4.2 Port of Ngqura

The Port of Ngqura, located 20 km northeast of Gqeberha, is the newest deep-water port in the country. Officially opened in 2009, it was developed to relieve congestion at other South African ports and to serve as a transshipment hub. Its strategic position along major international shipping routes and its deep draught allows it to accommodate the largest container ships. Ngqura's establishment was part of the Coega Industrial Development Zone (IDZ) initiative, aimed at stimulating economic growth and creating job opportunities in the Eastern Cape region.

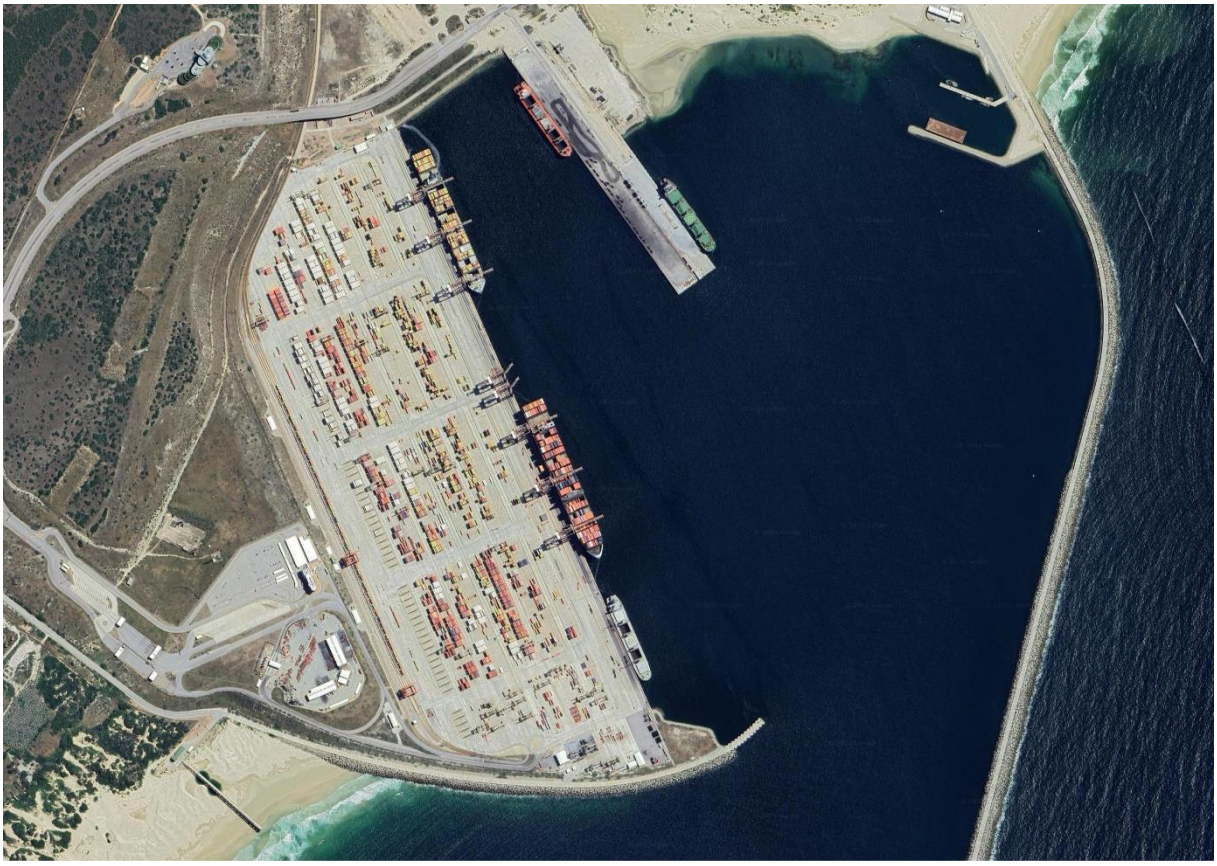

Figure 10: Port of Ngqura (Source: Satellite Image 2023 Airbus CNES)

Figure 11: Port of Ngqura - Container Berth

Figure 12: Port of Ngqura – Direct Rail Link

Port Characteristics

Characteristic	Details
Location	Eastern Cape, South Africa, along the Indian Ocean, east of Port Elizabeth
Latitude	33º 48′ 03' S,
Longitude:	25º 41′ 02' E,
Port Type	Mainly container port
Annual Throughput (2022)	14.33 million tons, 619,614 TEU
Main Activities	Container handling, transshipment hub
Container Handling Capacity	2,000,000 TEU design capacity. 800,000 TEU installed capacity (2022)
Maximum Vessel Length (m)	300
Maximum Vessel Beam (m):	no limitation
Max Vessel Draft (m)	16,5m
Quay Length	2,100m, 4 Container berths, 2 Dry Bulk/Breakbulk berths, 1 liquid bulk berth
Equipment	8 STS cranes (61m outreach), 40 RTGs
Container Storage Area	1652 Reefer plugs
Connectivity	Rail: Link between Ngqura port and the port of Gqeberha– Gauteng main line Road: N-2 road highway through Coega IDZ
Security Standards	ISPS-compliant, with modern security infrastructure
Customs Efficiency	Operates under South African Revenue Service (SARS) guidelines; electronic clearance systems in place
Environmental Practices	Waste management, eco-friendly operations, spill response mechanisms
Competing Ports	Durban, Cape Town, East London in South Africa
Economic Importance	Significant role in the Eastern Cape's economy, especially for the Coega industrial zone
Expansion Plans	Expansion plans up to 31berth operation in total. Sourcing of additional equipment to reach container design capacity step by step.

