



“Strategic approach to enhance connectivity of South & East African Ports : TNPA’s experience”

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16th Intermodal Africa

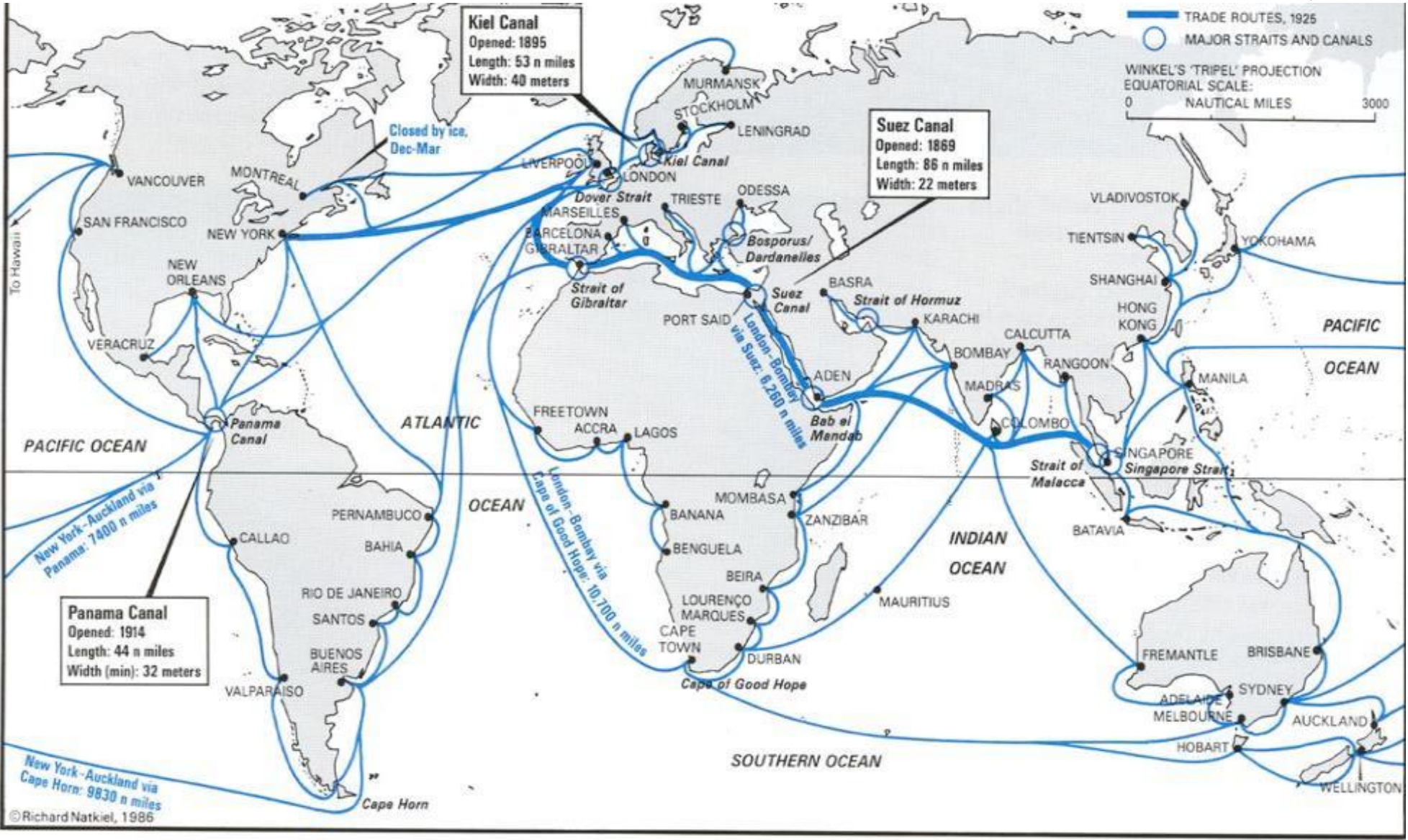


- *Shipping and ports are key businesses that drive worldwide trade;*
- *Worldwide, 80% of global trade by volume and over 70% of global trade by value are carried by sea and are handled by ports;*
- *In South Africa, about 95% of all bulk cargo is handled by sea;*
- *Maritime transport remain the backbone of international trade and globalization;*
- *Developing countries continue to contribute larger shares to international seaborne trade;*
- *Africa's small contribution should be seen as untapped potential to becoming major importers/exporters;*



