



Meridian Port Services Limited Delivering Maritime Efficiency



Company & Business Background



- Meridian Port Services Limited is a joint venture between **Ghana Ports and Harbours Authority** And Meridian Port Holdings Limited, which is in turn a joint venture between **Bolloré Transport & Logistics** and **APM Terminals**.
- **Business Characteristics**
 - The Port of Tema currently handles approximately 75% of Ghana's seaborne freight traffic. It also serves to some extent as a gateway for the landlocked countries of Mali, Niger and Burkina Faso
 - In 2002, Ghana Ports & Harbours Authority (GPHA) embarked on a major port upgrade program to cater for the expected volume growth.
 - The port upgrade program also included the privatisation of operations: the concession to build and operate the container terminal was therefore put to private investors.
 - After a competitive process, a 20 year concession, was awarded to Meridian Port Services to build and operate the terminal.
 - The newly constructed container terminal commenced its operations in April 2007 deploying the most advanced port equipment and technologies along with the investment in training the entire staff.
 - Over the years the Berth Utilization increased to reach 92% YTD whereby MPS continued to complement the country's trade volume growth with investments in equipment and technology to boost the Port's handling capacity.
 - MPS has partnered with GPHA to undertake the Tema Port Expansion Project within the GPHA masterplan for the expansion of the Port of Tema. With the new port development, MPS further committed to build a new and much larger harbour basin where it will operate 4 container vessel berths. The current Concession has been extended by 35 years from the date of first move on new port facility.

Year 2003 - 2004



Year 2005 - 2006



NOW
2018



ENHANCED SAFETY - THE FATAL 5

TRANSPORTATION

SUSPENDED LOADS

WORKING AT HEIGHT

STORED ENERGY

CONTROL OF CONTRACTORS



Ongoing monitoring of compliance

Tell People
About The
Fatal 5

Understanding
The
Requirements

Identify the
Gaps

Prepare an
Action Plan

Closing The
Gap

CONTINUED INVESTMENTS TO INCREASE CAPACITY 2007-2018

- Investment in additional Handling Equipment at both the Quay and Yard **through out 2007 to 2018**
- Investment in building Backup Power Plant to secure uninterrupted operations **in year 2014**

- Intensified training and on new technology boosting productivity levels in the Terminal **through out 2009 to 2016**
- **With the above actions, Tema Port was able to handle increased volume**

Increasing the CHE by 14 Reachstackers (total 19)



Upgrading the Yard with Additional 9 RTG Cranes)



5 Mobile Harbor Cranes
Last 2 in Q1 - 2018



4 MW Backup
Power Plant



Upgrading the gate
complex and systems



2 Quay Cranes (total 5)



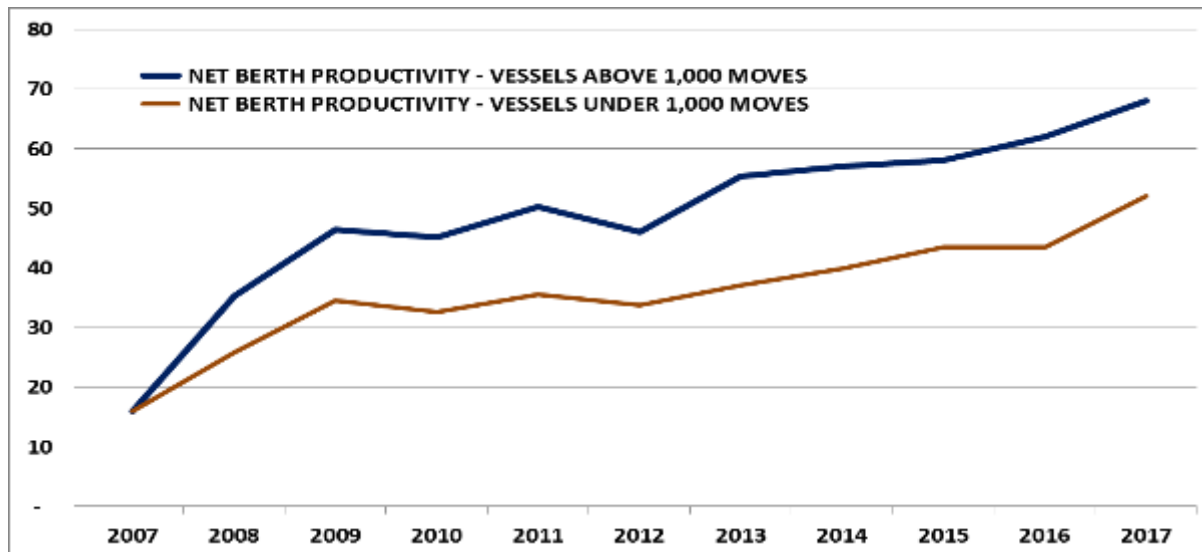
TEMA PORT IS ENGAGED IN A MODERNIZATION

MPS has transformed the Container Terminal of Tema Port into a modern terminal

- Heavy and sophisticated handling equipment (STS, MHC and RTG cranes)
- Fully integrated IT system and procedures in place
- Invested in developing staff talent through training and education on new business methods and operational processes.

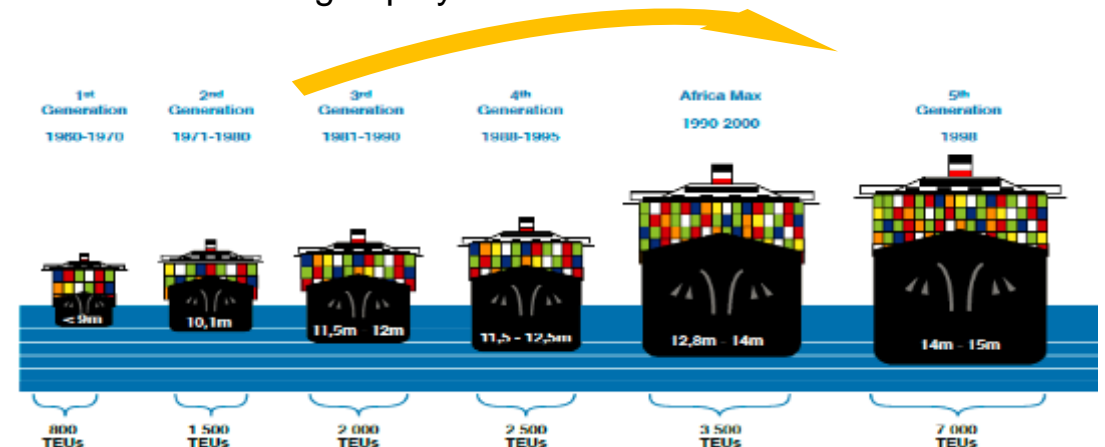
The region's most efficient terminal

- MPS has constantly boosted the operational berth productivity since the start of the concession (16 m.p.h. in 2007)



However, current throughput volume is approaching its maximum capacity at both the quay and the yard

- Current capacity limit is estimated at 950,000 TEU
- We are operating on 2 berths with 5 STS and 5 MHC with volume close to maximum capacity
- Shipping lines are deploying larger vessels to improve cost effectiveness.
- Larger vessels with greater volume will depend heavily on the efficiency of the terminals' infrastructure, equipment and manpower.
- At the start of operations at MPS, the size of vessels were in the range of 1,500 to 2,000 TEU's, and today 5,000 TEU vessels are being deployed.



