

the best possible experience and information to the user. Our research showed that the use of a remote server was vital to emulated data feed as if it was a real vessel. This includes being able to control the volume, the ability to filter out any unwanted surrounding noise, focus on particular machinery, and to be able to *scroll* back in time and look at the data, including audio, from ten hours before. User perceives the simulation as immersive with audio and vibration playing a key role. With the advances of sound techniques, a live audio feed can be analysed and transmitted to a remote location providing a holistic view of the situation. For MASS, the industry needs to invest on how to distribute the cognition overload and new human-computer and human-human challenges of engineers and the possibly multiple engineers working remotely on the same vessel from different remote control centres [18], [19]. We need to develop new and innovate ways in which audio and data can be transmitted from the vessel to the control centre. The presented project is a practical case study on how future real-time audio feeds can be applied to enhance remote operation and engine room diagnostics in the MASS industry.

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