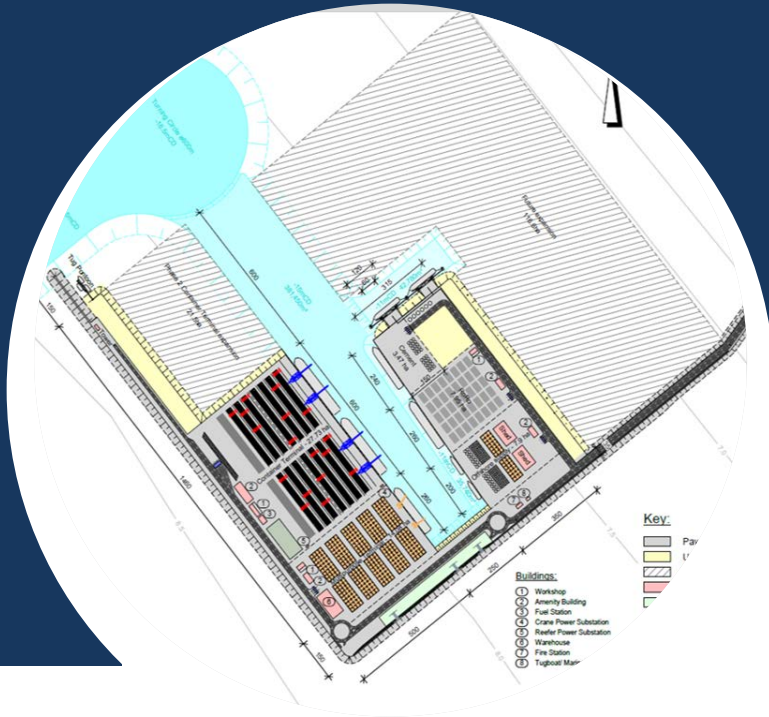


# Port of Ondo Feasibility study for a deep sea port

Final Report presentation to stakeholders

24 January 2019



# 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

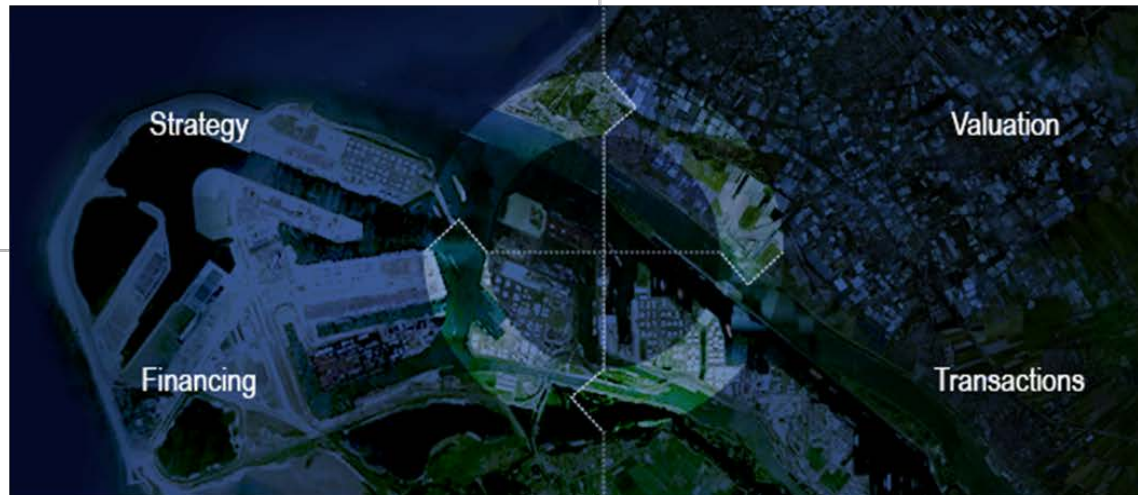
## Services and Solutions

### 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

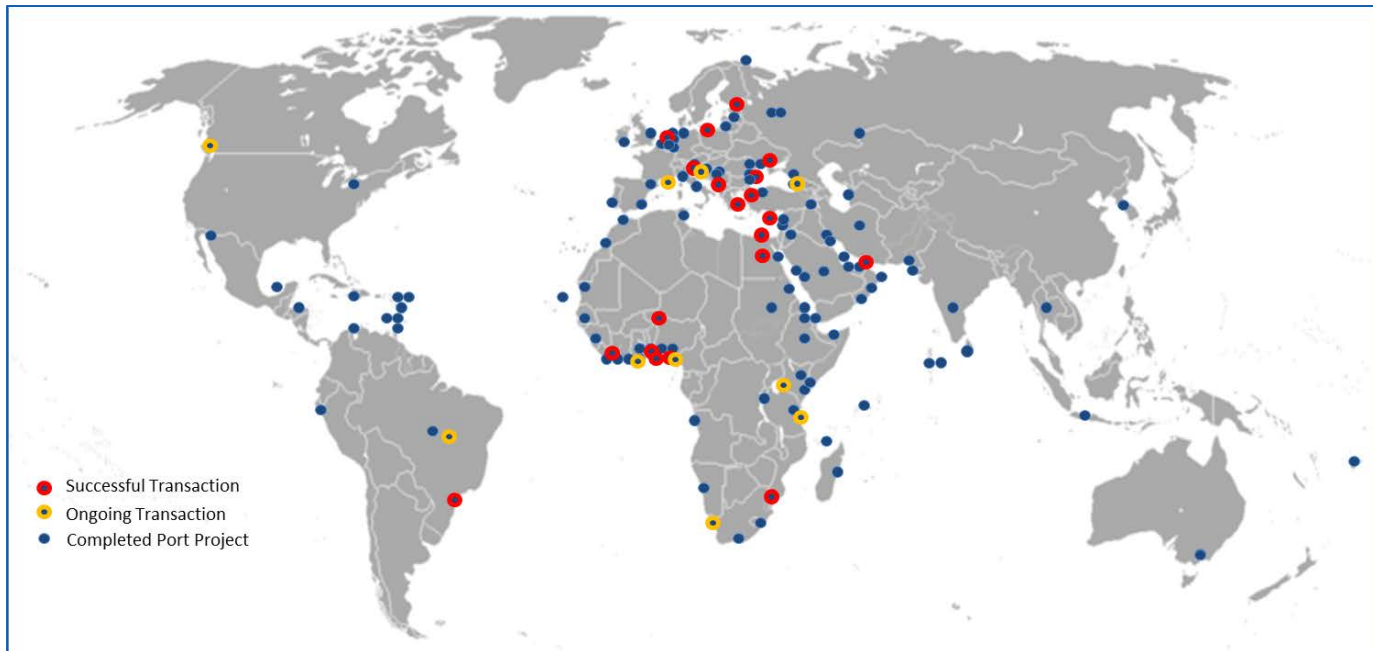
Transaction Strategy  
Transaction Management  
Documentation & Contracts  
Tendering & negotiated Solutions  
Financial Solutions  
Legal Solutions