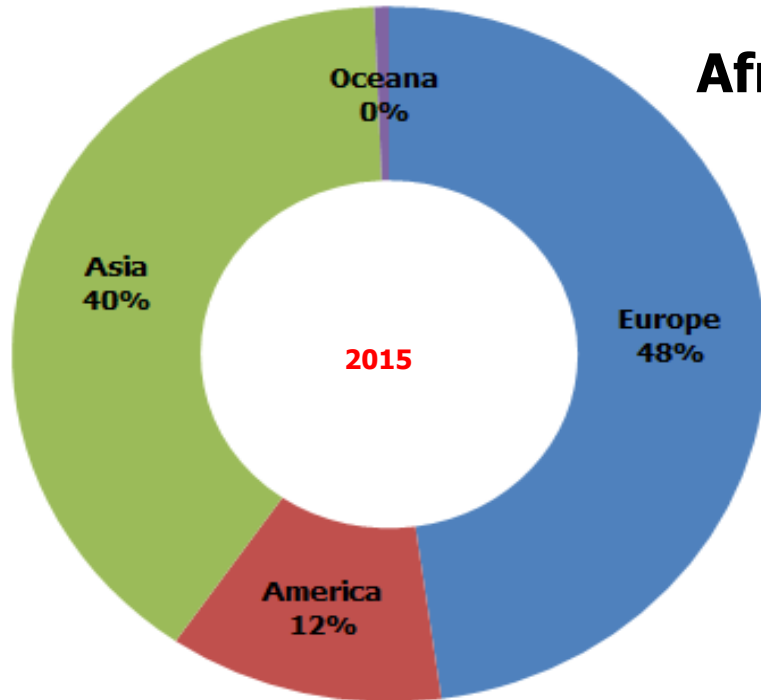
- ***Africa is the world's second largest continent – approximately 1/5 of the total surface area of the Earth (surface area of 43 million km);***
- ***Approximately 97% of Africa's import and export cargo is transported via sea (6% of worldwide waterborne cargo) - Containers shipped to/from Africa equates to approximately 3% of global container traffic.***
- ***Africa's maritime economy is estimated at US\$1 trillion a year, about 90% of Africa's total commerce;***
- ***African Ports hardly feature among the 70 most productive in the world, although approximately 90% of imports/exports pass through these ports;***
- ***Of the 59 ports in Africa, approximately 75% are still plagued with the following challenges:***
 - ***Lack of adequate port facilities and deep water berths;***
 - ***Poor equipment and lack of maintenance of infrastructure;***
 - ***Limited capital to modernise port infrastructure;***

World and Africa Trade Connectivity

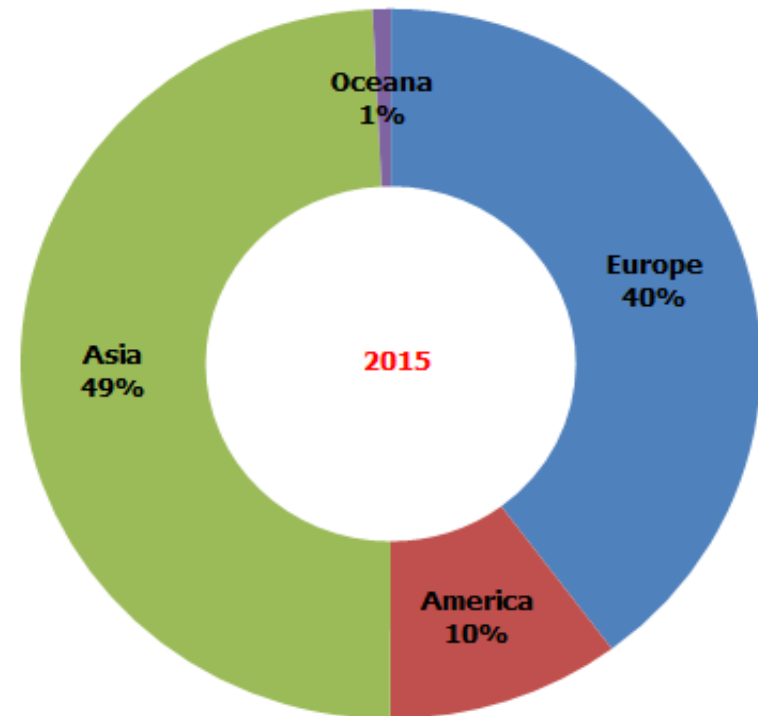




Africa Exports to World-Value (%)



Africa Imports from World-Value (%)

