

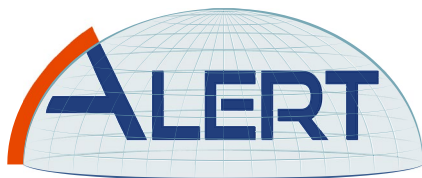
Alert JIP

Safely leaving the navigation bridge unattended for periods of time

The goal of the JIP is to develop a framework for periodically unattended navigation spaces, and to learn whether these periodically unattended navigation spaces improve the safety, working and living situation for the crew on board.

Fatigue due to irregular working and sleeping hours and monotonous (tiring) working conditions are negatively affecting watch standers in most navigation spaces across all oceans and seas. Combined with often excessive working hours when the ship is in port or when the ship transits busy shipping areas, fatigue is frequently the cause of (near) accidents and incidents.

Partly because of these working conditions, well-trained seafarers choose to leave their profession, and this again requires the continuous recruitment and training of new crew members to become part of the ship's operation. This situation causes an additional strain on the onboard operation and is a huge financial burden and an unfortunate waste of well-trained talent.



Potential participants:

- National and international seagoing vessel companies
- Equipment manufacturers and developers
- National and international regulatory authorities
- Nautical educational institutes
- Other interested parties



Radically new approach for navigation bridges

In an effort to address fatigue, the Horizon project (2012) and Martha Project (2013-2016)¹ focused on changing the watch schedules without reducing the total number of hours of watch standing. New watch schedules were implemented but did not significantly improve the conditions on board.

The Alert JIP takes a radically different approach, focusing on periodically unattended navigation spaces without jeopardizing the safe operation.

For several decades, machinery spaces have benefitted from automation systems and 'unattended machinery spaces' designation, to allow machinery spaces to be unattended mostly during the 'dark hours' of the day. Automation systems monitor the technical operation to alert the engineer on duty, when necessary, to any issues needing attention. The set-up of unattended machinery spaces allowed the engineers to dedicate their working hours to the necessary maintenance during the daylight hours and maintain a more favourable and healthier daylight/nighttime sleeping pattern. The Alert JIP will use a similar principle to allow the navigation space to be unattended for periods of time while not jeopardizing the safe operation.

¹ www.Solent.ac.uk/research-innovation-enterprise/research-at-solent/projects-and-awards/martha



Schedule:

- The JIP will run for three years.
- The Alert open meeting will be held during the Vessel Operator Forum in November 2023.
- The kick-off meeting to finalise scope and task assignment is scheduled for Q1 2024.
- Please inform us of your interest.

Partners:

This work will be conducted as a Joint Industry Project to ensure that we have sufficient experience, capabilities, and facilities available.

Results and costs will be shared.

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These periods will not require modifications of existing regulations as we will act in accordance with the IMO guidelines (MSC.1-Circ.1604 item 1.2.2). The guidelines state that trials (to evaluate alternative methods of performing specific functions or satisfying regulatory requirements prescribed by various IMO instruments) should be conducted in such a manner that they provide at least the same degree of safety, security, and protection of the environment as provided by those IMO instruments.

Goal

The results will allow the project partners to establish an industry standard, which subsequently can be submitted as a well-thought-out update of the relevant regulations. At the same time, the foundation could be laid for a follow-up project that aims to extend the conditions for safe unattended navigation spaces.

Scope of work

In the Alert JIP we will work in close cooperation with volunteering seafarers on the following topics:

- Determine which tasks are carried out during navigation bridge watch standing at sea, with priority indication.
- Determine, with input from the consulted crew members, what constitutes safe conditions/situations and benchmark the safety levels. Although it is expected that these will be primarily external conditions (such as weather, sea state, traffic density, and distance to navigational hazards and land) attention should also be paid to issues like cargo, manoeuvrability, size, and speed of the ship.
- Establish the impact of these safe conditions on the reduction of watch standing hours for different operations, for example by using route simulation.
- Create an alerting scheme how best to notify the watch stander that the safe situation or conditions have changed from the pre-set levels using Human Machine Interface (HMI).
- Determine how best building situational awareness with an HMI.
- Verify the technological requirements, conduct a gap analysis with what is already commercially available and establish training requirements.
- The MARIN simulator will be used to confirm the alert scheme and HMI.
- Designated volunteering ship's crew (on board operational ships) will provide feedback on HMI.
- Document the potential impact on (IMO) regulations and responsibility for safety, security, and environmental processes on board.

Deliverables

- Documented framework of safe conditions.
- Document (the technical requirements of) the Alert system and protocols.
- Description of training processes for new technology including HMI.
- Draft of proposed adjustments IMO regulations, including new standards technology.