

SESSION 2: INCORPORATING INNOVATION IN PORT OPERATIONS TO BOOST CARGO MOVEMENT AND TRADE FACILITATION

WHAT LEVERS FOR EFFICIENT AND RESILIENT AFRICAN PORTS?



INNOVATING BEYOND AUTOMATION – THE TANGER MED MODEL



Innovation in African ports must be **contextual, operational, and human-centric** before becoming technological.

INNOVATIVE SOLUTIONS FOR PORT PERFORMANCE – TANGER MED'S EXPERIENCE

TME transforms innovation into a competitive advantage for ports, combining cutting-edge engineering with operational feedback.

OPTIMIZING

USE

MAKING

SYSTEM

OPTIMIZING VESSEL TURNAROUND ENHANCING TIME MAKING USE OF NAVIGATION MAKING USE OF AUTO MOORING AND **SIMULATION**



- Navigation simulation, a tool to provide training for pilots in a virtual environment.
- Navigation simulation, a tool to accurately define port environmental (winds, tides, operational limits currents, waves), maximizing operational windows and optimizing port capacities.
- Port expansion masterplanning.

PORT **OPERABILITY** DYNAMIC MOORING SYSTEMS



- Reduction of terminals downtime enhancing the port operability.
- Reduction of berthing time optimising port vessel turn around time maximizing the port capacities.
- Reduction of ship emissions during berthing.
- Optimisation of guay wall equipment maintenance.
- Enhancing the ship to shore handling operations.

Providing harbour master and pilots with vessel dynamic under keel clearance during vessel approach until berthing.

VESSEL

CAPACITIES

Party Service 1

Highedta Barral CRCL Sinter

F MOL Transit

OF NCOS ONLINE

TANGER MED

- handling This maximizes port capacities without investment in capital dredging or infrastructures.
- Provision of accurate winds, tides, currents and wave forecast to the harbour master and pilots allowing a better planification of port calls.

SHORE POWER TOWARD PORT STEP **OPERATIONS DECARBONISATION**



- Ensuring vessels, with different LOAs, are connected to high voltage electricity while at berth.
- Reducing vessels CO2 emissions while at berth (a ship at berth for 12hrs requires a consumption of approximately 3 MW saving up to 26 T CO2 emissions)
- Cost savings by reducing carbon taxes for shipowners;
- Reduction of life cycle costs by reducing fuel consumption and maintenance costs.
- Maximizing the port authority profitability, as a sole energy provider in the port perimeter, while preserving the environment.

