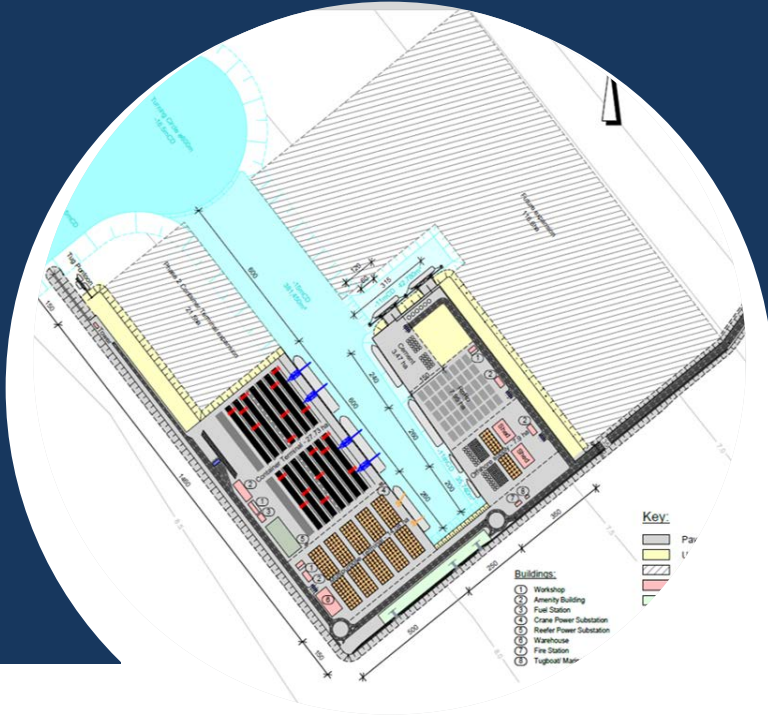


Port of Ondo Feasibility study for a deep sea port

Final Report presentation to stakeholders

24 January 2019



17.1.2020 / 1022



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Feasibility Study for a New Deep Sea Port

A project between Ondo State Government / ONDIPA – with MTBS and Amiable Consultancy and Logistics Services Limited

- ✓ Ondo State Development and Investment Promotion Agency (ONDIPA) has engaged MTBS to prepare a 'Feasibility Study / Conceptual Master Plan for the Development of Port of Ondo Multi-purpose Deep-Sea Port at Erruna/Ogboti, Ilaje LGA, Ondo State'.
- ✓ The Contract has been signed in September 2018.
- ✓ The objective was to conduct a comprehensive and commercially inspired feasibility study for the development of multi-purpose deep-sea port at Ilaje Local Government of Ondo State Government of Nigeria

Introduction to MTBS

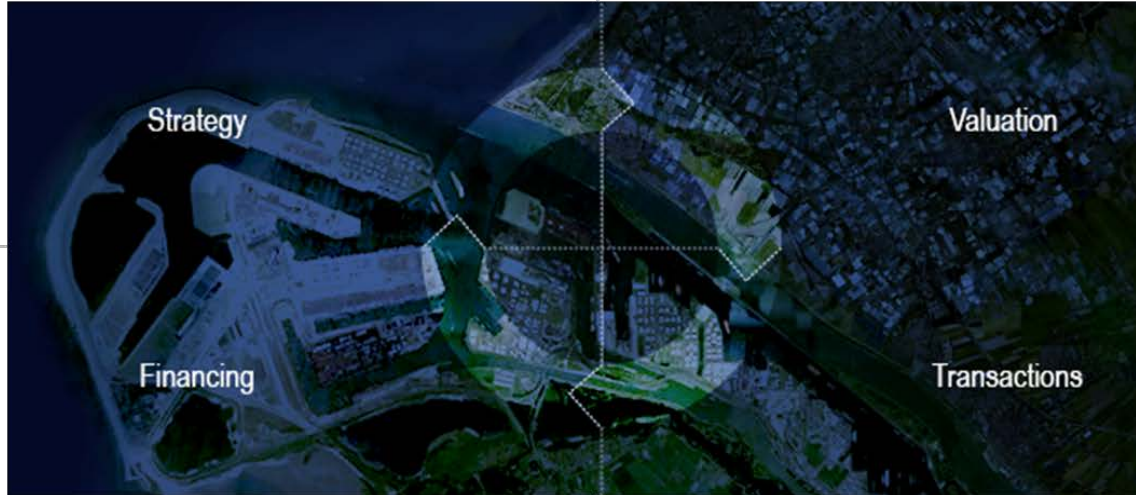
Services and Solutions

Strategy

Value & Business Strategy
Port Sector Reform
Port Policy
Public Private Partnerships
Institutional & Regulatory Change
Organizational Reform & Alignment

Valuation

Value Creation & Protection
Financial Modeling and Analysis
Feasibility
Project Structuring & Packaging
Business Case
Risk Valuation, Allocation, Mitigation



Finance

Financial Structuring
Project Finance
Due Diligence
Procurement of Finance
Investment / Divestment
Merger & Acquisition

Transaction Strategy
Transaction Management
Documentation & Contracts
Tendering & negotiated Solutions
Financial Solutions
Legal Solutions