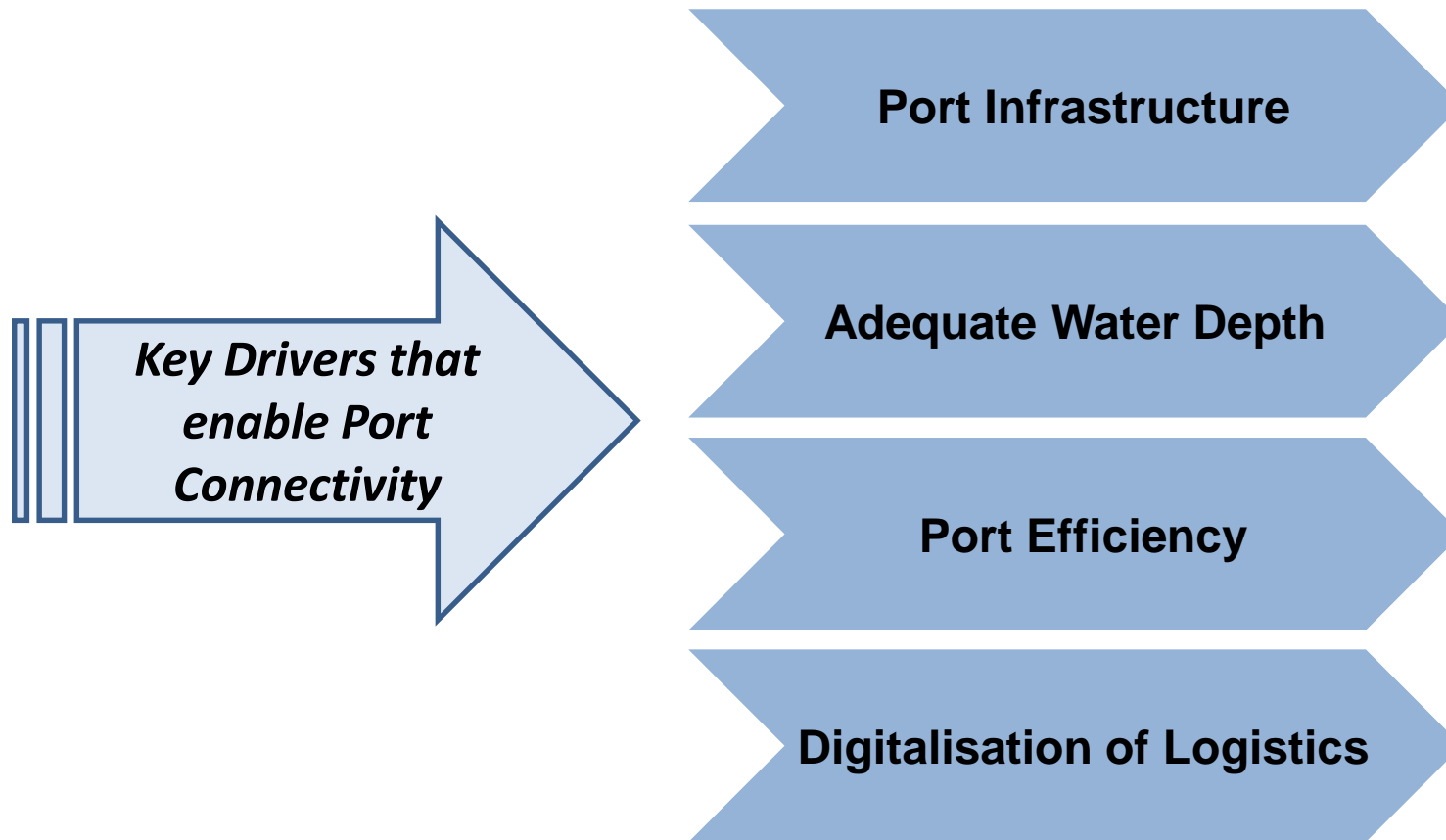




- ✓ **Hard infrastructure** remains the major logistics constraint in most African countries;
 - ✓ It hampers basic connectivity and access to gateways;
 - ✓ Satisfaction with both rail and road infrastructure also remains low;
- ✓ **Lack of integration, political unrest, and security challenges** remains of major concern;
- ✓ **Shortage of logistics skills** and competency remains a challenge;
- ✓ **Environmentally unfriendly logistics**, which negatively impact on performance is a major challenge in the continent;
- ✓ **The lack of detailed, accurate data needed for policy making and monitoring**;
 - ✓ The growing availability of large datasets or even big data is a new opportunity that is being seized only by a few countries.



To create a platform and capability to expand port connectivity, the focus must be on the drivers of port connectivity





- ***TNPA is taking the lead in putting together an investment programme for port infrastructure improvements informed by :***
 - ***Supply and demand requirements;***
 - ***Regional integration;***
 - ***Vessel sizes;***
 - ***Oceans Economy;***
 - ***Maximising private investment in the supply chain;***

Salisbury Island Container Terminal & Berth Deepening : Durban



- Reclaim 12 hectares : Capacity of 1.8 million TEU's;
- Draft of 14.5 m;
- 1,180 m of productive quay length;
- Capital Investment : R 8.9Bn

- Deepen Container Terminal berths from - 12.8m CD to -17.0m;
- Length of existing quay wall from 915 m to 1190 m, 3 x 350 m vessels;
- Container vessels with a draft of 14.5 m can be accommodated;
- Capital Investment : R 5.9Bn

