INTEGRATION OF PORTS AND RAILWAYS IN SOUTHERN AFRICA
SARA-International Conference
Earle Peters
National Planning Executive
Transnet Port Terminals
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“The only real mistake is the one from which we learn nothing.”

“If I had asked people what they wanted, they would have said faster horses.”

“Failure is simply an opportunity to begin again, this time more intelligently.”

“Whether you think you can, or you think you can't …you're right.”

- Henry Ford
TRANSNET OPERATES AN INTEGRATED PORT, RAIL AND PIPELINE NETWORK

21,000 Km Rail Network
179 Million Tons of Cargo pa
4.3 Million TEU’s pa
17.8 Billion litres of fuel, oil
TRANSNET STATE OWNED COMPANY LTD

- OPERATIONAL DIVISIONS

Transnet SOC LTD
Head Office Structure

Ports and Terminals
- National Ports Authority (TNPA)
- Port Terminals (TPT)
  - 16 Cargo Terminals operating across 7 SA ports
  - Revenue 7 bn
  - Assets R13.5 bn
  - 6 324 employees

Rail network and Equipment
- Freight Rail (TFR)
  - 20 500 km of railway track
  - 182 million tons of freight
  - General freight and 2 heavy haul export lines
  - Revenue R22.2 bn
  - Assets R54.7 bn
  - 24 177 employees
- Rail Engineering (TRE)
  - Support to TFR for rolling stock maintenance
  - Revenue R9.8 bn
  - Assets R6.8 bn
  - 13 020 employees

Pipelines
- Pipelines (TPL)
  - 18 billion litres of petroleum products and gas through 3000km pipelines, mainly to Gauteng
  - Revenue R1.3 bn
  - Assets R20.1 bn
  - 600 employees

Supporting
- Transnet Capital Projects
- Transnet Property
- Transnet Foundation

8 Commercial ports – Ngqura became operational during October 2009
- Revenue R8.4 bn
- Assets R56 bn
- 3 558 employees

R300 billion of capital expenditure over next 7 years
- CSI in Education, Health, Sport, Arts and Culture and Container Assistance.
Transnet will meet customer demand for reliable freight transport and handling services through:

• Fully integrating and maximising the use of our unique set of assets

• Continuously driving cost efficiencies

• A demonstrated concern for sustainability in everything we do
FINANCIAL AND OPERATIONAL

Turnover
$ 7.2 bn

• Would rate in the Top 25 of the biggest SA listed firms in terms of turnover, if Transnet SOC Ltd was listed
• Contributing 1.5% to SA GDP

EBITDA
$ 3 bn

• Used to develop infrastructure and reduce the cost of doing business by increasing capacity and enhancing productivity

Assets $ 24.2 bn

• In Top 10 of SA’s biggest firms in terms of assets
• Requires substantial maintenance to continue operating efficiently

Capital Investments*
$ 40 bn

• Equates to 75% of the Asset Base

Employment
63,725

• Transnet ensures the development of skills through training and development
• 56,354 (excluding contractors)

All stats based on 2012/13 Corporate Plan – unless otherwise stated
*Planned investments over the next 7 years
FIRST HALF 2012 RESULTS

- Revenue up by 11% to R24,9 billion for first half of 2012.
- EBITDA up 7,1% to R10,1 billion.
- Cash generated from operations after working capital changes increased by 18,1% to R9,8 billion.
- Transnet employed an additional 1,752 new people while creating 6,704 new jobs in supplier-related industries. Thus 8,456 new direct and indirect jobs created – meeting New Growth Path objectives.
- Rail volumes up by a significant 7,5% - more than 3 times GDP growth in spite of Euro-crisis.
- At Transnet Freight Rail automotive and container volumes up 19% on the previous period.
- The manganese and iron ore unit grew volumes by 11,2% to 31,7 million tonnes, achieving record-breaking weekly performances along the way.
- Coal volumes increased by 7,8% to 41,6 million tonnes
- At the ports, container and automotive volumes were slightly lower and flat respectively, in line with the slowdown in economic growth.
- Transnet Port Terminals recorded a substantial increase in efficiency levels.
- Average moves per gross crane hour (GCH) improved to 28,4 GCH at the Durban Container Terminal’s Pier 2, from 19,6 GCH in the previous period.
- The Richards Bay Dry Bulk Terminal’s loading rate increased by 3,8% from 691 tons per hour to 717 tons per hour.
FIRST HALF 2012 RESULTS