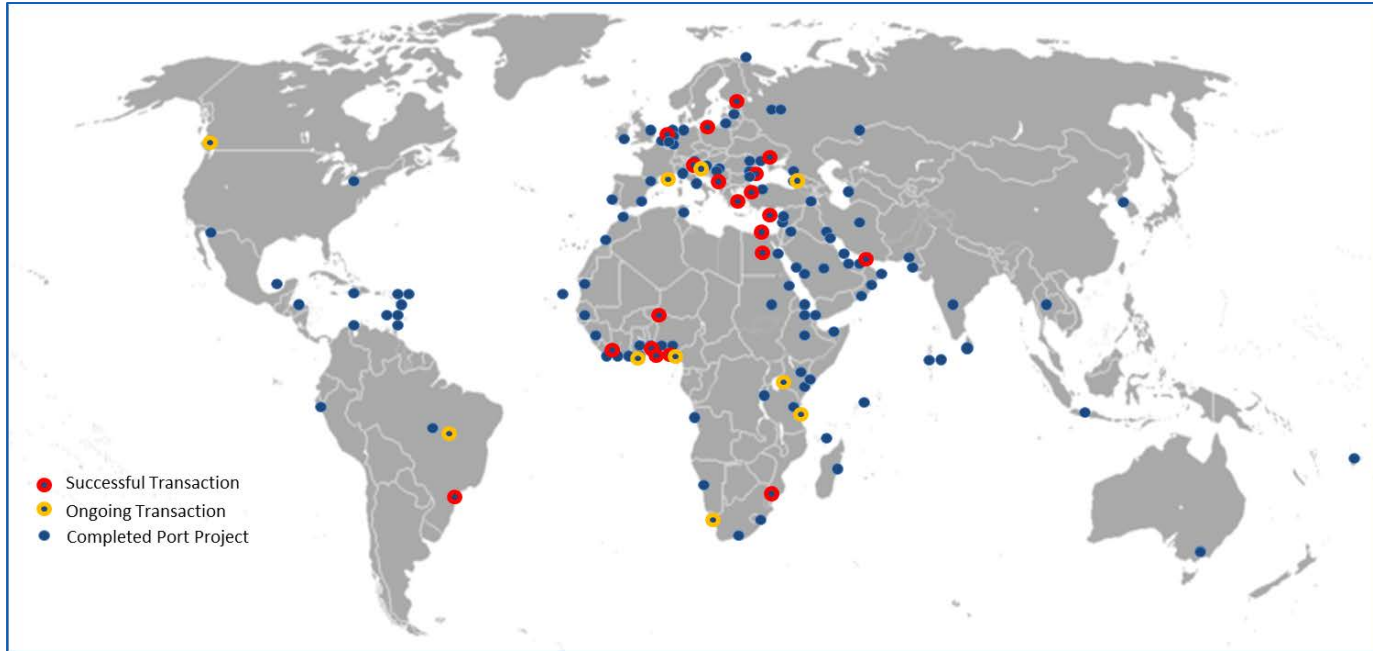
Transactions

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MTBS in the Region

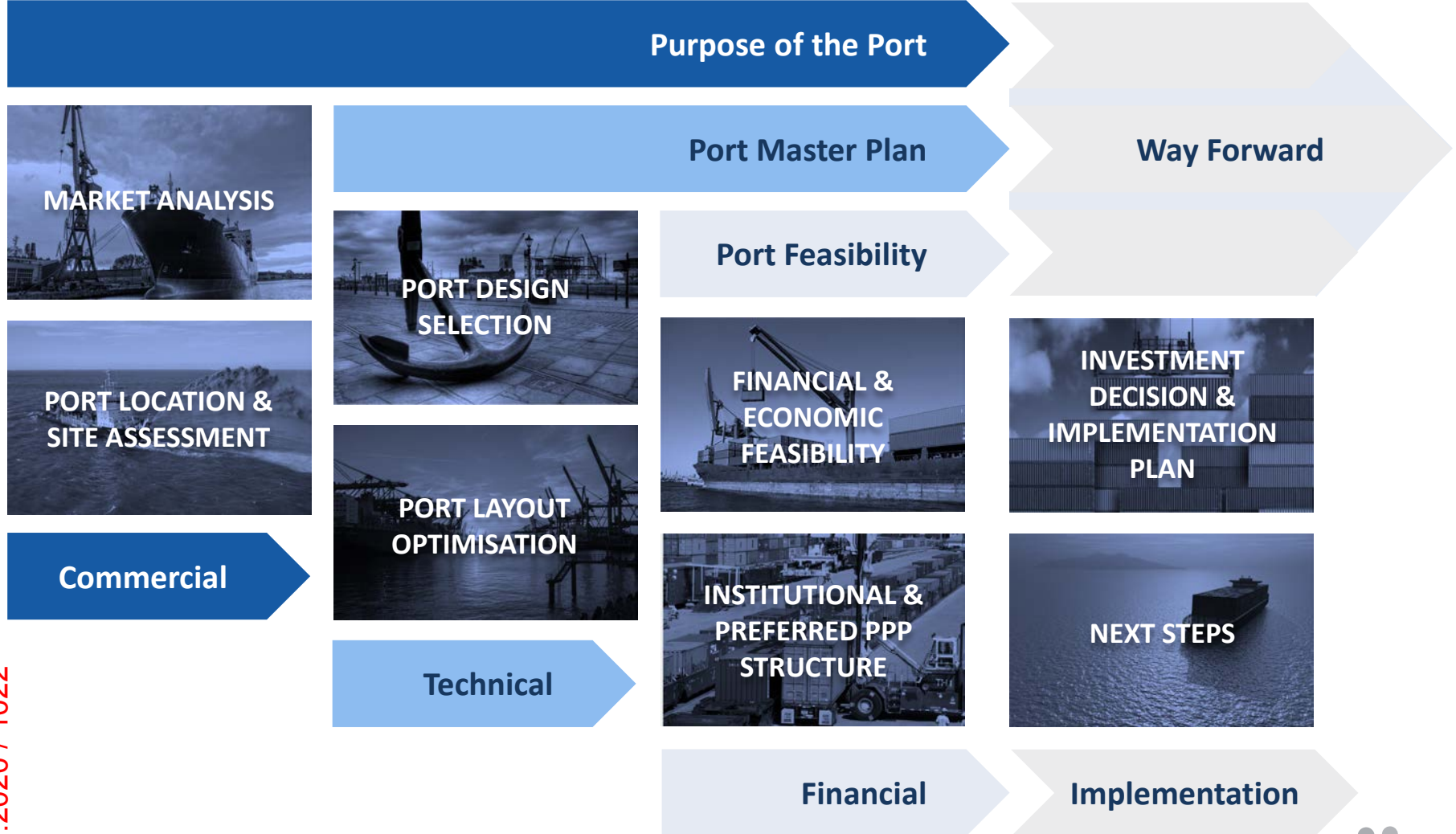
MTBS is particularly active in Africa, with over 40 projects in West Africa and 11 in Nigeria alone

- **MTBS** is a world-renown, independent advisor in the maritime and transport sectors
- **MTBS** advises public, semi-public and private clients across the globe on strategy, valuation, transactions, finance and M&A
- **MTBS** is particularly active in Africa, with over 40 projects in West Africa and 11 in Nigeria alone



The Process: Feasibility Study of Port of Ondo

Presenting the key results from the Final Feasibility Report ...



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Key Results from the Final Feasibility Report

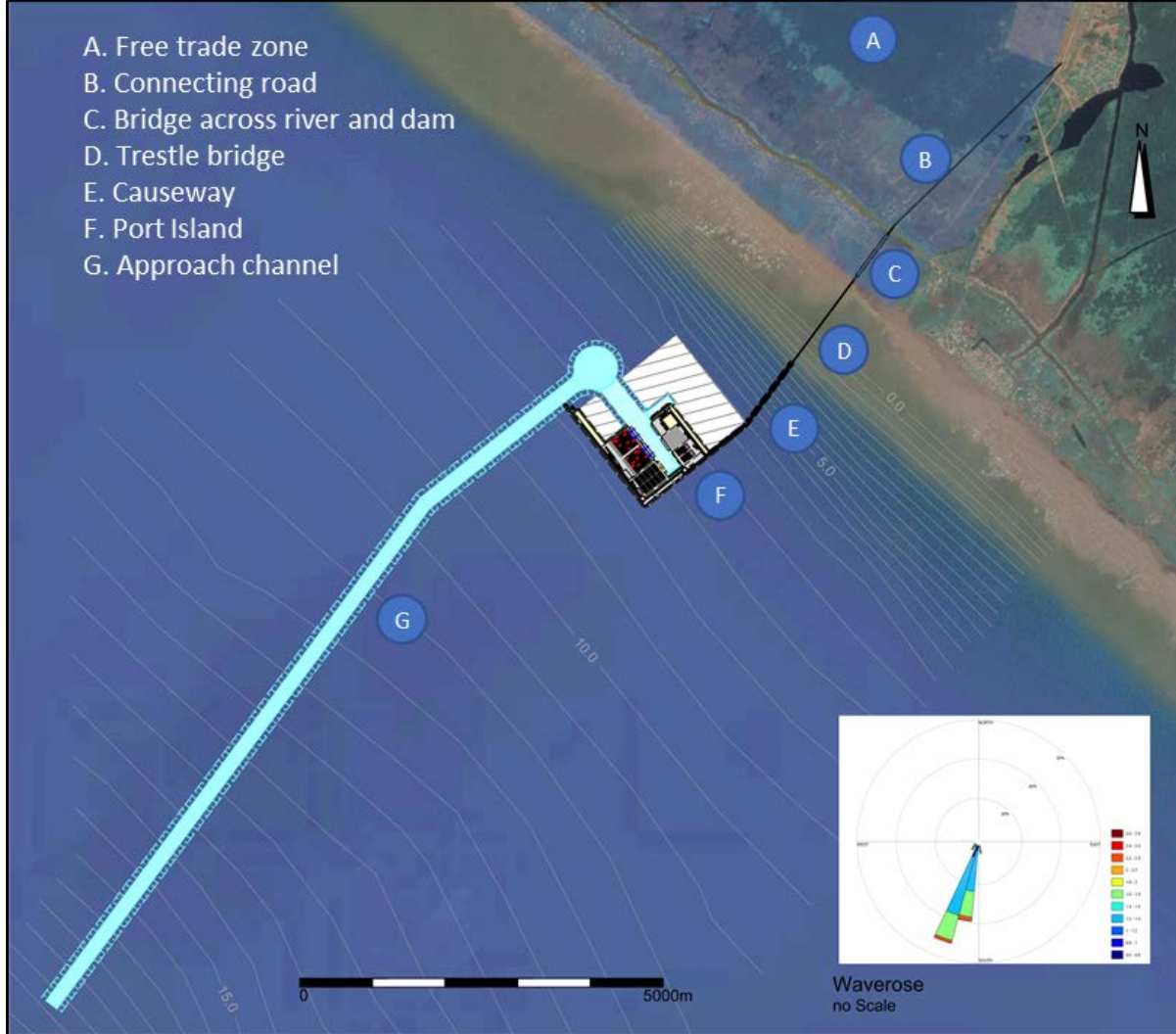
It is recommended to take an initial positive investment decision to take the project to the next preparation phase: the Outline Business Case (OBC)

The feasibility of the Port of Ondo Project is confirmed from the following perspectives:

- ✓ **Technical feasibility:** The 'Artificial Island Port – Single Basin' is considered technically feasible and attainable.
- ✓ **Institutional, regulatory and organisation:** The legal and regulatory framework can accommodate the development of the port of Ondo as a Port Development Management Company (PDMC). A suitable organisation can be established for this purpose.
- ✓ **Financial feasibility:** The business case indicates a positive overall financial feasibility with a post-tax Internal Rate of Return of 12.1% and a Net Present Value of USD 295.2 M (based on a real WACC of 10.4%) for a budgeted USD 1.3 B investment.
- ✓ **Economic feasibility:** From a national perspective the results are positive. The Economic Internal Rate of Return (EIRR) is estimated at 10.5% and the Economic Net Present Value (ENVP) is approximately USD 2.0 B USD (based on a social discount rate (SDR) of 5.4%).

