

From subsystems to super system

Propulsion systems, crane systems, jacking systems, automation and control, advisory; all these former sub-systems are being connected today in integrated vessel and port systems through the use of advanced information, sensor, and communication technology.

This Technical Insight section of Generations presents a variety of new technical solutions from ABB's marine and ports business unit, focusing on integrating and connecting systems for a higher level of performance in efficiency, safety, and reliability. We lead off with the themes of Integrated Operations and Remote Diagnostics, which have opened new ways of thinking in the field of operations.

Beyond that, the articles take you on a journey covering case study descriptions, new ideas on propulsion products, energy storage solutions, and how these can be automated and optimised. The expansion of electric propulsion in short sea shipping and fully battery-driven ships and ferries is explored. New automation solutions for both shipping and port industries are also discussed, with some novel ideas on how to improve overall systems by taking a broader overview.

For marine transportation, the technology shift towards greener operations is taking place right now, with progressive use of energy storage as a hot topic, having already made its

way onto several vessels. The technology in this field is moving fast, and this section contains several articles discussing solutions and applications. Energy storage has been covered in previous editions of Generations, and in the period since the last edition, only two years ago, the technology has moved from conceptual designs to actual implementation.

Other fields commanding major interest today are the dawning autonomy of vessels and systems, and the ability to utilise all subsystems optimally for the benefit of the whole vessel, and even the entire fleet. As you will see, this philosophy of sharing intelligence to improve efficiency is also being adopted for use in ports.

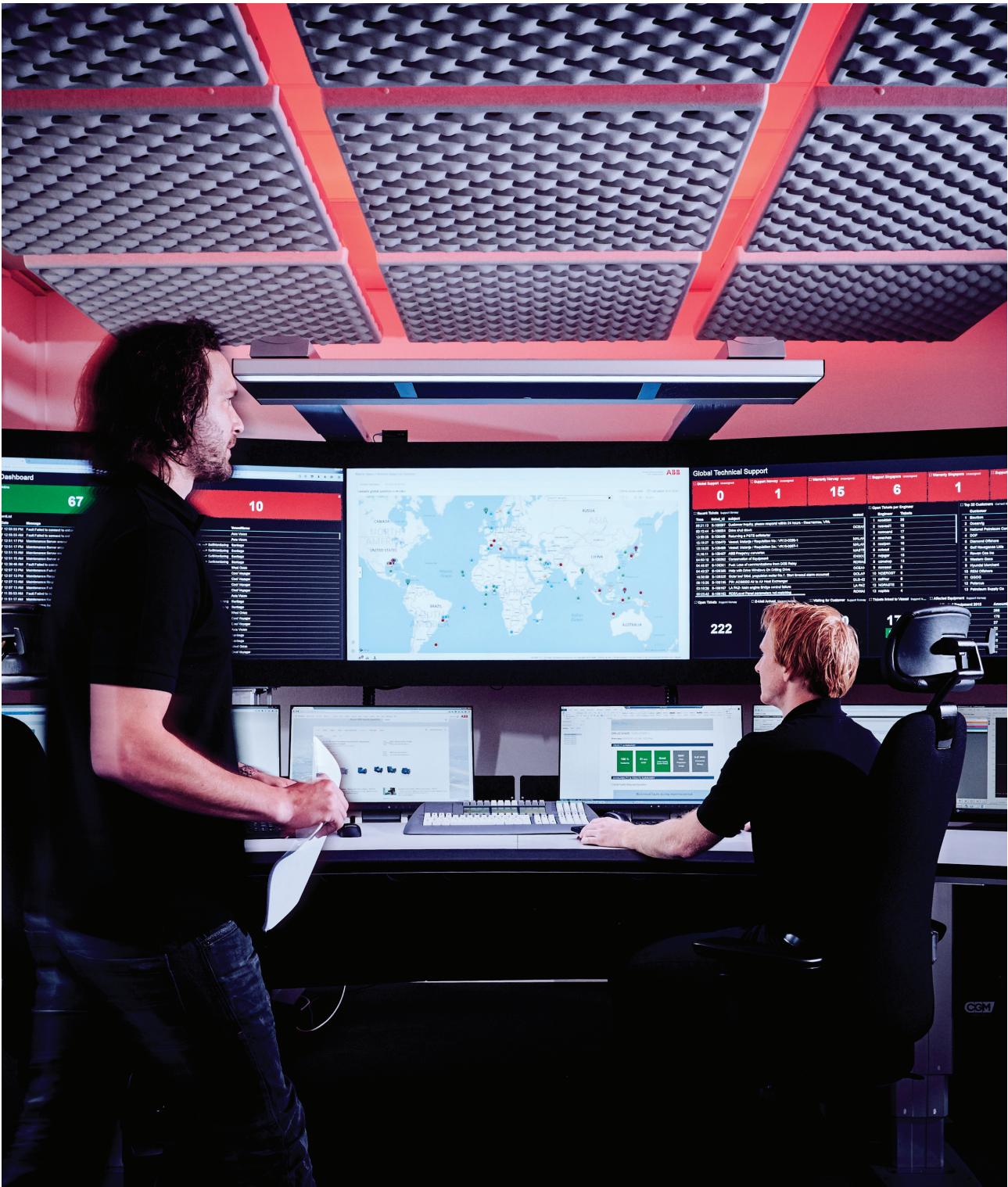
We hope you will enjoy the insight and updates that the following articles offer on these subjects – and a handful more.

Jan-Fredrik Hansen

Technology Manager, Oil & Gas vessels,
ABB Marine & Ports, Norway
jan-fredrik.hansen@no.abb.com



Jan-Fredrik Hansen



Integrated Operations Center at Billingsstad