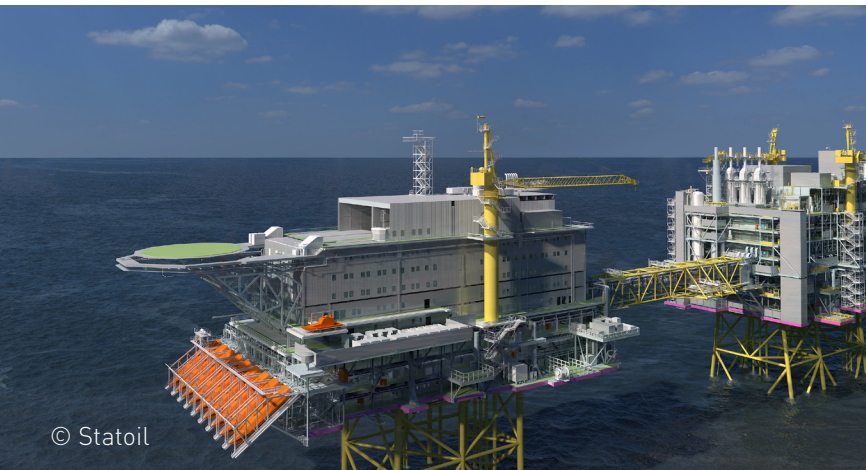




Finnish Marine Industries coordinates the cooperation in industrial and economic policy among the companies at the branch. The association represents its members in the European Ships and Maritime Equipment Association (SEA Europe).

The members of Finnish Marine Industries include leading marine equipment manufacturers, turnkey suppliers, design offices, software and system providers as well as shipbuilding, ship repair and offshore yards.

marineindustries.fi



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**Meriteollisuus
Finnish Marine Industries**

Arctic & Offshore
Environmentally sound maritime
technology from Finland

GREENER VESSELS FOR SUSTAINABLE SHIPPING

The Finnish marine industry is a pioneer in developing environmentally friendly solutions for arctic conditions. Polaris, for example, is one of the most environmentally friendly icebreakers in the world. It was constructed by Arctech Helsinki Shipyard and delivered in 2016 for the harsh conditions of the Baltic Sea. Polaris is the first LNG icebreaker in the world. It uses both LNG (liquefied natural gas) and low-sulphur diesel as its fuel, which diminishes its emissions and operational costs. The icebreaker aspires the zero-emission principle, and does not discharge any waste or polluting substance into the sea.

There are still more features that help conserve the environment: Polaris has the ability to perform oil spill response duties. Moreover, the icebreaker has a design lifetime of 50 years, more than any other Finnish icebreaker.

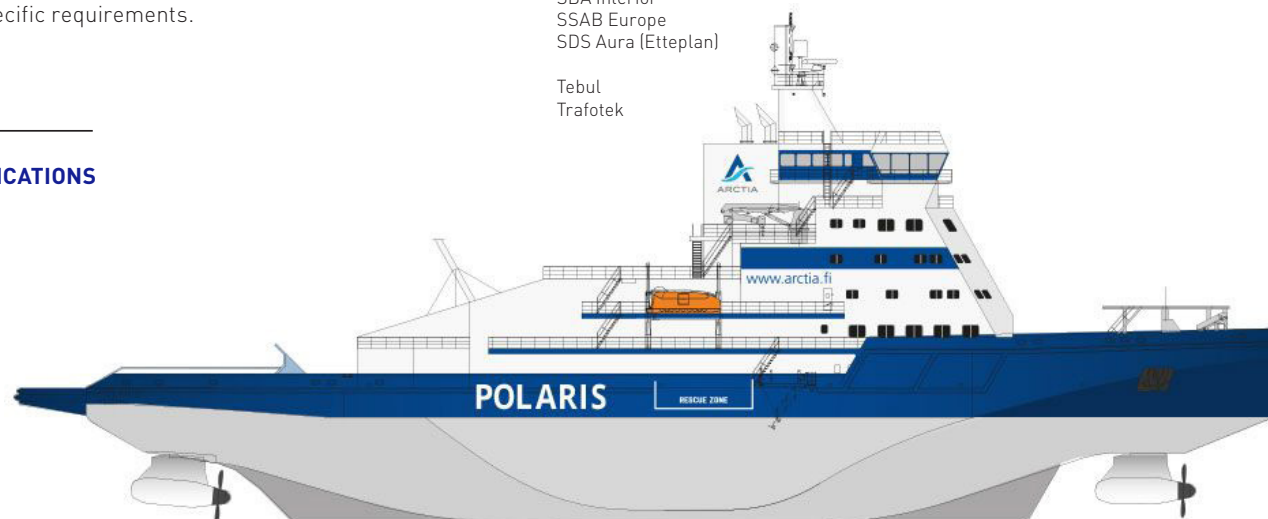
These environmental features increase performance as well. Polaris is the most powerful vessel in the Finnish icebreaker fleet and very maneuverable with three azimuth propulsors. In addition, Polaris is the world's first vessel to fulfill the requirements of the Polar Code, developed to protect the sensitive Arctic waters and nature.

