a similar way as booking attachments but are attached to a Product by using the Product Supplement Rule. It is also possible to define Booking Attachment(s) to be added to the Supplement category. Dynamic Supplements (calculated as % or amount based on booked items) must support on Journey level. When verifying Discount Rule and/or Supplement Rule, the system will first check for a definition where both Agent and Customer exist. Both

	must exist in the booking for the definition to apply, otherwise the system will continue to search for the next best match. o. Journey Definition Rule - The Journey Definition Rule can be used to limit available departures for a certain Product. When defining a Journey Definition Rule, the Vehicle Type controls the outbound definition rule. If the same Journey Definition Rule should apply for more than one Vehicle Type (for example both HI Speed and M/S), separate rows must be defined for all Vehicle Types. p. Yield Rule - It is possible to limit capacity for certain Categories by using the Yield function. Yield Groups and Yield Capacity must be set up, and a Yield Rule should be defined on the Product. When booking this Product, Yield Capacity will be reduced. The Product can be booked only if there is Yield Capacity available. q. Currency Rule - It is possible to limit a Product to be sold using a single currency or multiple currencies. r. Deposit Rule - The Deposit fee rule enables the system to calculate deposit fees as well as deposit and final payment with separate due dates. s. Document Rules – must allow the attachment files in the e-mail depending on the booked Product(s) by defining a Document Rule on the Product. The documents to be attached are defined in the Document Rule form. t. Price Print Rule - By defining a Price Print rule on a Product, individual row prices can be hidden on some confirmation layouts and grouped package prices will be displayed instead. u. Agent Rule - The agent rule is used to limit the sale to certain agents. A Product limited by an Agent rule will not be displayed in the Product Search form for an Agent not included in the Agent Rule.	
	The system must have the following ancillary features and capabilities as described below:	
	1. Booking Attachments - The Booking Attachments are used for defining rules for booking rows that should be created automatically by the system when a booking row with a certain Category combination is booked. The automatically generated rows will be connected to the row that triggered their creation.	

	2. Multilingual document support (Translations of predefined texts) - Text translations are used as labels in different documents, mostly when reports are created in the system. The standard reports that can be printed from within many of the Registry Maintenance forms are built up by these miscellaneous texts. 3. Blacklist – This feature allows administrators to flag unwanted guests to a blacklist either indefinitely or for a limited time to stop them from creating new bookings. Bookings and name list entries in bookings must be compared to the blacklist when they are created, modified, and during payment and check-in. Users must be able to configure email alerts to a supervisor when blacklisted guests try to book. 4. Automatic Booking Transfer - The Automatic Booking Transfer moves bookings from one departure to another. When bookings are transferred, it is possible to compose an information message to be sent as SMS and/or e-mail in different languages to customers booked on a specific departure. 5. Crew Management – This feature allows administrators to create, manage, and administer Crew member information.	
	Passenger Digital Identity	
	The system must have a module that will establish the digital identity of the passenger when using self-service booking. The digital identity should be verifiable during booking. The digital identity can be applied by the customer online and may be supplemented by physical valid government IDs.	
	Authentication, Verification, and Digital Vaulting	
	The system must be integrated to a platform for authenticating all documents that are produced by the system. The authenticated documents should be verifiable.	
	Integration	
	1. The system must be capable of integrating via APIs with third-party or external systems as may be required by PPA. The secure API system must be cloud-based.	

	2. The system must be capable of interfacing with PPA's computerized accounting system for the reporting of collection and remittance. 3. The system must be capable of interfacing with PPA's existing application used in port operations to capture relevant data such as passenger traffic, berth occupancy, etc.	
	Public Key Infrastructure (PKI)	
	Must provide for the authentication of users and devices that are part of the PPA Harmony-PASS network using PKI. The PKI will enforce a zero-trust security environment to protect the PPA infrastructure and digital assets.	
	Identity Access Management (IAM)	
	The system should include an IAM tool to manage users accessing the PPA Harmony System.	
	Payment Channel Aggregation System	
	Must provide the secure and encrypted API-based payment channel management capabilities that enable secure connectivity with external payment gateway systems, banking systems, and electronic money issuer systems. It must feature the capability for a provenance-enforced, immutable, and automated disaggregation and direct remittance of payments to ensure that fare payments due private vessel operators are directly remitted to the private vessel operator's nominated back accounts, and to ensure that fees and payments due the Authority are likewise directly remitted to the nominated government depository account of the Authority. The provider must employ the highest level of industry security and standards, high availability, and support for the channel aggregation services.	
	Security and Threat Analytics Specifications	
	The bidder must ensure the security of the production systems (traffic, applications, and database systems). This must include vulnerability and penetration testing (VAPT), along with regular threat monitoring services to ensure the security of the system, throughout the contract period.	
	Service Kiosks	

a. The in-terminal kiosk/s will allow passenger to book and purchase desired tickets, as well as enable customers to settle purchases using available electronic payment facilities. This implementation will cover the implementation of 25 kiosks distributed across 10 ports, as specified in Section 3.f of this TOR.