Project overview

The proposed port at Ondo State is an artificial island port

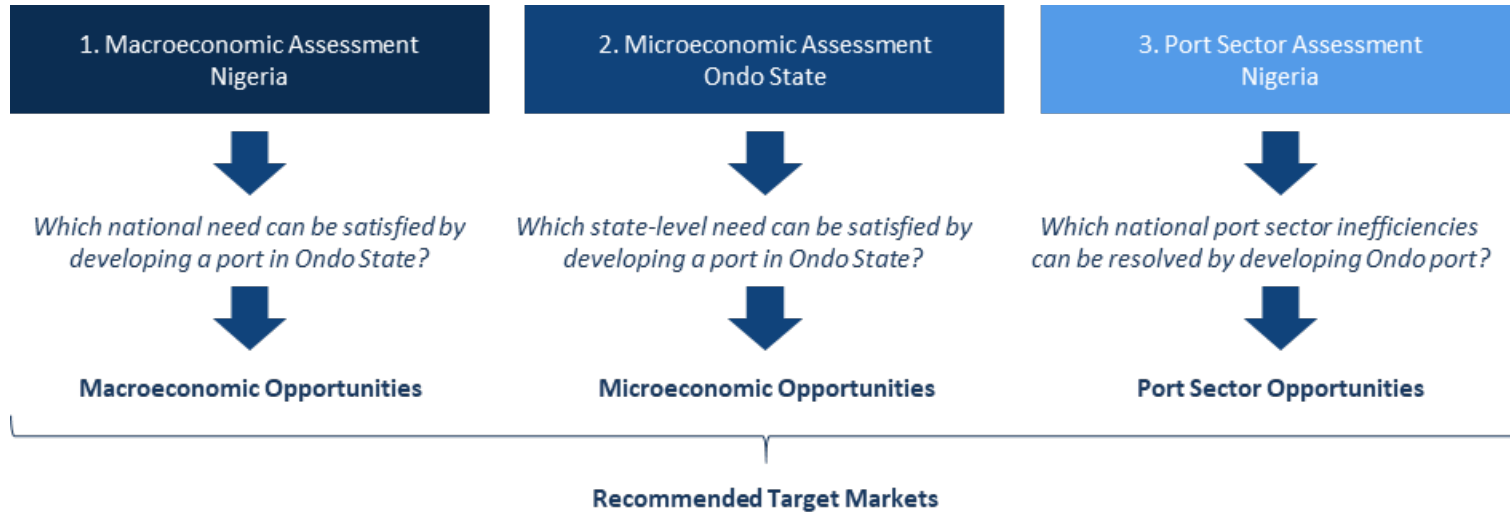


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Why a Deep Sea Port in Ondo State?

Focus on niche markets which can be developed quickly and provide enough traffic and business to justify port development.

- The port should take advantage of the **geographical position**.
- Create **maximum value and synergies** between free trade zone and port activities.
- There is a **national need for new port capacity**.



Commodities to focus at in Phase I of the project supported by market analysis:

- **Niche markets that are easily captured:** RoRo and offshore supply base (OSB);
- **Cargo overflow from other ports:** coastal containers; and,
- **Local exports:** General cargo, break bulk, agribulk (multi-purpose), bitumen and cement

Benefits of Developing the Port of Ondo

Take advantage of the port's geographical position in central Nigeria



Employment will increase fast after completion

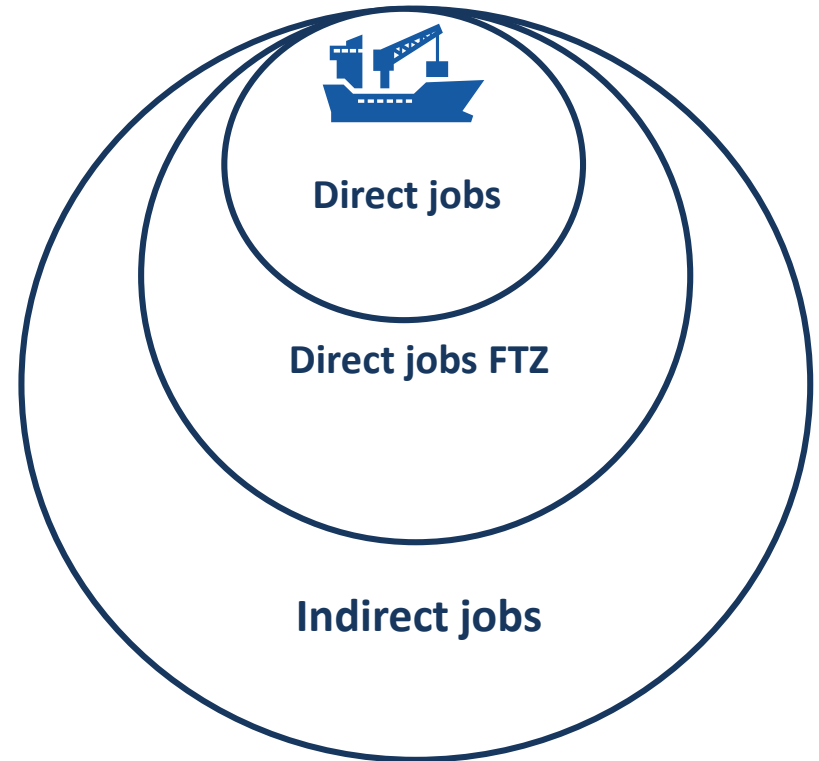
Education and training will become vital roles in the new port

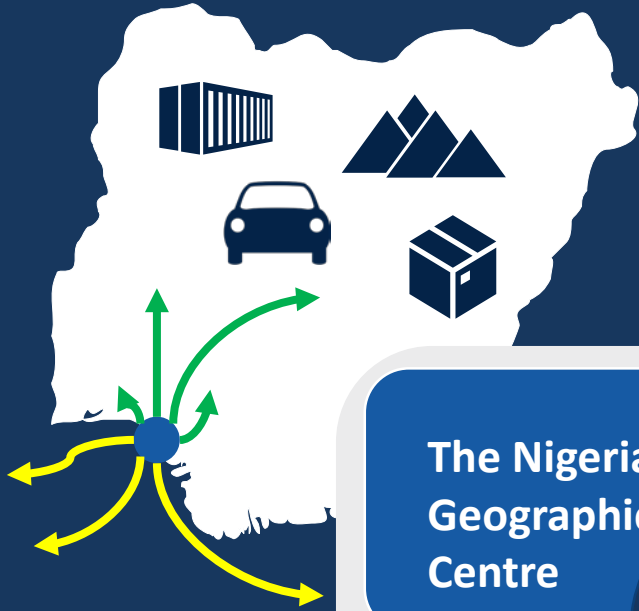
Direct and indirect jobs:

- Port: 7,000 to 10,000
- FTZ: 9,500 to 10,000
- Total initial employment estimated at 20,000 jobs

But... common multiplier at ports:
1 job in the port may lead to 2 to 4 jobs
in the region.....