TEMA PORT MASTER PLAN

UP TO 20 BERTHS OF MULTI USER FACILITY THAT CAN HANDLE ALL VESSEL TYPES, COMMODITIES AND TRADE



CONTAINERS
CAR CARRIER
GENERAL CARGO
LIQUID TANKERS

RORO MULTI-PURPOSE
REEFER
BREAK BULK
OIL & GAS TANKERS



FOUR BERTHS WITH EXCLUSIVITY FOR HANDLING CONTAINER VESSELS





THE BIGGEST PORT INFRASTRUCTURE IN WEST AND CENTRAL AFRICA – USD 1.5 BILLION INVESTMENT



CONCESSION GRANTOR



PROJECT SPONSORS



LENDERS



TEMA PORT EXPANSION PROJECT

TOTAL THROUGHPUT CAPACITY 3.7 MILLION TEU

Equipment & IT

- STS cranes: **9** / 16
- MHC: : **2** / 2
- E-RTGs: **29** / 66
- TTs: **42** / 64
- Ancillary equipment
- Enterprise Resource Planning (ERP)
- TOS
- GOS
- RFID, LPR & OCR



Marine Works

Dredging from channel to 18m to allow access for 16 m draft vessels

Land reclamation: 127 Ha

Breakwater : Length 3,550 m

Available Quay wall :

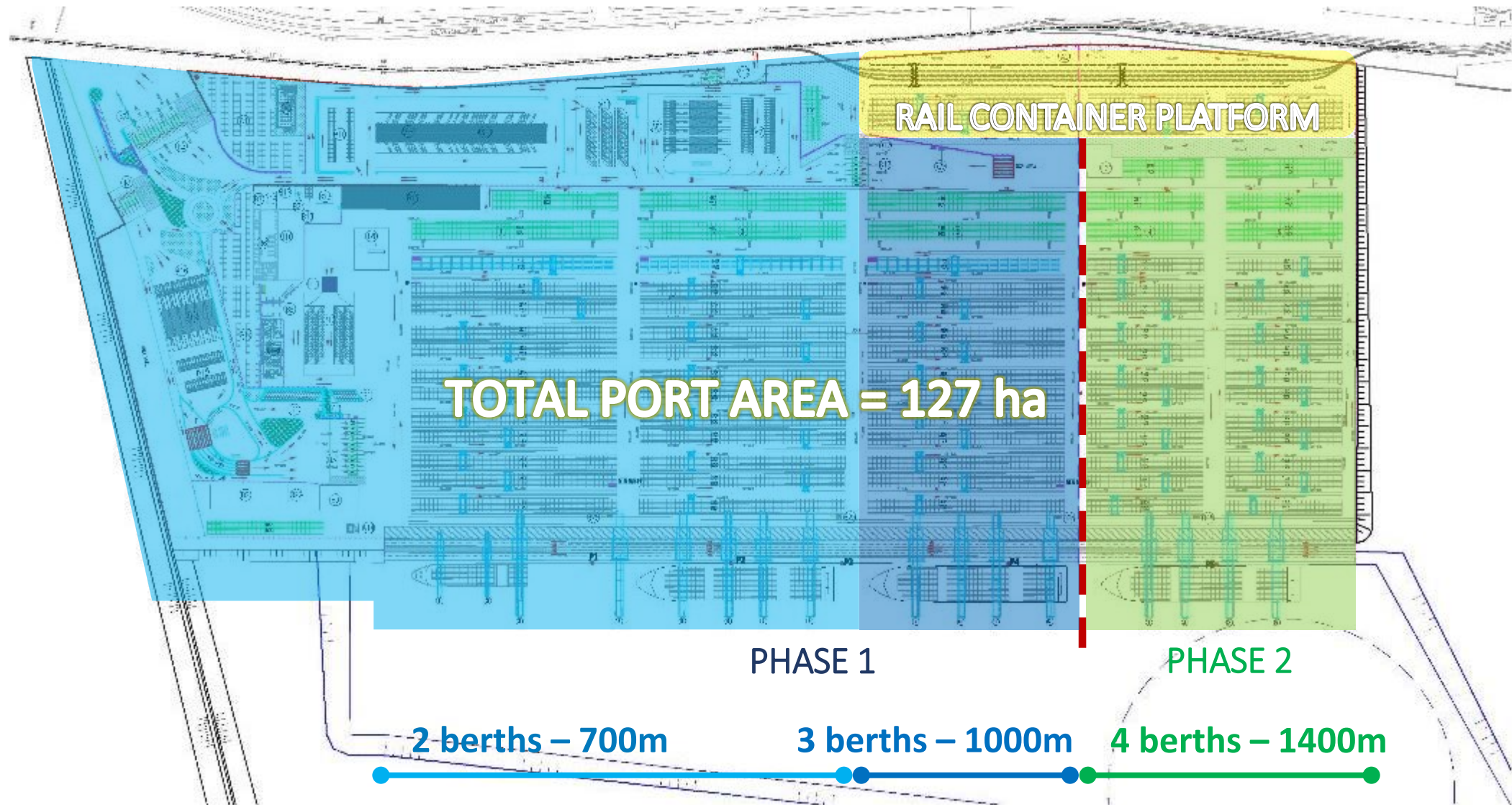
Phase 1: 1,000 m

Phase 2: 1,400 m

Land and Building Works

- Container Yard (paving, drainage, network & power infrastructure): **64 ha** / 87.5 ha
- Common user area (Customs inspection platform, Scanners etc.): **25.1 ha** / 25.3 ha
- Reserved area for Rail & Others: **8.4 ha** / 14.3 ha
- Buildings: MPS admin & staff, MPS workshop, Port and MPS gates, Authorities admin, power station, customs shed etc.:
21 buildings and facilities

PROJECT CONSTRUCTION PHASING



To be completed by:

June 2019

June 2020

June 2022



General Works Progress

- As of October 2018 we were at Month 28
- 7 months before Go-Live (28th June 2019)
- General progress: 56.6% progress vs 59.4% planned



Marine Works CHEC

- 74% progress vs 80% planned
- Section 3 handed over for paving
- 35 caissons placed
- Dredging contract to be signed
- Section 4 handover (2nd Feb 2019)
- All Caissons cast

DREDGING





Land Works EIFFAGE

- 40% progress vs 46% planned
- Lots of new activities to start with risk associated
- Eiffage should catch up delay by March 2019 if no further issues
- First handover by end November



Buildings Works CON SAR

- 45% progress vs 60% planned
- All buildings except Intrusive Examination shed are expecting to be late
- Handover expected mid Feb and end March



Gantry Cranes ZPMC

- 1st batch: 4 STS + 8 eRTG on site on 19th Dec 2018
- 2nd batch: 3 STS + 12 eRTG on site on 16th Feb 2019
- Complete the commissioning on 31st March 2019



