



CASE STUDY · CRAWLER & INVISYNE

Scaling Predictive Maintenance Across 150+ Hydrogen Refueling Stations

Maximator Hydrogen operates high-pressure hydrogen test and production equipment, including electrolyzers, compressors, and test benches, across a growing network of refueling stations. As the network grew, maintaining visibility into machine behavior at every site became more difficult.

The Challenge

Without a connected system capturing what was happening at each station, troubleshooting remained reactive: issues surfaced only after they appeared, operational knowledge stayed with whoever was on-site, and there was no structured way to compare performance across stations or catch problems before downtime.

For a network built around high-pressure equipment and public refueling infrastructure, that reactive model carried more risk than a typical facility because unplanned downtime cost production and took stations offline for customers depending on them.

The Solution

Maximator Hydrogen's systems use Invisyne to capture machine behavior across electrolyzers, compressors, and test benches, building a continuous operational memory from commissioning onward instead of starting fresh with each deployment. This approach scaled with their network, and Invisyne now runs across more than 150 stations throughout Germany, each feeding into the same connected view rather than operating as isolated systems.

Built on CRAWLER's open, modular platform, the solution allowed Maximator to create customer-specific functions, including tailored maintenance plans for wear parts and remote access, without vendor lock-in or the silos caused by juggling separate systems for each function.

Real-time data acquisition, logging, and graphical reporting powered Maximator's cloud solution and dashboards. Intuitive interfaces and fast root-cause analysis supported their internal product development and 24/7 helpdesk operations.

The Results

The deployment delivered a documented 30% reduction in downtime, achieved through predictive insights and immediate remote intervention instead of waiting for a technician to diagnose issues on-site after the fact.

Beyond that headline number, the system gave Maximator faster root-cause analysis, the ability to preserve operational know-how independent of personnel changes, and the capacity to analyze machine behavior over time and compare processes across their full network of stations.

30%

**Reduction in
downtime**

What started as a reactive maintenance model became a predictive, data-driven one, turning Invisyne into the foundation for a more profitable, scalable service strategy across the business.