Salisbury
Infill

Berth
Deepening

Artist Impression on Completion



- *New Dredger Ilembe;*
- *R 1.028Bn Investment;*
- *Capacity 5 500m³;*
- *Improved Dredging capacity and productivity;*



- *9 new tugs for SA ports;*
- *R 1.684Bn Investment;*
- *70 ton bollard pull;*
- *Improved tug capability to provide assistance to bigger vessels;*





Port: Nolloth

Project: Rehabilitation of Infrastructure

Project Scope :

- ***Rehabilitate the jetty structure to ensure safe use;***
- ***Rehabilitate the revetment structure to ensure protection from severe sea conditions experienced in the area during the winter storms.***





- **Create LPG import capacity :**
 - **Import Floating Buoy inside port for gas imports;**
 - **Port of Saldanha Import LPG Facility (estimated May 2017);**
 - **Private Sector funded;**





- Private Sector funded Terminal (estimated 2019)





Construction of :








1. Breakwater and entrance channel;
2. 16-berth container basin and terminals (9.7m TEU's);
3. Automotive terminal
4. Liquid Bulk Terminal; and
5. Road and rail connectivity.



South African Ports : Long-term planning for Gas Infrastructure



Three Ports identified for LNG Facilities

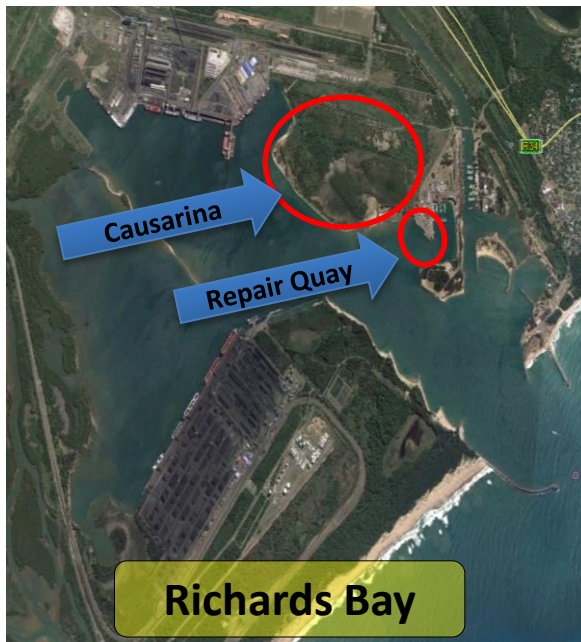
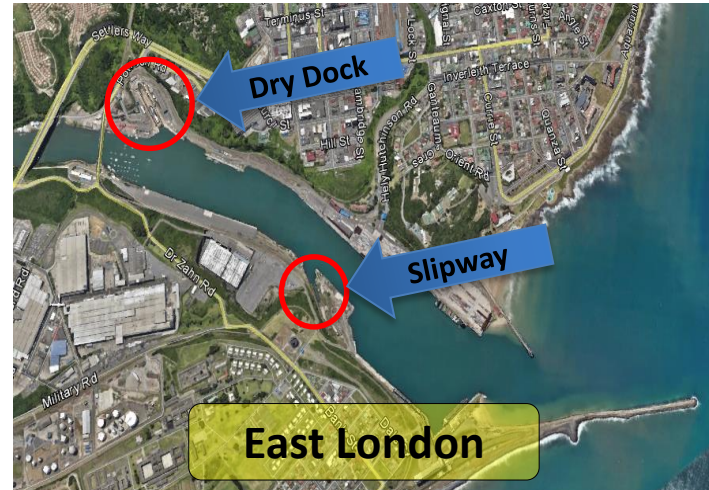
-  Potential LNG Import facilities and Gas Distribution Hubs for Moderate to Big Gas Scenarios
-  Existing Gas Pipelines
-  Potential Pipeline for Moderate Gas Scenario
-  Potential Pipelines for High to Big Gas Scenarios
-  High to Big Gas Scenarios
-  Operation Phakisa Phased Gas Pipeline Network concepts
-  Offshore Gas fields



Two LNG Gas to Power Project RFQ's to be issued at Ngqura and Richards Bay;

Private Sector funded – estimated R 40-50Bn

Sources: Transnet Long-term Planning Framework 2015 and Operation Phakisa Oil & Gas Lab 2015



- **Saldanha**
 - *Offshore supply base, rig repair and ship repair facilities;*
- **Richards Bay**
 - *Floating Dock and Fixed Dry Dock;*
- **East London**
 - *Boat/Ship building facility;*
- **Estimated Private Sector investment of R13-15Bn;**

