

International Marine and Dredging Consultants (IMDC) is an engineering and consultancy company specialized in a vast range of water related projects. Our highly qualified staff offers advice based on recent research results of leading universities and research institutes and hands-on experience acquired throughout the years. In this productsheet, an overview is given of the services that IMDC offers in the domain of Marine, Dredging and Port Engineering.

More information can be found on our website [www.imdc.be](http://www.imdc.be)

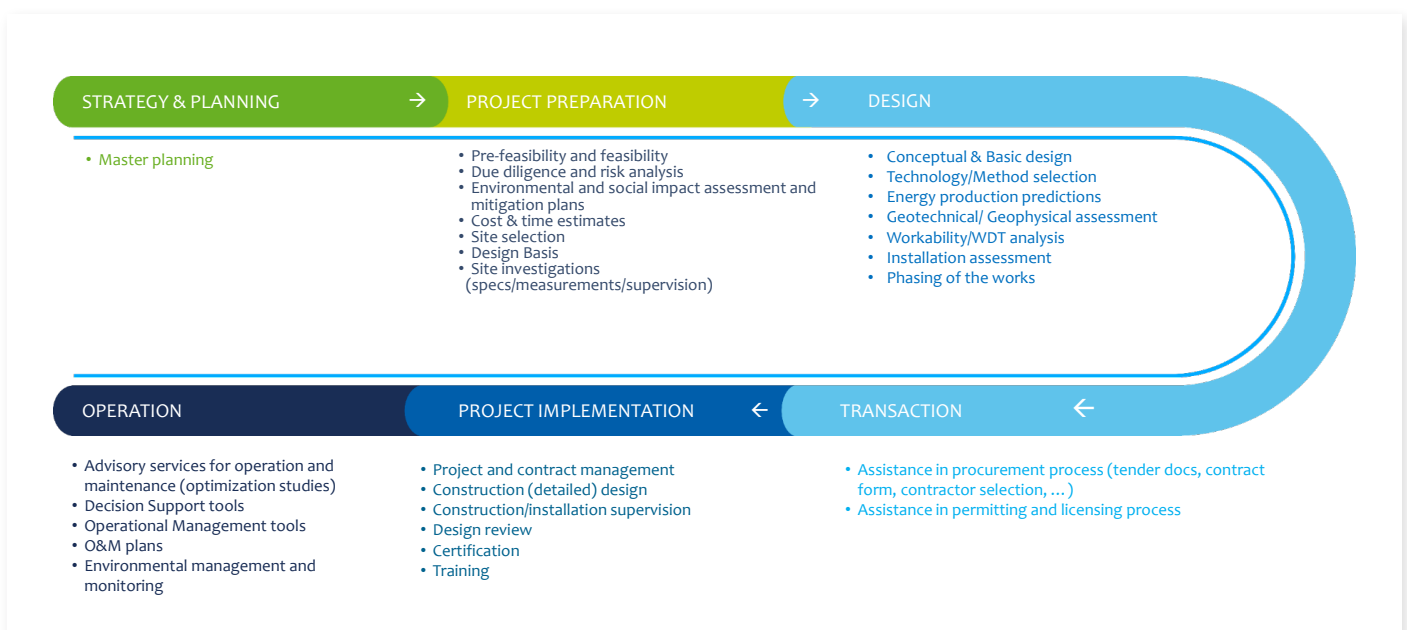
## Marine, Dredging and Port Engineering

Ports and marine infrastructure have always played a vital role in the economic development of a region. However, owners and operators of ports, terminals, and shipyards—whether public or private—are currently navigating a period of rapid change. Pressure from climate change, increasing demands for sustainability, and economic uncertainties create a complex landscape. As a leading maritime consultant, IMDC is committed to guide its clients through these challenges.

### Preparing for a Sustainable and Resilient Future

Our mission is to empower ports, terminals, and shipyards to adapt and succeed. We do this by implementing a sustainable, comprehensive approach - designing infrastructure that is both climate- and market-resilient. By combining our marine, civil and energy expertise, we integrate future market needs into infrastructure design, including the preparation and implementation of shore power and renewable energy systems, reducing energy costs and enhancing sustainability.

Whether you are constructing new facilities or upgrading existing ones, our experienced maritime engineers leverage digital modelling and parametric design tools to consider the entire asset lifecycle. This approach helps minimise energy consumption, costs, materials, and waste, resulting in efficient, sustainable infrastructure that provides our clients with a long-term competitive advantage.