b. Kiosk must be transferrable to another site when the Authority so requires with no additional cost to PPA.

c. Kiosk systems must come with the following required components:

- Touch Screen
- Speaker
- QR Code Reader
- RFID Reader
- Paper Ticket Printer
- Paper of durable construction and resistant to fading.

The minimum required specifications of kiosks are indicated in the table below:

Item	Module Name	Qty	Specifications
1	Edge Computer	1	• Core i3 7100U Processor • SO-DIMM DDR4-2400, 8GB * 1 • RJ45 * 2 • SATA 2.5" SSD, SATA3, 3D TLC, 512GB * 1 • USB3.0 * 4 • RS232 * 4 • Win10 IoT
2	Touch Screen	1	• 21.5 inch • Pixels H x V: 1920 x 1080 • Response Time: 18ms • Contrast Ratio: 3000:1 • Video Connectors: • 1 x VGA HDDB-15 pin • 1 x DVI • 1 x HDMI • Touch-Screen Connector: 1x USB • Power Source: 12VDC • Dimensions : 500.4 x 297.0 x 47.8 mm

	3	Speaker	1	• Output Power : 200W (P.M.P.O.) • Power : DC 5V • Response frequency : 120Hz~18KHz • Dimensions : (W)73x(H)73x(D)69mm		
	4	Uninterrup tible Power Supply (UPS)	1	• Capacity : 800VA • Back-up Time : 18-35 min. • Input/Output : 220V ±5% • Frequency : 50 or 60 Hz ±10% (auto sensing)		
	5	Paper Ticket Printer (Printout Ticket)	1	• Instruction Set : Compatible with ESC / POS print instruction set. • Print speed : Max:250mm/s. • Paper rolls outer diameter / inner diameter: Max:150mm; min:18mm. • Power : DC24V/2A • Dimensions : 141.1*288.4*180.5mm		
	6	RFID Reader	1	• NFC Reader Protocol : SupportISO14443 type A/B • Operating Frequency : 13.56MHZBaud Rate : 115200bps • Supply Voltage : DC5V ±5%		
	7	Credit Card swipe machine	1	• Processor : 32-bit Secure Microprocessor running Linux based OS • Display : 2.4" Color TFT LCD |320x 240 Pixels • Magnetic Stripe : ISO7810,7811, 7813 Triple Track, Bi-Directional • User Card : ISO7816 ID-1 1.8V/3V/5V T=0, T=1Power Supply : DC5V/1A		
	8	QR Code Reader	1	• Image Sensor : 800x800 CMOS Illumination : White LED		

			• Scan Modes : Sense Mode, Continuous Mode	
9	Housing	1	• Stainless Steel Housing plus paint • Security Lock	

Required Standard Reports

The system must provide a set of standard reports with features to enable users to create ad hoc or specialized reports with the feature capability to present a report in varied formats as required by the PPA. The reports that must come standard with the system as specified below:

1. Bill of Lading
2. Commercial Accounts Report
3. Freight/Cargo Consignment
4. Cargo Load List
5. Persons with Disability Report
6. Dangerous Goods
7. Cargo Manifest
8. Passenger Manifest
9. Reservation Liability Report
10. Other Income Report
11. Late Cancellation Report
12. Commercial Accounts/Agents Report
13. Expired Booking Report
14. Boarded Packages Report
15. Manual Price Audit Report
16. Daily Digital Payments Report
17. Account Journal Report

