IMDC

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. One of IMDC's core activities is presented in this product sheet : Marine & Terminal engineering expertise for Low-Carbon and Clean Fuel Terminals

More information can be found on our website www.imdc.be

Engineering tomorrow's energy terminals

The global energy transition is reshaping how ports and industries handle and import low-carbon fuels. LNG and FSRUs ensure secure and flexible energy supply, while ammonia and hydrogen are emerging as major clean-fuel and hydrogen-carrier options. At the same time, the growth of Carbon Capture and Storage (CCS) is driving the development of dedicated CO_2 handling facilities.

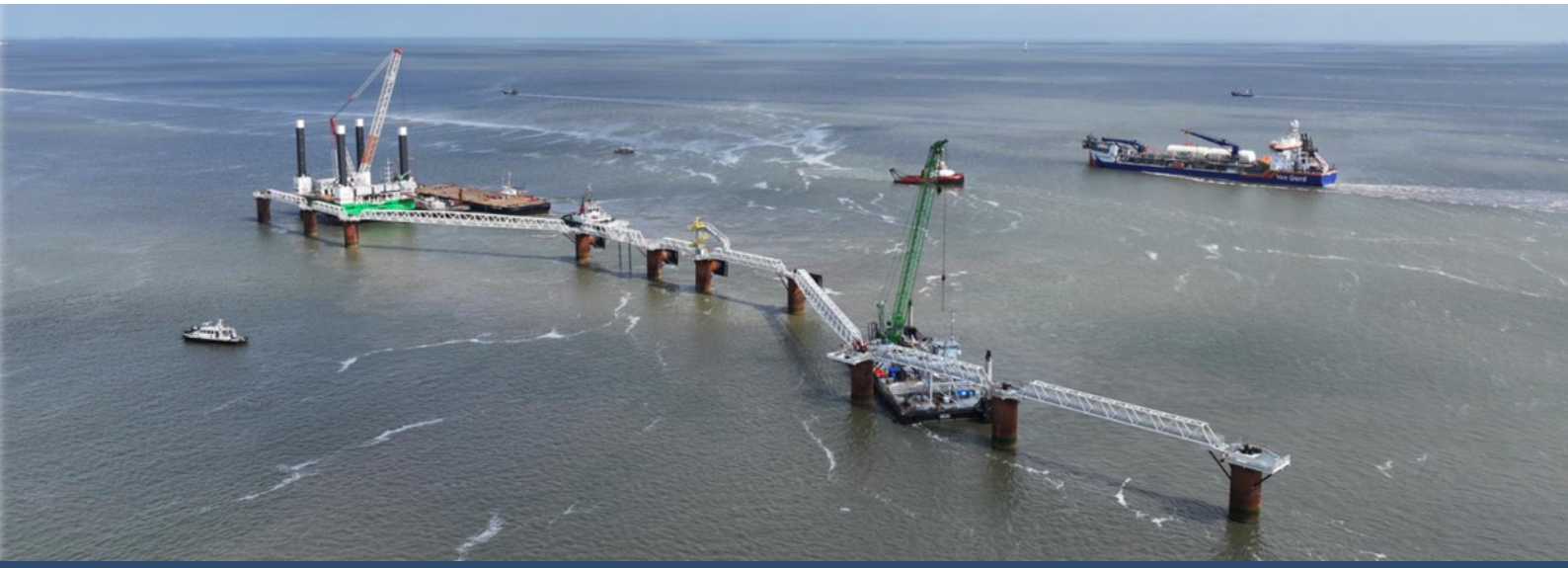
At IMDC, together with our parent company Tractebel, we support clients from early concept to execution. Our multidisciplinary team brings deep marine engineering expertise, proven track record in complex port developments and strong experience with energy terminals, FSRU interfaces and terminal conversions.

Services

Our extensive experience in water-related and energy-transition projects enables us to offer comprehensive services covering the entire project life, whether for new terminal developments or revitalizing the existing operations to meet the green energy goals.