Water Depth – SA Port Capabilities



Vessel	Side view	Dimensions (LOA x Beam x Draft)	SB	CT	PE	Ng	EL	Dig-out	Dur	RB
Container: Feeder 3 000 TEU		210m x 30m x 11,0m		✓	✓	✓	✓	✓	✓	✓
Container: Panamax 4 500 TEU		240m x 32m x 12,0m		✓	✓	✓		✓	✓	
Container: Post Panamax 6 600 TEU		300m x 40m x 14,5m		✓		✓		✓	✓	
Container: Ultra large 18 000 TEU		400m x 59m x 16,0m				✓		✓		
Dry Bulk: Handysize 35 000 t		177m x 28m x 10,0m	✓	✓	✓	✓	✓		✓	✓
Dry Bulk: Panamax 80 000 t		229m x 32m x 14,6m	✓			✓			✓	✓
Dry Bulk: Cape Size 180 000 t		289m x 45m x 18,0m	✓							✓
Liquid Bulk: Handymax 50 000 t		183m x 32m x 11,0m	✓	✓	✓	✓	✓	✓	✓	✓
Liquid Bulk: Suezmax 175 000 t		300m x 43m x 16,5m	✓					✓		



As an African State-owned Entity with extensive experience, deep capabilities and unique expertise across the logistics supply chain, Transnet delivers competitive, innovative, end-to-end logistics solutions by creating partnerships to support customers throughout the logistics life-cycle, to sustainably grow together

Integrated service offerings

Planning



- Enable growth through short, medium & long term planning of rail, port and pipeline operations
- High level conceptual and feasibility studies of port, rail and pipelines including advisory services for port cities
- Design operations through business & systems planning

Operations



- Operate port, rail and pipeline facilities
- Promote the integration of port and rail solutions to generate seamless logistics solutions
- Establish and operate seaport terminals, inland terminals and warehouse facilities

Engineering and Maintenance



- Extend port & rail equipment life-cycle through maintenance and equipment supply
- Provide property life-cycle management and safety programs to reduce costs and improve working conditions
- In-service maintenance, upgrades, as well as conversion, manufacturing and supply of new rolling stock

Consulting and Advisory



- Provide engineering, infrastructure & technical services for optimal rail, port and pipeline asset utilisation and planning, as well as EPCM¹
- Installation, customisation and support of IT (GCOS²) solutions for port terminals
- Provide advisory on port management, marine and port authority related matters to improve focus and efficiency

Training and Development



- Leverage Transnet's extensive knowledge and experience across the logistics value chain to provide value adding training services across the continent
- Utilise Transnet's various schools to transfer skills and to create sustainable organisations across international markets

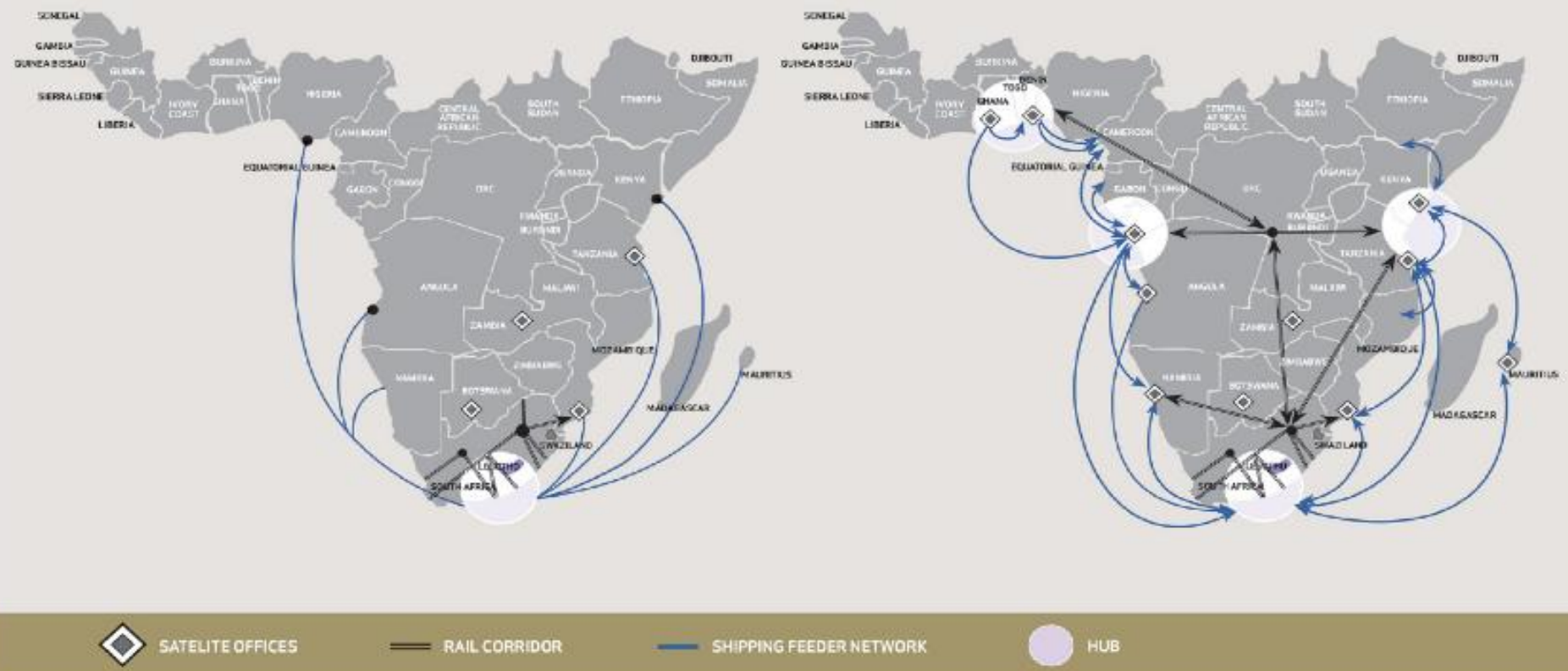
¹ EPCM is an Engineer, Procure, Construct and Manage