- Capital expenditure of **R12,8 billion** during first half of 2012:
  - Transnet invested R354 million in the iron ore expansion projects and locomotive acquisitions;
  - Invested R623 million in the expansion projects & the acquisition of Class 19E locomotives for the coal line;
  - Spent R6,1 billion on the upgrade and maintenance of infrastructure and rolling stock for the General Freight Business;
  - Approved the acquisition of 2,346 wagons for a total cost of R2,0 billion;
  - Invested **R225 million in container handling equipment for the Durban Container Terminal**;
  - Spent **R148 million on the expansion of the Cape Town Container Terminal**; and
  - Invested R1,2 billion on the New Multi-Product Pipeline.
- During the period under review, the company successfully raised **R14,7 billion** through various funding sources, including the global medium-term note (GMTN) programme; the African Development Bank, domestic bonds and commercial paper.
- Transnet issued a US$1 billion 10-year bond at a coupon (interest) rate of 4.00% - the highest amount of cash ever raised by Transnet in a single bond issuance without a government guarantee.
- Cash interest cover remains strong at **3,3 times** compared with 3,1 times in the same period last year.
- Moody’s S&P has decided to maintain Transnet’s credit rating despite downgrading the sovereign. This wont affect Transnet’s ability to access the debt capital markets.
- Broad based black economic empowerment (BBBEE) spend, increased to **R14,68 billion** or 85% of total spending.
Southern Hub for World Shipping Routes

The position of South Africa’s ports system enables it to access to South-South trade, Far East trade, Europe & USA, East & West Africa regional trade.
THE AU HAS IDENTIFIED 14 CORRIDORS AS THE MAIN AFRICAN CORRIDORS THAT NEEDS DEVELOPMENT

1. Kenitra-Casablanca Corridor
2. Greater Cairo Region
3. The Dakar-Touba corridor (Touba-Mbacké)
4. The Greater Ibadan-Lagos-Accra (GILA) urban corridor
5. The great Haoussa-Yoruba-Anshanti city triangle (GHAYA-CT)
6. The Emerging Luanda-N’Djamena corridor
7. The Kampala-Entebbe corridor
8. Nairobi metropolitan region
9. Walvis Bay corridor
10. North South corridor (Cape Town-Johannesburg-Harare-Lusaka)
11. The Maputo-Gauteng development corridor
12. Durban development corridor
13. Beira corridor
14. Maputo-Limpopo corridor

Source: E&Y Report – Time for Africa

President Zuma chairs the North South Corridor on behalf of NEPAD and AU**
NGQURA AS A HUB PORT FOR TRANSSHIPMENT TRAFFIC WILL ENABLE REGIONAL INTEGRATION

Source: Team analysis
Transnet Freight Rail is the largest division of Transnet. It is a world class heavy haul freight rail company that specialises in the transportation of freight.

Transnet Freight Rail has approximately 28,000 employees, who are spread throughout the country.

The company maintains an extensive rail network across South Africa that connects with other rail networks in the sub-Saharan region, with its rail infrastructure representing about 80% of Africa's total.

The company is proud of its reputation for technological leadership beyond Africa as well as within Africa, where it is active in some 17 countries.

Transnet Freight Rail has positioned itself to become a profitable and sustainable freight railway business, assisting in driving the competitiveness of the South African economy.

The company is made up of the following six business units:

- Agriculture and Bulk Liquids
- Coal Business Unit
- Container and Automotive Business Unit
- Iron Ore and Manganese Business Unit
- Mineral Mining and Chrome Business Unit
- Steel and Cement Business Unit
• Transnet rail engineering, an operating division of Transnet SOC Ltd, is the backbone of South Africa’s railway industry

• TRE boasts with eight product-focused businesses, 150 depots, seven factories and 15,000 employees countrywide.

• The organization is dedicated to in-service maintenance, repair, upgrade, conversion and manufacturing of rolling stock.

• TRE manufactures freight wagons, mainline and suburban coaches, diesel and electric locomotives as well as wheels, rotating machines, rolling stock equipment, castings auxiliary equipment and services.

• In the past financial year TRE has done nearly ZAR1.5bn in business in Africa.