### Transactions

# 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



# MTBS's Clients in the Port & Infrastructure Sector

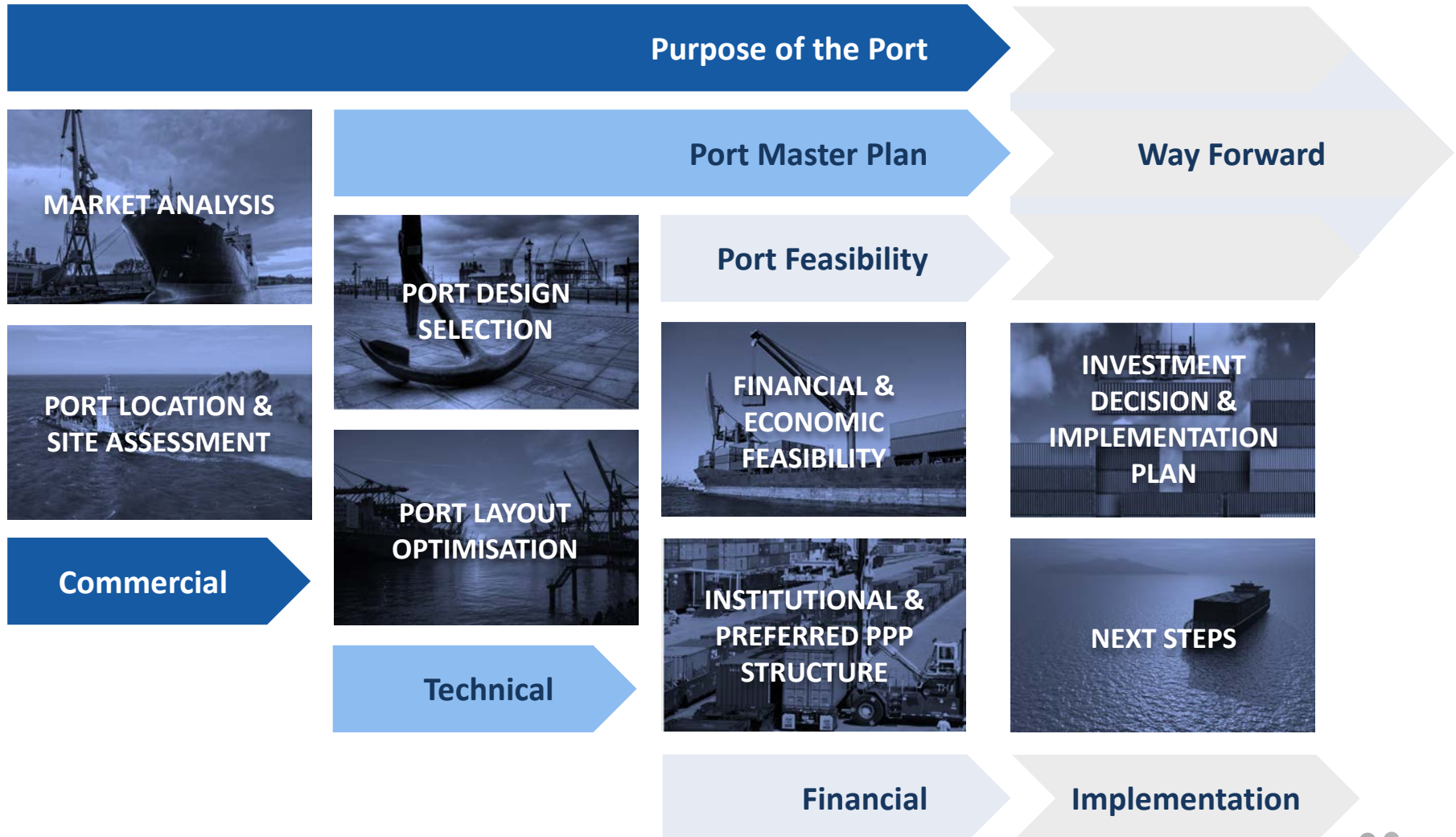
Comprehensive project approach thanks to a diverse Client Base

Authorities	GTOs	Industrials	Governments	IFIs	Banks
           	         	         	        	         	         



# The Process: Feasibility Study of Port of Ondo

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



# Key Results from the Final Feasibility Report

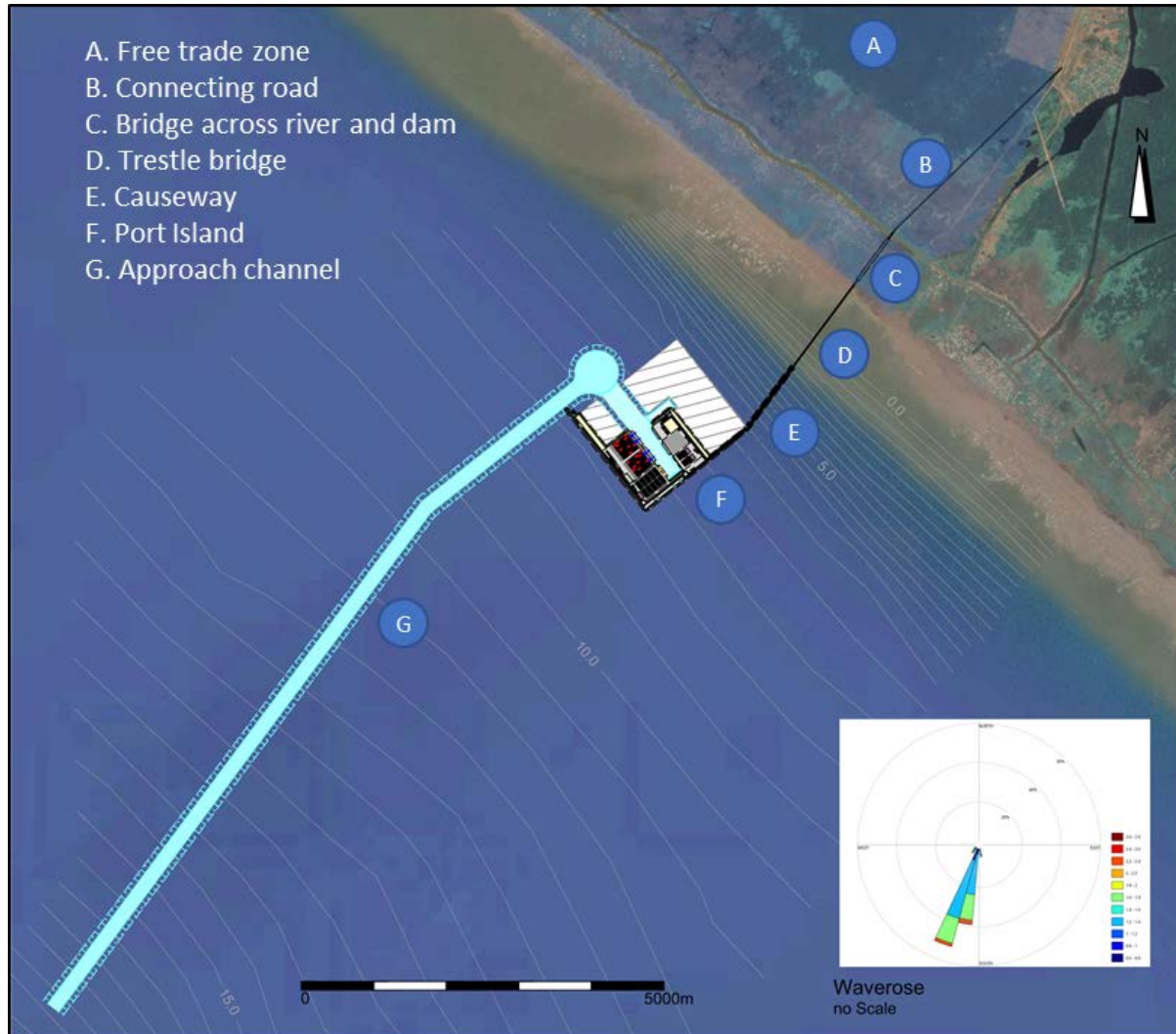
It is recommended to take an initial positive investment decision to take the project to the next preparation phase: the Outline Business Case (OBC)