² General Cargo Operational Systems.



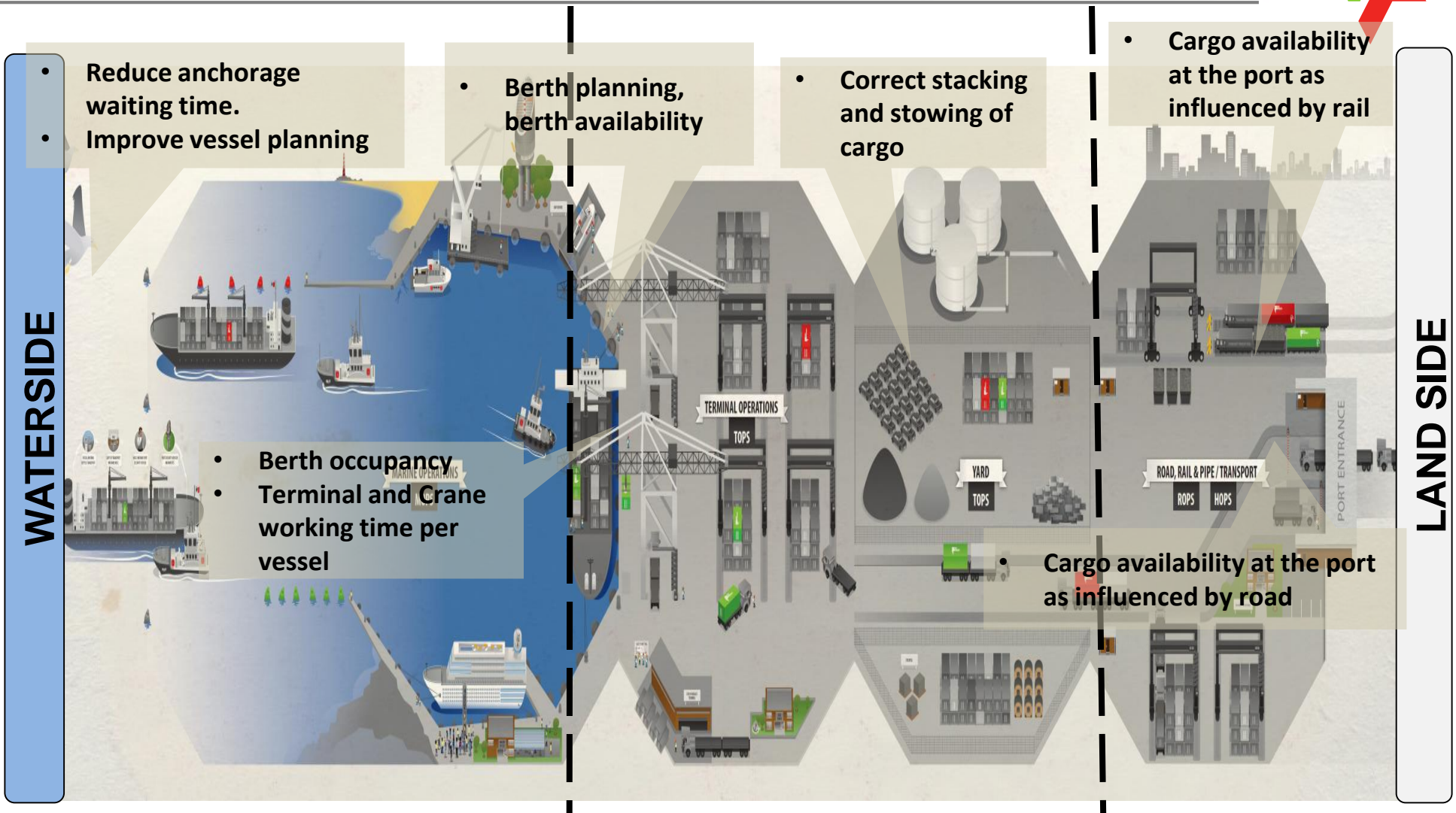
TRANSNET AFRICA 2014 FOOTPRINT

TRANSNET AFRICA 2030 VISION



Leverage existing port capability to create transshipment hubs and expanded feeder/rail corridors to reduce congestion, improve port connectivity and stimulate African port growth