THE PRESIDENCY
REPUBLIC OF GHANA

Paperless Processes

QUOTES & DIRECTIVES BY THE PRESIDENCY

- *The Presidency organized a conference on how to improve port operations and management efficiency in Ghana. They brought together a number of stakeholders including some of the best port operators in the world.*
- ***The aim is to change the face of operations at the ports so we can meet international standards and improve our trade competitiveness whilst making the most out of our ports as national assets.***
- *Ghana is moving from a system of applying sub-standard and unnecessary complex procedures at the port to a system which meets international standards and in conformity with Trade Facilitation Agreement.*
- *In May 2017, the Vice President of the Republic of Ghana, Dr. Mahamudu Bawumia at a Port Efficiency Conference in Accra, announced three-point policy directives aimed at improving Ghana's Port sector. The directives included:*
 - ✓ ***The Ports of Ghana should go 100 percent paperless***
 - ✓ ***All customs barriers should be removed from Ghana's transit corridor, and***
 - ✓ ***Mandatory Joint Inspection at the Ports.***
- *The implementation of the paperless project at Tema Port started immediately and became effective by 1st Sep. 2017.*



MPS
TEMA



GSA
GHANA
STANDARDS
AUTHORITY

FOOD AND DRUGS AUTHORITY
FDA
GHANA

SHIPOWNERS & AGENTS
ASSOCIATION OF GHANA



GCNet
GHANA COMMUNITY NETWORK SERVICES LIMITED

WESTBLUE
CONSULTING

AUTOMATED GATE PROCESSES

&

TERMINAL OPERATING SYSTEMS

The New Port Operational facilities that has been designed and being integrated along with several automated processes and systems at the Gate-In and Gate-Out;

- ✓ Terminal Operating System (NAVIS N-4)
- ✓ Gate Operating System
- ✓ Truck Appointment System
- ✓ Biometric Access Control for drivers
- ✓ Licence Plate Recognition Systems (LPR) for recognising vehicles' numbers
- ✓ Optical Character Recognition (OCR) for recognising containers' numbers
- ✓ Weigh Bridges
- ✓ Scanners
- ✓ Radio Frequency Identification (RFID) for recognising trucks within the terminal

These high end technology and equipment will be synchronized with our fully integrated container terminal operations at the new port facility to eliminate congestion and maximize efficiency levels without compromising on security at the Port.

FUTURE GATES WITH MODERN ACCESS CONTROLS FOR SECURE PORT OPERATIONS

Biometric Readers, OCR Portals, LPR, Scanner & RFID Technology



1

All truck drivers will be recognized by biometric readers installed at the Port Gate

2

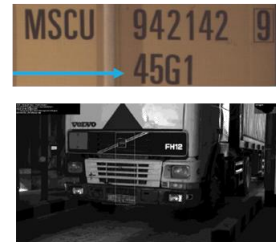
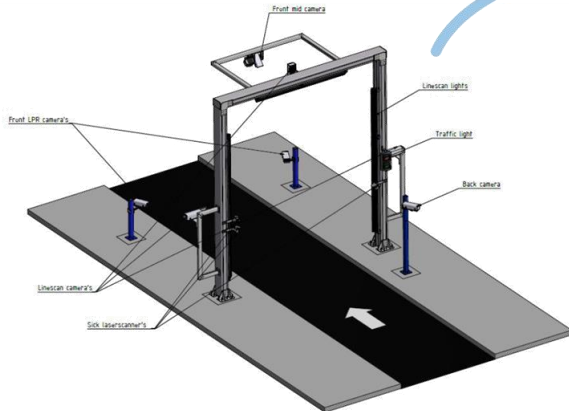
After security clearance at the port gate, the truck can proceed to the Scanner.



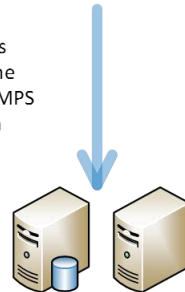
3

Truck will approach OCR & LPR, which take high resolution images of truck & container to start the Scanning transaction

OCR Scanner captures high definition images and detects container numbers/ codes/labels



Captured data gets validated against the available data in the MPS Operating System



4

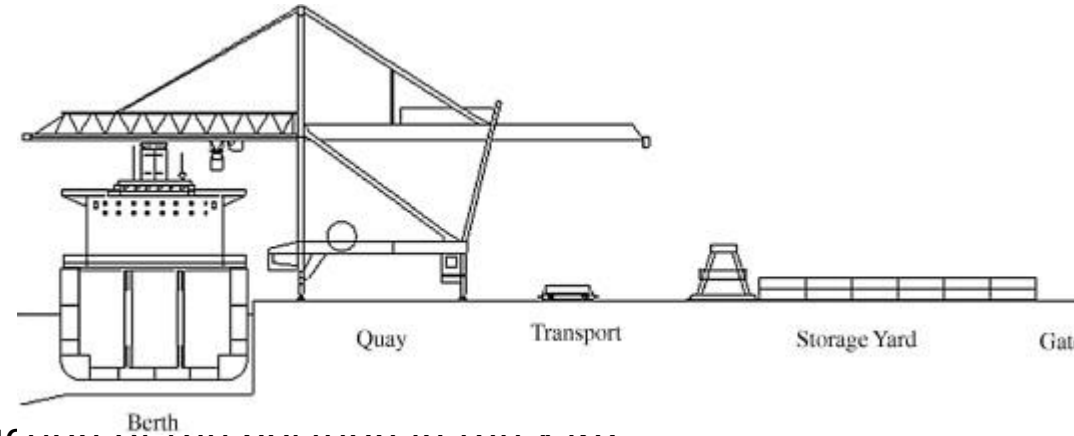
Upon arrival to the automated main terminal gate, the truck will be automatically identified by a unique code based upon RFID technology



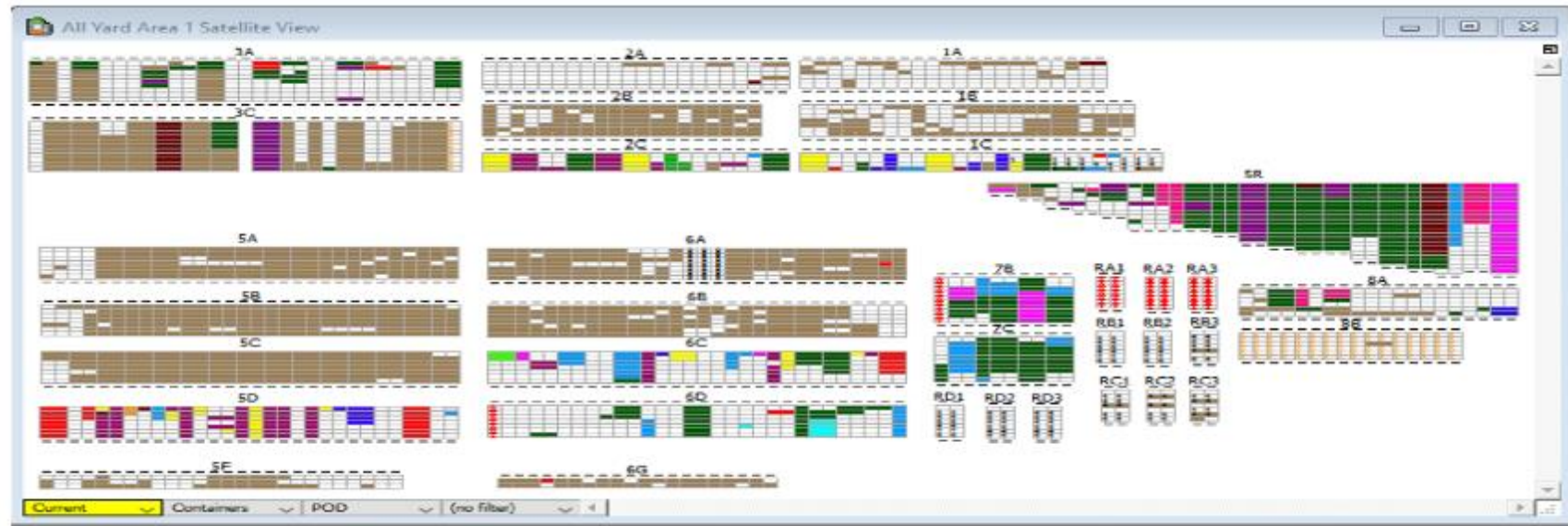
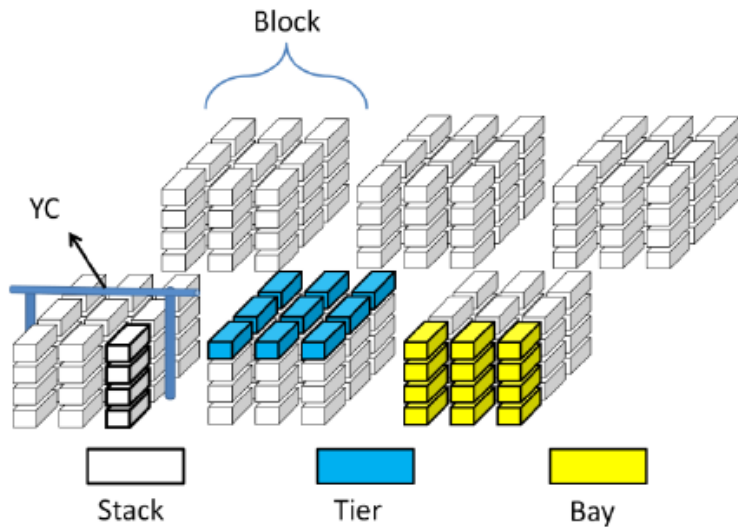
Instructions will appear on the kiosks and the gate ticket will be printed.

