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COURSE BROCHURE

Port Master Planning and Capacity Strategy Training Course

11 – 15 April 2027
Muscat

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Registered in the United Kingdom and Saudi Arabia

Port Master Planning and Capacity Strategy Training Course

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Port Master Planning and Capacity Strategy is a 1-week training course for port authority planners, strategy heads and terminal managers, and it produces a port master plan outline that links traffic forecasts to berth, yard and land phasing. Larger ships, shifting trade routes and pressure on waterfront land mean expansion choices made now lock in a port's position for decades. Jupiter Prime Training runs this course on port master planning and capacity strategy.

Why Port Master Planning and Capacity Strategy Matter Now

Three forces are reshaping long-range port decisions. Vessel sizes keep growing, so channel depth, quay length and crane outreach set hard limits on which services a port can win. Trade flows are shifting as shipping lines and cargo owners redesign networks, which makes single-scenario forecasts risky. Cities and environmental bodies also compete for waterfront land and scrutinise dredging, emissions and traffic. A port that plans capacity in phases tied to demand triggers avoids idle quays and congestion alike; one that builds on optimism or delays too long loses services to neighbours. The course draws on the landlord, tool and service port models used to allocate roles between port authorities and private operators.

Who Gains Most from Port Master Planning and Capacity Strategy

- Those who forecast cargo and vessel traffic
- Those who allocate land, berths and corridors between uses and tenants
- Those who prepare expansion business cases for boards and funders
- Those who track port authority performance against strategic targets
- Those who brief terminal operators and city planners on future layouts

A port authority gains most when its planning, commercial and engineering heads attend together.

Port Master Planning and Capacity Strategy Capabilities

Participants leave able to turn traffic outlooks into a staged, defensible development path for a port estate.

- Build traffic forecasts with low, base and high scenarios by cargo type — board and funders
- Calculate berth, yard and gate capacity against forecast demand — terminal operators
- Design phased development with demand triggers for each stage — port authority executives
- Weigh landlord, tool and service port roles for new terminals — investors and government owners
- Assess land use, access corridors and environmental limits — city planners and regulators
- Specify strategic performance indicators for the authority — board and shipping lines

Key Port Master Planning and Capacity Strategy Terms

- Port master plan — a long-term document setting a port's land use, infrastructure and phasing against forecast demand.
- Landlord port — a model where the authority owns land and basic infrastructure while private operators run terminals and equipment.
- Berth occupancy — the share of time berths are occupied by vessels, a key signal of when new quay is needed.
- Demand trigger — a pre-agreed traffic level that releases the next development phase.
- Design vessel — the largest ship a facility is planned to receive, setting depth, quay length and crane reach.
- Hinterland corridor — the road, rail or pipeline links that move cargo between the port and inland markets.

Port Master Planning and Capacity Strategy Day by Day

Day 1: Strategic Context of the Port Estate

- Port Role and Catchment Definition — Gateway, Transhipment or Industrial Port
- Landlord, Tool and Service Port Models — Allocating Public and Private Roles
- Shipping Line and Cargo Owner Trends — Effects on Port Choice
- Design Vessel Selection — Depth, Quay and Crane Requirements
- Stakeholder Mapping — Authority, Operators, City and Environment

Day 2: Traffic Forecasting

- Cargo Type Segmentation — Containers, Bulk, Liquid and Ro-Ro Streams
- Scenario-Based Forecasts — Low, Base and High Traffic Cases
- Market Share and Competitor Ports — Contestable Cargo Estimates
- Vessel Call Profiles — Ship Size Mix and Call Patterns
- Forecast Risk Register — Assumptions to Monitor Over Time

Day 3: Capacity and Layout Planning

- Berth Occupancy and Waiting Time Models — When New Quay Is Needed
- Yard Density and Dwell Time Calculations — Storage Area Required
- Gate and Hinterland Corridor Capacity — Road and Rail Bottlenecks
- Land Use Zoning Plans — Terminals, Logistics and Buffer Areas
- Environmental and Dredging Limits — Constraints on Expansion

Day 4: Phasing, Funding and Performance

- Phased Development With Demand Triggers — Avoiding Idle Capacity
- Expansion Business Cases — Costs, Revenues and Risk Sharing
- Terminal Award Options — Leases, Concessions and Joint Ventures
- Port Authority Performance Indicators — Strategic Targets for the Board
- Master Plan Review Cycle — Updating Plans as Traffic Shifts

Day 5: Practising the Port Master Plan Outline

- Forecast Build for a Case Port — Applying Day 2 Scenarios
- Capacity Gap Calculation — Applying Day 3 Berth and Yard Models
- Phasing and Award Choices — Applying Day 4 Triggers and Options
- Board Presentation Rehearsal — Defending the Development Path
- Port Master Plan Outline — Forecasts, Layout, Phases and Indicators

Applying Port Master Planning and Capacity Strategy After the Course

- Rebuild the port's traffic forecast with three scenarios and a list of assumptions to watch each quarter.
- Calculate current berth occupancy and yard dwell times and set the demand triggers for the next expansion phase.

Port Master Planning and Capacity Strategy Questions FAQ

What is port master planning and capacity strategy and why does it matter now?

It is the long-range work of matching a port's land, berths and corridors to future traffic. Larger ships and shifting trade make well-timed, phased expansion decisive for a port's competitiveness.

Which roles gain most from port master planning and capacity strategy?

Port authority planners, strategy and commercial heads, engineering leads and terminal managers gain most.

How does port master planning and capacity strategy differ from a port operations course?

It looks years ahead at forecasts, layout, phasing and funding. A port operations course focuses on daily berth allocation, yard control, gate flow and productivity.

What do you bring back from port master planning and capacity strategy training?

You bring back a master plan outline with traffic scenarios, capacity gaps, phasing triggers and board indicators for your own port.

Port Master Planning and Capacity Strategy: The Way Forward

The port master plan outline joins forecasts, capacity calculations, land zoning and phased investment in one document. Its first use is deciding when the next berth or yard extension is justified, and it serves boards, planners and terminal operators. After the first annual review, revisit whether the demand triggers still match how traffic actually grew.