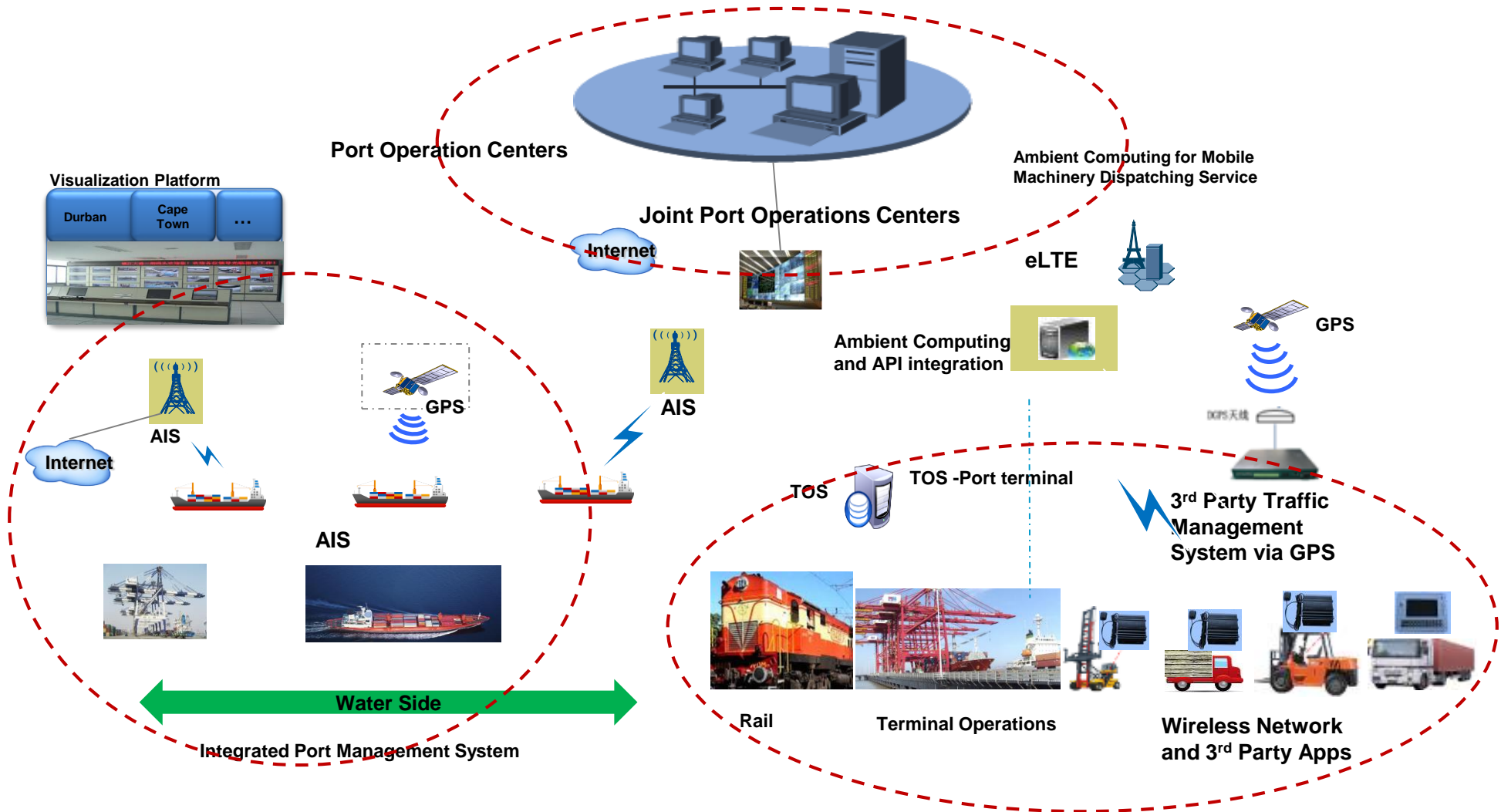
TNPA's Initiatives to improve Port Efficiency