• While focus is mainly on the South African market, investment in research and development to service the specific requirements of Africa and the rest of the world has led to an ever-expanding range of rolling stock products and a comprehensive list of satisfied customers.

• This has further enhanced the organisation’s international reputation.

• The proximity of the coastal plants to major ports facilitates the movement of products to and from overseas markets.
• Transnet National Ports Authority provides port infrastructure and marine services at the **eight** commercial seaports on the 2,954km South African coastline.

• The national ports authority is responsible for the safe, effective and efficient economic functioning of the national port system, which it manages in a **landlord** capacity.

• The national ports authority operates within a legislative and regulatory environment created by the **National Ports Act** (Act No. 12 of 2005).

• The national ports authority’s service offering is targeted at mainly port users which include terminal operators, shipping lines, ship agents, cargo owners and clearing & forwarding agents.

The core functions of the national ports authority:
• To plan, provide, maintain and improve port infrastructure;
• to provide or arrange marine-related services;
• to ensure the provision of port services, including the management of port activities and the port regulatory function at all South African ports; and
• to provide aids to navigation and assistance to the maneuvering of vessels within port limits and along the coast.
PORT OF NGQURA

BEFORE: Coega River mouth Nov-2002

AFTER: 2010 Ngqura Container Terminal

Futuristic Expansion Options
TRANSNET PORT TERMINALS
Transnet Port Terminals provides cargo handling services at 16 terminal facilities in seven ports to a wide range of customers including shipping lines, freight forwarders and cargo owners.

Operations are in containers, bulk, break-bulk and automotives.

We invest in state-of-the-art cargo handling equipment (ship-to-shore cranes, straddle carriers, rubber-tyre gantries, tipplers, conveyors) and manage the logistics interface with inbound and outbound rail and trucking carriers.

In 2011/12 we are proud of the implementation of the NAVIS-terminal operating system and the certification of all our terminals to ISO standards.

Transnet Port Terminals aims to be Africa’s port operator of choice.
Containers and Dry Bulk contribute to 85% of TPT’s volume revenue.
Transnet Port Terminals operates the following terminals in Durban: Pier 1 & 2 Container Terminals, Durban Ro-Ro, Maydon Wharf Multi Purpose Terminal and Agri-Bulk.

Out of a total of 4.3 million; 2,720,915 TEUs were handled in Durban during the 2011 calendar year making it the second busiest terminal in Africa (after Port Said) and the third busiest in the Southern hemisphere.

This is a 6.5% increase from 2010’s figure of 2,553,192 TEUs.

Although there is a slight dip in this year’s volumes as a result of the Euro-crisis, this is not as big during the Global Financial crisis of 2008/9.

There is increased trade with the Far East, as well with Brazil, Russia, India, China (BRICS) trade block.
TPT Richards Bay is the largest dry bulk handling terminal in Southern Africa with a history spanning over 36 years.

The terminal covers an area of 135,187 hectares (ha) and boasts a total of 13 berths ranging from 14.5m – 19m in depth.

In line with Transnet’s new market demand strategy (MDS) and related investments, the terminal is currently expanding in response to growing business in the country.

Expansion includes creating storage capacity, the replacement of old equipment and upgrading all electrical software.

Accessible via road and rail, the terminal handles large percentage of dry bulk commodities via a computer-controlled network of conveyor belts that extend 40 kilometers to seven harbour bound industries.

The terminal holds the following safety, health and environmental accreditations:

- Occupational Health & Safety OHSAS 18001:2007
- NOSA 5 Star System Certifications
- ISO 14001:2004 Environmental Management System
MARKET DEMAND STRATEGY
• Looking ahead, Transnet’s newly formulated Market Demand Strategy (MDS) will see **R300bn** spent over the next seven years to create freight capacity before demand across rail and ports infrastructure and equipment in South Africa.

• Of this amount, TPT is poised to spend **R33bn** and TNPA **R46.9bn** to boost port operations and facilitate unconstrained growth. The MDS sets out how Transnet intends to grow revenues and business from its operation over the next seven years.

• Transnet also has in place a strategy to grow business outside of South Africa, by forming partnerships with other ports to enhance efficiency of transport infrastructure, services and key transport corridors to strengthen the economic and social development of the **African continent**. TPT and TNPA are able to provide operational, technical and systems advice to other ports, and improve intermodal connectivity for existing and new markets in the SADC-region.