# Services



## STRATEGY & MASTERPLANNING

In close consultation with the Client, IMDC can define and/or further develop strategic plans for ports and terminals developments around the world. We offer the full range of technical, economic, operational and environmental issues that need to be considered in any development.

We integrate sustainability and green port concepts by combining technology, functionality (e.g. implementing energy generating devices and aquaculture within port infrastructure) and using a circular economy and lifecycle approach.

### Port Adaptation

As the **climate changes**, ports face increasing challenges from rising sea levels, extreme weather, and shifting operational needs. IMDC supports climate adaptation by assessing vulnerabilities and developing solutions to protect infrastructure, secure assets, and **build long-term resilience**.

The **transition to sustainable energy sources** is transforming ports globally. IMDC assists clients in adapting their infrastructure for hydrogen and ammonia terminals, supporting the shift to green fuels with solutions that enhance operational efficiency, safety, and regulatory compliance. From feasibility assessments to implementation

plans, we guide clients in converting existing terminals into hubs for clean energy, positioning them as leaders in the energy transition.

Drawing on substantial experience in the offshore wind industry, IMDC can also support when ports want to **transform to offshore supply bases**. Our team of geotechnical, hydraulic and nautical experts provide tailored solutions that accommodate the unique demands of renewable energy projects, while ensuring that ports, ready to support new industries, still remain efficient and flexible in serving other customers.

## PROJECT PREPARATION AND LAYOUT DEVELOPMENT

At IMDC, we specialize in providing comprehensive support during the critical project preparation phase. We provide our clients with the expertise needed to transform an initial idea into a well-structured, viable project ready for execution.

A number of preliminary studies are typically vital in order to make any project a success. IMDC can help either in preparing for these studies (as consultant, coordinator, owner's engineer or project management office) or executing them:

- Site Selection
- Feasibility Studies & Due Diligence
- Site Investigations & Design Basis
- Geotechnical and Geophysical Assessment
- Risk Assessments & Environmental and Social Impact Assessments
- Nautical studies





## DESIGN OF MARINE AND PORT INFRASTRUCTURE

At IMDC, we specialize in delivering comprehensive design services for port-related infrastructure, ensuring that your project is functional, technically sound and operationally efficient. With years of experience and a team of multidisciplinary experts, we offer tailored solutions at every stage of the design process - from conceptual to basic and detailed design. Our in-depth understanding of water and sediment behaviour, port operations, environmental considerations, and engineering best practices enables us to deliver infrastructure that meets your specific needs while ensuring safety and cost-effectiveness, not only during construction but also during operations and maintenance. Some key competences include:

- Numerical modelling
- Top side infrastructure and equipment
- Dredging consultancy
- Dynamic mooring analyses
- Mooring layout design
- Workability and weather downtime analysis
- Propeller scour assessment and scour protection design
- Breakwater design
- Quay wall design
- Intake and outfall design
- Installation aspects and phasing of works

## PROJECT IMPLEMENTATION

When designs have been finalised, IMDC can assist you with the procurement process, ensuring the best suppliers and contractors are selected to meet the project requirements. In parallel, our experts can provide the necessary inputs for, or manage the complete permit application process, streamlining regulatory approvals to keep your project on schedule. During execution of the works, IMDC provides comprehensive project and contract management, overseeing all phases to ensure that timelines, budgets, and quality standards are met. We also provide construction and installation supervision and can manage all on-site activities to ensure adherence to design specifications, safety regulations, and environmental requirements.

When the design has been prepared by a third party, IMDC's design review services give an additional layer of quality assurance, identifying potential improvements or issues before they arise. We can also support your project through certification, helping ensure that all aspects meet the necessary standards and guidelines, so you can move forward with confidence.



## OPERATIONAL SUPPORT

IMDC is a partner that goes beyond project delivery, providing comprehensive advisory services to support clients also in the operations and maintenance phase. With our expertise, we help ensure your project remains efficient, sustainable, and resilient throughout its lifecycle.

Our team of specialists can help you optimise your daily operations, identifying areas for operational improvement to reduce costs, enhance performance, and extend asset lifespan. IMDC develops advanced operational management tools to track and manage day-to-day processes, enhancing coordination, efficiency, and responsiveness. We can also build decision support applications, tailored to your business, that help you streamline complex choices by providing clear, data-driven insights, empowering your team to make informed, effective decisions. For clients focused on environmental responsibility, IMDC provides tailored environmental management and monitoring solutions, allowing you to monitor impacts, adhere to regulations, and maintain sustainable practices.