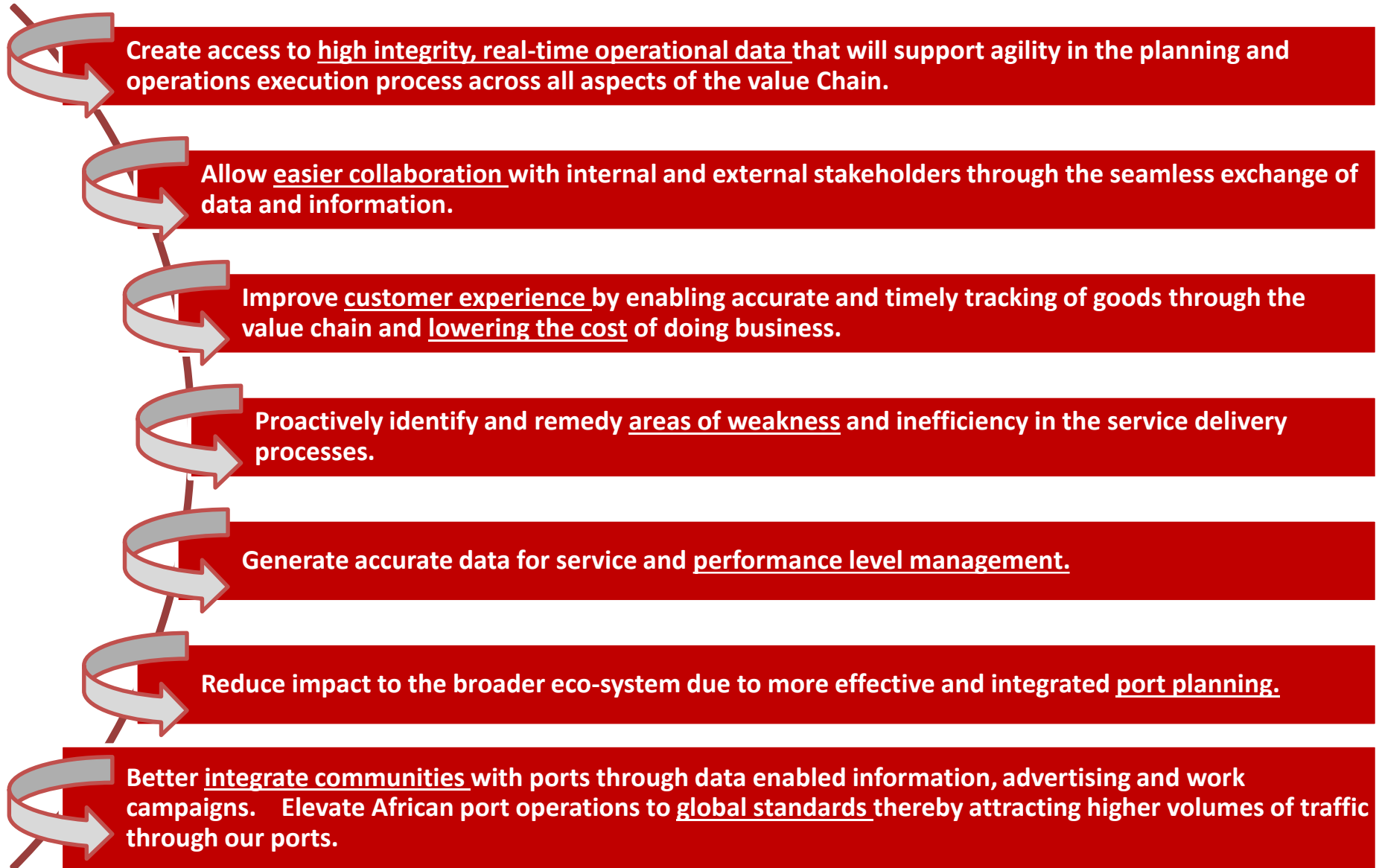


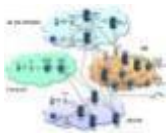
Oversight across the supply chain
 Continuous monitoring and joint review

Performance targets for Terminal Operators
 Visibility across the supply chain

Smart Ports "Proof of Concept"







eLTE Wireless network backbone to provide connectivity in an around the ports precinct



Port efficiency : Near real-time information to Joint Operations Centre for planning, monitoring and execution of port activities



Review and monitor port operators performance standards (Terminals, Marine, Road, Rail)



Integrated Port Management System : Marine resource planning and scheduling



Vessel Tracking System



Customer Order to Cash platform



Drone technology – aerial and underwater



- ***The role of the port authority needs to change – it needs to become an active player to enhance port connectivity;***
- ***Port authorities that***
 - ***invest in port infrastructure;***
 - ***monitor and review the efficiency of Terminal Operators; and***
 - ***use technology to optimize port infrastructure and create visibility along the supply chain***

Will enhance and benefit from Port Connectivity

TRANSNET



delivering freight reliably



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The End