**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

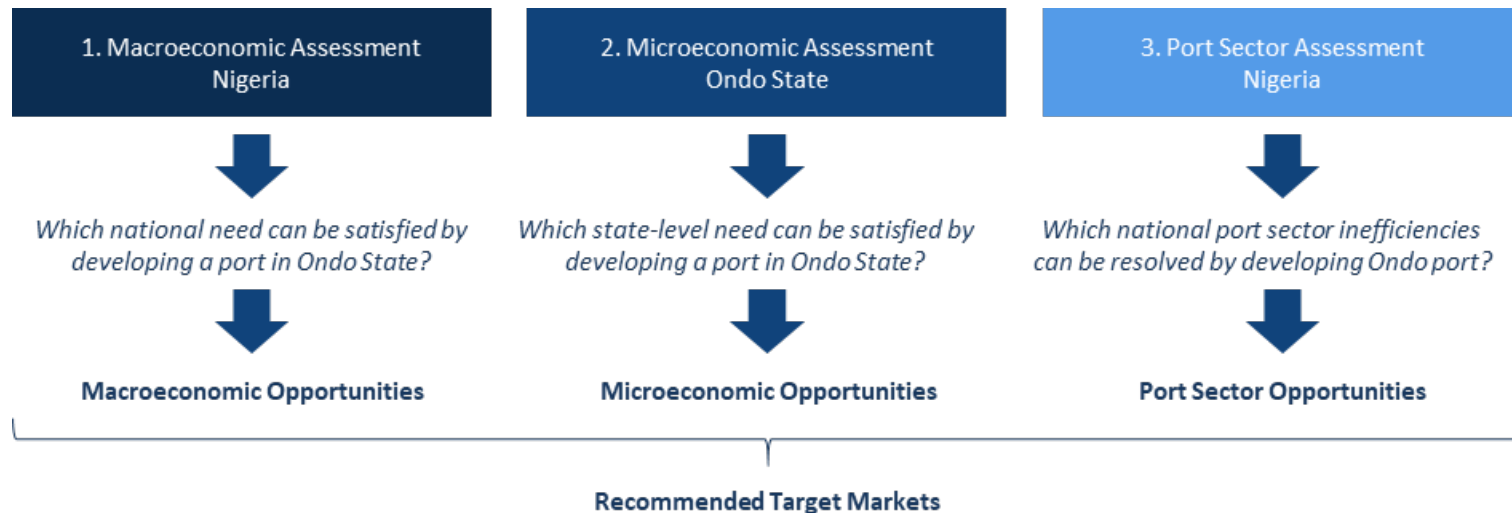




# Why a Deep Sea Port in Ondo State?

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

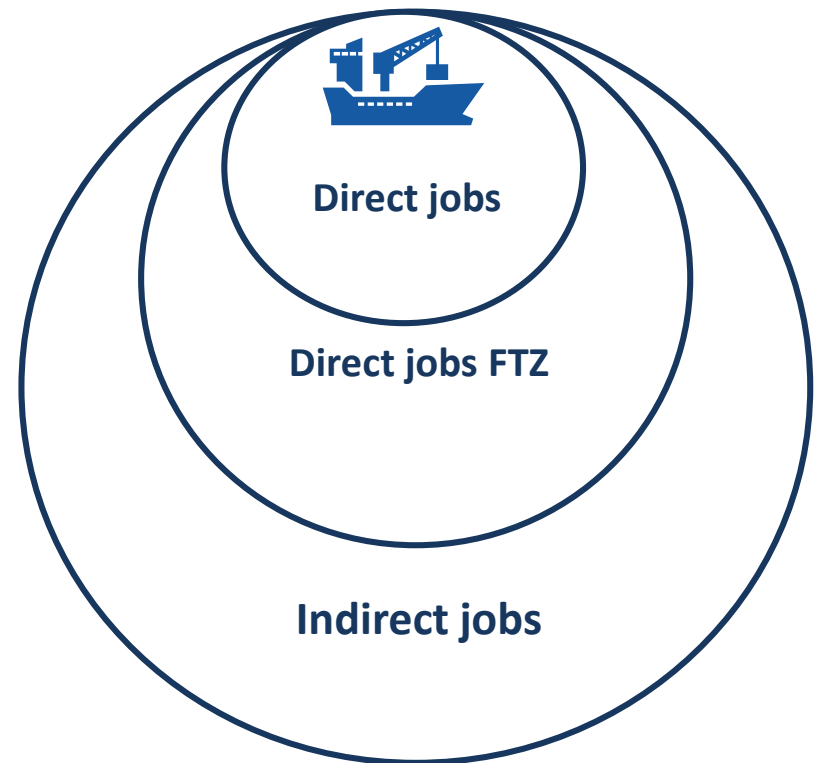
Education and training will become vital roles in the new port

