



BY MAGELLAN X | Worker Safety

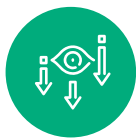
Leading Wastewater Treatment Plant Case Study

Magellan X had the opportunity to collaborate with a leading ESG company that drives ecological transformation, provides their customers with innovative solutions in water, waste and energy, and promotes sustainability and the circular economy. This case study discusses the impact of Magellan X's safety solution which was implemented in the client's wastewater treatment plant that provides services and expertise to meet environmental requirements and converts wastewater for recycling.

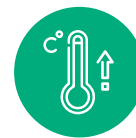
Challenges



Suboptimal overall safety culture at the wastewater treatment plant.



Low operational visibility at the plant with multiple enclosed worksites.



Moderate and high heat stress exposure points.



Lack of lone worker monitoring and wellbeing management.



No control of workflows in terms of compliance between the workers and plant supervisors.



Lack of worker situational awareness for incident prevention and overall safety.

Requirements for a New Digital System



Increases visibility and situational awareness through near real time Virtual Barrier Management (GeoFence) alerts, enabling workers to be aware of hazardous locations.



Provides detailed health and wellbeing data (such as heat stress, heart rate etc.) in near real time for worker management and monitoring.



Provides near real time data on ongoing high-risk tasks with subsequent Permit To Work (PTWs) worker details, improving situational awareness and visibility.



Offers location tracking feature for visibility and monitoring operations in the plant and to assist workers who may face any difficulty or are in need.



Solution

The client chose the SOL-X solution to enhance worker health and wellbeing and improve safety culture at their plant, in order to meet its and its partner's safety KPIs and to facilitate its Lone Worker Policy. Through this solution, the client hopes to achieve operational excellence, enhance risk management, and proactively safeguard their workers especially in remote locations.

Results

Based on requirements from supervisors and workers of the wastewater treatment plant, Magellan X was able to offer the client the SOL-X solution which enabled them to accelerate their sustainability in terms of worker health and wellbeing and safety at work.

Situational Awareness / GeoFence

Testimonials



You can find the workers and know their location if they are using the SmartWatch. There is live location tracking (Worker Finder feature) displayed on the Dashboard.

Engineer



GeoFence alert is especially a useful feature during night time operations and provides enhanced safety to me.

Technician

- The SOL-X Dashboard presents a comprehensive overview of near real time visibility of worker location and Control Of Work operations monitoring, including simulated daily operational activities of employees to improve safety awareness and collaboration. It enhances safety and facilitates operations monitoring of the workers by enabling their supervisor to know their workers' locations using the SOL-X location tracking feature. According to the client, this increases the visibility of the total plant operations. It is also important to the client for swift and precise emergency escalation when a lone worker faces emergency and sends Crew Assist notifications from the SOL-X SmartWatch.
- Provides near real time data on ongoing high-risk tasks within the plant and details of the workers involved in it.
- The workers receive near real time alerts from the SOL-X SmartWatch when they approach GeoFenced areas, allowing these workers to be more situationally aware of the ongoing activities and locations with potential hazards.

Worker Wellbeing

Testimonials



Tracking workers' heart rate is important to know how hard they are working. In addition, workers can also manage their work rest hours. They need to rest so that they will not be fatigued and can continue their work in another work site.

Technician



Crew Assist function is very useful. If anything happens to me in a lone worker situation, I just press the Crew Assist button and my Superior will immediately assist me.

Technician

- Our SOL-X SmartWatch wearable technology enables workers to remain in a fit state through connected wellness features and fatigue management like Heart Rate alerts, Heat Stress monitoring and Work Rest hours tracking.
- The plant workers can measure the ambient heat index with the SOL-X SmartWatch. It enables the workers to monitor the heat index in hot zones in near real time. SOL-X SmartWatch provides exposure-based notifications for proactive measures.
- In addition, the wearable encourages workers to manage fitness with an activity tracking feature that checks the number of steps taken by a worker every day.
- The SmartWatch detected higher incidences of high heart exertions experienced in zones like the Dryer Room where the machinery generates high heat resulting in high temperatures. This gives insights into where Automated External Defibrillator (AED) deployment should be made. Also, the SmartWatch allows the workers to observe their heart rate and review summaries of previous readings to take preventive measures, empowering them to continuously monitor their own wellbeing and take ownership of their personal health during work.

- The SmartWatch allows supervisors to take industry-recommended actions and pre-emptive measures using the report generated on the portal that flagged the number of high heart rate alerts and high heat stress exposure from the data.
- The SmartWatch enhanced worker situational awareness by enabling supervisors to manually set up a virtual GeoFencing zone on the Dashboard. This allows them to monitor workers and deactivate GeoFencing once the work is completed.
- The SmartWatch improved safety and risk management by enabling Crew Assist operations. When a worker needs assistance from a remote work location, a Crew Assist alert is triggered and a near real time location.

What is Next for SOL-X Worker Safety Solution?

There was feedback from the client on the following:

- Introduce additional lone worker features on our SmartWatch.
- View health and wellbeing data on the Dashboard including Heat Index, elevated Heart Rate notifications and more.