

CV

BJØRN DANNEMARE

Profile

Bjørn Dannemare is a senior civil engineer with 20 years of experience in the planning, design, and optimisation of complex infrastructure, ports, and marine terminals. Recognised as one of Denmark's leading specialists in marine oil and gas terminals, he has delivered expertise to numerous projects both domestically and internationally.

His core expertise covers the design and refurbishment of mooring and berthing structures, mooring and berthing analyses, design of marine structures and foundations, capacity studies, tender documentation including technical specifications, as well as the preparation of CAPEX estimates and investment plans. Bjørn also has extensive knowledge of inspection and life-extension strategies for existing marine assets, including the maintenance and modernisation of jetties, dolphins, quays, loading equipment and fender systems.

With a systematic and solution-oriented approach, Bjørn works as both project manager and senior marine specialist. He is recognised for delivering robust and practical solutions that balance safety, efficiency, and cost-effectiveness – providing clients with a strong foundation for decision-making and future investments.

Career Overview

2025 – Present: Owner and Senior Engineer, MARINE VALUE ApS

2020 – 2025: Chief Consultant, Ramboll

2018 – 2020: Chief Project Manager, A1 Consult

2016 – 2018: Project Manager, COWI

2006 – 2016: Senior Engineer, Ramboll

Education

2001 – 2006: MSc in Civil Engineering
Aalborg University, Denmark

Language

Danish (mother tongue), English, Norwegian

Only selected recent projects

2025-2026

Replacement of Mooring Dolphin, SWL 4 x 100 tonnes, at a Danish Liquid Bulk Terminal

Client & location of project is confidential

Bjørn was responsible for the full engineering scope for the replacement of an existing mooring dolphin at an operational liquid bulk terminal. The assignment covered feasibility and concept development, FEED, authority approvals, environmental screening, site investigations, detailed engineering, EPC tender documentation, procurement support and technical follow-up during execution. The selected solution comprised a new independent pile-supported mooring dolphin with a reinforced concrete superstructure, a quick release hook with four 100-tonne hooks, two steel access bridges, an intermediate bridge support and a new landside bridge foundation. Bjørn carried out the mooring assessment in OPTIMOOR in accordance

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with OCIMF MEG4 and led the geotechnical and structural design of all marine civil works, supported by detailed 3D BIM modelling in Tekla Structures. Locating the new dolphin north of the existing structure allowed construction and commissioning before demolition, thereby minimising disruption to terminal operations and reducing offshore execution risk.

2025-2026

Rehabilitation of Fire Water Intake Channel at an Operational Marine Terminal, Denmark

Client & location of project is confidential

Bjørn was responsible for project maturation and detailed design of the rehabilitation of an existing fire water intake channel at an operational liquid bulk terminal. The original open channel, constructed from steel sheet piles and a concrete base slab, had deteriorated significantly due to corrosion and recurring sediment accumulation, resulting in an ongoing need for maintenance dredging. The selected solution comprised installation of a new OD1200 PE intake pipe within the existing channel alignment, extended further seaward to reduce the risk of silting, together with structural support of the exposed pipe end. Bjørn's scope included concept clarification, preparation of technical requirements for the pipe supplier, hydraulic and structural design criteria, assessment of wave loading, detailed design of supporting steel piles and concrete structures, tender drawings and execution documentation. The solution provided a durable and maintainable closed intake system designed to improve the long-term reliability of a safety-critical fire water supply.

2025-2026

Independent Technical Review of Marine Berth Concepts for a Danish Liquid CO₂ Import Facility

Client & location of project is confidential

Bjørn led an independent technical review of marine berth concepts for a new liquid CO₂ import facility. The review covered berth layouts, mooring arrangements, structural concepts, pipeline routing, constructability, operational interfaces, HSE considerations and concept-level CAPEX estimates. The work identified redundant marine structures, underestimated quantities, missing scope, operationally impractical arrangements and a safety-critical weakness in the proposed pipeline routing. Bjørn developed simpler, safer and more buildable alternatives and performed value engineering without compromising operational performance. The review identified potential direct CAPEX savings of approximately DKK 15 million and DKK 19 million on two of the assessed concepts and provided the client with a substantially improved basis for concept selection, risk management and further project development.

2026

Structural Assessment of Existing Quay Walls and Permissible Dredging Levels, Denmark

Port of Hirtshals, Denmark

Bjørn carried out technical load-bearing and stability assessments of two existing anchored steel sheet-pile quay walls in the Port of Hirtshals. The objective was to establish permissible dredging levels and provide a technical basis for decisions concerning future water depths, supplementary investigations and possible replacement of the existing structures. The assessments were based on historic drawings and available geotechnical data and included ULS calculations in accordance with Eurocode 7 and EN 1993-5. The analyses accounted for corrosion-related reductions in sheet-pile capacity, anchor resistance, operational surcharge loads, differential water levels, passive soil resistance and both free and fixed earth support conditions.