• Never before has any company invested so aggressively in creating capacity ahead of demand on the African continent.
MARKET DEMAND STRATEGY (MDS)

OVERVIEW

- Capital Investment
  - Create & manage infrastructure capacity ahead of demand
  - Provision of port infrastructure to facilitate growth
  - Improve productive use of assets

- Volume growth
  - Enhance the ports’ position as integrated gateways for trade

- Operational efficiency & safety
  - Improve port efficiency
    - Improve vessel and cargo turnaround time
    - Enterprise wide Risk management
    - Develop Human Capital and skills to achieve objectives

- Financial sustainability
  - Capital delivery & service levels
    - Increase volume, revenue and contain costs
**TPT 10-YR CAPEX HISTORY (Rm)**

*Investment climbed from R131m in 2001/02, peaking at R3.2bn in 2008/09*

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**TPT Investment (R2,363m)**
*(5 years: 2001/02 to 2005/06)*

<table>
<thead>
<tr>
<th>Year</th>
<th>Investment (Rm)</th>
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<td>131</td>
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<tr>
<td>2002/03</td>
<td>492</td>
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<td>2003/04</td>
<td>380</td>
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<tr>
<td>2004/05</td>
<td>584</td>
</tr>
<tr>
<td>2005/06</td>
<td>776</td>
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**TPT Investment (R10,277m)**
*(5 years: 2006/07 to 2010/11)*

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<thead>
<tr>
<th>Year</th>
<th>Investment (Rm)</th>
</tr>
</thead>
<tbody>
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<td>2006/07</td>
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<tr>
<td>2008/09</td>
<td>3200</td>
</tr>
<tr>
<td>2009/10</td>
<td>2337</td>
</tr>
<tr>
<td>2010/11</td>
<td>913</td>
</tr>
</tbody>
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- **Port concessioning dilemma**
- **Infrastructure backlog catchup & expansion drive**
- **Global recession & investment cutbacks**

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*Images and text depicting historical data and milestones.*
MARKET DEMAND STRATEGY (MDS)
Total Transnet ZAR300bn, TPT ZAR33bn
2012/13 - 2018/19, peaking to ZAR9.5bn in 2016/17

Sishen - Saldanha
Export iron ore ZAR25.4bn
Port Terminals: ZAR5.82bn
TNPA: ZAR4.4bn

Cape Town
Port Terminals: ZAR465ml
TNPA: ZAR3.4bn

Eastern Cape
Port Terminals: ZAR6.7bn
TNPA: ZAR11.9bn

Durban
Multi Product Pipeline ZAR9.4bn
Port Terminals: ZAR7.4bn
TNPA: ZAR21.5bn

Richards Bay corridor
Export coal line ZAR32.1bn
Port Terminals: ZAR12.4bn
TNPA: ZAR5.7bn

Boom-time Ends
Global recession

Transnet
delivering freight reliably

Richards Bay
KwaZulu-Natal

Maputo

Sishen

Saldanha

Cape Town

Western Cape

Eastern Cape

Port Elizabeth

Port Elizabeth

Richards Bay

Richards Bay

Richards Bay

Richards Bay

Richards Bay

Richards Bay

Richards Bay

Richards Bay

Richards Bay
The Port of Durban is undergoing a multi-year project to ramp up of capacity ahead of projected demand.

Planned extension of the Pier 1 terminal into Salisbury Island will increase current capacity from 700,000 TEUs to a potential 1.3-million TEUs by 2016.

Pier 2 capacity is to be increased from 2.1 million TEUs in 2011/12 to 2.5 million TEUs by 2013/14 and 3.3 million TEUs by 2017/18.

Berths 203, 204 and 205 on DCT’s North Quay is currently being taken out of service one at a time to undergo deepening and refurbishment over a 74 month period which started in June 2012.

