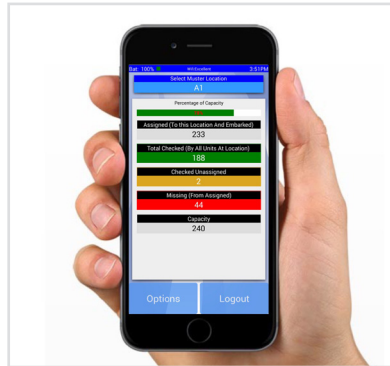


NEXT-GENERATION COMMAND CENTER:

Moving From Prescriptive to Predictive

Next-generation command centers on Royal Caribbean ships will harness advances in technologies spanning data aggregation and display, remote sensing, augmented reality and more to arm captains and officers with real-time, relevant information to make every cruise safer and more comfortable and anticipate issues before they occur.



The forthcoming safety centers surround navigation and safety teams with interactive graphic displays that are continuously updated with information from safety systems, weather forecasts, navigation sensors and other critical data streams. While navigation and safety teams remain separately focused on their specific priorities, in the new command centers all control systems are brought together in a single platform, replacing multiple monitoring and control systems. For safety and navigation teams, that means less time aggregating data, more time to anticipate what it means and take appropriate action.

In addition, information is presented to operators in situation-based contexts. Running a muster drill? Here's what you need to know about progress in getting guests to their assigned stations. Rough weather ahead? Here's a route optimization analysis laying out the best alternative courses for fuel efficiency, maintaining desired itineraries and offering guests smooth, comfortable sailing.

Another feature of new command centers will be the use of augmented reality to assist with navigation and maneuvering. On the bridge of a ship needing to steer through a fog bank to make port, an augmented reality layer will display navigation markers, hazards and other ships that might otherwise be obscured.

The new command centers are also attuned to all-important human factors. That includes everything from making them more ergonomically friendly for operators to enabling seamless communication among onboard decision-makers while enhancing interaction with other vessels and shore-side parties through channels other than radio alone.

Elements of the next generation command center will debut in December 2018 on *Celebrity Edge*, the first in the new Edge Class of ships.



**DATA
AGGREGATION
TECHNOLOGY**



INTERACTIVE
**GRAPHIC
DISPLAYS**
UPDATED WITH
INFORMATION FROM
SAFETY SYSTEMS,
WEATHER FORECASTS,
AND MORE



**AUGMENTED
REALITY**
TO ASSIST WITH
NAVIGATION AND
MANEUVERING