Paperless Vessel to Yard Operations:

Discharged containers recorded electronically via handheld, updates respective Lines via EDI message (**COARRI**)



In a real time, containers are received through an instruction of the position in the yard.



Yard Equipment Workflow: Paperless



- Container Handling equipment receive instruction on their VMT on inbound yard position, which eliminates manual (human) intervention. (MPS safety policy)





Meridian Port Services Limited

Africa's Transshipment Hub





is well-known as a dynamic and modern container terminal operator with total commitment to excellence.



MPS has continued to make its vision of investing in Ghana’s Maritime Sector a reality, as it now invests in the Tema Port Expansion Project.

The project involves the building of a breakwater and access channel harbouring deep-water berths to accommodate larger vessels with sophisticated port handling equipment and exquisite state of the art port technology and in effect be a Hub Port for Africa.

TERMINAL VIEW	PHASE 1	PHASE 2
THROUGHPUT CAPACITY	2,000,000 TEUS	3,700,000 TEUS
QUAY / BERTHS	1, 000 m & 3 BERTHS	1,400 m & 4 BERTHS
VESSEL DRAFT	16 m	16 m
SHORE CRANES	7 STS with 23 Outreach	16 STS with 23 Outreach
	2 STS with 15 Outreach	2 STS with 15 Outreach
	2 MHC with 15 Outreach	2 MHC with 15 Outreach
RUBBER TYRED GANTRY CRANES	29 e-RTG’s	66 e-RTG’s
TRACTORS AND TRAILERS	42	64

In addition to serving Ghana, the new port will also expand trade flows and links across West Africa



will be recognized as a major maritime hub and the most efficient one-stop port services center in the region and the rest of Africa where Shipping lines can accept cargo destined to different feeder markets not directly served by mainline vessels.

Notably, new markets create economies of scale advantages for mainline services by deploying larger capacity vessels which are able to berth and be efficiently operated at the MPS new port facility.

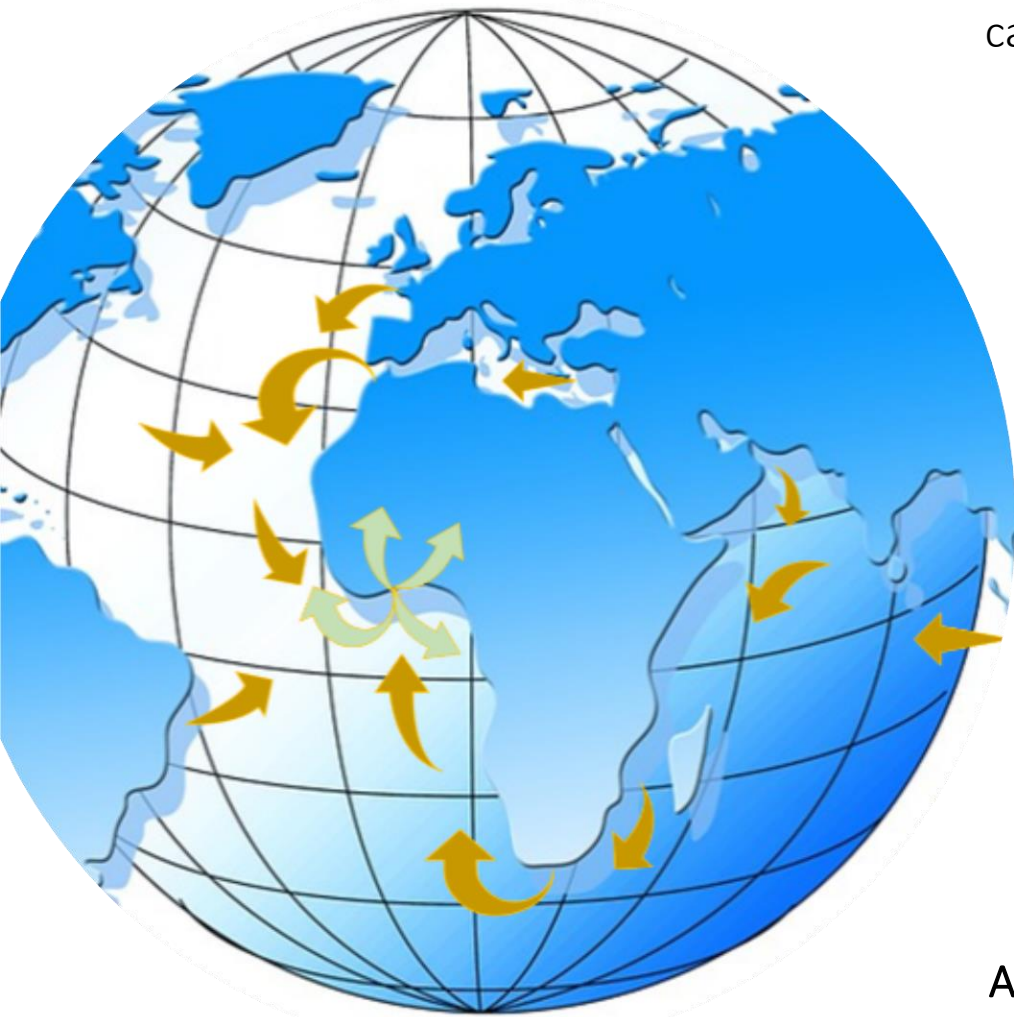
Almost **all the container liner services that call Tema Port have Weekly Sailing Schedules that call at Tema which in turn uplifting the connectivity of MPS to all maritime networks** to from ports within the West Africa port range and beyond.

