Safer ships with Artificial Intelligence

*Human error has long been one of the most common culprits for maritime accidents and casualties. SOL-X Chief Executive Officer **Nigel Koh** tells **Samantha Boh** how flagship product SAFEVUE.ai improves crew situational awareness with near real-time visibility of front-line operations.*

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Tell us about SOL-X's core product. How does it work?

SAFEVUE.ai is an industry leading Behavioural Based Safety 4.0 system, centred on human factors. It combines enhanced Control of Work with a holistic approach to crew well-being, enabled by Internet of Things (IoT) and analytics. Our integrated hardware and software solution was designed by our internal maritime experts to meet the unique requirements of high hazard environments.

What drove the establishment of SOL-X?

Our team of maritime and safety experts saw a clear gap in current maritime safety solutions – none of them were effectively addressing human factors, which were causing 66 per cent of maritime incidents and casualties. This presented a big opportunity for us to create impact through IoT and Artificial Intelligence (AI) technology.

What are the challenges facing maritime worker health and safety?

According to the Oil Companies International Marine Forum Human Factors Approach framework, which links human factors with risk management, there are five key challenges:

- Fostering the right safety culture
- Creating well-executed tasks and procedures
- Developing well-designed equipment and controls
- Having the skills to respond to emerging situations
- Learning before and after things go wrong

How does SAFEVUE.ai overcome them?

SAFEVUE.ai addresses Control of Work and crew well-being in several ways. First, it integrates Control of Work software with streamlined step-by-step workflows, data validation and authorised crew sign-offs.

In addition, crew are provided tablets for vessel-wide site permit preparation and risk assessments, while on-board operations dashboards provide near real-time safety operations and workflow monitoring. Crew location can also be easily tracked with Crew Finder and Crew Assist.

Furthermore, an integrated ship-to-shore management platform streamlines digital approvals and communications. This digitised Control of Work data can be used to highlight safety, compliance, and operational excellence leading indicators for continuous improvements.

Ensuring a strong Control of Work is almost dependent on maintaining the physical and mental well-being of the crew conducting their tasks. SAFEVUE.ai helps to proactively manage workload, reducing risk of fatigue and, through connected wearable features, is able to provide situational awareness of nearby risks and help crew monitor their own well-being. This information can then be incorporated into health and safety programmes.

In essence, SAFEVUE.ai ensures the right person is at the right location and at the right time during the course of Control of Work planning and execution. Based on feedback from our customers, they have saved up to 4,600+ man-hours per vessel in a year through our integrated permits and Work-On-The-Go capabilities.

COVID-19 gave rise to the crew change crisis. How can digital safety systems help to resolve such issues?

With extended sailing times during COVID-19, reducing administrative burden through efficient digital workflows can help better manage mental and physical fatigue.

More frequent monitoring of physical well-being through wearable technology can also help to pre-empt serious health conditions before they occur.

How have attitudes towards digitalisation changed within the maritime industry over the past few years?

The digital evolution is shaping the maritime future in every aspect, taking advantage of the design of modern ships and new technologies like machine learning and AI.

About two-thirds of shipping companies have started on their digital journey and are exploring solutions as we speak. Embracing digitalisation entails much more than buying hardware and software. It requires a full vision, from understanding the actual and future needs of a fleet, to creating each step needed to make digitalisation happen. This means digitalising an otherwise paper-based model.

How has SOL-X grown, and what is its vision for the next 5 years?

SOL-X has grown strongly over time, deploying SAFEVUE.ai on vessels around the world. We have already signed agreements with leading ship owners/managers to roll out our solution across their fleets of LNG and oil tankers. Over the coming months, we will launch new and innovative product features that leverage our IoT data and AI capabilities to further our vision to build a safer maritime industry.