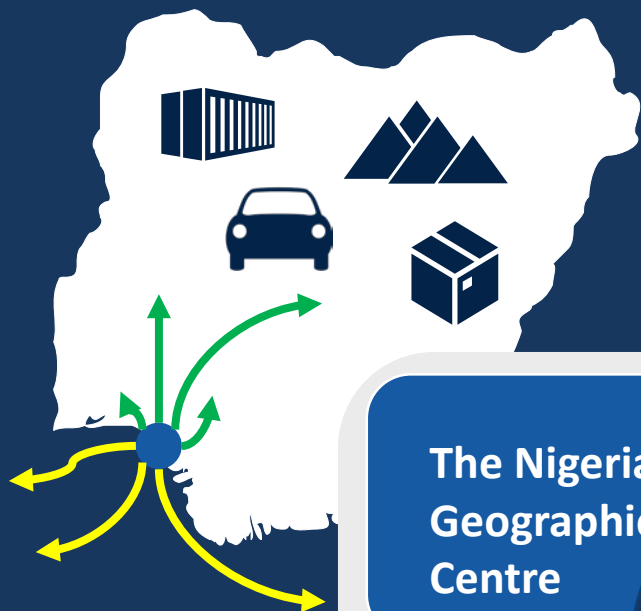
Direct and indirect jobs:

- 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**

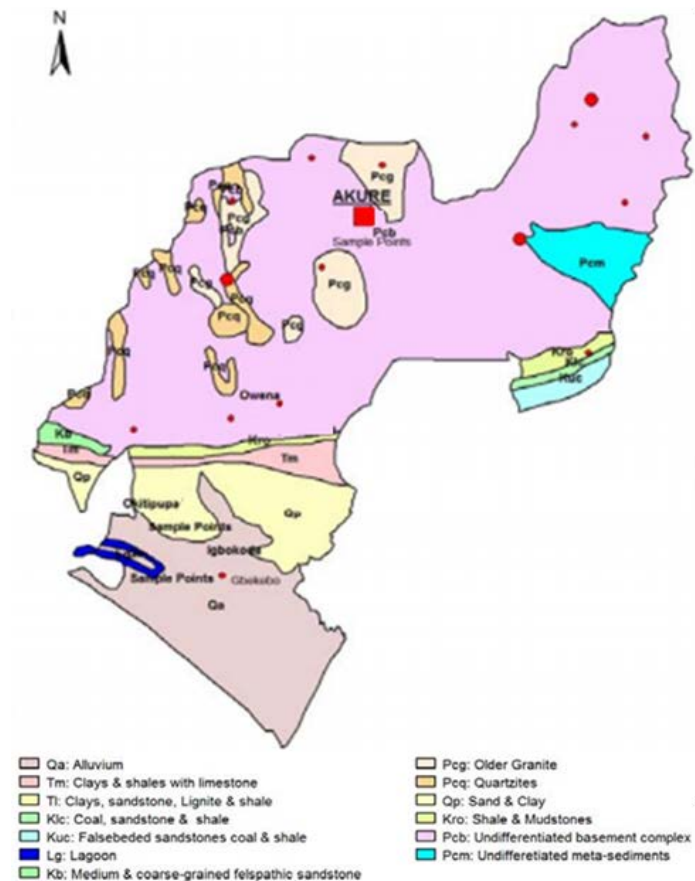
**Port Demand >  
Port Capacity**

**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

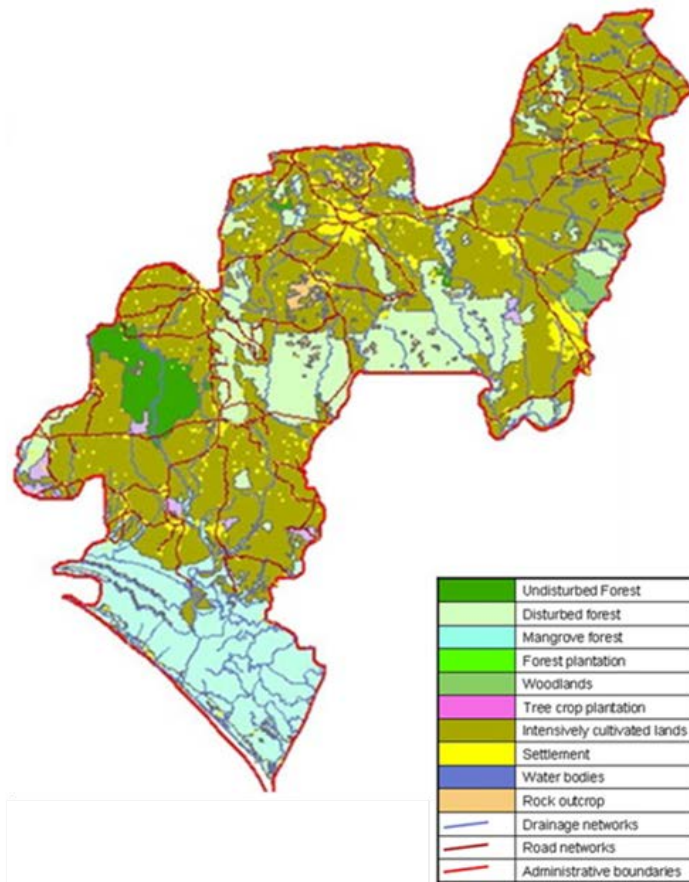
Ondo State is the 5<sup>th</sup> largest oil producing state of Nigeria with 60,000 barrels per day;