Education and training will be vital
roles for the new port





**Mineral
Exports**

**Agriculture
Exports**

**The Nigerian
Geographic
Centre**

**Facilitate Trade
of Local
Resources**

**Consumer
Goods
Imports**

**PORT OF
ONDO**

**National
Need for
Port Capacity**

**Close to
Offshore Oil
and Gas Fields**

**Road
Congestion**

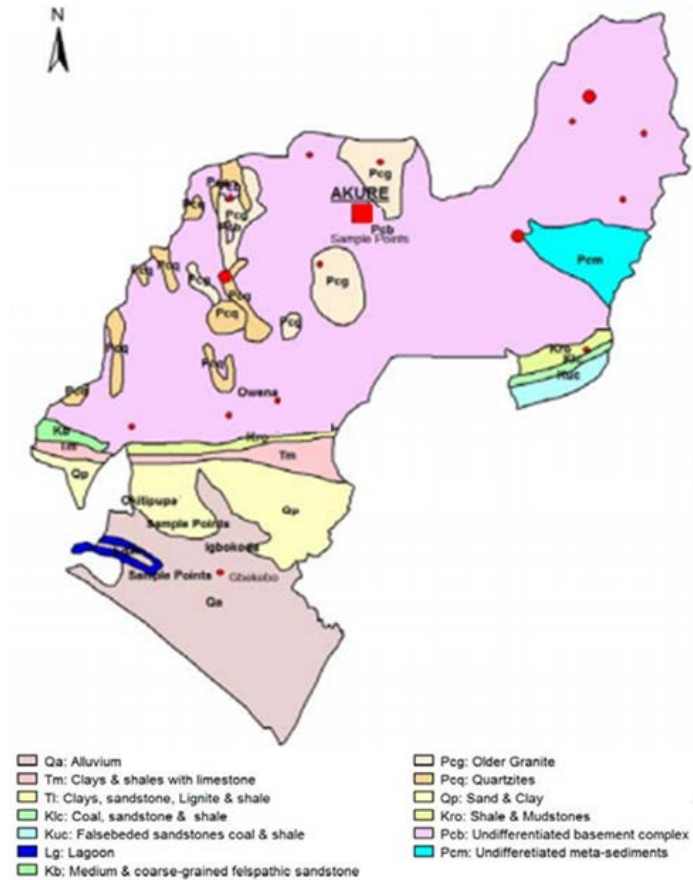
**Port Demand >
Port Capacity**

**Insufficient
Port
Infrastructure**



Ondo State Mineral Resources

Ondo State has abundant and underutilized resources suitable for exports



Rock and minerals

Ondo State has abundant and underutilized resources:

- **Oil & Gas** proven reserves: 37B barrels;
- **Bitumen** estimated reserves: 42B barrels;
- **Silica sand** estimated reserves: 3B tons;
- **Kaolin** estimated reserves: 3B tons;
- **Ball clay** estimated reserves: 3B tons;
- **Limestone** estimated reserves: 3B tons;
- **Granite** estimated reserves: 100M tons.

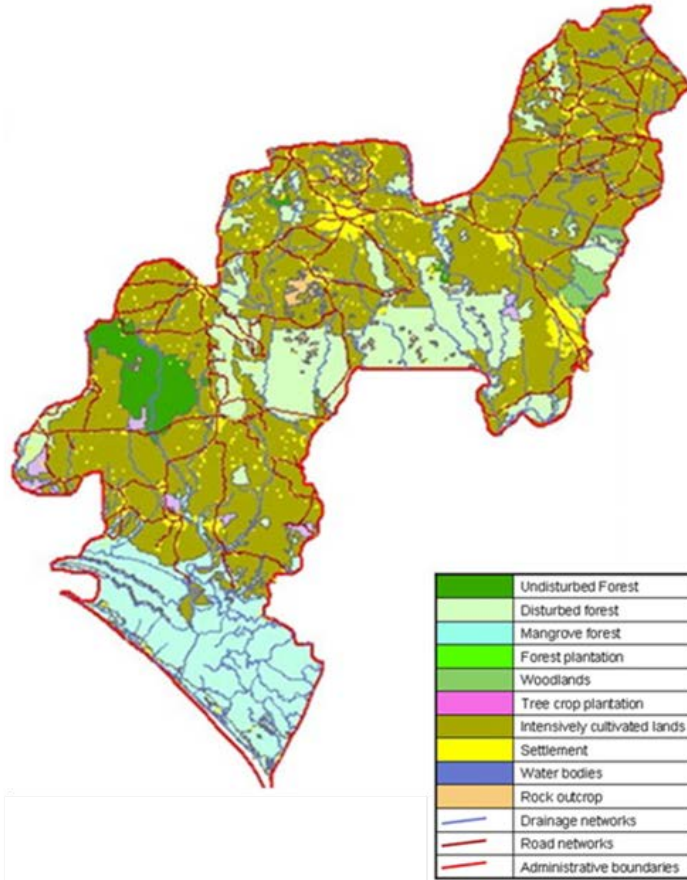
Oil and Gas

Ondo State is the 5th largest oil producing state of Nigeria with 60,000 barrels per day;

Port of Ondo is able to facilitate mineral exports

Ondo State Agricultural Resources

Ondo State provides a well-founded bases for the exports of locally produced agricultural commodities



Land cultivation and agriculture

Ondo State's tropical climate is excellently suited for the production including:

- Rubber;
- Palm oil;
- Cashew nuts;
- Timber;
- Cocoa;
- Yams;
- Cassava.

In fact, Ondo State is leading cocoa producing state in Nigeria.

Port of Ondo is able to facilitate agricultural exports

Bitumen



Vehicles



Industrial Activity

PORT OF ONDO

Exports

Imports

Logistics Services

Cement



Consumer Goods



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Port of Ondo Market Competitiveness

Take advantage of the port's geographical position in central Nigeria

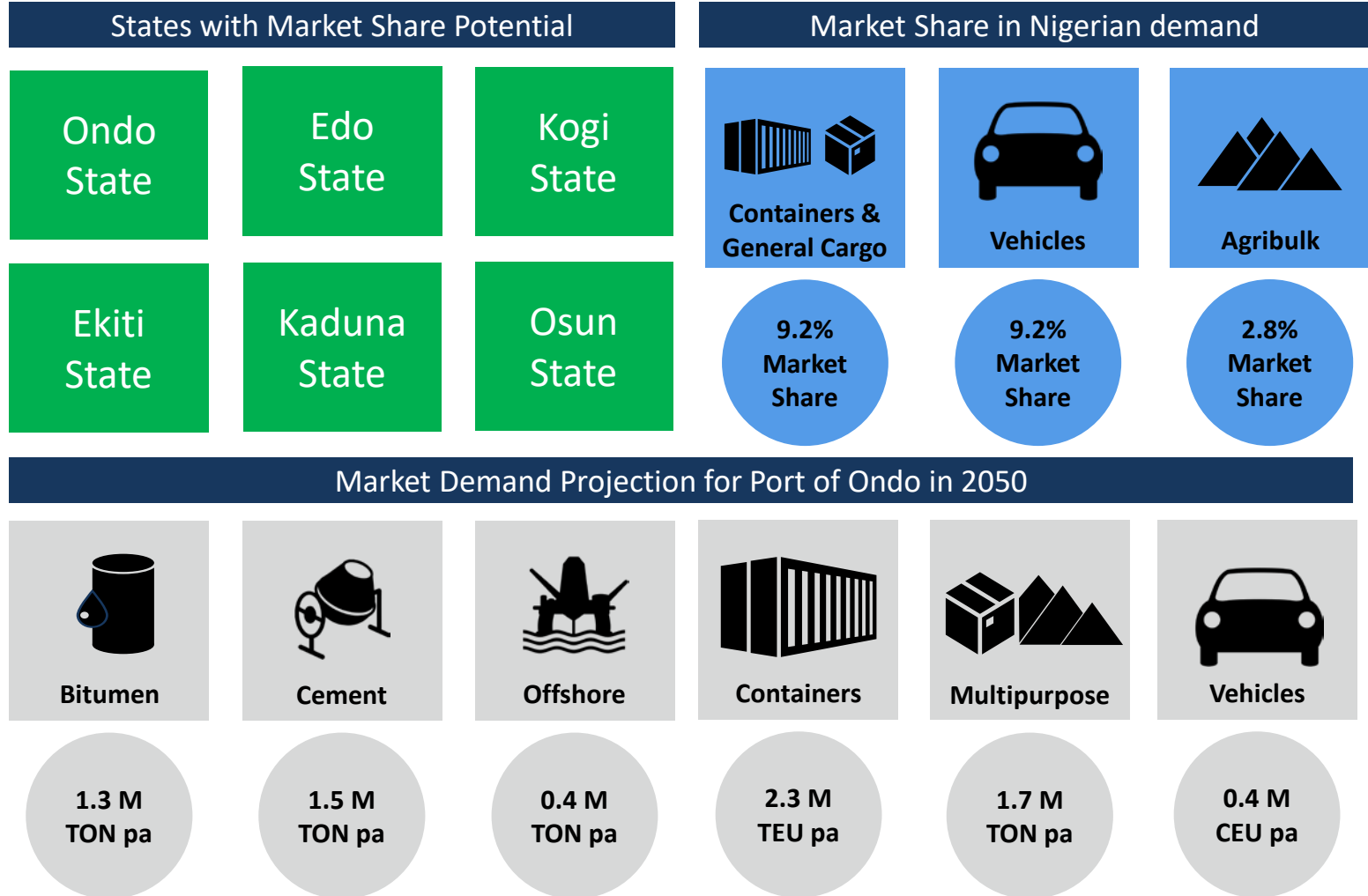
| Nigerian Deep-Sea Ports | Port of Ondo | Lagos | Lekki | Akwa Ibom |
|--------------------------|--------------|----------|----------|-----------|
| Deep-Sea Port | Good/yes | Medium | Good/yes | Good/yes |
| Location in Nigeria | Good/yes | Medium | Medium | Medium |
| No Hinterland Congestion | Good/yes | Medium | Medium | Good/yes |
| Port Basin Depth | Good/yes | Medium | Good/yes | Good/yes |
| Access Channel Depth | Good/yes | Medium | Good/yes | Good/yes |
| Access Channel Length | Medium | Medium | Good/yes | Medium |
| Containerised Cargo | Good/yes | Good/yes | Good/yes | Good/yes |
| Non-Containerised Cargo | Good/yes | Good/yes | Medium | Good/yes |
| Dry Bulk | Good/yes | Good/yes | Good/yes | Good/yes |
| Liquid Bulk | Good/yes | Good/yes | Good/yes | Good/yes |
| Offshore Industry | Good/yes | Medium | Medium | Good/yes |
| Classification | Good/yes | Medium | Medium | Medium |



