

The Evolution of Container Operations in South African Ports

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TRANSNET



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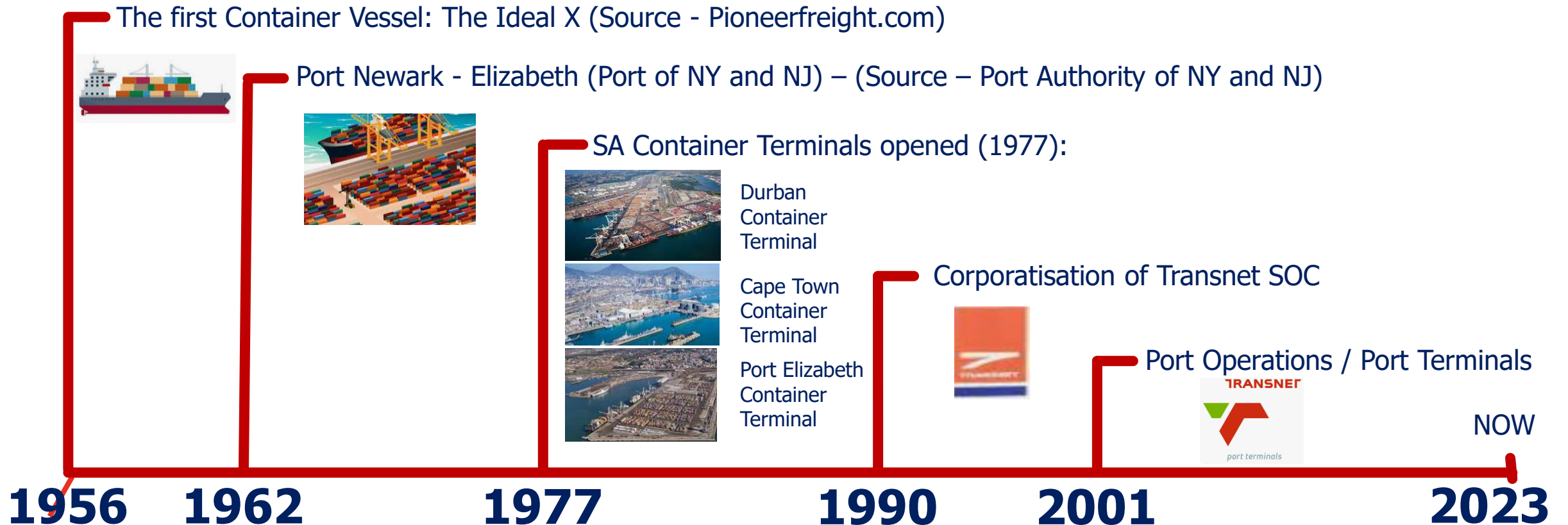
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1. The Origin of Containerisation

Containerization as a method of handling and transporting goods has resulted in numerous benefits to vessels, ports, and customers (Tijan et al., 2022: 2; Newman, 2013:9) including limiting damages and pilferage for loose cargo and increasing cargo handling efficiencies (Stopford, 2009: 510).