Currently 11 weekly container liner services call at MPS existing terminal. Of which 5 services have fixed berthing window arrangement and the rest call on FIRST COME FIRST SERVE basis.

MPS Terminal has the highest level of concentration of liner shipping services in West Africa with 16 Shipping Lines co-sharing the 11 regular weekly services.

The new Tema Port Facility is strategically positioned at the centre of the West Africa cost line making it the ideal place for a Transit and Transshipment Hub Port with the **best proximity to neighbouring ports all directions East, West and beyond.**

Tema Port has the location advantages to that of Abidjan, Lomé and allot better than other ports.

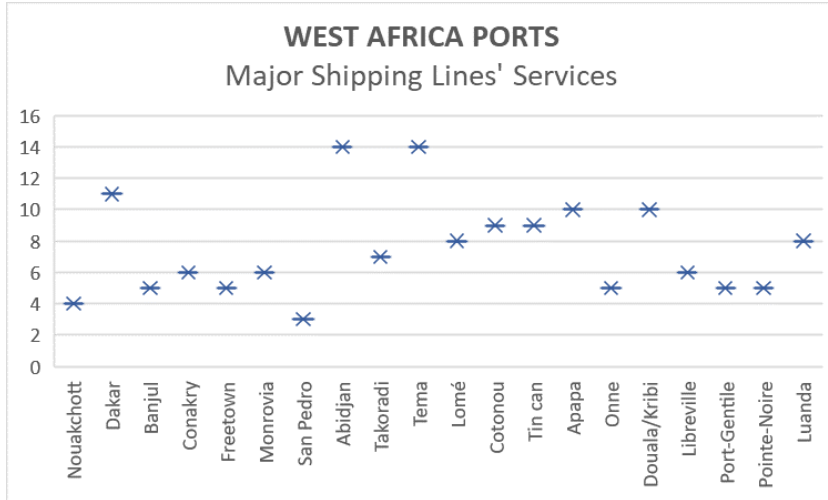




MPS new port facility has; the best Location, largest Infrastructure & Superstructure, Advanced Terminal Operating Systems, efficient port Accessibility, Frequency of vessel calls, number of Shipping Lines, the shortest Waiting Time, fastest Vessel Turnaround Time, highest Capacity and Berth Availability to make it The Hub Port for Africa

WEST AFRICA PORTS
Major Shipping Lines' Services

- ARKAS
- CMA CGM
- COSCO
- GRIMALDI
- GSL ZIM
- HAPAG LLOYD
- MAERSK
- MESSINA
- MOL/ONE
- MSC
- NILE DUTCH
- PIL
- COSCO
- OTHERS

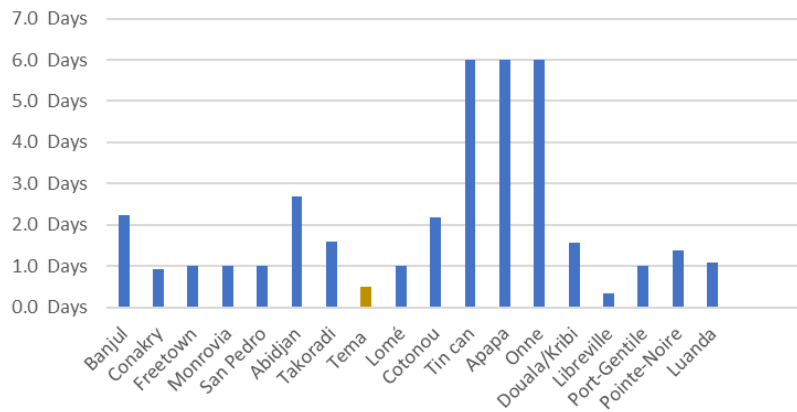


All the major Shipping Lines have services that call regularly at Tema port.

The Transshipment Hub in Tema is destined to create several commercial opportunities to the Shipping Lines:

- The potential to offer extended services to new ports/markets,
- Rearrange the number of Liner Services that call to West Africa and utilise the newly created port capacity at Tema Port as first-port-of-call,
- Tema Port is built to be the first port of call on the western coastline of Africa where all the major Liner Services can lighten up and turnaround efficiently and cost effectively.

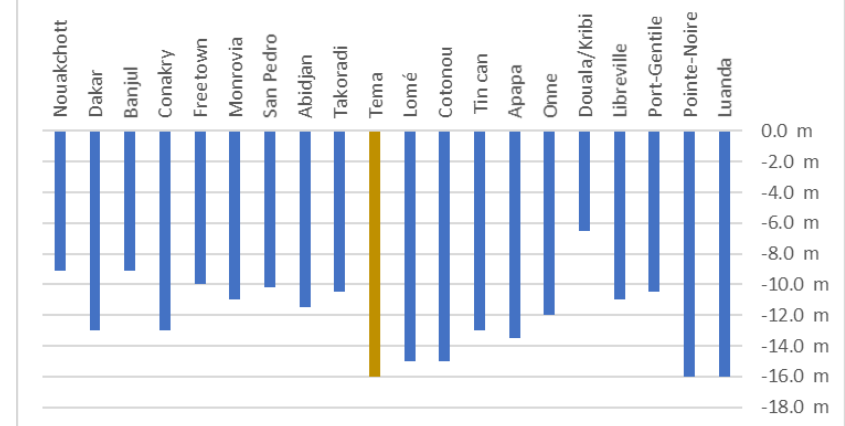
Average Anchorage Time

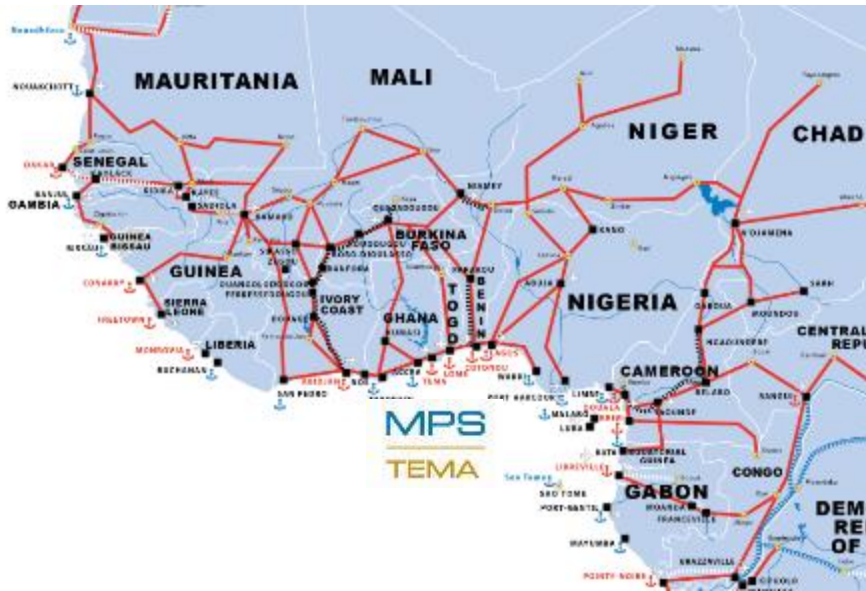


Tema has the lowest Anchorage Time attributed to being the first West African Port to offer fixed Berthing Window for main Liner Services. Same will be extended and synchronised with Feeder Services.

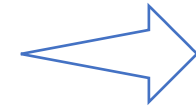
MPS new facility is built to cater for berthing the largest container vessel with a draft up to 16m and the quay is equipment of gantry cranes capable of handling containers up to the 23rd row onboard and 10 containers over deck.