- Port of Ondo has an **excellent geographical location** to serve the Nigerian hinterland
- Port of Ondo can **relieve pressure from congested Lagos**
- Port of Ondo will have sufficient depth to handle **Post Panamax vessels**
- Port of Ondo is situated in close to the offshore oil fields and has abundant **underutilized natural resources** that can be traded via the port.

Port of Ondo Market Potential

There is a commercial rationale for developing port capacity in Ondo State

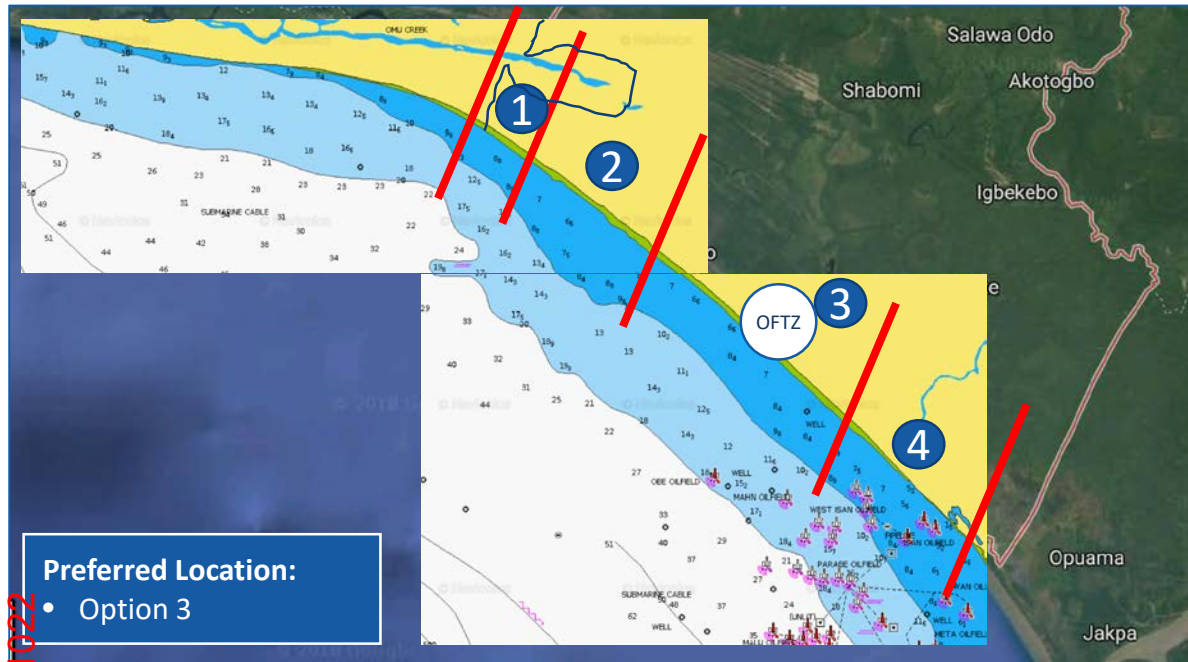


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Port of Ondo Location

The most favorable location for port development is in section 3 due to its landside and nautical connectivity and available space

- The four potential port locations have been assessed.
- Location 3 is identified to be the preferred location for port development



| Options | 1 | 2 | 3 | 4 |
|------------------------|-----------|------------|-----------|------------|
| Nautical access | ++ | -- | ++ | ++ |
| Natural shelter | - | - | - | - |
| Land accessibility | + | ++ | + | --- |
| Structure of the land | -- | -- | -- | -- |
| Available space | - | - | ++ | - |
| Ease of implementation | -- | -- | -- | -- |
| Environmental impact | - | - | - | - |
| Communities | --- | -- | - | -- |
| MCA Score | -7 | -11 | -4 | -12 |

Port of Ondo Natural Conditions



Geography

- Located in Central Nigeria connected by a direct road link to the hinterland.
- Ample land available for development within proximity of offshore installations.

Topography

- Characterised by wetlands with top layers of clay around at the FTZ location
- The land in the FTZ is approximately 1.0 meter above the water level.

Bathymetry

- Gentle sloped “silted sand” seabed without obstacles in port and channel area.
- Existing mud flows in NE direction up to 3.0-3.5 km from the shoreline.

Meteorological

- Dominant wind direction is SSW to S with average speeds up to 8.0 knots.
- Humid and hot (24-35 °C) climate with much rainfall in June and September.

Metoccean

- The wave direction is rather constant and coming from the SSW to S angles.
- Wave heights characterized by ocean swell between 1.4-3.0 m.
- Tidal flows indicate a difference between MHWS of 0.95m and 0.7 m at MHWS.

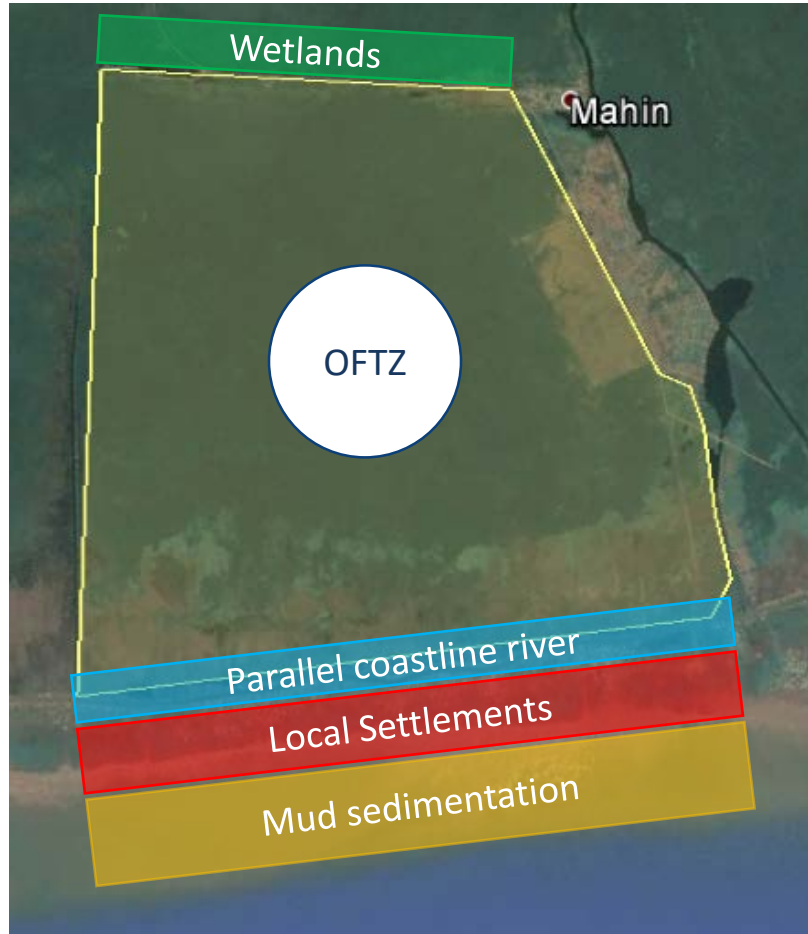
Seismicity

- The project site is not a seismically active zones

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Port of Ondo Site Conditions