**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

Exports

PORT OF  
ONDO

Imports

Logistics Services

Cement



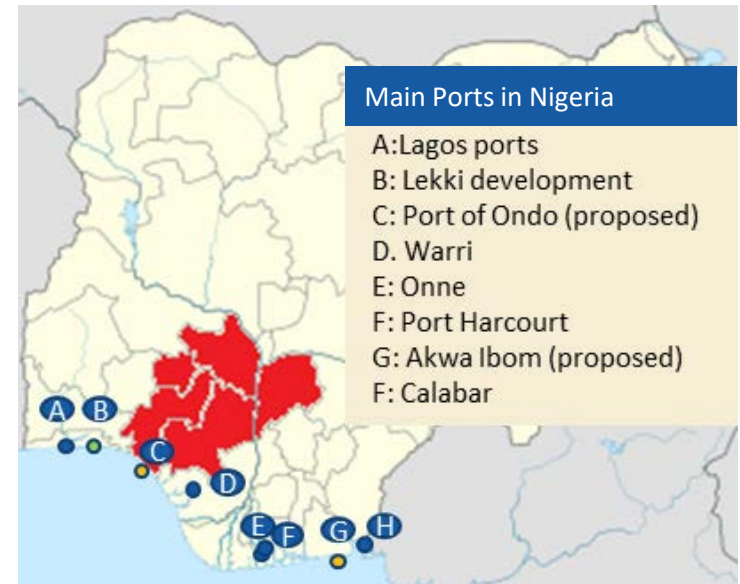
Consumer Goods



# Port of Ondo Market Competitiveness

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

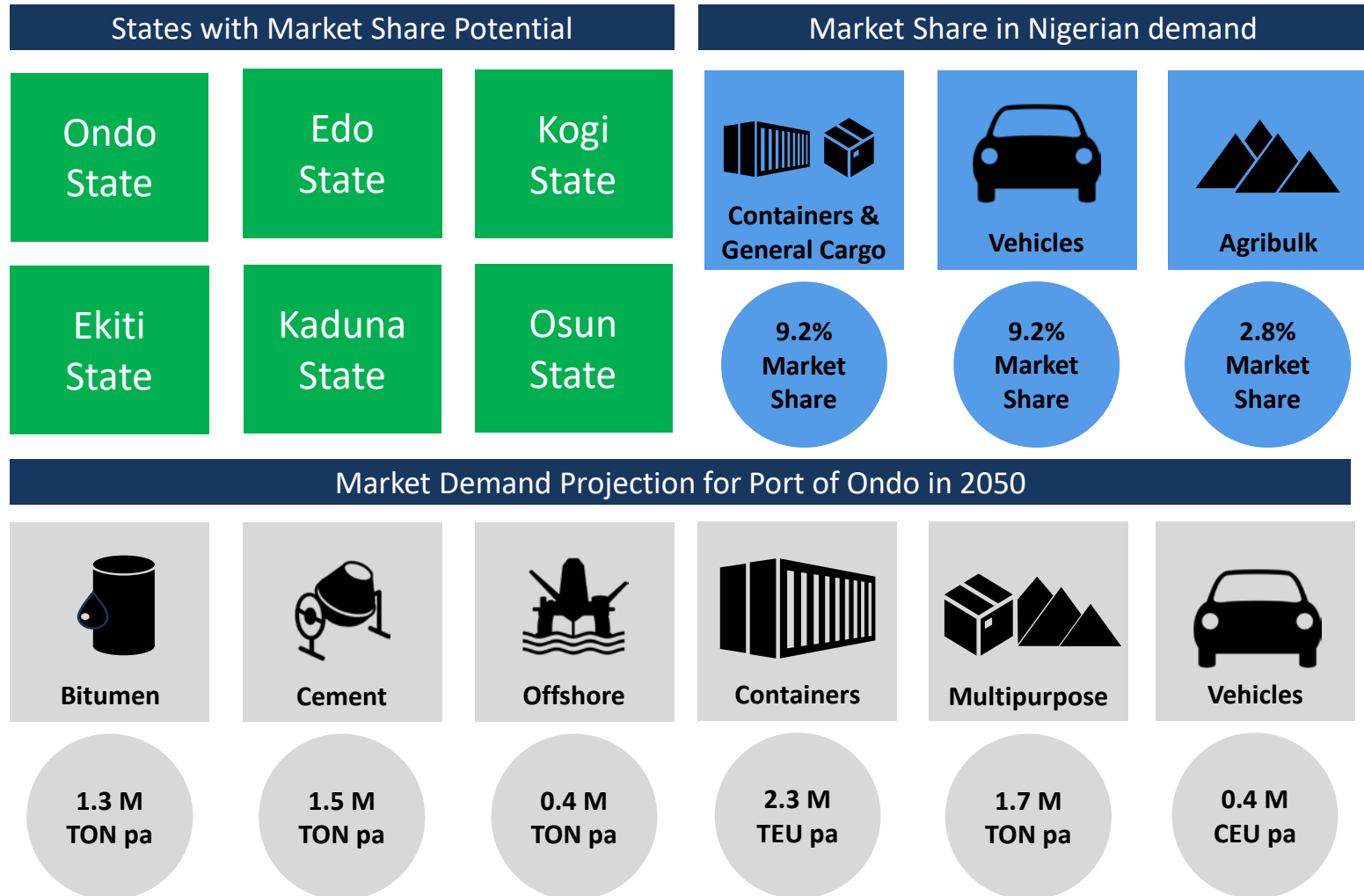
Nigerian Deep-Sea Ports	Port of Ondo	Lagos	Lekki	Akwa Ibom
Deep-Sea Port	Good/yes	Medium	Good/yes	Good/yes
Location in Nigeria	Good/yes	Medium	Medium	Medium
No Hinterland Congestion	Good/yes	Medium	Medium	Good/yes
Port Basin Depth	Good/yes	Medium	Good/yes	Good/yes
Access Channel Depth	Good/yes	Medium	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	Poor/no



- 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

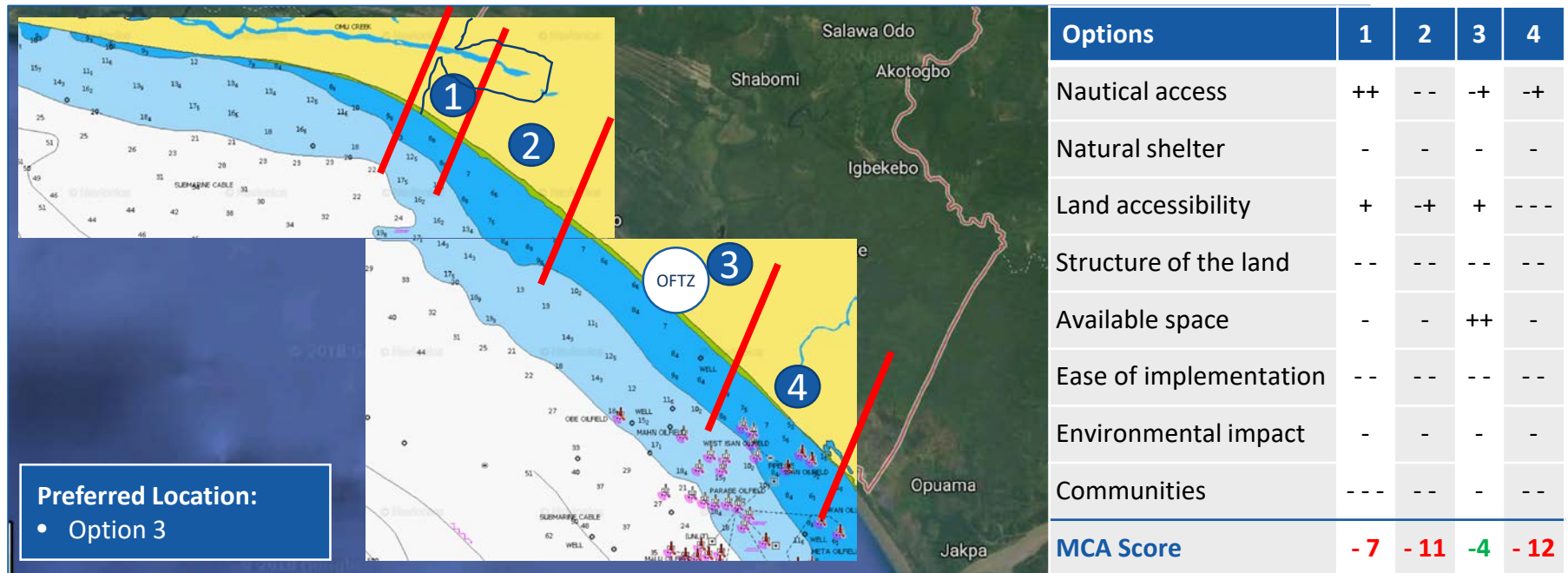
There is a commercial rationale for developing port capacity in Ondo State