Maximum Draft



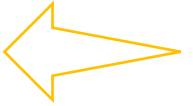


POTENTIAL FEEDER ROUTES

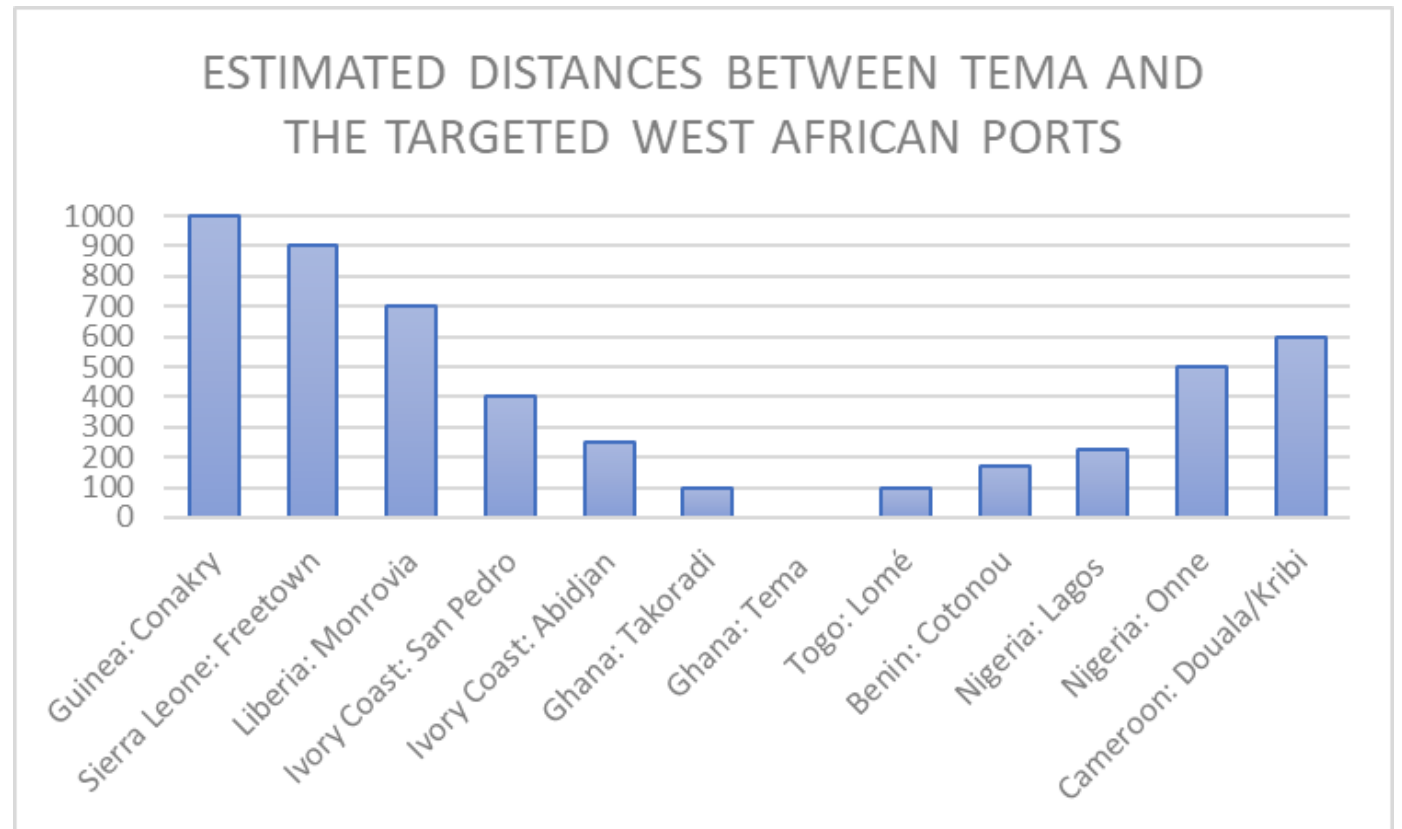


East Bound: Lomé, Cotonou, Tin can, Apapa, Onne & Douala/Kribi

Conakry, Freetown, Monrovia, San Pedro & Takoradi :**West Bound**



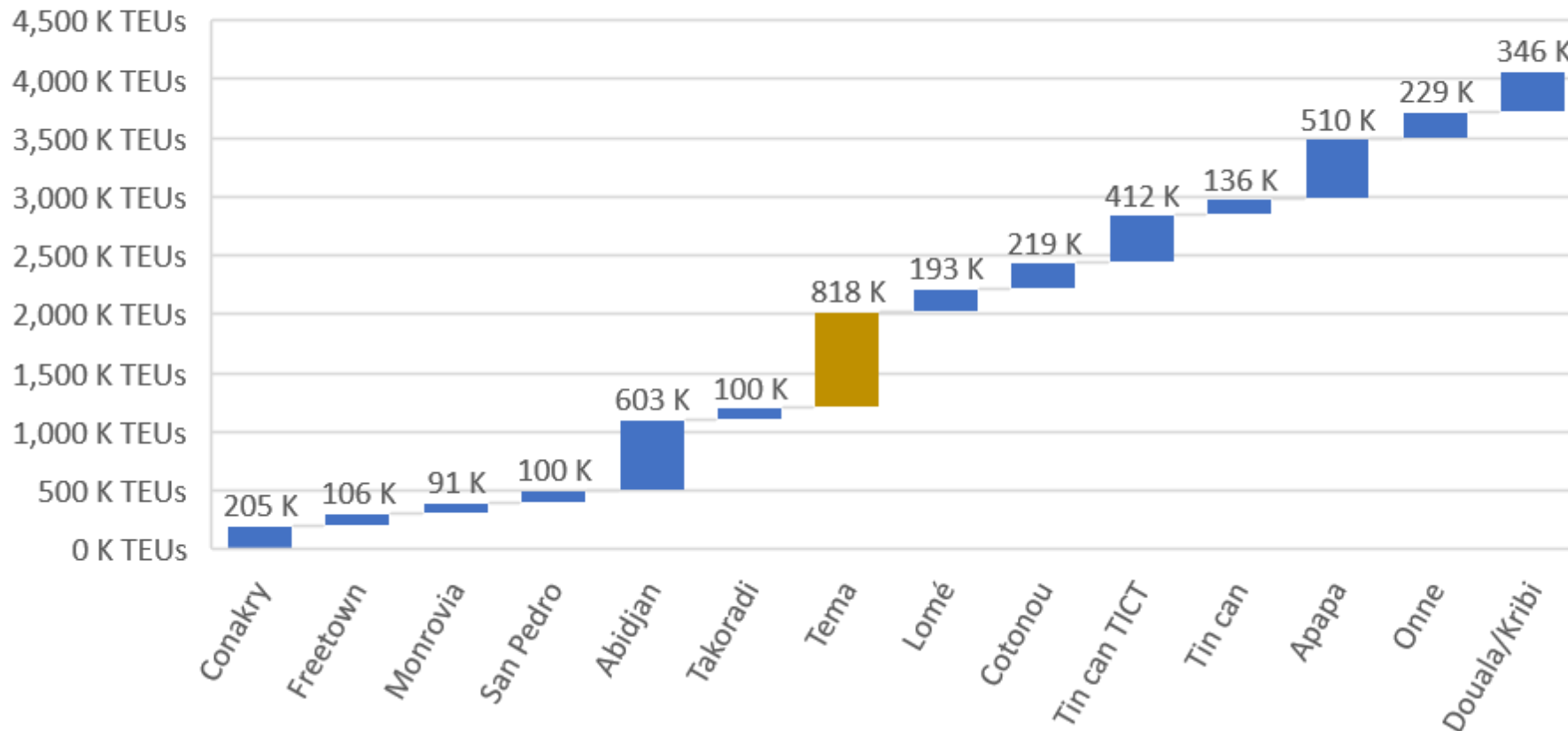
GHANA IMPORT TRADE MARKETS



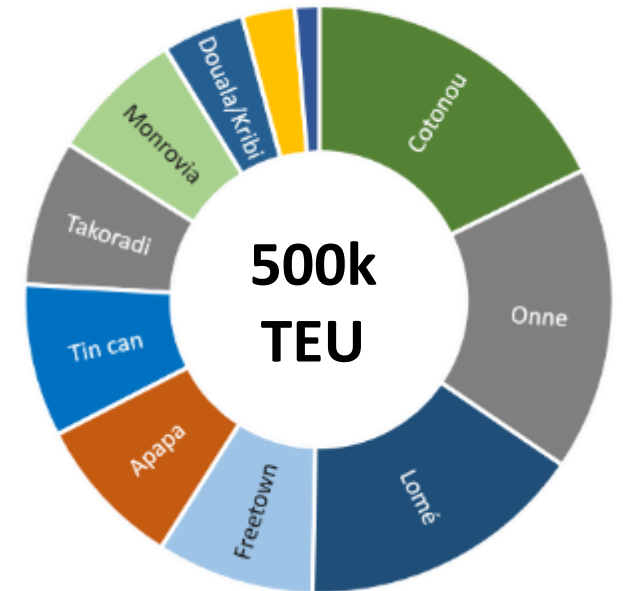
AVAILABILITY OF CAPTIVE CARGO AT MPS THE EXISTING TERMINAL

Tema Port captive container volume is the highest move count onboard the vessels calling other West African Ports. Moreover, from the south east port of Luanda through Lagos Apapa & Tin Can as well as Abidjan and Dakar all the way west to Nouakchott; MPS Terminal volume has the highest single port throughput volume.