Our services include:

- Feasibility studies, concept development, pre-FEED and FEED studies
- Owner's engineering for full project lifecycle
- Jetty, terminal and marine infrastructure design
- Conversion of existing terminals including both marine and shore equipment
- Compatibility studies
- Metocean data assessment, advanced hydraulic and hydrodynamic modelling
- Dynamic Mooring Analysis, ship manoeuvring simulations, passing-vessel effects and navigational studies
- Safety engineering, HAZID/HAZOP facilitation & regulatory advisory
- Cost estimation (CAPEX/OPEX assessments)
- Construction supervision & commissioning support



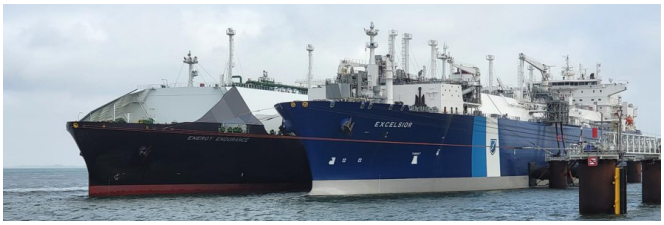
A company of TRACTEBEL ENGIE

Key references

Design and Owners Engineer new FSRU terminal Wilhelmshaven

Country: Germany
Year: 2022-2025
Client: ENGIE

IMDC, acting as Owner's Engineer, played a critical role throughout all stages of the project, from design and procurement to construction and follow-up. With safety and environmental considerations at the forefront, IMDC's contributions included: 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. Owned by Deutsche Energy Terminal GmbH (DET), the facility features a moored FSRU, marine jetty with a floating pontoon, and onshore grid connection. The project was fast-tracked as a key element in Germany's energy strategy.



FSRU terminal upgrade, Prony bay

Country: New Caledonia
Year: 2020-2021
Client: JV Engie-Enercal

IMDC, together with Tractebel, supported on the upgrade of the existing Gas Fired Power Plant in Prony Bay in New Caledonia, operated by Prony Energies aiming to allow for a Natural Gas supply through LNGCs delivering to a new FSRU plant offshore. IMDC elaborated the marine part of the Basis of Design, the Minimal Functional Requirements for the offshore pipeline and the design of the FSRU mooring system and was involved in the evaluation and the selection process of the Contractors that had to provide the EPC services for the FSRU, the mooring system and the offshore pipeline connecting the FSRU with the landpipe and the gas station. IMDC also wrote the technical specifications for a geophysical and geotechnical site investigation and made an interpretation of the multibeam/ SBP/SSS results by correlating with the limited existing geotechnical info. To obtain the necessary permits, IMDC was involved in the review of a plume modelling and FSRU intake/ outlet recirculation study and performed an underwater noise modelling study, a nautical risk and a traffic assessment study.

Pre-FEED study for ammonia berth development

Country: Egypt
Year: 2025
Client: Confidential

IMDC was responsible for conducting a pre-FEED study for retrofitting an existing berth to facilitate the export of grey and green ammonia. The project aimed to adapt the berth for ammonia export while ensuring technical feasibility, safety and compliance with local and environmental guidelines. IMDC's scope included technical support on the existing berth and marine infrastructure assessment, ship manoeuvring simulations, mooring layout, MLA operating envelope assessment, CAPEX & OPEX estimations and risk management. This study provided the foundation for transitioning to the FEED stage, supporting the project's financial model and bankability.

Pre-FEED study for the Fos Tonkin Low Carbon Ammonia terminal

Country: France
Year: 2024
Client: Elengy

IMDC supported Tractebel France with the pre-FEED studies required for the first Ammonia Terminal development in the south of France, at the Fos Tonkin Terminal, which currently serves LNG carriers. IMDC participated in the preparation of the Basis of Design and the concept development by assessing possible alternative solutions, based on a Multi Criteria Analysis and cost estimate. The assessment of the existing jetty structure, the required utilities and all relevant maritime aspects (berth and mooring configuration, marine loading arms operating envelope, marine equipment) as well as the possible marine risks were studied by IMDC.

Technical support for feasibility study of an LH2 terminal in Portugal

Country: Portugal
Year: 2022
Client: H2Sines.Rdam Consortium

The European GreenH2Atlantic project involved a pre-feasibility study for green hydrogen production, liquefaction and transport from Sines to Rotterdam, targeting an initial capacity of 100 TPD with plans to expand to 300 TPD. The provided IMDC services included the identification of suitable sites for the terminal development and storage space, high-level wave modelling to assess extreme conditions, nautical assessment of vessel access and mooring layout, material specifications for the LH2 reclamation area, CAPEX estimations and risk analysis with recommendations.

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