# 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





# 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.

## Metocean

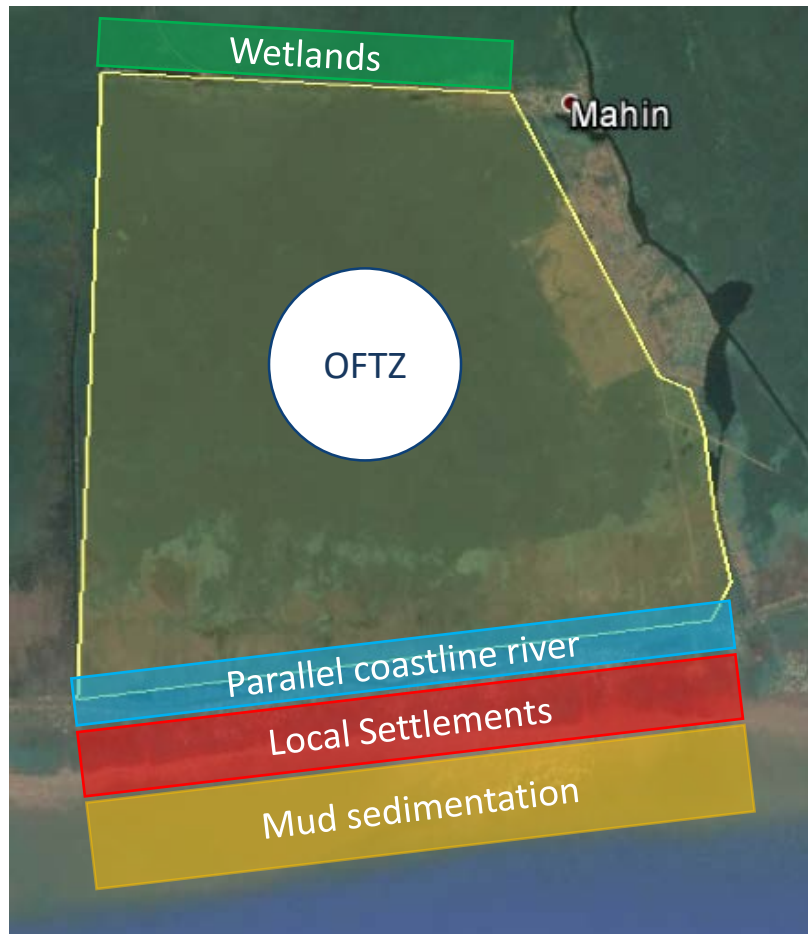
- The wave direction is rather constant and coming from the SSW to S angles.
- Wave heights characterized by ocean swell between 1.4-3.0 m.
- Tidal flows indicate a difference between MHWS of 0.95m and 0.7 m at MHWS.

## Seismicity

- The project site is not a seismically active zones

# 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:**

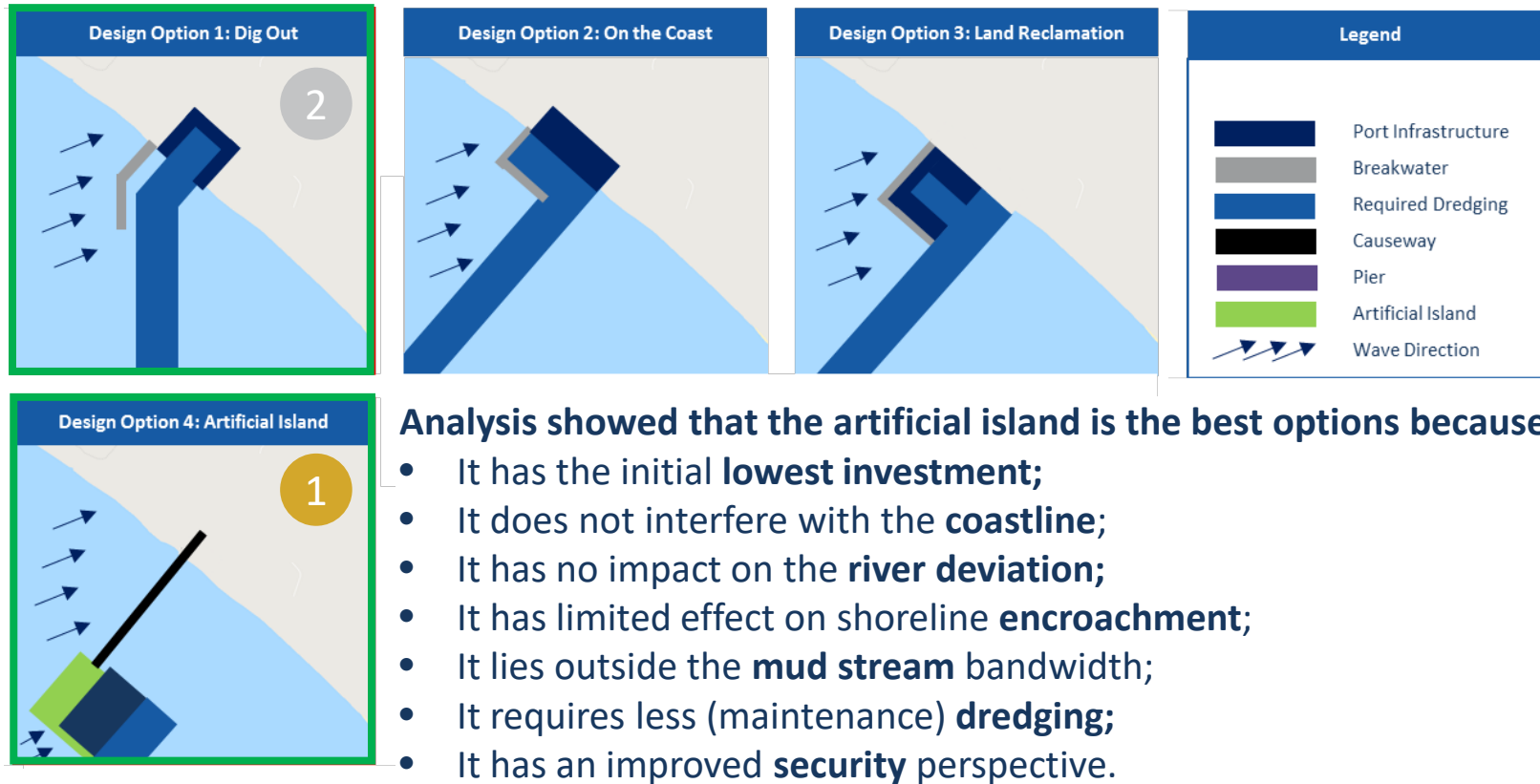
- **No islands** in front of the coast;
- There are numerous small creek outlets resulting in **muddy beaches**;
- The coastal land dominantly comprises flat **wetlands**;
- Everywhere along the coastline **rivers** exist running parallel to the shoreline;
- **Local Settlements** directly near coast.