Technical Summary

The port's technical capabilities are tailored to accommodate the latest Super Post Panamax vessels with no beam restrictions, handling vessels up to 300 meters in length and with a maximum draft of 16.5 meters. This is supported by a robust quay infrastructure that spans 2,100 meters, inclusive of four container berths, two dry bulk/breakbulk berths, and one liquid bulk berth. These berths are fortified with 150-ton- bollards and a mix of proprietary fender systems and double tyre fenders to ensure safe and efficient berthing operations.

Ngqura's container handling efficiency is driven by eight ship-to-shore (STS) cranes with an outreach of 61 meters and a fleet of 40 rubber-tyred gantry (RTG) cranes, which contribute to its installed capacity of 800,000 TEU, out of a 2 million TEU design capacity. The port also features a container storage area equipped with 1,652 reefer plugs for temperature-sensitive cargo.

Marine operations are enhanced by the Cavotec MoorMaster mooring system, which enables quicker vessel turnaround by stabilizing ships at the quayside. This system is a nod to the port's commitment to integrating innovative technologies for improved operational efficiency.

From an environmental perspective, the port has implemented comprehensive waste management and eco-friendly operations, including a sand bypass system designed to mitigate the effects of littoral drift, although it has encountered challenges due to debris accumulation.

On the connectivity front, the port benefits from a direct rail link to the Port Elizabeth – Gauteng main line and proximity to the N-2 road highway, facilitating seamless cargo movement to and from the port.

Looking ahead, the Port of Ngqura has laid out ambitious expansion plans that will see it evolve into a 31-berth operation. These plans include acquiring additional equipment and technologies to reach its full container handling design capacity. By 2030, the port is poised to further solidify its industrial significance by inheriting manganese handling operations from the City Port, thereby becoming a pivotal industrial and export center.

Available Equipment:

8 STS Cranes, 61m outreach, Super Post Panamax Handling
65 Hauler/Trailer
40 RTGs
3 Reach Stacker for empty container Handling.

Challenges:

The Port faces significant operational challenges due to strong prevailing winds. These adverse weather conditions result in an average operational downtime of approximately 10 days per year, with a trend indicating potential increases in such disruptions. The strong winds pose a risk to safe cargo handling and vessel berthing, necessitating temporary cessation of port activities.

To mitigate the impact of the wind-related downtime, the Port of Ngqura has implemented an automated mooring system. This technology secures vessels quickly and firmly to the berth, reducing the movement caused by wind gusts and allowing for continued operations during less severe wind events. The system aims to minimize the time lost to wind disruptions by enhancing

the safety and efficiency of berthing operations, thereby reducing the overall operational downtime attributed to strong winds.

The Port of Ngqura, despite its state-of-the-art facilities and strategic location, faces some challenges due to limited human resources in the surrounding area. It operates with a workforce of approx. 800 employees.

The Eastern Cape region, historically marked by high unemployment rates and a lack of industrial development, has a limited pool of skilled labor necessary for the specialized functions of a modern port. This shortage necessitates investment in training and development programs to meet the demands of the port's operational and expansion needs.

Coega industrial zone

The Coega Special Economic Zone (SEZ) in South Africa's Eastern Cape was founded in 1999 and occupies an area of 9,003 hectares. It is located close to the city of Gqeberha, adjacent to the Port of Ngqura, a deep-water port that services the region. The SEZ is designed to house a variety of industrial operations, ranging from heavy to light manufacturing.

The zone is managed by the Coega Development Corporation, which is responsible for the land-side infrastructure, and works in tandem with the Transnet National Ports Authority that handles the maritime aspects through the Port of Ngqura. The Coega SEZ is arranged into clusters that support industries such as automotive, agro-processing, and energy, aiming to foster an environment conducive to manufacturing and exports.

The Port of Ngqura complements the SEZ's functions by providing a point of entry and departure for goods, a feature that is particularly relevant given the port's capacity to handle large vessels due to its depth.

Adjacent to the Coega SEZ and the port is a laydown area for temporary storage, particularly for oversized cargo, which became operational in 2015 and is an example of the additional infrastructure developed to support the zone's activities.

In terms of economic impact, the Coega SEZ has attracted numerous investors and substantial investment since its establishment. It has been linked with job creation in the area, both in terms of direct operational jobs within the SEZ and construction jobs tied to its ongoing development. The SEZ also reports on its efforts in training individuals and contributing to small and medium enterprise (SME) development, suggesting a focus on broader economic development and capacity building within the region.

Overall, the Coega SEZ is a significant development project within the Eastern Cape, intended to promote industrial growth and economic development in the area through strategic infrastructure and a favorable investment environment.

Nelson Mandela Bay Ports – Strategic Partnership

The strategic planning for the ports of Ngqura and Gqeberha within Nelson Mandela Bay was underlined with the appointmentof a Nelson Mandela Bay Ports Manager since March 2022.

This unified approach is designed to leverage the complementary strengths of both ports, enhancing their network system to increase efficiency and reduce operational costs. With direct

rail links and a strategy to divert vessels to prevent congestion, the ports can seamlessly transfer cargo between them, catering to their respective specializations.

Port of Gqeberha focuses on "clean cargo" for specific industries, especially automotive, while Ngqura handles the major container part and should take over the bulk business. This synergistic model aims to position the ports as a cohesive industrial center, with the expansion plans including the final shift of bulk handling, especially manganese, to Ngqura by 2030.