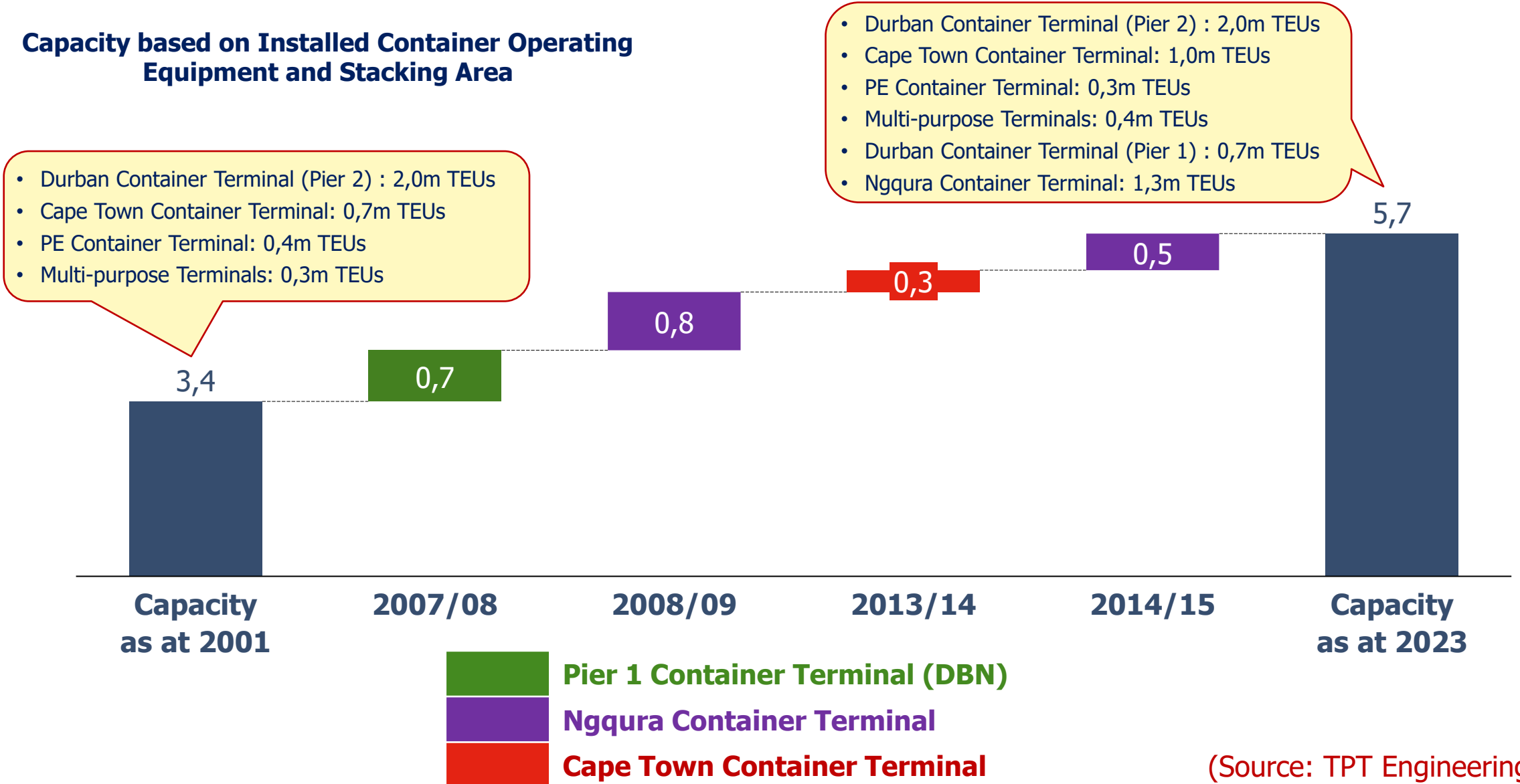
(Sources: Pioneerfreight.com; Port Authority of NY and NJ ; Transnet Port Terminals)

2. Evolution of Container Capacity in South African Ports



Capacity based on Installed Container Operating Equipment and Stacking Area

Million Twenty Foot Equivalent Units (TEUs)

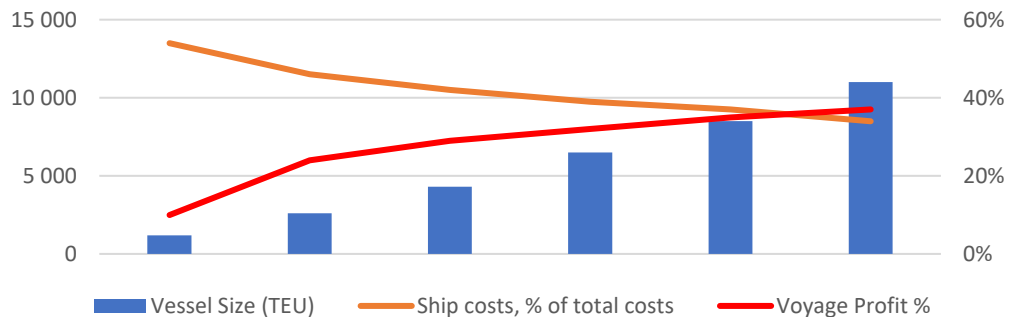


(Source: TPT Engineering)