## 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.

# 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

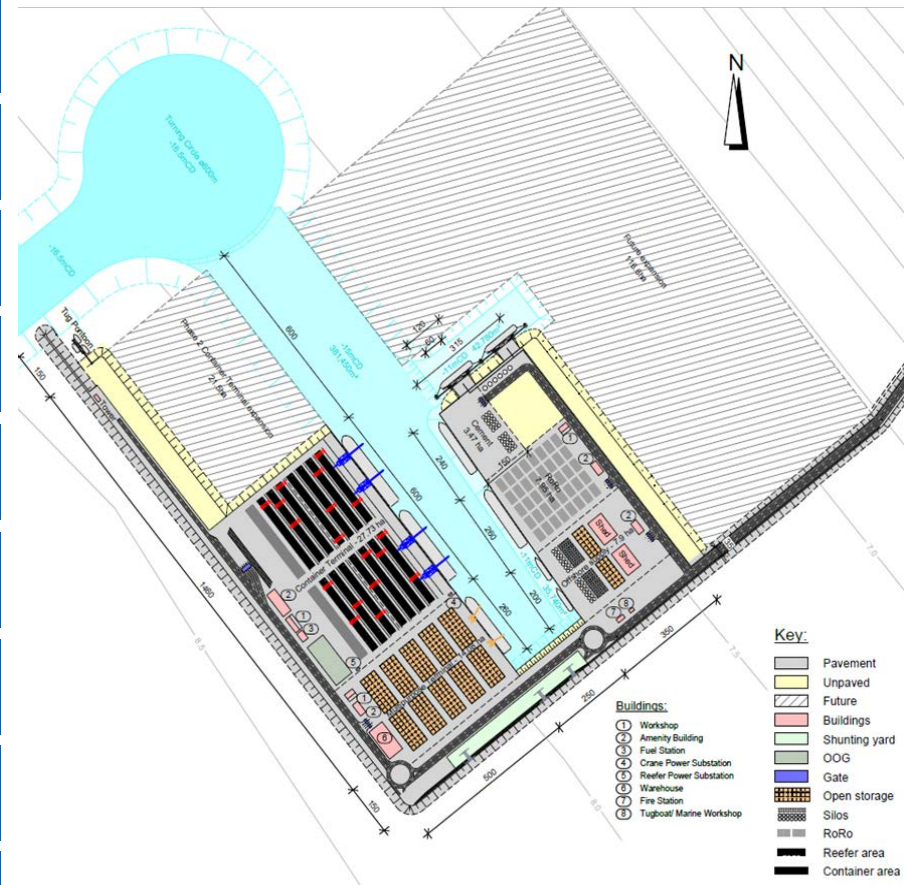
... to increase security of the port vis-à-vis an onshore port

... 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



# 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



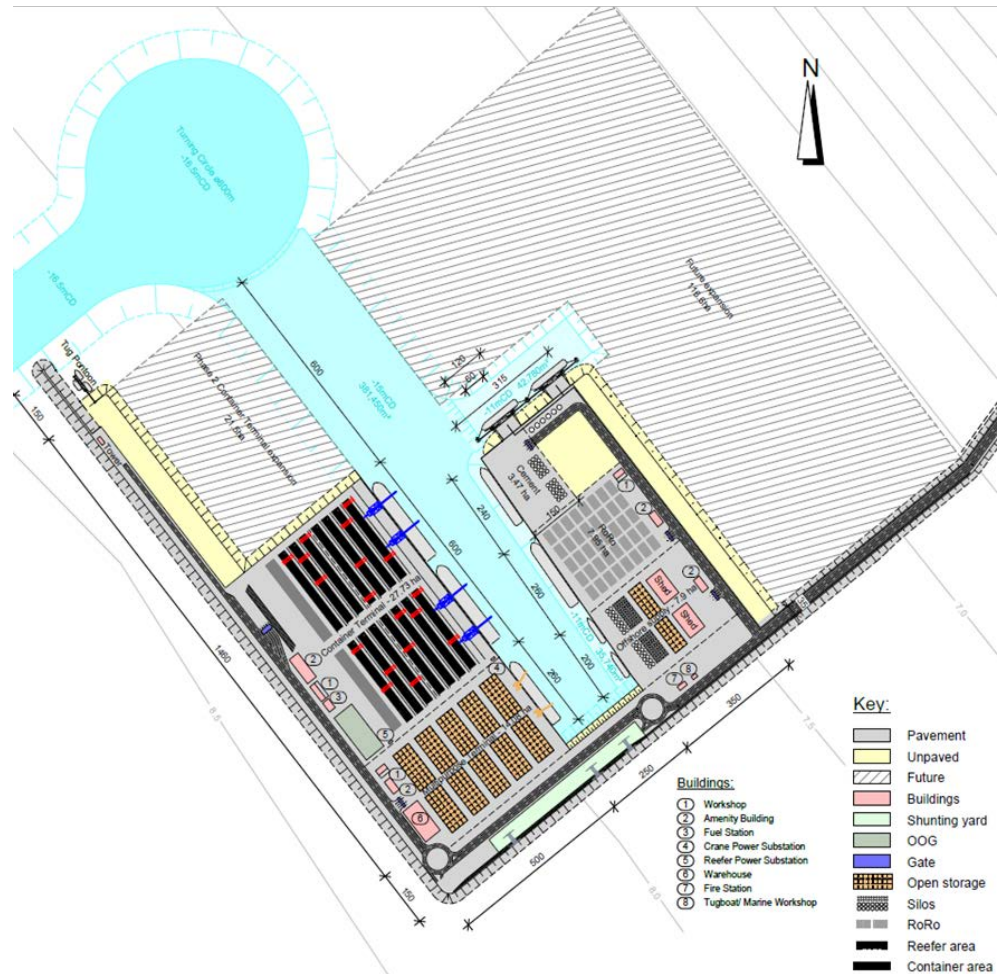
Ready for Post Panamax vessels of 9,000 – 10,000 TEU at 14 m arrival draught  
with option to deepen for 14,000 TEU vessels!



