

Autonomous Ships - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Autonomous Ships Market is valued at USD 8.39 billion in 2024 and is forecasted to reach USD 12.19 billion by 2029, registering a CAGR of 8.39% during the forecast period.

The demand for autonomous and remotely controlled ships is growing at a rapid pace due to the developments in sensor technology, connectivity at sea, and analysis and decision support software and algorithms (artificial intelligence) for various onboard applications, like navigation and situational awareness. The autonomy of the shipping industry is expected to reduce maritime emissions, enable massive fuel savings, and save about 20% of the cost incurred for shipping operators. Additionally, according to the European Maritime Safety Agency (EMSA), 58% of accidental events and 70% of accidental events were attributed to human error in shipboard operations. This technology is anticipated to apprehend such accidents due to human error on the bridges of the vessel, thereby reducing the accidents onboard.

In several countries, like Finland, the United Kingdom, Norway, South Korea, China, and Japan, various companies (in different industries, like shipbuilding, engine manufacturers, big data, and other software providers) are collaborating and forming research alliances to increase the human-machine interface and incorporate autonomy into the naval architecture. Such collaborations are expected to propel the growth of the market during the forecast period. The cost for integration of autonomy into naval vessels, the threat of cybersecurity, and the reliability of software and machinery aboard the vessels are anticipated to act as barriers to the growth of the autonomous ships market during the forecast period.

Autonomous Ships Market Trends

The Commercial Segment of the Market is Anticipated to Register the Highest Growth During the Forecast Period

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The development of new autonomous naval vessels with the advancement of technologies and the incorporation of sensor systems in commercial vessels, like cargo vehicles, passenger ferries, and other platforms, is anticipated to propel the growth of autonomy in the commercial segment. Integration of autonomy is a costly and slow process, especially in the maritime industry, as the adoption rate of new technologies is relatively slower compared to other transportation systems. Therefore, commercial operators are starting with remote-controlled vessels and making long-term plans to replace traditional ships with autonomous ships. Some of the liner shipping companies, like Maersk, CMA CGM, and Hapag-Lloyd, and cruise operators established remote operating centers (ROCs) for their fleets for several years. These help in monitoring the data on the bridge and assist the crew on board in operating the vessel. Some of the companies are collaborating with technology providers and accelerating the development of new autonomous ships.

In September 2022, DNV (Norway) signed an MOU with Hyundai Heavy Industries Co., Ltd., Avikus, and Liberian International Ship & Corporate Registry (LISCR). It includes a joint study to deploy autonomous navigation systems on board ships to increase technology uptake by the industry and flag states. The Hyundai Intelligent Navigation Assistant System (HiNAS 2.0) is an AI-based navigation solution that covers all steps of a voyage, from detection to situation analysis, planning, and control. The system assists in safe navigation by displaying AR (augmented reality) images of detected ships and navigation information. Similarly, in August 2023, DeepOcean (Norway) entered a long-term agreement for a new-built unmanned surface vessel (USV) for use in subsea inspection, maintenance, and repair (IMR) and survey support for offshore oil and gas and renewable energy. Despite being remotely controlled from shore, the USV will include various autonomous features to ensure the safety and integrity of the spread. It can also perform in severe weather conditions.

Europe is Expected to Generate the Highest Demand During the Forecast Period

The increasing investments and initiatives from the European governments and companies into autonomous ships are majorly driving the growth of the market. One Sea - Autonomous Maritime Ecosystem is the major European collaboration by ABB, Ericsson, Cargotec (MacGregor and Kalmar), Meyer Turku, Rolls-Royce Holding PLC, Tieto, and Wartsila Corporation. It began in 2016 with the aim to enable commercial autonomous maritime traffic by 2025. Similarly, Finnish-based companies are working on a research project called Ecosystem for Autonomous Ships. It is a collaborative platform that aims to introduce the world's first autonomous marine transport system by 2025.

In addition to this, the companies are supporting government initiatives to introduce autonomous capability into naval vessels. For instance, DNV GL, a Norway-based company, is involved in many projects on autonomous ships. One such project is the Norwegian Forum for Autonomous Ships (NFAS), which the Norwegian Government supports. Furthermore, the UK-Norwegian collaborative project called Safe Implementation of Autonomous and Remote Operation of Ships (SIMAROS) plans to develop a fully autonomous offshore vessel, Hronn. Therefore, such plans to develop and induct autonomous ships may aid the rapid growth of the autonomous ships market in Europe during the forecast period.

Autonomous Ships Industry Overview

The market for autonomous ships market is moderately fragmented, with many regional players that their local governments fund to collaborate and develop autonomous ships. The prominent players in the autonomous ship market are DNV AS, Kongsberg Gruppen ASA, Rolls-Royce plc, Wartsila Corporation, and HD Hyundai Heavy Industries Co., Ltd.

DNV AS, Kongsberg Gruppen ASA, and Rolls-Royce plc are the manufacturers of the ships. In contrast, Wartsila Corporation, Praxis Automation Technology BV, and Valmet Corp are some of the prominent component providers that support shipbuilding companies with essential automation technologies. To further integrate the developments in the sensors, Big Data, and artificial intelligence technologies, the shipbuilding companies are collaborating with the IT companies. For instance, in September 2021,

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the design and engineering consultancy BMT unveiled its 'Highly Autonomous Warship Technologies' project. It is designed to help bridge the gap between current vessels and future lean-crewed autonomous warships. The program aims to understand and enable philosophies behind the future lean crewed warships by autonomy. Such initiatives are anticipated to maximize the penetration of the market into the shipping industry, which, in turn, will help the companies to capitalize on profits.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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