FEASIBILITY STUDIES AND PORT MASTER PLANNING

ASSISTING THE PORT WITH PLANNING AND DECISION MAKING

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Feasibility Studies
Based on the construction of consistent development scenarios, Ramboll prepares feasibility studies and provides expert consultancy in port master planning.

Feasibility studies typically include technical investigations, traffic analyses, financial analyses and environmental impact analyses. Further, Ramboll assists with conceptual and preliminary designs, authority management and development policy. Financial and economic evaluations are typically based on the set up of solid traffic forecasts.

Ramboll is uniquely qualified to identify and analyse port cargo-potentials and to subsequently prepare the reliable viability analysis. In-depth technical, environmental and economic issues must be evaluated when greenfield seaport projects are considered.

Ramboll can assist port authorities, municipalities, and other decision-makers with preparing a basis for decision-making. We have vast experience within project management of large projects through all phases from preinvestigations and planning to design and project implementation in the field.

Feasibility studies typically form the basis for investor decision-making. Ramboll is well qualified to prepare feasibility studies that fulfil the specific requirements of development banks. Based on our feasibility studies, we have helped clients get financing for their projects from financial institutes.

Port Master Planning
When port authorities consider expanding and upgrading port facilities to accommodate new or larger vessels, a number of facilities may need to be reconfigured, such as, for example, berths, land storage areas, mooring systems, and scour protection. The first step, however, is evaluating and analysing the facilities. Ramboll will assist port authorities with all necessary evaluations and analyses.

The need to keep up operations during expansion and upgrades are duly considered in all our studies.

In our evaluation of the manoeuvring conditions at project sites, we include real-time ship simulations—preferably carried out by local captains. In the design of mooring arrangements and quays, the dynamics of moored ships, which are influenced by wind, waves, currents and passing ships, are analysed using numerical mooring models.

The crucial analysis of wave climate in coastal regions, wave agitation and sediment processes in ports, coastal development and particle dispersion in oceans, rivers and estuaries, are carried out using the state-of-the-art and internationally recognized MIKE 21/3 and LITPACK numerical models developed by DHI. The models are used by our highly qualified staff, who are experts in ports, hydrodynamics and coastal morphology.

Our Services
• Feasibility studies
• Port master planning
• Traffic forecasts
• Site identifications and land-use assessments
• Technical pre-investigations
• Wave disturbance and sediment transport analyses
• Coastal impact assessments
• Environmental and socio-economic assessments (EIA and SIA)
• Assessments and real-time simulations of manoeuvring conditions
• Port and terminal planning
• Economic and financial viability assessments
• Commercial and financial project structuring
• Conceptual design

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Feasibility study for Sangleley Airport and Seaport Project, Manila (Philippines) - 1
Ramboll has performed a feasibility study for the combined Sangleley Airport and Seaport Project in Manila. The study covers a new international airport and seaport with supporting traffic infrastructure comprising roads, bridges, an immersed tunnel and a light rail connection.

Feasibility study for new greenfield seaport, Hambantota (Sri Lanka) - 2
Ramboll has assisted Sri Lanka Port Authorities (SLPA) with planning of a new major greenfield seaport at Hambantota. The seaport will contain a wide variety of terminals, including a dry bulk, liquid bulk, break-bulk, Ro-Ro and a container terminal.

Port Extension, Sisimiut (Greenland) - 3
The Municipality of Sisimiut extended the existing Port of Sisimiut. Ramboll has assisted the Municipality with ship traffic assessments, port planning, wave tranquility analyses, conceptual design and preparation of tender documents.

New Cruise Terminal for Port of Copenhagen (Denmark) - 4
The Port of Copenhagen intends to develop a new modern Cruise Terminal in the North Harbour of Copenhagen. The project implies development of 900 m new quay, connection roads, terminal buildings and adjustments to the existing approach channel. Ramboll has been responsible for the preliminary investigations, ship simulations, and elaboration of design basis and conceptual design.