

Making bridge systems easier to use

The Nautical Institute organised an event at Seatrade London looking at the “human element” to bridge systems, with over 40 serving seafarers present. The conference reviewed how to make navigation technology safer and easier to use

Creating navigational technology to offer a more user friendly and effective user interface is no easy task. But it is an issue that the Nautical Institute is keen have aired. This specially organised conference sought to engage actively serving mariners to discuss how such equipment can be designed with the user and his or her needs paramount.

At this, the second such conference organised by the influential institute, the hope was to gain and share knowledge that could promote more effective and efficient use of navigational systems.

The Nautical Institute is publishing a human factors newsletters, sponsored by the classification society Lloyds Register to improve awareness of human element. These newsletters are now available from the website www.he-alert.org.

The debate raised many interesting points and highlighted the concerns of the industry. We have gathered many of the questions and statements made during the debate and reprint them here. Each one is separate and does not reflect the views of Tanker Operator or the Nautical Institute.

"There isn't enough training for shipboard bridge equipment, and the manuals provided by the manufacturers aren't good enough."

"Manufacturers should provide better training for their equipment, which can be made on simulators or onboard ship."

"Navigating ships is a different skill to how it used to be, because of the navigation technology which has been introduced. Seafarer training should focus more on teaching seafarers how to use the technology, and less about traditional navigation skills."

"The sextant is still available on the bridge but no-one knows how to use it anymore."

"We need to standardise electronic bridge equipment, so it is the same on every ship, so it is easier for seafarers to use."

"Can all the ECDIS manufacturers get together and set a common standard for buttons."

"The lighting on the bridge equipment controls does not depend on whether it is day or night. It should be brighter in the daytime and dimmer at night, otherwise it makes it harder to look out of the window."

"There should be a seat for ship pilots on the bridge."

"Statistically, very few ship casualties are caused by misuse of information on the bridge. Most seafarers can handle the information available and know how to use the equipment."

"There are alarms scattered all over the wheelhouse; they all sound the same, so you never know what the alarm is for."

"Integrated bridge systems are safer than bridges made of separate equipment, because they mean that the officers can watch over each other and spot each other's mistakes."

"Sometimes people have "redundant equipment", eg 2 ARPAs on the bridge, but both use the same software, so if one system fails due to the software, the other one fails as well."

"Redundant equipment rarely works as it ought to - you can't just switch the main system off and the redundant one starts up automatically."

"I have seen ships with expensive ECDIS displays, with a GPS from one of the cheapest GPS receivers on the market, which fed the ECDIS with incorrect data."

"Sometimes shipboard GPS can be set with the wrong datum, for example if the ship has just come from the other side of the world."

"The Americans have put in errors in the GPS of up to half a mile during wars, and don't tell anybody, so you get a GPS reading which is half a mile inaccurate."

"The positional accuracy of a pilots' PPO (portable pilot unit) is probably better than the ships in many cases."

"Lots of people use systems not according to the rules. That is why we have so many problems integrating the equipment together."

"The people who decide what equipment to put on a ship haven't been to sea themselves for 10-20 years."

V.Ships

Stephen Kembery, training and planning manager with V.Ships, the largest shipmanager in the world, had some interesting comments.

"We may actually be thinking about completely redesigning the bridge," he said.

"We're having to training seafarers in a different way of thinking."

Mr Kembery pointed out that when seafarers get stressed or overloaded with information, they often go back to first principles, for example taking compass readings from the bridge wing, rather than use the computers.

"Its not that they don't know how to use the equipment - they've just got too much of it," he said.

Mr Kembery asked that manufacturers of bridge equipment work more closely with seafarers to try to make the best possible environment on the bridge.