The 75km shoreline of Ondo state is challenging for the development of a deep sea port and is characterized by wetlands and mud sedimentation



Coastal characteristics at Ondo State are homogenous across the entire shoreline:

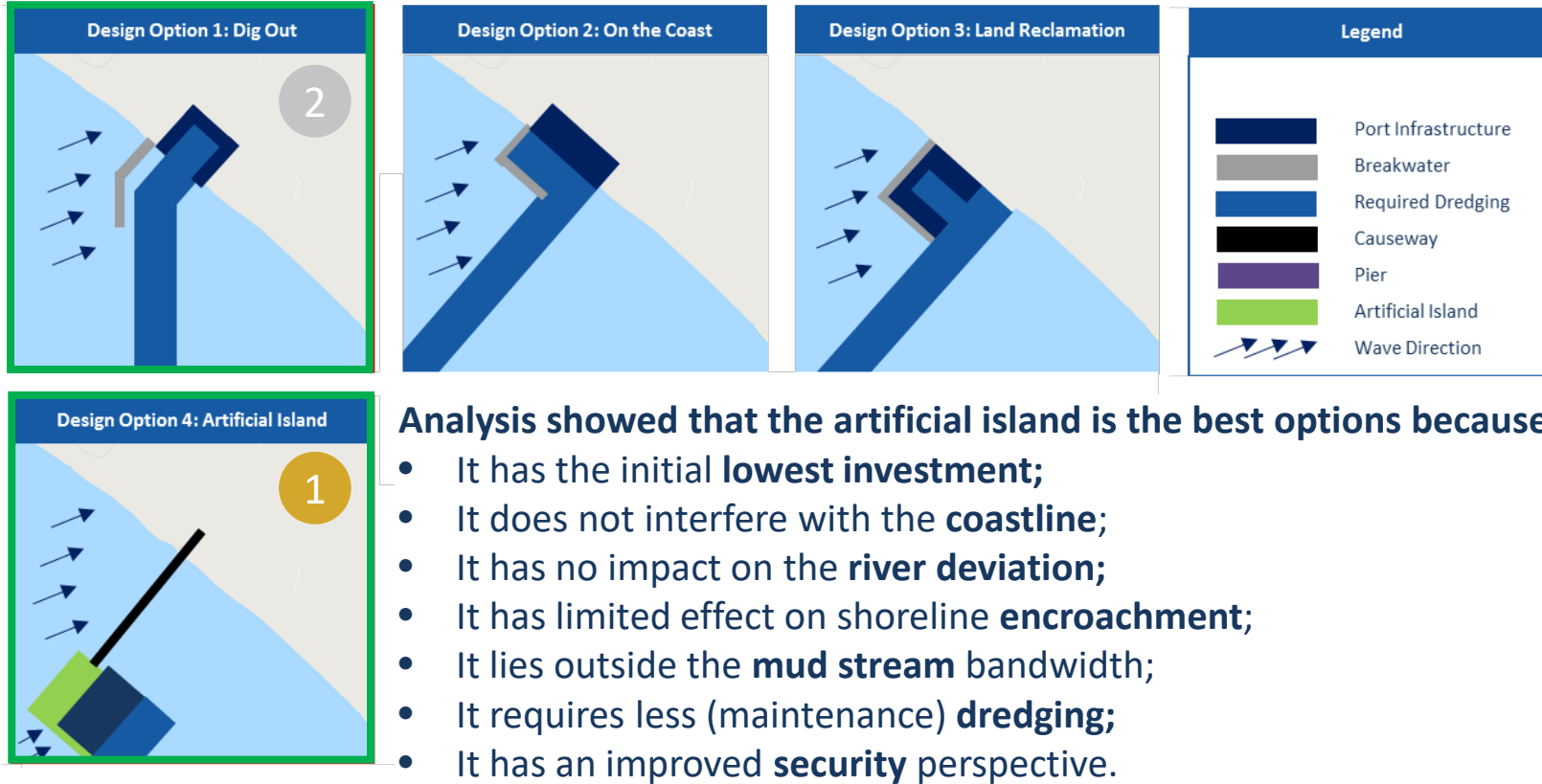
- **No islands** in front of the coast;
- There are numerous small creek outlets resulting in **muddy beaches**;
- The coastal land dominantly comprises flat **wetlands**;
- Everywhere along the coastline **rivers** exist running parallel to the shoreline;
- **Local Settlements** directly near coast.

Ondo State Resettlement Action Plan

The Ondo State Government commenced with resettlement of affected communities in line with World Bank Standards

Port of Ondo Layout Selection

The Artificial Island is determined to be the preferred option



The 'dig-out' is the second best scoring high on both hinterland access and land availability.

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Port of Ondo Layout Optimisation

The artificial island is the best options from multiple perspectives

The artificial island starts at 2.8 km from shore ...

... to stay away from the mud sedimentation

... to balance the dredging and reclamation volumes

... to balance approach channel and causeway costs

... to reduce the impact of the port on the coastline

... to reduce the impact of the port on coastal settlements

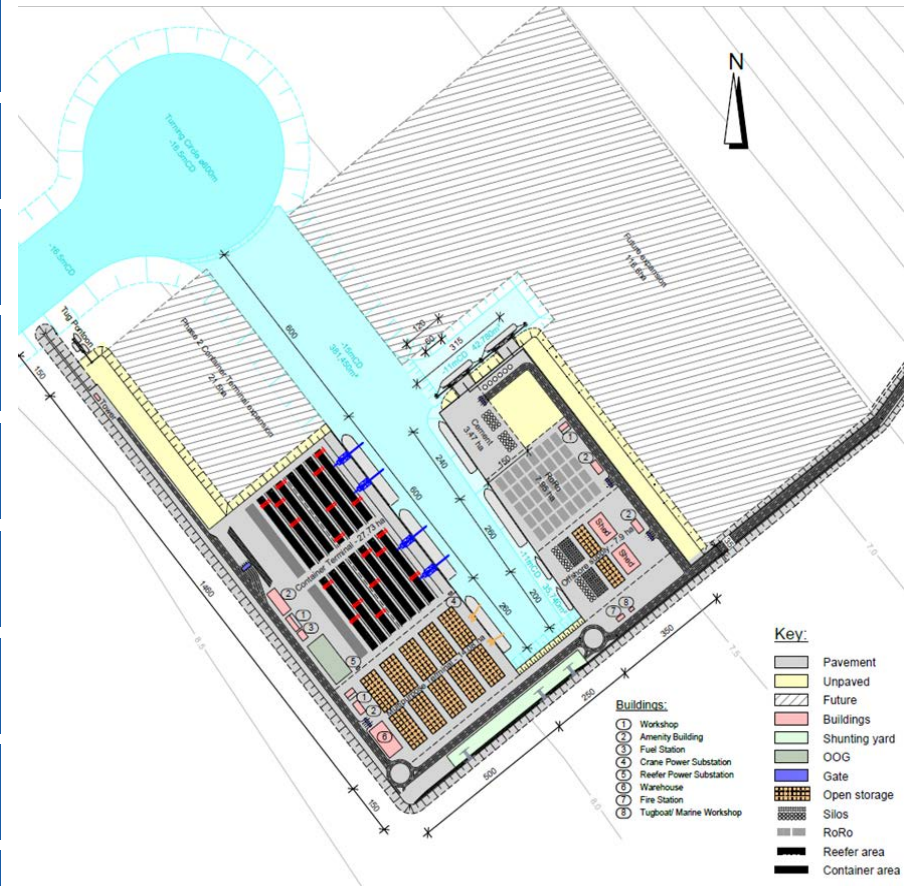
... to increase security of the port vis-à-vis an onshore port