3. Evolution of Container Vessels

Vessel Size Economies of Scale



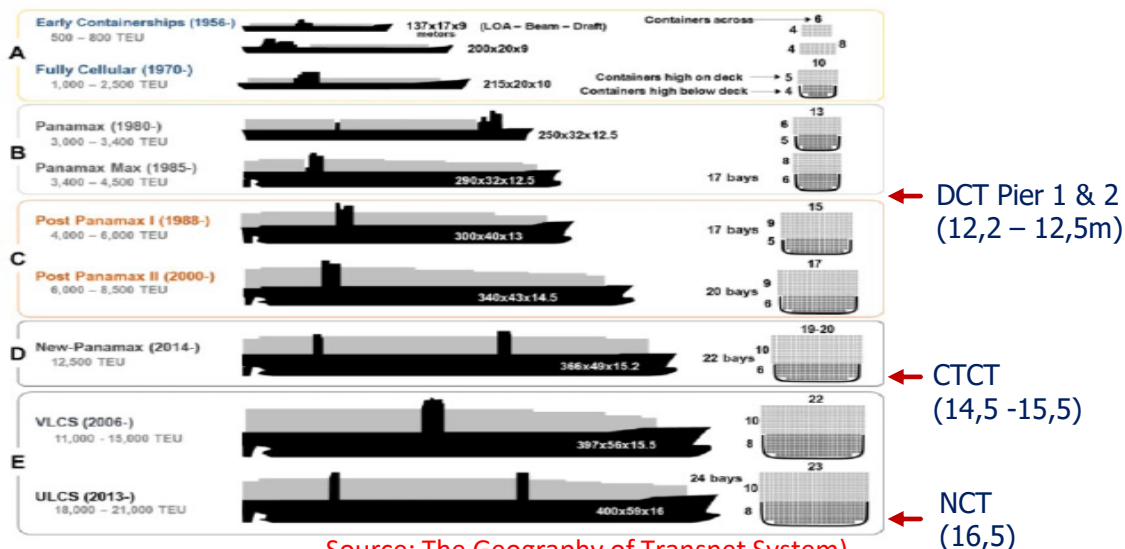
Source: Stopford (2009)

The port of Durban is lagging behind, being unable to Berth larger vessels

The TNPA Master Plan positions Durban as a Container Hub with over 11m TEU capacity. This will make provision for next generation (larger) vessels.

Evolution of Vessel Size

Draft (SA Ports)



Source: The Geography of Transnet System

Durban Master Plan (Source – TNPA)





4. Volume trend analysis and current state



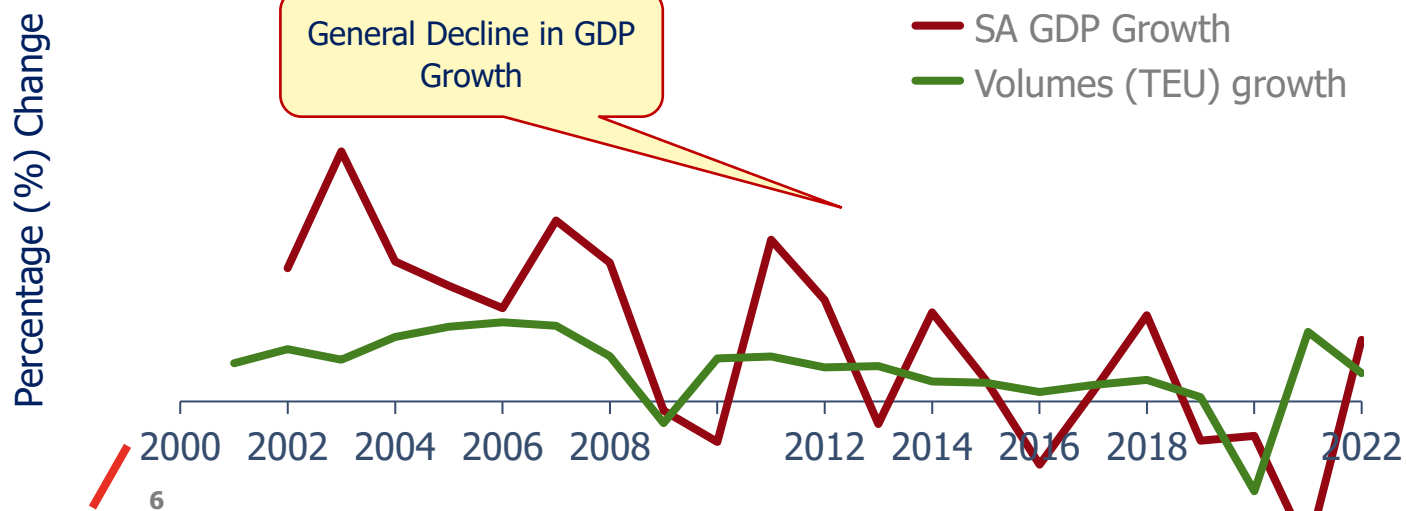
(Source: Transnet Port Terminals)