Additional tools should be provided for other PPA report, data mining and integration requirements. For the following purposes, the production data should be

	replicated to a dedicated report on-premise server located in the nominated Primary Data Center of the PPA: • Queries and reports can be run without affecting the performance of the live system. • Comparative reports can be created and re-used based on static points in time. • Optimal performance in a management information environment. • Exported data can be ported to third party applications or data warehouse for ongoing analyses.	
	HCI Server with the following minimum specifications:	
	1. Three (3) nodes with the following minimum requirements per node: • Dual Processor, 12C 2.2GHz Processor • 256GB memory Tru DDR4 • Boot Drive 2 x M.2 480 GB • 50TB usable storage capacity • 4 x 1/10 GbE RJ-45 • Two Hot Swap power supply • Rack mountable from with appropriate server rack • With Systems Management • Loaded with the Required Operating System/Software 2. 10 KVA - Online - Uninterruptible Power Supply	
	Other Considerations	
	1. Provide complete reference materials to properly use the system, including Brochures, Training Manuals, Quick guides, technical manuals for the use of end-users and administrators. 2. Provide complete documentation and turn-over all administrator/root passwords and other account	

	credentials, when necessary for complete and unencumbered access to the system, its services and related databases. 3. Documentation must be written in English of durable construction with concise and high-quality presentation. 4. Provide the list of hardware, network resources and application to be provided which will be required for the project. 5. Acquire from BIR the required registration for all machines as well as the accreditation for the Permit to Use computerized application/software which will be needed for the implementation of this project.	
	IMPLEMENTATION REQUIREMENTS	
	Inspection and Tests:	
	1. The Philippine Ports Authority-Head Office shall have the right to inspect and/or test the software, equipment, and peripherals to confirm conformity with the Terms of Reference and Contract. The winning bidder shall furnish test equipment, instrumentation, personnel and supplies necessary to perform all testing. PPA- Head Office shall be given a five (5) working day notice prior to tests. 2. Burn-in tests will be conducted on the different IT Equipment which shall be delivered. It shall be series of hardware intensive tests for a period of 12 to 24 hours or more to determine defective component during the burn-in period.	
	Availability of Spare Parts:	
	The winning bidder shall submit a certification of manufacturer guaranteeing the availability of all spare parts for the next ten (10) years to constitute compliance with the requirement under Section 25.2 of the Implementing Rules and Regulations (IRR) of Republic Act (RA) 9184	
	Duration:	
	The total duration of the Technical Implementation Phase of the project must not exceed eight (8) months from the issuance of the Notice to Proceed (NTP).	
	Managed Services Duration:	

	The total duration for the managed services will be five (5) years from the date of final delivery acceptance of the Technical Implementation Phase of the project.	
	Ownership and Confidentiality of Data	
	1. All data/information related to the ETMS Project shall be owned by the Philippine Ports Authority (PPA) 2. All data/information related to the development of the information system that may be shared by PPA in the course of evaluating the various modules, functions and features of the customized solution, shall remain confidential and shall not be copied, divulged, transmitted or shared in any way to third parties. 3. All required software/technology licenses purchased for the system solution shall be named under the Philippine Ports Authority. 4. The Winning bidder shall ensure that personal information recorded in the system shall be treated with confidentiality through a non-disclosure agreement. 5. The Winning bidder shall abide by the provisions stipulated in the Data Privacy Act.	
	Deployment Period:	
	The system must be deployed within the specified duration from the PPA's issuance of NTP, as follows:	

Component	Deployment Period (in calendar days)
Fully Configured Cloud Infrastructure Environment, Installation and Setup of Foundational Software and Database Services and Components	NTP + 10 days
Installed and Fully Functional ETMS and e-Ticketing Software System	NTP + 20 days
Fully configured, UAT-ready ETMS and e-Ticketing Software System	NTP + 40 days
Completed provisioning of API standard specifications to 15 Vessel Operators	NTP + 60 days
Configuration of Payment Aggregation Service and Integration to the PPA specified Third Party Payment Gateway system	NTP + 80 days
Completed Deployment and Training to five (5) initial major ports (inclusive of the delivery, setup, configuration, and testing of Kiosks)	NTP + 90 days
Fully configured the following data registries and data marts: Passenger	NTP + 100 days

Registry, Vessel Registry, Voyage Registry		
Security Hardened ETMS and e-Ticketing Software System	NTP + 120 days	
Completed Deployment and Training to five (5) additional high traffic ports (inclusive of the delivery, setup, configuration, and testing of Kiosks)	NTP + 130 days	
Fully Tested ETMS with Cloud based e-Ticketing Software System	NTP + 140 days	

Deployment Organization

The deployment organization must consist of the following minimum project personnel:

1. Senior Project Manager

• 10+ years' experience in Project Management

• Manage cross-channel project process from strategy development to creative design, development, and implementation.

• Manage QA/QC of deliverables

• Ability to accurately scope a project, including effort and budget estimations, resourcing, dependencies, deliverables, exclusions, etc.

• Create and maintain project schedules, resource plans, budgets, risk plans, communication plans, etc. that accurately reflect the scope of work but also consider client expectations and business objectives.