2026

Mooring Load Assessment for a Cable-Lay Barge at Rolvsøy, Norway

HSM Rolvsøy, Norway

Bjørn performed an analytical mooring load assessment for a representative cable-lay barge at an existing steel sheet-pile berth at Rolvsøy. The analysis was carried out using the analytical wind- and current-load methods in BS 6349-1 and considered a basic wind velocity of 26 m/s, normal and flood river currents of up to 5 knots, vessel draft, water depth and under-keel clearance, preliminary mooring-line geometry and load distribution between breast, head, stern and spring lines. Bjørn calculated characteristic and design mooring forces in the transverse and longitudinal directions and screened the resulting loads against the nominal 30-tonne capacity of the existing and proposed bollards. The study defined the technical limitations of the preliminary assessment and the requirements for the next design stage, including verification of the actual barge windage, sensitivity to local water depth, transverse current components, passing-vessel and wave effects, and finalisation of the mooring arrangement in cooperation with the vessel operator.

2025

Pre-FEED for a Floating Storage Regasification Unit (FSRU) Terminal (LNG import)

Client & location of project is confidential

Pre-FEED study for a new FSRU Jetty. Bjørn's role was leading the mooring analysis study using OPTIMOOR including ship-to-ship analyses, all assessed in accordance with requirements in OCIMF MEG4 and PIANC WG153b. Furthermore, Bjørn lead the ship/shore compatibility study including berthing analysis, ensuring safe mooring conditions and adequate fender contact at all tidal levels and at all possible operational drafts. The result of the marine studies was development of a general arrangement plan for the FSRU jetty facility, including unloading platform, breasting and mooring dolphins, gangway system, MLA for HP gas, number and SWL for quick release hooks and selection of adequate fender systems.

2024-2025

Carbon Capture CCx, Maturation Phase, Denmark

Client & location of project is confidential

Bjørn's role was Discipline Lead of the marine facilities for the export of liquid CO₂ including upgrade of existing berth, mooring layout, ship/shore compatibility, new mooring equipment (quick release hooks), new fender systems, interface with the marine loading arm, shore power etc.

2021-2025

Asnæsværket: Full-Scale Carbon Capture in Kalundborg, DK. Detailed design of two CO₂ berths.

Ørsted decided to build a 280,000 t/yr carbon capture plant from the existing wood chip-fired boiler and temporary CO₂ tank storage facility. The CO₂ produced will be exported to Northern Lights in Norway for geological storage. Ramboll has assisted in all phases of the project including development of the overall concept, technical evaluation of bids, contract management, detailed design and integration of existing facilities. Bjørn's role was Discipline Lead of the marine facilities for the export of LCO₂ including upgrade of two existing berths, mooring layout, dynamic mooring analysis, navigational study, ship/shore compatibility study, new mooring equipment (quick release hooks with integrated capstans), new parallel motion fender systems, interface with marine loading arms, shore power etc.

2023-2024

Carbon Capture CCx. Layout study. New CO₂ piers and jetties.

Client & location of project is confidential

Assessment of different new liquid CO₂ jetties at two strategic locations in Denmark. Preparation of jetty berth layouts, listing of pros and cons and preparation of CAPEX for all layouts.

2023-2024

Feasibility Study for a new Carbon Capture Plant at a waste-to-energy facility in Denmark

Client & location of project is confidential

A comprehensive technical and economic feasibility study for a new CCS plant at a Danish waste-to-energy plant. The services included basic design, preparation for FEED, and regulatory scope. Bjørn was leading the concept development of new marine facilities for the export of liquid CO₂.

2023-2024

New Green Energy Terminal, United Kingdom

Client & location of project is confidential

Pre-FEED study for a new green energy terminal in the UK. The project included basic design for a new marine terminal consisting of an access pier and a jetty berth for the transfer of ammonia and liquid CO₂. Bjørn's role was to define mooring layouts for a wide range of gas carriers (from small to large) as well as to perform a detailed ship/shore compatibility study for verification of safe mooring conditions, adequate fender contact as well as compatibility with marine loading arms and gangway tower.

2022-2024

Uno-X, Hauknes Oil Terminal, Norway

Review of berthing and mooring conditions at an existing oil jetty. Bjørn's role was to do a specialist berthing and mooring analysis including assessment of the existing fender systems and suggestions for necessary upgrades. The mooring analysis was conducted using OPTIMOOR software compliant with OCIMF MEG4.

2023

Inter Terminals. Stigsnaes Oil Terminal. SOT Jetty Berth, Denmark

Consulting engineer services concerning the marine oil terminal at Stigsnaes in Denmark. Completion of a mooring analysis study using OPTIMOOR. Recommendations for permissible wind limits at the terminal.