Container capacity is also being created in other niche terminals such as the Durban RO-RO and Maydon Wharf Terminal (a predominantly break-bulk and RORO facility, with specialised capacity to handle containers), through the acquisition of new equipment, such as mobile cranes, and various infrastructure upgrades to deal with the container traffic diverted from DCT during the capacity upgrade.
INVESTMENT IN KZN PORTS IN THE NATIONAL CONTEXT

7 year capital investment by region\(^1\)

<table>
<thead>
<tr>
<th>Region</th>
<th>12/13</th>
<th>13/14</th>
<th>14/15</th>
<th>15/16</th>
<th>16/17</th>
<th>17/18</th>
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<td>Gauteng</td>
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<td>North West</td>
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<td>Limpopo</td>
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<td>Eastern Cape</td>
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<td>KwaZulu-Natal</td>
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<tr>
<td>Mpumalanga</td>
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</table>

MDS is expected to create 15,000 direct and up to 588,000 indirect job opportunities across the economy.
PORT DEVELOPMENT FRAMEWORK
DURBAN CONTAINERS - CURRENT LAYOUT - 2012

Salisbury Island Navy Base

DCT Pier 1

DCT Pier 2
DURBAN CONTAINERS - FUTURE LAYOUT - 2019

Pier 1 with new Salisbury Island infill and deep-water berths
Total cost: R 6.3b

Pier 2 with deepened berths 203-205 and new tandem cranes
Total cost: R 5.6b

Interim upgrade of Pier 1 + 2 Rail Terminals

Consolidated Salisbury Island Navy Base
Infill between Pier 1 and Pier 2. Durban Container Terminal reconfigured to RMG operation.

New rail terminals and back-of-port facilities.
FUTURE EXPANSION PLANS FOR DURBAN
- Ex Durban International Airport (DIA) Site

- Port of Durban
- Mondi
- Sapref Refinery
- Isipingo
- Old Durban Airport
- Umlazi
- N2 Freeway
- Toyota Factory
FUTURE PLANS FOR DURBAN
- Artist’s View of the new Dig-Out Port at ex-DIA Site

Port of Durban
New Dig-Out Port
Breakwater and Entrance Channel
Liquid Bulk Terminal
Container Terminals
Automotive Terminal
RICHARDS BAY – EXPANSION PLANS
- Feasibility Studies Underway – R12.4 bn investments expected
PORT-RAIL INTERFACE
If all the Twenty Foot Equivalent Unit (TEU) sized Containers from the world’s largest container ship, the Emma MAERSK were to be put on one train, the train would be more than 70 km long.

<table>
<thead>
<tr>
<th>Generation</th>
<th>Years Produced</th>
<th>Capacity (TEUs)</th>
<th>Length (m)</th>
<th>Draft (m)</th>
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<td>First</td>
<td>1956-1970</td>
<td>&lt;1000</td>
<td>140-190</td>
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<tr>
<td>Third</td>
<td>1980-1985</td>
<td>2200 - 3499</td>
<td>240-290</td>
<td>11-12</td>
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<tr>
<td>Post-Panamax</td>
<td>1995-1998</td>
<td>4500 - 5999</td>
<td>295-320</td>
<td>13-14</td>
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<tr>
<td>Malaccamax</td>
<td>2007-2009</td>
<td>10000 - 12000</td>
<td>350-400</td>
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<tr>
<td>Post-Malaccamax</td>
<td>2010 +</td>
<td>18000</td>
<td>440</td>
<td>21</td>
</tr>
</tbody>
</table>
GLOBAL PORTS ARE INCREASING THEIR BERTH DEPTH

- Only Cape Town and Ngqura can handle fully laden 4th generation vessels.
- The average size of vessels on order is currently 5,310 TEU.
- Only Ngqura can handle 5th to 7th generation vessels.
CORRIDOR OPTIMISATION

- Corridor optimisation means investment in port, rail and the whole logistics chain.
- It includes Transport and logistics support, including container depots and storage, cargo consolidation and rail infrastructure.
- Services to support the supply chain is often neglected in the planning phase.
- Establishing regional connectivity creates opportunities for short sea shipping, cargo consolidation and value added logistics.
- Maritime related training is required to develop skills in this growing industry.
• Transnet is in a unique situation in that it has control over the entire supply chain.
• Various regulatory bodies control competition within this chain.
• Competition comes from road transport and from other port operators.
• Transnet is busy sharing its resources and knowledge with neighbouring countries.
• The divisions of Transnet work together in a symbiotic relationship in order to provide a holistic service offering to its clients.
• Central planning takes place to ensure the distribution of freight to where it could be serviced efficiently and effectively.
• Transnet Rail Engineering manufactures and maintains the rolling stock used by Transnet Freight Rail to move freight to and from South Africa and its neighbouring countries’ ports.
“Build it and they will come”
- Theodore Roosevelt
(When US took over the funding of the Panama Canal from the French in 1904)