... to ensure that fishery activities can be maintained

116.6ha is reserved for future expansion along causeway

21.5ha is reserved for container terminal expansion

Port of Ondo Final Design



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Port of Ondo Key Parameters

Description of the general port area

Key characteristics

1. Approach channel CD -16.5 m
2. Basin depth CD -15 m for Container and Multipurpose vessels
3. RoRo and Cement berths at CD -11.0 m
4. Two Bitumen berths CD -11.0 m
5. Bunker supply berths
4. Port services pontoon for pilot boat and tugs



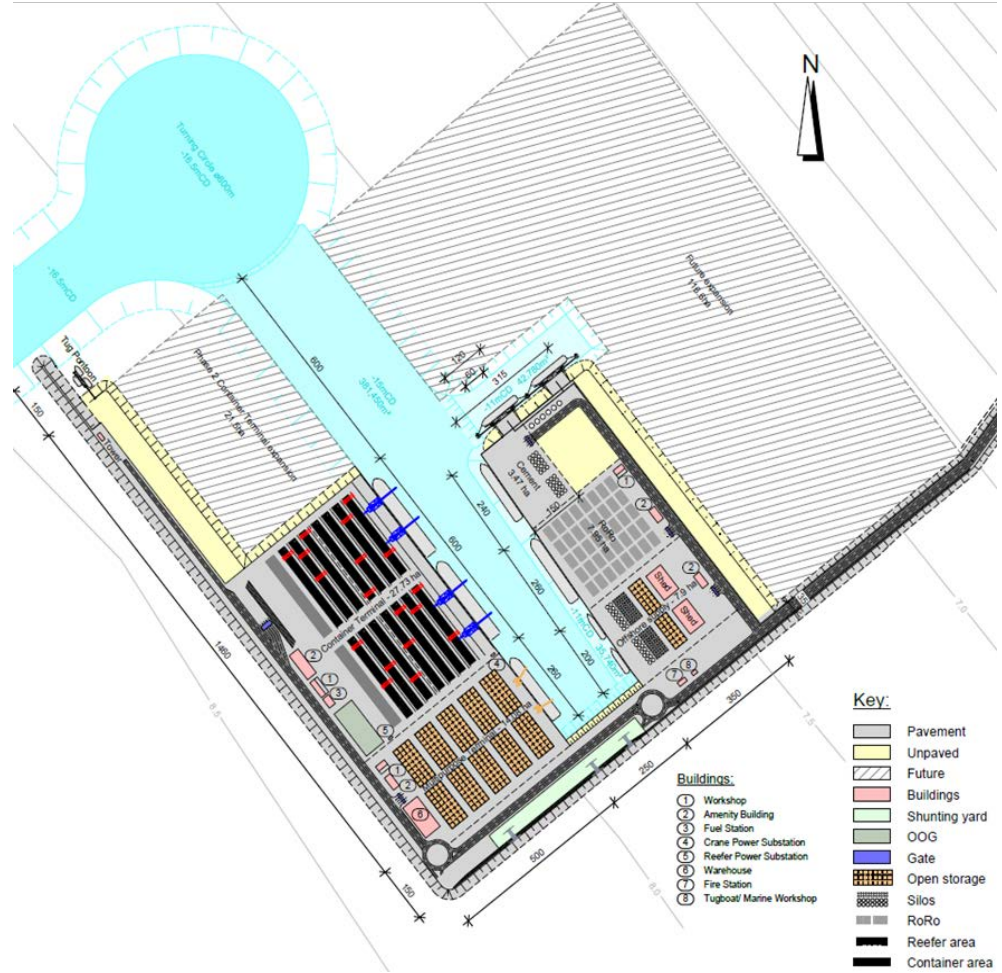
Ready for Post Panamax vessels of 9,000 – 10,000 TEU at 14 m arrival draught
with option to deepen for 14,000 TEU vessels!

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Port of Ondo Bill of Quantities

The initial investment requirement is USD 1.3 billion

| Bill of Quantities Summary | M USD |
|------------------------------|----------------|
| Preliminary Costs | 98.6 |
| Engineering and supervision | 32.9 |
| Mobilisation | 65.7 |
| Civil Works | 1,057.6 |
| Dredging and Reclamation | 273.8 |
| Civil Works and Buildings | 431.5 |
| Landside Connection with FTZ | 116.3 |
| Contingencies | 236.0 |
| Equipment | 154.3 |
| General | 1.4 |
| Container Terminal | 74.4 |
| Multi-Purpose Terminal | 18.4 |
| RoRo Terminal | 0.3 |
| Offshore Terminal | 6.9 |
| Cement Terminal | 9.0 |
| Bitumen Berths | 5.0 |
| Marine Services | 19.8 |
| IT | 5.0 |
| Contingencies | 14.0 |
| Grand Total | 1,310.4 |








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Port of Ondo Feasibility

The Project is considered both economically and financially feasible

- ✓ **Financial feasibility:** The business case indicates a positive overall financial feasibility with a post-tax Internal Rate of Return of 12.1% and a Net Present Value of USD 295.2 M (based on a real WACC of 10.4%) for a budgeted USD 1.3 B investment.

| Financial Feasibility Inputs (in real terms) | | | | | Financial Feasibility Outputs | | | |
|---|--|---|--|--|-------------------------------|--------------|----------------|-----------------|
|  Traffic |  CAPEX |  OPEX |  Taxes |  Revenues | WACC 10.4% | IRR 12.1% | NPV \$ 295M | PBP 10 years |

- ✓ **Economic feasibility:** From a national perspective the results are positive. The Economic Internal Rate of Return (EIRR) is estimated at 10.5% and the Economic Net Present Value (ENPV) is USD 2.0 B USD (based on a social discount rate (SDR) of 5.4%).

| Economic Feasibility Inputs (in real terms) | | | | | Financial Feasibility Outputs | | | |
|---|--|---|---|--|-------------------------------|---------------|-----------------|------|
|  Incremental Traffic |  Incremental CAPEX |  Incremental OPEX |  Transport Cost Savings |  Incremental Revenues | SDR 5.4% | EIRR 10.5% | ENPV \$ 2.0B | TEXT |

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Institutional Setting and Preferred PPP Model

It is recommended to establish a Port Development and Management Company for this greenfield port development to drive the BOOT construction.

Institutional Setting



"With cooperation from relevant federal state agencies, the of Port of Ondo is legally feasibly."

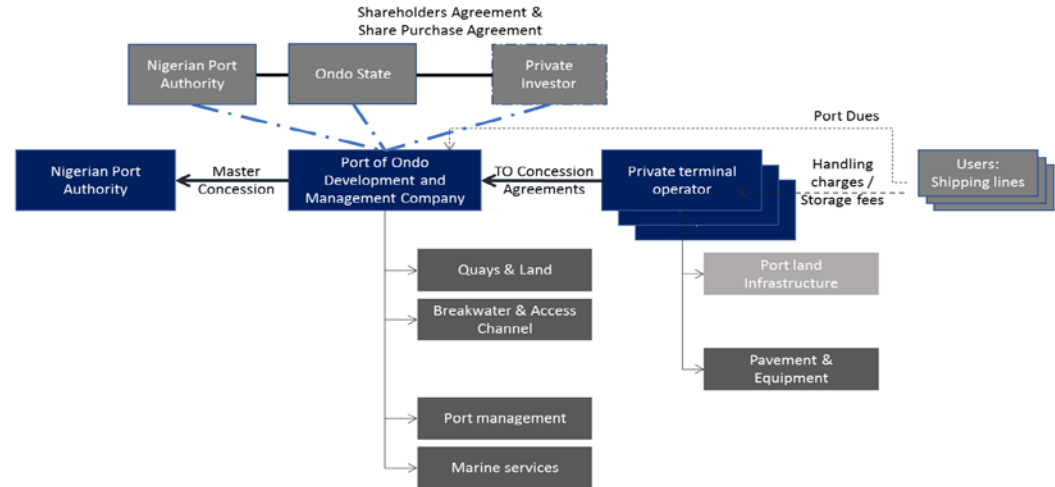


"Nigeria has a well-developed institutional and regulatory environment for creating greenfield ports."

