

Modernizing Data Gathering and HMI Platform for a Data Van

A fracking company operating a data van to collect data from their fracking equipment was struggling with an outdated, in-house data gathering and HMI platform.

This system was high-maintenance and increasingly difficult to keep up to date. The organization sought to replace the obsolete platform with a more efficient, modern solution to streamline data collection and improve overall performance.



The Challenge. The organization's existing data gathering and HMI platform within the data van was:

- Outdated and hard to maintain.
- Inflexible, as it could not accommodate new or updated data sources.
- Unreliable due to the potential for system failures, leading to data loss.

The Solution. Streamline Control addressed their challenges by implementing Ignition™, a versatile industrial application platform, as their new data gathering and HMI solution. With Ignition integrated into their data van, they were able to leverage MQTT (Message Queuing Telemetry Transport), which was integrated into WITS (Wellsite Information Transfer Specification), to enhance their data collection process. The platform's versatility allowed the organization to build a solution that perfectly fit their data collection requirements.

Ignition was integrated as the data collector and local graphical interface in the data van, while also publishing information to the organization's enterprise system. Key features of the solution included:

- Real-time data collection and processing, with the ability to handle up to 50,000 calculations per second.
- Customizable and user-friendly HMI interface that allowed operators to easily monitor and control the data van's systems.
- Improved data reliability and security through Ignition's built-in redundancy and data backup features.
- Seamless integration with the organization's existing enterprise system, allowing for efficient data sharing across the organization.

Implementation. Streamline started by conducting a thorough analysis of the existing data gathering and HMI platform to identify its limitations and areas for improvement. Next, a detailed plan was developed for implementing Ignition as the new solution. This plan included:

- Evaluating hardware and software requirements for the new system.
- Designing the HMI interface to meet the organization's specific needs.
- Testing the system's performance and reliability to ensure it met the required benchmarks.
- Training data van operators and relevant personnel on how to use the new system.
- Monitoring and refining the system after implementation to ensure optimal performance.

Results. By using Ignition, MQTT and WITS, the organization achieved the following benefits:

- **Real-time Data Collection:** The integration of MQTT allowed for efficient and real-time data collection from the fracking equipment. This enabled engineers to receive immediate and up-to-date information about the fracking process.
- **Versatile Data Acquisition:** The organization leveraged WITS, integrated with MQTT, to gather data from various sources and adapt to changing data requirements. The platform's versatility enabled them to accommodate new or updated data sources, ensuring a comprehensive view of the fracking process.
- **Improved Efficiency:** The combination of MQTT and WITS provided a streamlined and efficient data collection process. With the ability to handle up to 50,000 calculations per second, the organization experienced fast data processing speeds, allowing engineers to access real-time information promptly.
- **Enhanced Monitoring and Control:** The organization benefited from a user-friendly HMI provided by Ignition. This interface facilitated easy monitoring and control of the data van's systems, empowering operators to effectively manage and respond to the fracking process in real-time.
- **Data Reliability and Security:** Ignition offered built-in redundancy and data backup features, ensuring improved data reliability, and minimizing the risk of data loss. This heightened level of security enabled the organization to trust the integrity and availability of their valuable data.

Overall, the implementation of Ignition, combined with MQTT and WITS integration, significantly transformed the organization's data gathering and HMI platform. It led to more efficient data collection, improved real-time monitoring, enhanced data reliability, and facilitated seamless integration with their enterprise system. By modernizing their data collection platform, the organization achieved higher operational performance from their data van operations.