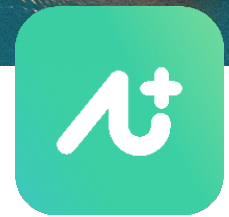


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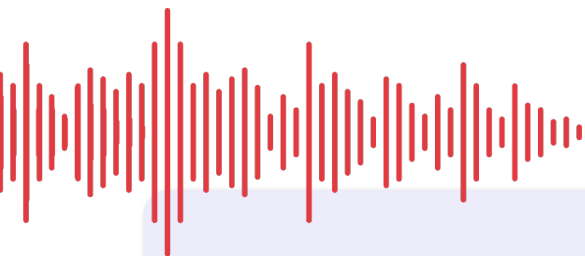
Using human voice to uncover mental wellbeing insights in maritime

audEERING® has collaborated with TORM, Hilo and Safetytech Accelerator to integrate audEERING's AI SoundLab into a pilot project for mental wellbeing insights at sea.



Challenge

Work structures are crucial for both moral and economic purposes in our daily lives. With one in eight individuals experiencing mental health issues, creating supportive and low-risk work environments isn't just beneficial but imperative. Seafarers spending months away from home in isolated settings at sea face immense stress, negative emotions, and isolation due to their restricted environment and limited social connections.



safetytechaccelerator.org

We are the first fully dedicated technology accelerator focused on the unique challenges faced by safety-critical industries and critical infrastructure.

Founded 2018

London, England

11-50 Employees

Background: The maritime industry presents unique challenges, notably impacting the mental wellbeing of seafarers due to extended periods at sea, isolation, and challenging working conditions.

To address these issues, a collaborative effort involving TORM, Hilo, Safetytech Accelerator, and audEERING® embarked on a pioneering pilot study aimed at monitoring and supporting the mental health of seafarers using cutting-edge technology.

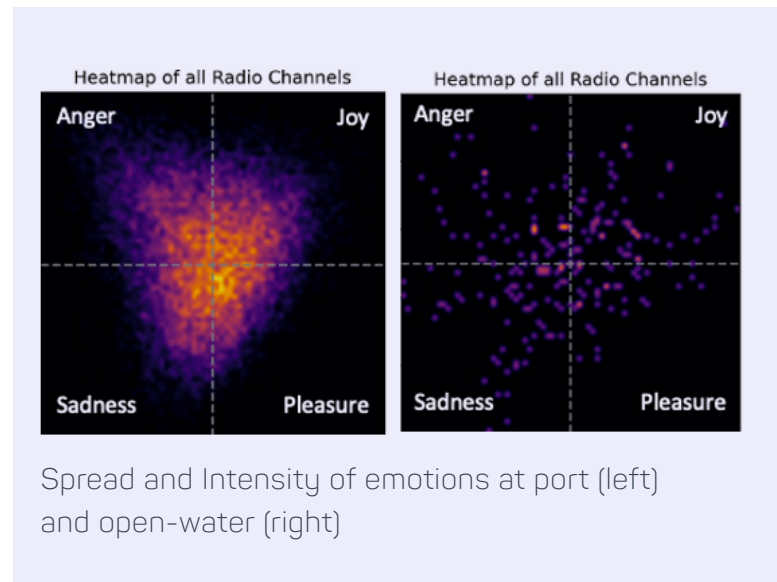


Solution

audEERING's AI SoundLab platform became a pivotal tool in this initiative. The pilot study aimed to leverage audEERING's AI-supported technology to analyze vocal expressions and emotional cues captured in the crew's voices during their maritime journey. The platform's sophisticated algorithms were tasked with analyzing vocal parameters indicative of emotions such as sadness, pleasure, joy and anger and correlating these with ship activity data sourced from Hilo's maritime decision support platform.

Result


Study Framework: Over a three-month period from December 2022 to February 2023, 31 crew members from diverse linguistic backgrounds participated in the study. The recordings included passive background conversations from the ship's Voyage Data Recorder (captured via 6 microphone



channels) and individual recordings from participating seafarers. Surveys, including baseline, daily, weekly, and final assessments, were conducted to gather data on emotional states during different phases of the voyage.

Results and Insights: The preliminary findings showcased the platform's capability to detect varying emotional intensities during different phases of the voyage. Notably, higher emotional variance and intensity were observed during dynamic loading phases compared to calmer open-water periods. Heatmaps revealed stress levels detected during port and open-water activities, indicating potential correlations between ship activities and emotional states.

The study emphasized that audEERING's audio analytics could serve as an effective, anonymous indicator of crew well-being, particularly within specific ship areas like the bridge. While the pilot did not directly mitigate mental health issues, it laid the foundation for quantifying and understanding crew well-being and have the potential in identifying situations where negative sentiments were not previously anticipated.



“ *These technologies have the potential to save lives but their adoption is not just about what the technology can do, it is also and especially about taking human factors into consideration. Real-world pilots such as this one between Hilo, Torm and audEERING are key stepping stones to gaining a better understanding of their potential.* ”

Dr. Maurizio Pilu
Managing Director at Safetytech Accelerator

Conclusion

The collaboration between TORM, Hilo, Safetytech Accelerator, and audEERING® exemplifies the industry's commitment to addressing seafarers' mental health concerns through innovative technological solutions. The application of AI-driven voice analysis provides a promising avenue for continuously monitoring and supporting the mental well-being of seafarers, contributing to a safer, healthier, and more sustainable maritime industry.



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