# Port of Ondo Bill of Quantities

The initial investment requirement is USD 1.3 billion

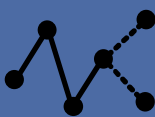




Bill of Quantities Summary	M USD
<b>Preliminary Costs</b>	<b>98.6</b>
Engineering and supervision	32.9
Mobilisation	65.7
<b>Civil Works</b>	<b>1,057.6</b>
Dredging and Reclamation	273.8
Civil Works and Buildings	431.5
Landside Connection with FTZ	116.3
<b>Contingencies</b>	<b>236.0</b>
<b>Equipment</b>	<b>154.3</b>
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
<b>Contingencies</b>	<b>14.0</b>
<b>Grand Total</b>	<b>1,310.4</b>








# 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 (ENVP) 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

# 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."*

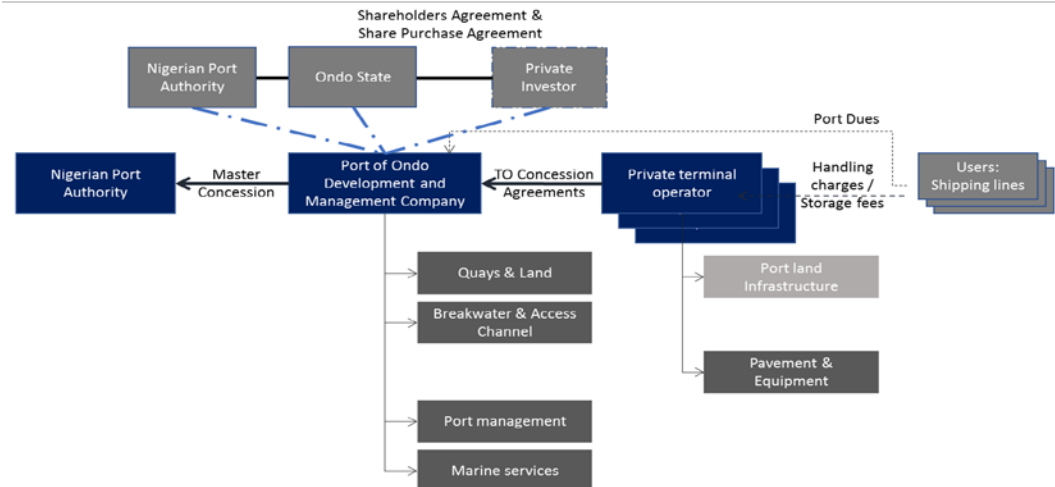


*"Nigeria has a well-developed institutional and regulatory environment for creating greenfield ports."*

## 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**

# Investment Decision

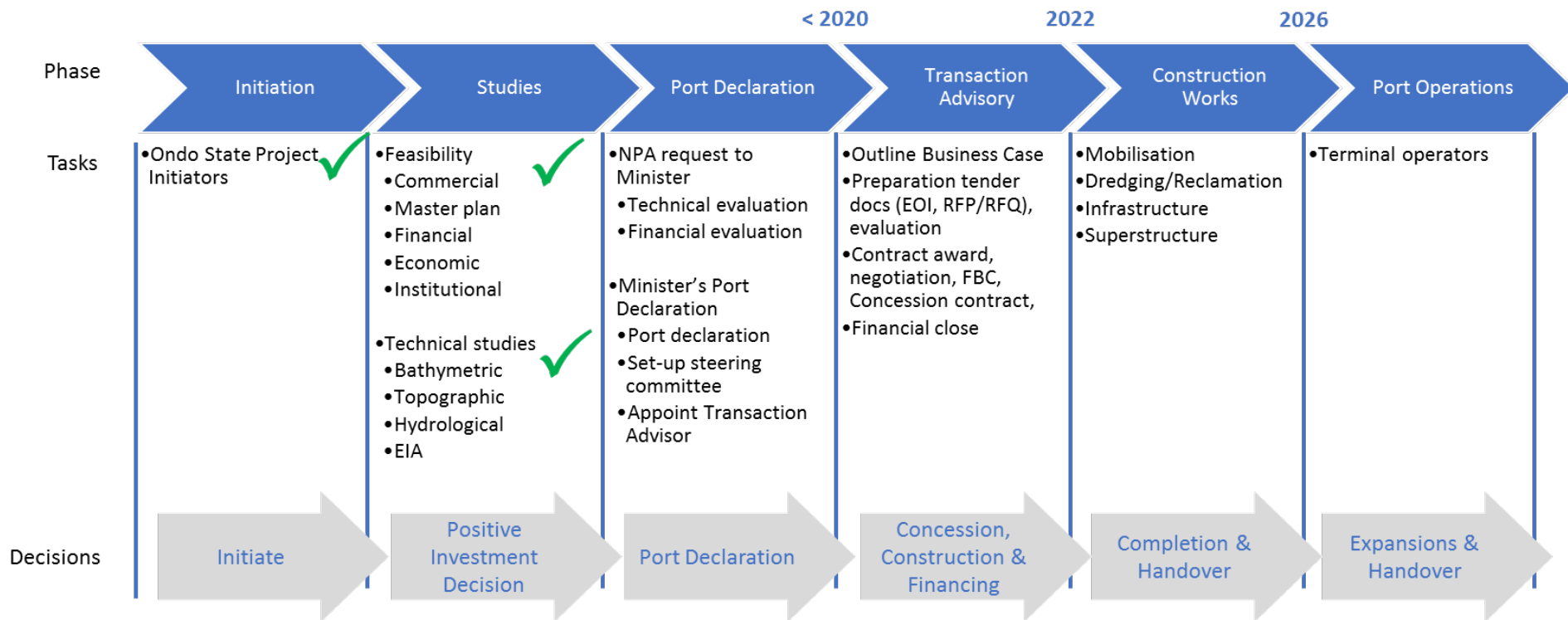
It is recommended to take an initial positive investment decision to take the project to the next preparation phase: the Outline Business Case (OBC)

- ✓ **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%).

**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.





# Port of Ondo Welcomes the World



# Thank you



**Address** Wijnhaven 3<sup>e</sup>  
P.O. Box 601  
3011 WG Rotterdam  
The Netherlands

**Telephone** +31 (0)10 286 59 40

**Email** [Info@mtbs.nl](mailto:Info@mtbs.nl)