2023

Ørsted, Stigsnaes, STH Askekaj, Denmark

Berthing analysis study and fender design. Berthing analysis of smaller cargo vessels and assessment of two possible fender types.

2022-2024

Carbon Capture & Storage Project (CCS), Sweden

Client & location of project is confidential

Feasibility study of a full value chain carbon capture installation at an existing plant in Sweden.

The feasibility study included pre-investigations and concept design of a new pier with two berths for export of liquid CO₂. Bjørn provided specialist recommendations for the jetty berth layout and assisted with the concept development and CAPEX.

2022-2024

New FSRU Terminal (LNG import), Design and consulting tasks.

Client & location of project is confidential

Detailed design and EPC for a new FSRU Jetty. Bjørn was responsible for the dynamic mooring analysis (DMA) study using OPTIMOOR. The mooring analyses included ship-to-ship mooring assessments and dynamic verification.

2022-2023

Crossbridge Energy. Berth Scour Protection at Jetty 1, Denmark

Bjørn undertook detailed design and preparation of tender material for a berth scour protection at Jetty 1, including tendering, contracting and follow-up during the construction works. The scour protection consisted of underwater cast concrete surrounded by an underwater stone revetment.

2021-2022

Inter Terminals SGOT. OPTIMOOR Mooring Analysis. Denmark

Bjørn undertook OPTIMOOR mooring analyses of the existing mooring conditions at Stigsnaes Oil Terminal and at Gulfhavn Oil Terminal.

2021-2023

Rønne Havn – Phase 2, MT Højgaard, Denmark

Port of Rønne awarded the construction company MT Højgaard the Design & Build contract for the second stage of the expansion of the port. Ramboll was contracted by MT Højgaard to develop the detailed design of all marine structures, pavements and utilities.

2021-2022

Shell Refinery, Denmark

Inspection and renovation of berth facilities at the Shell Refinery in Denmark. OPTIMOOR mooring analysis study of existing conditions at jetty 2. Detailed design and tender project for a new mooring dolphin with a double quick release hook including load monitoring system. The project included technical follow-up during construction works and construction management.

2018 – 2020

Port of Hirtshals, Denmark

Engineering consultancy regarding detailed design and tender project for a new multifunctional ferry berth. The project included design of port structures including a new quay wall and ramp structure. Also design of new storm bollard foundations and new parallel motion fender systems including large fender foundations. Furthermore, the project included a berth scour protection (underwater cast concrete) with dimensions of 30 m x 110 m. The project included technical follow-up and construction management.

2017 - 2018

Port of Tromsø, Norway

Pre-FEED for a new deepwater port in Tromsø. The berth consisted of a pile-supported concrete deck equipped with fender systems and 150 tonnes bollards, and a few storm bollards with a capacity of 250 tonnes. The new berth is to be used by offshore supply vessels and heavy load carriers.

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2017**KEA CCS – Conceptual design of a new LNG Jetty, Norway**

Concept development of a new LNG Jetty south of Oslo, including conceptual design of loading platform, breasting and mooring dolphins using steel tube piles and reinforced concrete superstructures. Also, preparation of CAPEX. Furthermore, analysis of safe berthing and mooring conditions.

2017**Port of Frederikshavn, Denmark**

Engineering consultancy regarding detailed design and tender project for a new berth scour protection in the port basin no. 2 in Port of Frederikshavn. The scour protection was designed using rock armour material on top of a filter rock layer. The project included technical follow-up during construction works and construction management.

2016 - 2017**Port of Esbjerg, Denmark**

Engineering consultancy regarding detailed design and tender project for a new 215 m pier structure as well as 220 m new quay wall for Ro-Ro ships. The designed structures were anchored steel sheet pile walls equipped with fender systems and mooring bollards. The project included technical follow-up during construction works and construction management.

2016**Ensted Oil Terminal (EOT), Denmark**

Special inspection services for Ensted Oil Jetty with focus on investigations of chlorides in existing the concrete superstructures at EOT berth 1 and 2. The purpose of the inspections were to clarify the optimal repair and maintenance strategy for the concrete structures considering costs/CAPEX, repair time and a wish for lifetime extension of 25 years.

2014 – 2016**Asnæs Oil Terminal (AOT), Denmark**

Concept development and detailed design of an upgrade of the existing Oil Quay at AOT in Kalundborg. The planning and design included inspections, condition assessments, stability calculations for the existing quay structures, rehabilitation of 200 m quay wall, design of new bollard foundations (these were not constructed) and design of new fender systems. Furthermore, the project included dredging works at both the Oil Quay and at the western-located Coal Pier, including environmental investigations and obtaining all permits.