

Embracing individual disruption

As with many jobs on board a modern ship, the view from the engine room is changing as Shipping 4.0 becomes reality.

Digital services manager Palemia Field in ABB Marine & Ports has witnessed the transition. A former marine engineer with many years below deck on cruise ships and naval vessels, Field now heads up a team with responsibility for verification of automation, control, advisory and analytics systems.

“We put together a team that could look at networks holistically,” Field says. “Right away we discovered that advisory systems require an interface with automation and control systems.”

That interface is already displacing traditional roles and the need for expertise on a ship. Specialists are still needed on board, Field assures, but says they have learned that those with the deepest knowledge have more value in the office. “We have changed the way we support customers by shifting service personnel to Collaborative Operations Centres on land. Now we need to build up capacity to support our own engineers, by offering them centralised support.”

As to whether this development is proof of digital disruption on board, Field addresses the layers of disruptiveness: “Digital changes to operations are more disruptive at the individual level than at the industry level. Connectivity, big data and remote operations are primarily disrupting processes within companies.”

He cites the example of data scientists with no maritime experience being hired on in shipping companies to redesign the routines of seasoned marine engineers. Another is the sharing of

information that was once the exclusive domain of the captain. “We discuss the new order with captains to calm any fears they might have about losing control over the ship. The captain still has the ultimate authority, but transparency can be scary, when everybody can see everything that is done on board,” he acknowledges.

“We work with them on how they can benefit from changes. For example, on board crew and shore staff often disagree, and they always have done. Now transparency can help resolve those conflicts, because everyone has access to the same data. That in itself is a small revolution.”

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Field adds that all levels of management can benefit from transparency: “Strategic, administrative and operative personnel all have an interest in the same data. It can help improve their planning efficiency, and their efficiency in practice.”

Beyond theory, Palemia Field has a specific goal he hopes digitalisation will help the industry reach: “Whatever we end up doing, I hope that someday we can remove human factors from marine incidents. New technology is enabling us to look at all the elements of a given situation and apply new solutions to old problems.”



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Palemia Field,
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For example, he believes that digital technology can help reduce fatigue among crew. “Computers are good at passive tasks, while humans are better at active tasks that require alert decision-making. Computers can relieve the burden of monotonous tasks, like routine controls or long watches on the bridge.”

That being said, Field is by no means hinting at the autonomous ship. “The intelligent ship is not necessarily unmanned,” he maintains. A more likely scenario has computers aiding humans in what humans do best: “They can help us create environments that are more appropriate for human operators, and they can help prepare us for consequences in a way that humans alone cannot do.”