CORLINA

Hitachi High-Tech — CASE STUDY

Smart Factory as a Service

Developing a **connected shared factory infrastructure** for overseas production.

ABOUT THE COMPANY

The Hitachi High-Tech Group has developed a global business in the segments of Science & Medical Systems, Electronic Device Systems, Industrial Systems, and Advanced Industrial Products with the mission of supporting their customers in becoming fast-moving, cutting-edge businesses.

HHT emphasizes value creation through full value-chain solutions.

Executive Summary

In 2017, Hitachi High-Tech launched a field trial of their Smart Factory project, hoping to prove out their thesis that a manufacturing facility could be built and managed remotely in order for Japanese companies to benefit from the market presence and reduced costs of manufacturing outside Japan. Through the planning stages and now into ongoing production, Corlina has partnered with Hitachi High-Tech to help them meet their goals of remote device management and operation. The Corlina solution allows Hitachi High-Tech to "see" all the IoT devices in the factory and manage them from their headquarters in Japan.

Challenges

As HHT designed its Smart Factory location, they planned to enable remote monitoring by deploying cutting-edge IoT technology, such as the latest multiple viewpoint cameras and advanced image compression systems. They realized, too, that they would need to be able to validate that they were receiving reliable information to have a complete view of the manufacturing activities at each workstation in the Thailand factory. The information would be transferred to and stored in the Cloud so that the line managers in Japan would have full control over the quality of manufacturing.

> Corlina has been instrumental in helping us achieve our objectives for our Smart Factory Field Trial, particularly our goals for remote monitoring from Japan.
>
> As we move forward to build out our complete SFaaS infrastructure, we'll continue to rely on Corlina to provide us with the visibility we need into our factory operations on a continuous basis.

Yo Nakajima

Chief Business Architect for Hitachi High-Tech

ABOUT THE SOLUTION

The Corlina solution was deployed at Hitachi via Corlina AuDiO™ software running on an Intel® NUC. The AuDiO solution enables automatic device detection and installation of the Corlina Technology (CT™) on compatible devices. The CT module runs on Intel® X86 based servers, and gateways using processors including Intel® Core™, Intel® Xeon®, Intel® Pentium®, and Intel® Atom.

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If they weren't able to guarantee stable video data, they would be unable to achieve their objectives for remote management of the facility.

HHT would need to be able to understand whether the camera equipment was performing reliably and that all the units were dependably connecting to the network. With about 100 wireless cameras in the test factory alone, this would be a massive task without an automated solution. Beyond device operation and connectivity, they would also need to be able to monitor the full data path from the device to the Cloud so they could pinpoint any issues quickly.

How Corlina Helped

Hitachi High-Tech came to Corlina to understand whether our technology could help. Corlina went into the factory and worked jointly with HHT to deploy our CT software module on all the connected devices in the manufacturing environment, not just cameras but also sensors, using our on-premise control software, Corlina AuDiO™, to rapidly discover and onboard the hundreds of devices. Within minutes, the status of all the connected devices on the factory floor was visible in the Corlina Dashboard.

HHT then began configuration testing their design. Almost immediately, they did experience difficulty with their video data, and Corlina was able to precisely identify in real time that some of the wirelessly connected cameras had issues with signal strength when measured from the device. Corlina was able to identify that the source of the problem was the WiFi network, not a camera malfunctioning, and not poor WAN or Internet connectivity to the Cloud. This enabled HHT to rework their wireless configuration which completely removed the signal strength issues.

As Hitachi High-Tech transitioned into full scale production of their Smart Factory operations, they have continued to rely on Corlina. Through use of the Corlina Dashboard, operators can quickly see which devices in the factory are transmitting data and which are offline.

The ultimate benefit? HHT has data reliability, whether it's video data for workflow or process optimization, or sensor data for analytics.

Results

The Hitachi High-Tech Smart Factory Field Trial has been able to move forward quickly, optimizing its design in just weeks instead of months. As production has shifted into full operation, HHT has experienced no measurable downtime of their connected system and has successfully monitored manufacturing from Japan.

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