Responsibilities and Dependencies

| Ministry | Port Declaration |
|---------------|---|
| NPA | Request Port Promulgation |
| NPA | Concession Granter |
| Concessionair | ICRC transaction preparation and implementation process |

Project Recommended PPP Structure: PDMC Model with BOOT



PDMC model is applied in Nigerian greenfield ports and comprises ...

- ... Ondo State Gov. and NPA enter into a **JV with a private investor**
- ... PDMC obtains **master concession** to develop/operate the port
- ... PDMC is able to drive the BOOT construction
- ... PDMC invests in infrastructure and issues **terminal sub-concessions**
- ... Private sector participation **limits the public budget requirement**
- ... PDMC as a separate entity **limits the financial liability**
- ... JV results in an **alignment of public and private interests**
- ... private investors can in **develop the port in line with demand**

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Investment Decision

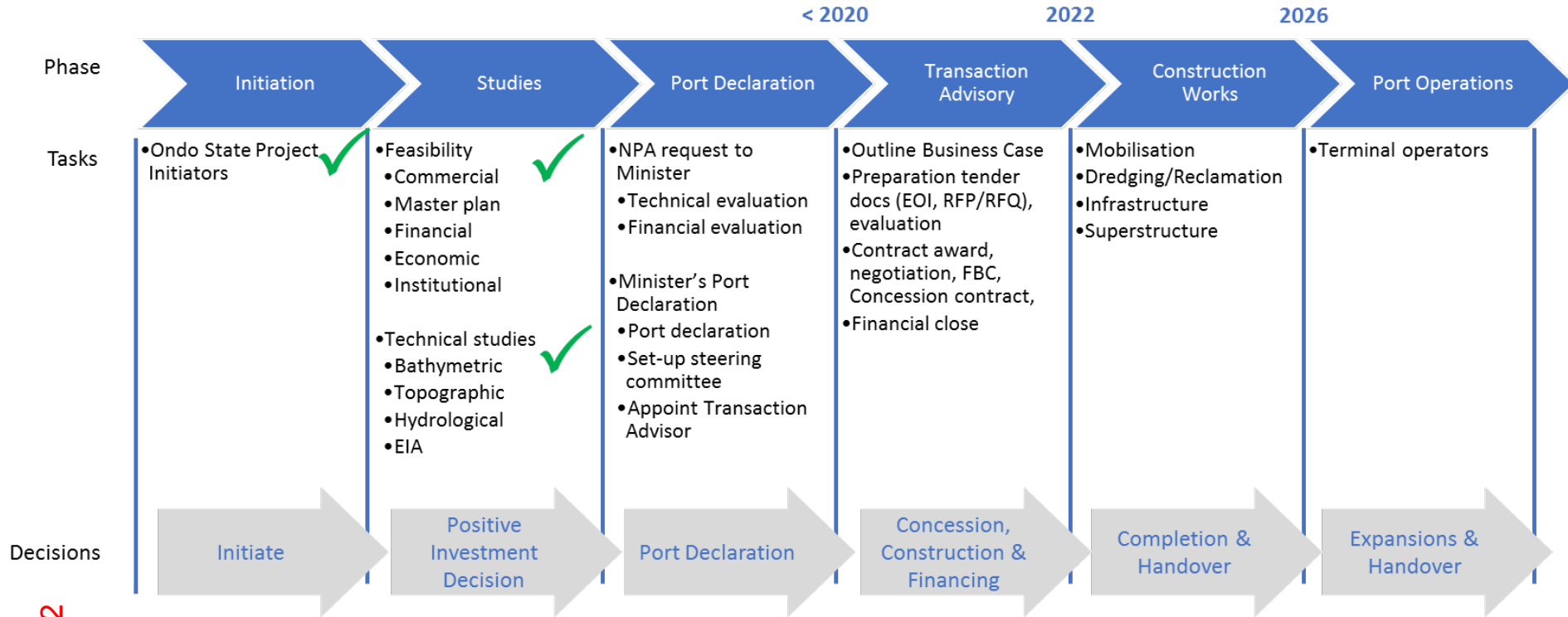
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Investment Decision: We recommend to take a positive investment decision and to proceed to the next phase: the Outline Business Case

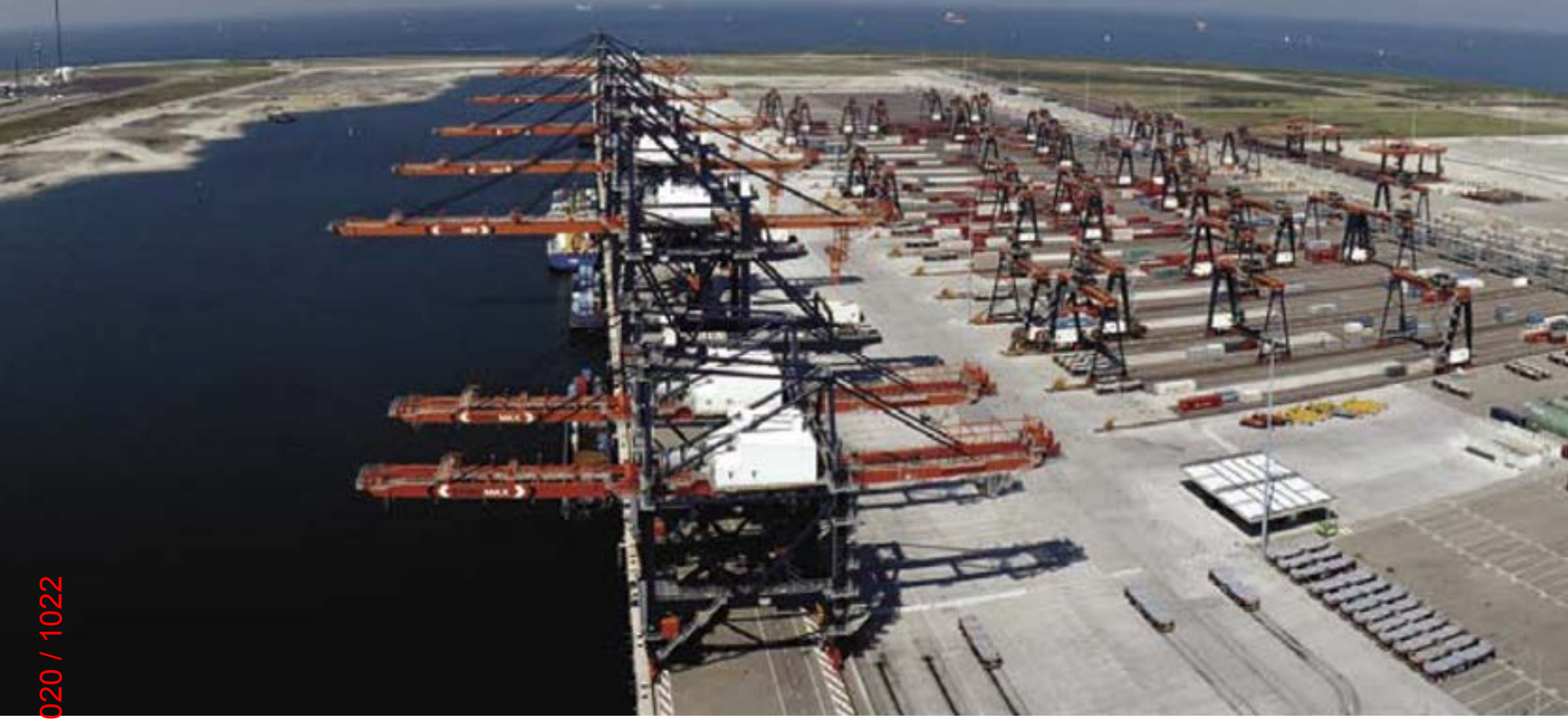
Implementation plan

Recommendation: present the feasibility studies to NPA and request for port declaration.



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Port of Ondo Welcomes the World



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Thank you



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