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SOL-X unlocks valuable data and leading indicators through IIoT to drive operational decision-making

Singapore - 5 September 2022. Oil and gas, chemical and shipping companies face the challenge of obtaining insight from an enormous amount of data to make better, more informed decisions. To enhance operations, improve productivity and workers' safety and well-being, companies need to make sense of these data from the production facilities and connected products. By applying advanced analytics and artificial intelligence, companies in hazardous industries can identify trends and predict events through processes to quickly respond to disruptions, improve efficiencies, and even reduce risks of incidents.

SOL-X's solution, SAFEVUE.ai, addresses industrial safety through smart wearables and AI. It enables efficient and compliant Control Of Work and raises worker situational awareness and improves their well-being. Our integrated hardware and software solution are designed by our industrial safety experts to meet the unique requirements of high hazard environments. We aim to bring about a safer, more productive, and more sustainable world.

"Digital technologies are improving oil and gas, chemical and shipping industries by streamlining processes and creating new frontiers for operations. Our technologies are well suited to boost operational efficiency and bring about a new era of industrial worker safety by addressing human factors, which are the common causes of incidents," Ricardo Puig, CCO of Magellan X.

SAFEVUE.ai consists of two modules, **Control Of Work** and **Crew Protect**. These two modules have been enhanced and new features have been added to further improve worker safety at worksites. Improvements have been made to enhance our customers' experience in using the Office Portal and creating Permits to Work with Smart Forms.

Our reporting and analytics system produces leading indicators and insights for continuous improvement in terms of safety and compliance, operational efficiency, and well-being. The Annex contains illustrations of SAFEVUE.ai's architecture at a worksite and onboard a vessel.

Control Of Work - Safety and Compliance Reports

1) Risk Assessment Insights

After a worker submits a completed permit, the system automatically detects newly added hazards and measures. It then documents them on the Office Portal as a dynamic list. This accelerates the Risk Assessment database collection and updates the process for HSE teams, providing invaluable risk assessment insights and reporting.

2) Permit Archive

All terminated permits are automatically sent to the cloud from the worksite and are archived. All permits can be filtered by worksite, type of worksite, date, and permit type. This accelerates the audit process for HSE and audit teams.

3) Permit Trends

Our Enclosed Space Entry Report contains benchmarking of safety trends. Compliance assurance trends can be observed for permits with location mismatches, missing gas readings in the permits, permits terminated due to unsafe readings or permits without normalization etc. Further details are shown at item 3 of the Annex.

Crew Protect - Well-Being Reports

4) Heat Stress

Workers equipped with SOL-X SmartWatches are provided with timely reminders to hydrate themselves at appropriate levels whenever it is detected that they are in locations with higher risk of having heat stress symptoms.

The introduction of the Heat Stress Report assists office personnel in devising and implementing targeted programs to improve worker well-being. The Heat Stress Report shows a summary of heat exposure alerts experienced by workers.

Analysis is made over time based on worker rank groupings and the locations which triggered such alerts. This brings about operational improvement opportunities for both worker well-being/training and worksite design (heat zones). More details can be found at item 4 of the Annex.

5) Heart Rate Trends

The Heart Rate Report displays the number of High Heart Rate notifications received by workers wearing the SOL-X SmartWatch. The locational and worker-based views give our customers insights into where the physically demanding activities are being performed and who are performing such activities, allowing a targeted approach to implement solutions to improve the well-being of the workers.

The Heart Rate Report also contains a summary of High Heart Rate alerts experienced by workers. Analysis is made over time based on worker rank groupings and location of alerts. This presents operational improvement opportunities for Standard Operating Procedures, training, and communication.

6) Work Rest Hours

The Work Rest Hours Report consolidates data from the work hours recorded by the workers on their SOL-X SmartWatches. The SAFEVUE.ai system captures these recordings and provides rich analytics to show how well the workers are rested.