• Conduct evaluations including lessons learned and preparation of any follow-on action recommendations as required.

• Deliver projects within scope and budget whilst ensuring the work is of the highest quality.

• Work with finance and account team to maintain costs tracking and revenue reconciliation reports.

• Identify, evaluate, and manage external partners as required to supplement internal skills or resource gaps.

2. Technical Software and Integration Lead

• 5+ years' experience in latest technical software integration concepts.

	• Package, deploy and administer the software platform for a development, testing, validation, demonstration and operational purposes. • Manage and maintain the platform infrastructures. • Configure Cloud platform to meet the project requirements with cybersecurity implications identification. • Gather requirements, design, code and test software components and/or their integration process as assigned by the Project Manager. • Work in an agile, cross-functional team, actively engaging to support the success of the team. • Solve complex technical integration problems and to work collaboratively with the rest of the team to build a shared approach consensus. **3. Senior Business Analyst and Training Specialist** • Gather requirements using interviews, document analysis, requirements workshops, surveys, site visits, business process descriptions, use cases, scenarios, business, and workflow analysis. • Evaluate information gathered from multiple sources, reconcile conflicts, and decompose high-level information into details. • Communicate and collaborate with external and internal customers to analyze information needs and functional requirements and deliver the following as needed: (Functional requirements - Business Requirements Document, Use Cases, and Interface designs). • Work with users to define concepts and under direction of superior, execute plans and serves as the conduit between the customer community (internal and external customers) and the software development team. • Develop requirements specifications according to standards and collaborate with developers and subject matter experts to establish the technical vision and analyze tradeoffs between usability and performance needs.	

	• Be the liaison between the business units, technology teams and support teams and provide training needs of the project. **4. Network and Hardware Engineer** • 5+ years' experience as Network/Hardware Engineer • Maintain and control computer networks, peripherals and any computer environment related to configurations, hardware programs software, and structures software for the project. • Troubleshoot, diagnose, and resolve problems, as well as implement and design network solutions related to the project. **5. Software Test Engineers** • 5+ years' experience as Software Test Engineer • Configure, operate, and maintain the project's software including development, test, and live environment. • Define, document, analyze, perform and interpret /configure onboarding requirements. • Investigate and resolve operational problems in conjunction with other technical personnel. • Identify and document software problems and support the design of a solution. • Provide technical support and advice to other IT groups. • Participate in the development, maintenance and refinement of internal quality control and reliability programs involved in the project. • Define and implement test scripts and configure the system to be deployed for the project both in test and live environment. • Document/update the configuration/installation documentation.	

	• Establish and maintain developmental and operational documentation for integration aspect of the project. • Aid in the diagnosis and resolution of test anomalies to include system /network analysis and reconfiguration. • Support field incident condition replication and resolution related to the system under test; generate user documentation for solution implementation or work around. • Support the security accreditation efforts for the assigned system. **6. Software / Database Developer** • 10+ years' experience in software/database development • Operational support on various databases. Knowledge and ability to support other infrastructure areas such as windows servers and storage is a must. • Responsible for the implementation, configuration, maintenance, integration, and performance of critical RDBMS Databases related and integrated with the project. • Manage configuration requirements, including adding new database instance and migrating database instance in the group. • Database Performance Tuning and Optimization (PTO) • Work with internal IT teams and external vendors in problem resolution. • Support Infrastructure refresh, Audit and Cyber Security requirements for the project • Perform routine work such as administering the daily backup jobs, restoration of backup data and monitoring of RDBMS scheduled jobs. • Keep track of every incident and ensure proper follow-through with updates to the PPA's incident tracking system.	

	• Able to standby after normal office hours and go onsite to resolve any IT issues (if remote option is not viable). • Share technical expertise and provide mentorship and cross-training to PPA IT Team. **7. Reports and Visualization Developer** • 5+ years' experience in reports and visualization development • Strong reporting and visualization skills using recent business intelligence tools and those existing tools in PPA. • Good conceptual knowledge on the Semantic Layer, BI Reports/Dashboards, Analytics and Data Science • Sophisticated knowledge and extensive experience in writing standard query language. • Excellent conceptual knowledge of Data Warehousing, Databases • Create documentation and deliver training to business users on the use of developed tools to drive user adoption.	
	DELIVERABLE REQUIREMENTS	
	Milestone Site Preparation: For on-premise hardware to be installed, site preparation shall be performed by the project contractor in the location that will be specified in the Contract. Delivery of Project Inception Report Delivery of Detailed Project Implementation and Management Plan Delivery of Detailed Functional Use Cases and Workflow Specifications Delivery of Detailed Inventory of Software Components Delivery of Systems Architecture Delivery of Data Architecture and Complete ERD Delivery of Detailed Data Flow Design Delivery of Data Quality Management Design Delivery of Data Warehousing Design Delivery of Integration Architecture	