The Finnish marine industry spends a vast amount of resources in developing green technology. The industry has prepared for customers' new requirements by developing state-of-the-art solutions such as scrubbers and engines using low-sulphur fuels. Many Finnish companies develop groundbreaking fuel saving systems. Other green products include marine water management systems and waste heat recovery systems, to mention some.

Ecologically sustainable products are some of the countless success stories of the Finnish marine industry, all of which include the same ingredients: continuous development of firms staffed by employees possessing the highest levels of expertise, use of state-of-the-art technology, and a global customer base. These solutions are tailored to the individual customer's specific requirements.

POLARIS TECHNICAL SPECIFICATIONS

Length 110 m
 Breadth maximum 24 m
 Draught 8 m
 Installed power 21 MW
 Propulsion power 19 MW
 Speed 16 knots
 Speed at 1.2 m ice 6 knots
 Crew 16 + 8
 Range 30 days
 (10 days on LNG and
 20 days on fuel oil)



FINNISH MARINE INDUSTRIES' MEMBERS THAT PARTICIPATED IN THE DESIGN AND CONSTRUCTION OF POLARIS:

ABB
 Aker Arctic
 Alfa Laval Aalborg
 Antti-Teollisuus
 APX-Metalli
 Arctech Helsinki Shipyard

Caverion Suomi

Deltamarin

Elomatic

FSP Finnish Steel Painting

Helkama Bica
 Hentec

Kavika
 Kemppe
 KONE

Laivasähkötyö
 Lamor Corporation
 Lautex

Metalliasennus Huuhka
 Mobimar

NAPA

Onninen

Paroc
 Piikkio Works

Rolls-Royce
 RR Site Service

SBA Interior
 SSAB Europe
 SDS Aura (Ettiplan)

Tebul
 Trafotek

OTHER FINNISH MARINE INDUSTRIES' MEMBER COMPANIES WHICH SUPPLY SMART AND ENVIRONMENTALLY SOUND TECHNOLOGY:

AirD Fin
 Allstars Engineering
 ALMACO Group
 Atexor

Beacon Finland

Cadmatic

EIE Maskin
 Emmanoa
 E.U. -Adhoc Project
 Evac

Fake Production
 Foreship
 Furuno Finland

Halton Marine
 Hella Lighting Finland

IDC Global Services
 Insinööritoimisto Comatec
 I.S. Mäkinen
 ISOVER (Saint-Gobain
 Finland)

Jukova Corporation

Kaefer
 Koja
 Kvaerner Finland

MacGregor Finland
 Machine Technology
 Center Turku
 MAN Diesel & Turbo
 Sverige
 Marioff Corporation

Merima
 Mesekon
 Metos
 Meyer Turku

NIT Naval Interior Team
 nora flooring systems
 Norsepower

Oilon
 Orsap

Parmarine
 Pemamek
 Planson United
 Prizztech
 Promeco Group
 Protaccon Technologies

Rauma Marine
 Constructions
 R&M Ship Technologies
 Finland

Saajos
 S.A. Svendsen
 SeaKing
 Seaside Industry Park
 Rauma
 Shipbuilding Completion
 SRC Cruise & Ferry
 Steerprop
 Stello

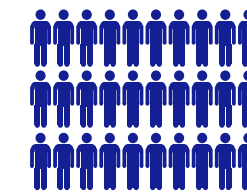
Technip Offshore
 Finland
 TEVO Lokomo
 Turku Repair Yard
 The Switch Engineering

Uki Workboat

Valmet

WE Tech Solutions
 Wärtsilä

Finnish Marine Industry in the Finnish Society



Finnish marine industry employs 30 000 people



Annual turnover 8 billion €



1 000 companies in the industry

Source: Brahea Centre at the University of Turku

Marine industry consists of:



Marine equipment manufacturers



Turnkey suppliers



Design offices



System suppliers



Software providers



Shipbuilding, ship repair and offshore yards

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