The Work Rest Hours Report generates a summary of working hours trends and non-compliance by worksite, rank group level based on MLC 2016 recommendations. This allows for intervention and retraining at a worksite level and rank group level and enables improvements in worksite operations through better workload management.

7) Activity Tracking Report

The Activity Tracking Report shows a summary of the average number of steps taken each day where a daily target of 6,000 steps is indicated as a healthy level. There is analysis over time based on worker rank groupings. This helps HSE teams assess general fitness levels and physical workloads/fatigue across teams.

Worker Well-Being Reports bring about numerous benefits such as: i) targeted control measures, such as workload management and recommendations of when personal protective equipment and training are required, for specific workers in relation to heat stress management and hearing conservation; ii) easy identification of heat stress, noise and high hazard zones as key locations that require infrastructure improvements, for example water fountain points, dehumidifier optimization, sound dampeners, etc.; and iii) improved efficacy of worker well-being programs enabled by near real time feedback from worksite to office.

The adoption of digital technologies, such as AI, big data, cloud computing and the Industrial Internet of Things (IIoT) in day-to-day hazardous work operations, is enabling industries to improve productivity and profitability by streamlining operations and cutting costs. These technologies deliver actionable insights for oil and gas, chemicals and shipping assets and help such companies reduce their capital and operating expenditures. There is also a growing emphasis among companies on digitalizing workflows to enhance operational visibility for improved decision making. SAFEVUE.ai enhances existing Safety Management Systems by delivering safety intelligence on the edge.

About SOL-X

SOL-X is a leading IIoT safety technology product brand centered on human factors. Combining deep maritime knowledge with Internet of Things capabilities and predictive Artificial Intelligence, our focus is on improving safety and compliance outcomes, increasing operational productivity, and enhancing workers well-being. SAFEVUE.ai is an industry leading Behavioral Based Safety solution that combines an enhanced Control Of Work with a holistic approach to worker well-being in improving worker health and safety culture.

For more information, please visit https://sol-x.co

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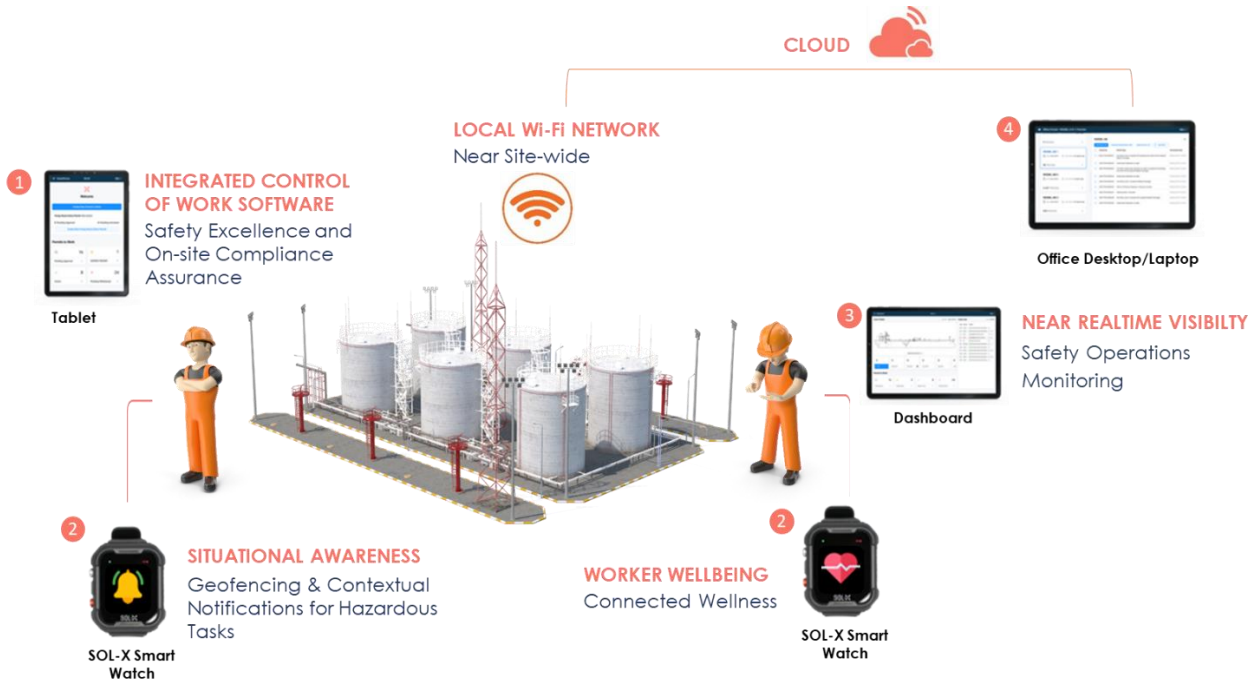
Annex