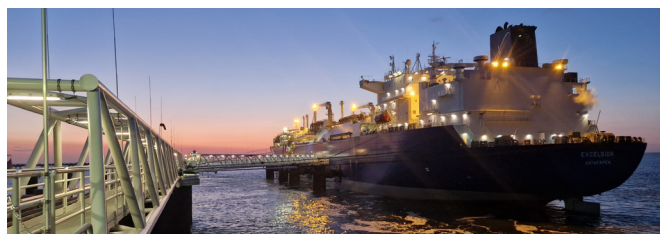
# Key references

## Wilhelmshaven new LNG import terminal development

Country: Germany  
Year: 2022-2025  
Client: ENGIE

As Design and Owner's Engineer for the jetty, dredging and related offshore works, IMDC played a pivotal role in various stages, including design, procurement, construction, field investigations and follow-up. With safety and environmental considerations at the forefront, our support encompassed: providing all necessary studies, documentation and clarifications for permitting (including environmental, dredging and construction permits); executing field measurements to establish metocean conditions; preparing and managing capital and maintenance dredging campaigns, including UXO investigation and clearance, turning basin design, hydrographic surveys planning and sediment plume dispersion studies to assess potential dredging impacts on the marine environment; designing and managing monopile and jetty installations, including steel fabrication, corrosion protection, and noise monitoring during monopile installation; designing, coordinating, and monitoring scour protection installation; conducting Dynamic Mooring Analysis studies and supporting procurement processes, perform quality controls via site inspections and offering site supervision and SIMOPS follow-up

### Sustainable Development Goals



## Pre-Feed study for Ammonia Jetty

Country: Egypt  
Year: 2025  
Client: Confidential

IMDC was responsible for conducting a pre-FEED study for retrofitting an existing jetty to facilitate the export of green ammonia. The project aimed to adapt the jetty for ammonia export while ensuring technical feasibility, safety, and compliance with environmental guidelines. IMDC's scope included technical support, environmental permit data provision, ship manoeuvring simulations, feasibility assessments, cost estimations, and risk management. This study provided the foundation for transitioning to the FEED stage, supporting the project's financial model and bankability.

### Sustainable Development Goals

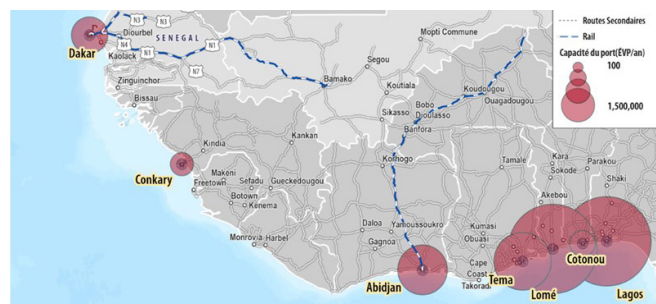


## Elmina fishing port development

Country: Ghana  
Year: 2020-2023  
Client: Ministry of Transport

IMDC undertook the detailed design and construction supervision for the Elmina fishing port and waterfront development in Ghana. The project included the construction of two new breakwaters, dredging and reclamation, and quays. Innovative and sustainable solutions were sought, and the existing breakwaters were reused wherever possible. Services provided included: Site investigations and measurements; wave and morphological modelling and supervision of physical modelling; sedimentation and dredging requirements; port layout optioneering studies; concept and detailed design (breakwaters, quays, moorings, fenders etc.); construction drawings and specifications; value engineering and design verification during execution; and construction supervision.

### Sustainable Development Goals



## Senegal National Port Masterplan

Country: Senegal  
Year: 2021-2022  
Client: Tractebel

Financed by the Belgian Development Agency ENABEL, a study was launched on the design of a National Strategy for strengthening the Senegalese Port Platform (SNRPPS in French). This strategy will be used as a tool to plan, coordinate, rationalize and guide future investments in the maritime sector, according to the evolution of the socio-economic environment of the country and region. IMDC supported the consortium composed of CPCS and Tractebel, by elaborating, designing and estimating all costs related to port extension and adaptation works, hydrographic requirements, dredging needs and nautical aspects.

### Sustainable Development Goals



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