



Global Oil & Gas Major Optimizes Site Surveillance and Safety with **Acuvate's** Site monitoring Solution

About the customer

The company is a highly diversified energy sector leader known for its global reach and success in oils and petrochemicals. It has a workforce of over 10,000 employees and a presence across integrated gas, upstream, downstream, renewable energy, deep capabilities in R&D, and much more. The company also has a retail presence and is expanding its fuel station network across the globe. With a robust network of B2B and B2C distributors and fully-owned LNG regasification terminals at major port towns, the client is committed to nurturing a vibrant energy ecosystem to accelerate innovation, safety and sustainability, and employee and customer experience in its sector.

The Goal Effective Site Monitoring Across Geographically Diverse Locations for a Seamless and Safe Field Working Environment

The company operates several oil & gas sites all over the world. Effective collaboration, maintaining safety standards, and monitoring activity at each site was an extremely complex process requiring high levels of human resource cost.

The company had some significant safety and efficiency goals ahead of them

1 Uplevelling Site Monitoring Effectiveness and Remote Monitoring Capabilities

The client has multiple sites with thousands of employees working every day. Managing and monitoring such large numbers of workers for productivity and safety manually required high levels of involvement from site managers who spent most of their work hours on monitoring tasks. Checking every site employee's work and safety and tracking progress in real-time on the field was also not possible.



2 Improving Frontline Workers and Site Safety

Accidents can happen at any time, especially in oil & gas sites which are vulnerable to explosions, fires, and human errors. As sites are divided into multiple zones far away from each other, quickly responding to emergencies was not just formidable; it was also often impossible. The company was committed to creating a safe working environment for all its field workers. To make this happen, site safety mechanisms, always-on remote monitoring, and viewability for supervisors were top priorities.

3 Enhancing site and cubicle communication

Fast and efficient communication between multiple employees at different permission levels posed several constraints, especially in terms of safety and productivity. For example, if an SOS alert is triggered for a specific zone, informing all the frontline workers to steer clear of that zone takes time. Manually sending individual messages to every site worker was also not efficient.



Combining the Powers of IoT, UI and Microsoft Stack in Acuvate's Site monitoring Solution

To address site monitoring and communication complexity, Acuvate built an intelligent people localization and site management program – the site monitoring solution. With this application, the customer can create and manage multiple individual sites. Site monitoring also empowers site managers to tackle mission-critical and other incidents on-site with complete visibility and control to improve site safety and efficiency.

Site monitoring has simplified several site-related complexities with the following vital features :

Clear zone definition

Site monitoring allows the company to divide its sites into distinct zones. Site- and zone-level administrators can monitor their areas in real-time. These zones can be further divided into categories to ensure that the right people work on the right requirements in specific locations. The application can also define restricted zones and immediately alert site admins if an unauthorized employee enters such zones.

Unified dashboard-based site supervision

The customer can track the activity of their employees, the changing status of the predefined zones, and even send messages to employees regarding particular zones – all from a single, unified dashboard. The client can easily observe how many field workers are working in a specific zone, check triggered alerts, and take appropriate actions. The ability to supervise all of these activities from one place saves hours every week, cumulatively saving the customer significant human resource and efficiency costs.

Alert monitoring system

Site monitoring is equipped with a sophisticated alert monitoring feature. For example, during a site accident or emergency or if a worker's health deteriorates for any reason, the Blackline system triggers an alert through the Site monitoring app, which the site admin supervises. The site admin can then promptly check the zone that triggered the alert and the type of emergency. The admin then informs the site supervisor about the details of the incident, enabling them to take appropriate action collectively. This guardrails worker and site safety in a watertight manner.

Fast and timely emergency evacuation

Going beyond alerts, if a trigger falls into specific categories requiring evacuation to the nearest muster point, site monitoring allows the site admin to issue an instant evacuation notice to every affected worker. The admin can also monitor which employees have accepted the notification and evacuated to a safe distance. Suppose any employee fails to evacuate to the nearest muster point. In that case, authorized individuals can check the employee's location and other details and take prompt measures to get them to a safe zone immediately.

OUTCOME

Safer, More Efficient Field Working Conditions

The customer has successfully integrated the site monitoring solution into their existing system to meet site monitoring and safety goals. Some of the most notable results follow :

Improved efficiency of site managers, supervisors and administrators

Site monitoring application and its unified dashboard-based site monitoring features have allowed the client's site supervisors and managers to save hours of time and focus on high-value tasks beyond manual, on-field monitoring.



Site-wide quick, timely and appropriate action

With site monitoring, the customer's site leaders are taking faster actions to prevent restricted zone breaches, address incident-triggered alerts, and seamlessly communicate and collaborate with multiple employees in specific zones.

Improved site and worker safety

The ability to take quick action during emergencies and other incidents has enabled the client to take better care of site workers during incidents and evacuate injured or affected workers promptly. As a mission-critical industry with high levels of vulnerability in field locations, the Site monitoring solution helps the customer protect its workers and their safety and well-being more effectively.

The Building Blocks of Site Monitoring

Acuvate has leveraged IoT-based instruments like Blackline and the iOS platform, Microsoft Azure App Service, React.js, Entity Framework, SignalR, and ArcGIS to build the site monitoring application.

The front end of the solution is built with React.js, while the back end is developed using .NET and SQL.

Acuvate also used the Entity Framework to connect .Net and SQL. SignalR tracks database changes in real time, allowing the customer to take swift and accurate action against triggered alerts. For site maps, Acuvate has used ArcGIS.

The Site monitoring solution is hosted on Microsoft Azure and Azure App Service.


Partner With Acuvate To Evolve in a Rapidly Changing Energy Sector Landscape

We are a global player in next-generation digital solutions & services that modernize, automate and transform enterprise applications. With over 16 years of experience, we have been enabling our clients globally to steer their digital transformation strategy using Cloud, Data & AI. We build & develop smart & sustainable solutions to help our customers transform their conventional processes to match the next-generation technological trend.

We specialize in New-age AI solutions, Migration & Modernization, Data & Analytics, Digital Workplace Solutions & have transformed several reputed enterprises globally, including many Fortune 500. With our multi-skilled experts and packaged AI accelerators, we deliver unparalleled efficiencies and accelerate time-to-value for our customers. The goal is to transform the far-sighted majors in traditional sectors like energy into more contemporary, safer, and smarter organizations.



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