ESTIMATED SELECTED WEST AFRICAN PORTS VOLUME

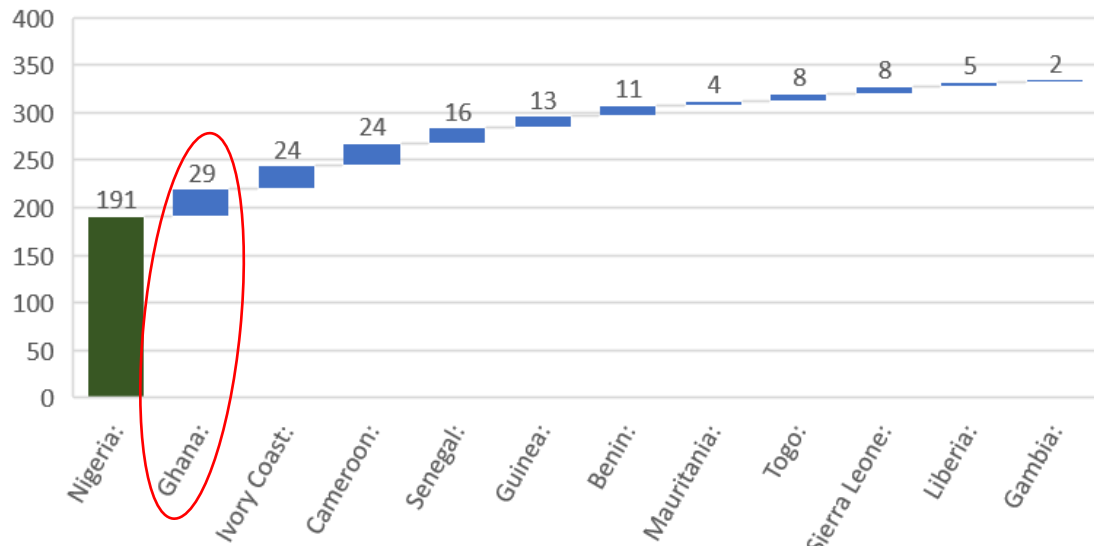


Transshipment Target Ports

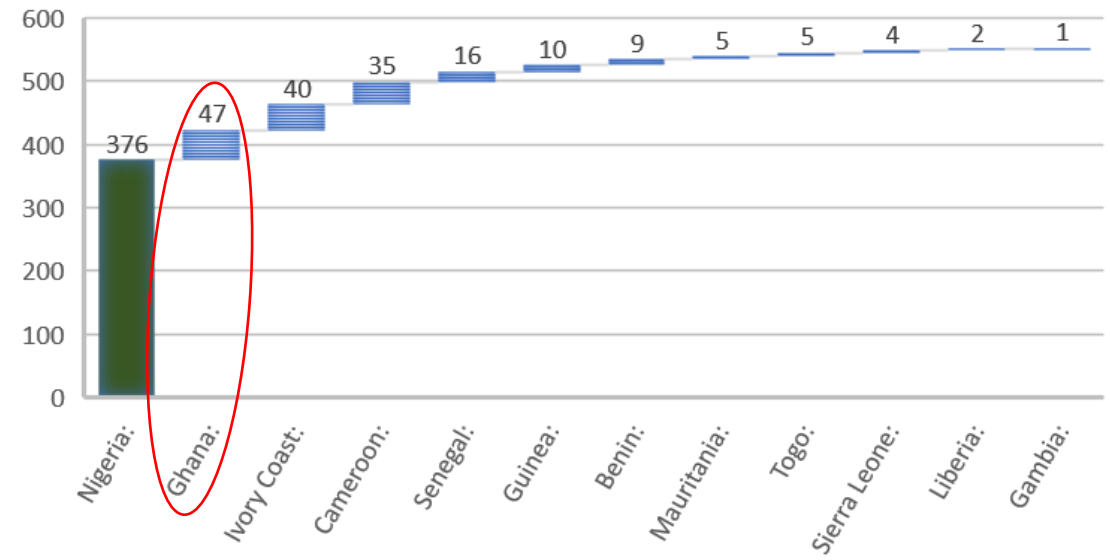


GHANA IS THE 2ND LARGEST ECONOMY IN WEST AFRICA AND EXPECTED TO GROW AT THE RATE 5% TO 8% PER ANNUM

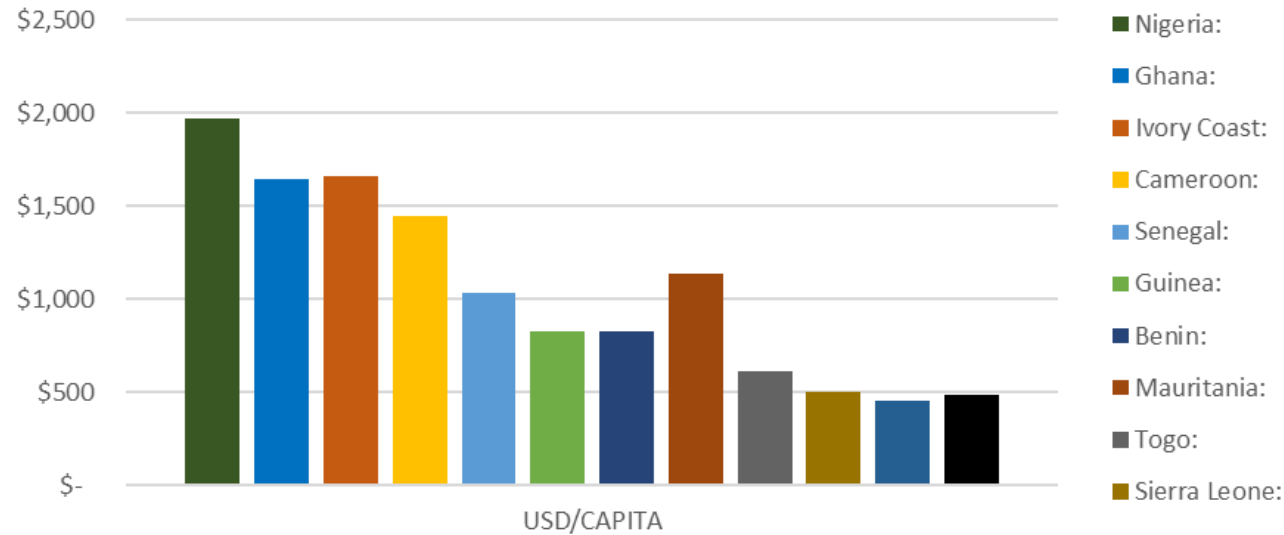
West Africa Population (Million)



WEST AFRICA GDP (BILLION USD)



Estimsted West African GDP 2017



UNLOCKING THE KEY POTENTIAL OF EMERGING PORTS IN IMPROVING REGIONAL AND GLOBAL ECONOMY

MPS is expected to improve terminal productivity and capacity and through that Ghana's liner shipping connectivity, trade costs, trade value and employment



Terminal performance

- Terminals capacity
- Vessel capacity
- BMPH
- Port turnaround time
- Terminal productivity

Liner shipping connectivity

- Direct services
- Shipping lines
- Max. vessel size
- Call frequency
- Number of vessels

Trade costs

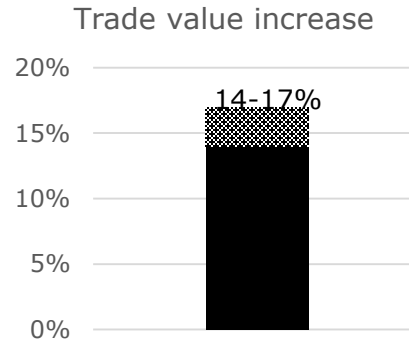
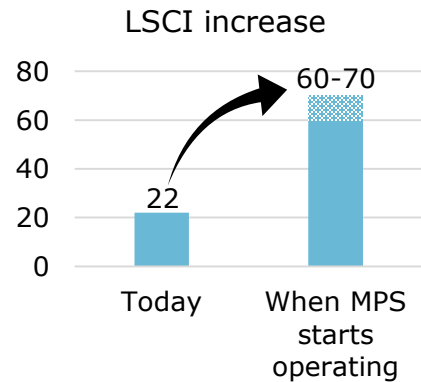
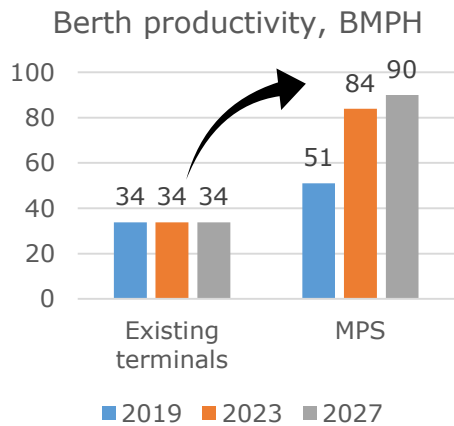
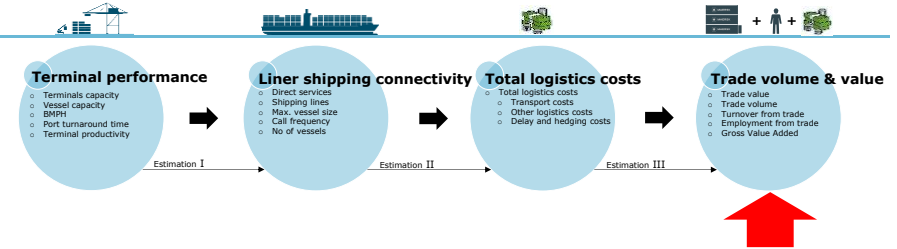
- Duties and taxes
- Transport costs
- Other logistics costs
- Delay and dwell costs

Trade value and jobs

- Trade value
- Turnover from trade
- Employment from trade
- Gross Value Added

THE IMPACTS FROM MPS'S TERMINAL INVESTMENT ON TRADE AND ECONOMY

A 14-17% increase in trade value will increase turnover of Ghana import and export companies and in turn generate Gross Value Added and jobs



= 372,000-452,000 jobs

= USD 0.9-1.1 billion GVA

- Assumptions and limitations:
- 50% of Ghanaian export is containerised
 - 80% of this export is shipped out from Tema
 - No correction for air transport

UNLOCKING THE KEY POTENTIAL OF EMERGING PORTS IN IMPROVING REGIONAL AND GLOBAL ECONOMY

- ✓ **Meridian Port Services Limited (MPS) & Tema Port** are one of the most competitive ports in the region that caused a big reduction in transport costs for importers, exporters, shipping lines and other port users. **With the new Tema Port Expansion, MPS will further boost the favourable cost-effective environment to importers, exporters and other stakeholders.**