	Delivery of Inventory of Reports and Visualization Artifacts Delivery of Private Vessel Operator Functional On-boarding Procedure, Methodology, and Plan Delivery of ETMS with e-Ticketing Functional Test Scripts Delivery of the Detailed Technical Support and Customer Help Desk Design Delivery of the Detailed Design of the API Web Service Endpoint for Private Vessel Operators Delivery of the Detailed Design of the Payment Aggregation Service Delivery of the Detailed Design of the API Web Service Endpoint for Payment Gateways Delivery of the Security, VAPT, and Threat Monitoring Design and Plan Delivery of the Full Technical Deployment Design Delivery of the Installed and Staging-Environment Configured Technology Infrastructure Environment and Associated Licenses/Subscriptions inclusive of: • Cloud IaaS • Virtual Machines • Storage • Middleware • Database • API Gateway • Electronic Terminal Management with Electronic Ticketing System Delivery and On-site Installation of 14 Internet Connected Kiosk Equipment Delivery and On-site Installation of 11 Internet Connected Kiosk Equipment Delivery of a Fully Tested and Operational Electronic Ticketing System Delivery of a Fully Tested Standard API Web Service Endpoint for Vessel Operators Delivery of a Fully Tested Standard API Web Service Endpoint for Payment Gateways Delivery of a Fully Operational Data Warehouse System Delivery of 15 PPA-Specified Reports and Fully Functional Reports and Visualization System Commissioning of 25 Kiosk Ticketing Systems Production Go-Live of Full System Completion of 1/10 Manage Services 6-month Period Completion of 2/10 Manage Services 6-month Period Completion of 3/10 Manage Services 6-month Period	

	Completion of 4/10 Manage Services 6-month Period Completion of 5/10 Manage Services 6-month Period Completion of 6/10 Manage Services 6-month Period Completion of 7/10 Manage Services 6-month Period Completion of 8/10 Manage Services 6-month Period Completion of 9/10 Manage Services 6-month Period Completion of 10/10 Manage Services 6-month Period Completion of 5 Year Managed Service Period	
	DELIVERY PERIOD (ACCEPTANCE AND TURN-OVER OF THE PROJECT)	
	The Supplier shall deliver the following: 1. A secure, fully functional, and fully tested online ticketing system meeting the specifications as detailed in the TOR within the specified delivery period. The testing includes functional, integration, regression, and penetration testing. 2. A secure and fully tested standard API web service endpoint for use to connect a minimum of 15 private vessel operators. 3. A secure, fully configured, and tested payment aggregation system with the capability to automate the disaggregation of payment transactions and the ability to push disaggregated transactions to specific authorized settlement banks. 4. A secure and fully tested standard API web service endpoint connecting the electronic ticketing system (payment aggregation) to the payment gateway service of PPA. 5. A fully configured and operational data warehouse and repository that is accessible via a secure standard API web service endpoint. 6. A fully configured and operational reports and visualization system. This includes the creation of 15 additional reports (5 management reports, 5 regulatory reports, and 5 financial reports) as specified by PPA. This is exclusive of the standard reports that comes as part of the requirements of electronic ticketing system. 7. Has successfully installed 25 fully tested and operational kiosks across 10 terminal locations each site	

	equipped with a minimum of 4 Mbps leased line internet broadband connection within the specified delivery period. 8. Upon completion of all the works covered under the eight (8) months Technical Implementation Phase, the project contractor shall turn over the project to PPA as completed for the issuance of the certificate of completion for the Technical Implementation Phase. 9. On the date indicated on the certificate of completion for the Technical Implementation Phase, the start of the effectivity of the five (5) year managed services phase shall commence. 10. Upon Completion of all works covered under the five (5) year managed services phase, the project contractor shall initiate and request for the issuance of the certificate of completion for the five (5) year managed services phase.	
	WARRANTY	
	1. The project contractor shall provide, post-production service and equipment warranty for all components of the system (covering all hardware and equipment) components as specified in the TOR, at no additional cost to government.	
	2. The project contractor shall ensure that all hardware equipment is covered by a replacement/maintenance agreement throughout the term of the contract.	
	3. The project contractor shall ensure that all subscriptions, licenses, and support agreement remain active throughout the duration of the contract.	
	All other provisions stated in the Terms of Reference not indicated herein.	