1. SAFEVUE.ai architecture in an industrial worksite



2. SAFEVUE.ai architecture onboard vessel

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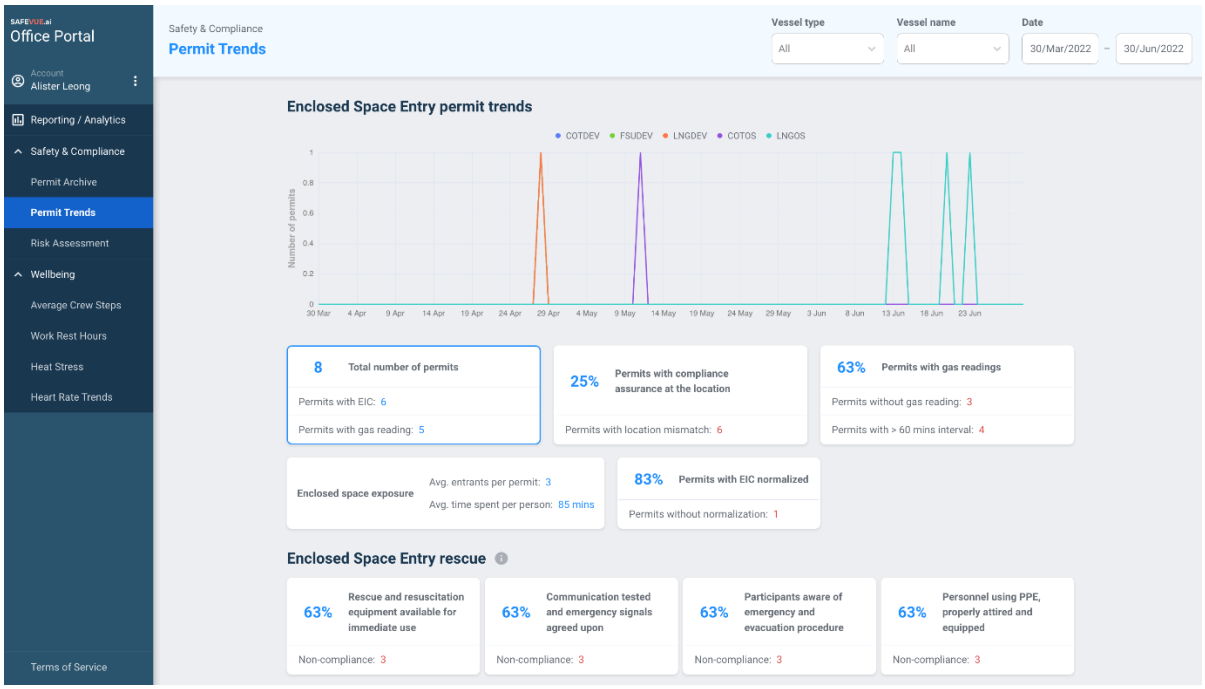
3. Enclosed Space Entry Report



4. Heat Exposure Report