Commentary

- Significant Growth trend up to 2015/16 but flattened hereafter.
- There is a general downward trend in GDP Growth, especially in last 10 years

Key Challenges in Port Operations:

1. Covid impact in 2020/21. Not yet fully recovered. Impact of unrest, cyber-attack, floods, industrial action.
2. Investment backlog in both infrastructure and superstructure
3. Impact of Climate Change (Increase in the impact of weather on operations)
4. Infrastructure was originally designed for different conditions (wind direction, new phenomenon of under-currents)
5. Landscape is changing (Competition, neighbouring ports, National Ports Act, Durban Master Plan)
6. TNPA positioning Durban as a Container hub triggers the requirement for technology advanced Container Handling Equipment.

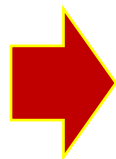


(Source: Trading Economics.com ; Transnet Port Terminals)



5. TPT mandate and response to current state

Balance of Dual Mandate



South Africa is a developmental state and utilises State Owned Companies to achieve government's economic and social objectives. Transnet Port Terminals' focus is therefore on

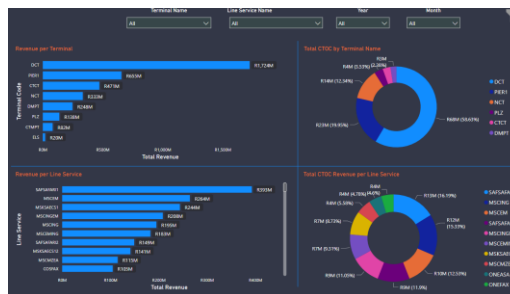
- Commercial Sustainability
- Developing / growing the economy

Operational improvement

1. Improving operational processes (Continuous Improvement - do more with less)
2. Data Analytics
3. Overall Equipment Effectiveness methodology
4. Equipment Maintenance and Refurbishments
5. Ramp up of operational Gangs



Business Intelligence



Remote Operations



Future State

Remote Crane Operators

Healthy & Safety
Ergonomic
Indoor
Kitchen
Bathrooms

OEM Partnership Strategy

1. Long Term Contractual arrangement
2. Life Cycle Management
3. Spares and Technical Support
4. Local presence
5. Component standardisation
6. Local vendor Development



Private Sector Participation and Ecosystem Collaboration



1. Where mutual benefit can be derived
2. SA Economy as a whole must be better off
3. Key contribution from prospective partners:
 - Co investment (Funding)
 - Operational skills / expertise (Productivity Improvement)
 - Global Connectivity

6. Conclusion

"The balancing act"



1. Commercial motive versus developmental motive
2. Improve Operational Efficiencies through maximization of equipment availability, supported by adequate people resources and processes
3. Leverage on technology and Business Intelligence to support process improvement and business decisions
4. PSPs are intended to develop long-term gains in financial and efficiency performance.
5. Creating capacity ahead of demand versus desire to reduce prices
6. Profitability versus developmental cost relating to procurement, skills development, enterprise development and the like

Outcomes



Globally competitive freight and supply chain network



Growing developmental mandate



Commercial self-sustainability



THANK YOU

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