WILOC and Saudi Aramco work together to transform safety and productivity in the Saudi energy industry

WILOC is at the forefront of technological advances in the energy industry by collaborating with Saudi Aramco on the integration of the personnel monitoring system for the Tanajib oil complex.

The main focus of the project lies in the use of Bluetooth 5.0 Long Range technology and the creation of a private with GateWays BLE-LR network to establish a comprehensive location monitoring system at the facility.

The solution used throughout the Tanajib oil complex is capable of monitoring a total of 30,000 workers and 1,500 vehicles, providing real-time data on entry and exit points, working hours and specific areas through which personnel pass during their activities by positioning each worker.

In the field of cutting-edge technology, WILOC has set itself up as a pioneer with its recent project, the personnel control system for the Tanajib oil complex. In collaboration with Saudi Aramco, one of the most important national and international players in the energy sector and end customer of the project, together with LeapNetwork, the integrator of the solution, WILOC was able to implement this innovative monitoring system based on Bluetooth Long Range technology and the creation of a private BLE-LR network, which represents a significant leap forward in the monitoring of assets on construction sites and oil complexes.

WILOC's main objective of the project is the use of Bluetooth 5.0 Long Range technology to establish a comprehensive location monitoring system in the facilities. In this particular case, it is the precise tracking of 30,000 workers and 1,500 vehicles in the facilities, although this technology goes beyond the mere function of geolocation, being able to provide real-time data on the entry and exit points to the site, productivity, the specific areas through which the personnel pass during their daily activities, access control to risk areas, etc.

WILOC is able to integrate this technology in devices designed to withstand the extreme environments to which they may be exposed in this type of works, which is one of the crucial elements to ensure the operational efficiency of the project. Another important aspect is that all this is achieved thanks to a battery life of 4 years for the monitoring devices, perfectly aligned with the expected duration of the work. In addition, monitoring also extends to vehicles and areas, recording the entries and exits of both personnel and machinery or any other element, creating a comprehensive record for the management of safety, security and productivity.

Furthermore, all data collected in the field is seamlessly integrated into a dedicated on-premise software platform for HSE and productivity management. In this way, the digitization of the entire process not only ensures accurate data recording, but also facilitates subsequent reporting and in-depth analysis.

Tanajib's personnel control system is also intended to set a precedent in the digitization of this type of industry, which requires quick and efficient changes in terms of safety and productivity. Indeed, the benefits are manifold and include cost savings, thanks to the optimized distribution of manpower, and improved safety measures in workspaces thanks to the integration of tools such as a “panic button” on the devices, which provides workers with quick help in case of need and reduces stress and anxiety in potentially dangerous environments. This is in addition to the real-time data collection function, which enables the identification of risk patterns and facilitates informed decision-making to implement preventive measures and minimize the likelihood of accidents.

As Fernando Blaya, Business Development Director at WILOC, notes, "the integration of the Tanajib personnel monitoring system was not without its challenges. The project required a delicate balance between two functions, namely real-time production control and occupational risk prevention control, all in an environment with no communications coverage and no electrical connections to power the equipment needed to establish the private network. In addition, the success of the project also depended on overcoming the critical challenge of ensuring a four-year battery life for the surveillance devices."

Throughout the entire project, a diverse set of professionals with years of experience behind them were able to work together. From the Project Manager, who managed the entire process, to the Engineer, who was responsible for the development and design of the user interface, to a Platform Architect, who orchestrated the system architecture, and several Backend Engineers, who ensured seamless functionality. The collaborative effort between professionals with such varied expertise was also key to the success of the project.

The Tanajib personnel monitoring system is a testament to WILOC's commitment to innovation and excellence in the field of technology solutions within Saudi Arabia. By undertaking complex challenges and delivering tangible benefits to both customers and the community, WILOC continues to push the boundaries of what is possible in the field of asset monitoring and personnel management within the national energy industry.

About WILOC

WILOC is a world leader in the implementation of cutting-edge solutions for the digitization of processes in different industrial sectors, such as renewable energies, extraction and processing of oil and gas derivatives, construction or traceability of assets and people in smart ports 4.0, contributing to the optimization and reduction of costs. Its solutions, multifunctional, fully scalable and versatile, are aimed at ensuring the safety of workers in all types of industries thanks to its real-time positioning and management of access, entrances, exits and presence; increasing productivity in the renewable energy sector through the digitization of processes; the management and control of assets in warehouses; or the location and management of vehicles and operators in ports. WILOC is currently collaborating with some of the main international engineering projects in markets such as the USA, Saudi Arabia or Singapore, or in different European countries, including Spain. For more information, please visit www.wiloc.com