

Confederation of Finnish Industries



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Maritime Systems Integrators  
in the USA

Digital Transformation of Navigation Systems i

**BUSINESS  
FINLAND**

# OVERVIEW

**Systems engineering for the U.S. Navy** and the overall maritime sector includes a relationship spanning **from the smallest of computer components to the immenseness and complexity of the Aircraft Carrier Battle Group.**

**Unmanned Marine Vehicles (UMV) have been touted to be one of the prime technologies to be adopted** owing to the vast amount of potential in commercial and military applications. Equipment such as generators, switchboards, propellers, auxiliary engines, and motors and drives are outsourced from different vendors, which makes the integration of marine equipment with automation systems necessary for maximum compatibility and high efficiency. Thus, **the growing demand for integrated system by shipbuilders and operators to reduce interoperability issues will be a major trend driving growth of the automation control market in the next five years.**

Since the reconstruction and modification costs of old vessels is higher than buying new vessels, **ship builders are increasingly looking forward to implementing automation and control systems into their vessels.**

One of the **major factors challenging the growth of this market is the threat to cybersecurity.** The transition into complete automation by the marine industry have simplified operational processes in marine vessels but have also increased risks to cybersecurity. Since the automation control systems are connected to computer networks, **hackers can infiltrate the system and manipulate operational activities, fake navigation data, delete records and access confidential data** thus posing threat to the vessel as well as national security.

**Artificial Intelligence (AI) is becoming a critical part of modern warfare.** AI is able to handle massive amounts of military data in a more efficient manner as compared to conventional systems. It improves the self-control, self-regulation, and self-actuation abilities of combat systems, using inherent computing and decision-making capabilities. **Increase in funding** from military research agencies **and rise in R&D activities to develop advanced AI systems are key factors projected to drive the increased adoption of AI systems in the military sector.**