- ✓ **The new gigantic Port Infrastructure will be able to accommodate Ghana trade & industry growth as well as serving as regional hub for West Africa and beyond.**
- ✓ **Having a Hub Port in Tema and or being the first port of call, will steer Ghana Industry to be connected to the wider West Africa consumer markets in a more efficient way (direct services or shorter transit time and competitive sea freight rates).**
- ✓ **Port efficiency is one of the keys for unlocking economy; attract investment in the trade & industry sectors to setup facilities/factories round Tema Port leading to creating jobs, increasing trade and foreign currency earning etc.**
- ✓ Subject to volume growth, the port superstructure can be scaled-up to meet the increasing demand. This will lead to job creation (direct and indirect) as well as increase in the revenue streams for the shareholders and the Port Authority.
- ✓ The New Port Operational facilities that has been designed and being integrated along with several automated processes and intelligent operational planning and several EDI communication tools. The high-end & advanced technology and equipment will be synchronized with our fully integrated container terminal operations to eliminate congestion and maximize efficiency levels without compromising on security at the Port. This will reduce the cost of doing business at the port.
- ✓ The port's efficiency, accessibility, frequency of vessel calls, number of Shipping Lines, the short waiting time at anchorage, fast vessel turnaround time, high port capacity and berth availability are the optimal criteria for making **Tema Port, The Hub Port for Africa.**
- ✓ There are several well-established traditional logistics service providers equipped with modern fleet of trucks and or operating out of orthodox off-dock logistics platforms and marshalling yards. The arrival of modern industrialisation and trade will prompt the need for transformation and upgrading these facilities to meet the requisite standards. This is already happening in Ghana at moderate scale.

