

The Connected Journey

Wipro helped ESAB, a Swedish industrial manufacturing company; realize its 'connected' vision, leading to improvement in time-to-market.

Client background

ESAB is a leading manufacturer of welding and cutting equipment as well as other mechanized cutting and automation tools. It serves a range of industries including power generation, automotive, shipbuilding, transport and mobile machinery. ESAB has 26 manufacturing facilities across four continents and has employee strength of more than 8,700. The group, owned by Colfax Corporation, has a presence in Europe, the Americas, and Asia Pacific.

Industry landscape

New technologies have brought manufacturing to the threshold of a revolution. IoT, as an innovative technology, offers the manufacturing sector unprecedented scope to automate processes, improve productivity and create great customer experiences. Today's future-focused manufacturers leverage technologies based on IoT to achieve visibility at each step of the production process and enable transformation of their businesses.

The opportunity

ESAB's vision is to enable data-driven decision-making for manufacturers of welding and cutting equipment and consumables. To realize this vision, ESAB sought a technological transformation of their entire global operations as their machines were not connected and processes were manually recorded. The need was to enable connectivity of the welding equipment to enhance visibility, optimize service operations and offer additional services and functions to ESAB customers.

ESAB wanted a connected environment that would enable it to:

- Collect information on the equipment health parameters, usage pattern, status of consumables
- Push the data to the Cloud to integrate with enterprise IT

The first step towards achieving this vision was to enable their product range to connect to WeldCloud™, ESAB's online data management platform. WeldCloud™ allows enterprises and welding services companies to better track, monitor and optimize the performance of their welding equipment and the welding process.

Solution Wipro played a key role in enabling connectivity through IoT solution design & development, and integration & support capabilities.

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The activities included:

- Selection of the communication hardware module for the gateway between welding machines and the enterprise IT
- Detailed mounting plan of the module to the welding equipment
- Designed and developed the architecture and blueprint for their communication module, which would:
 - Collect the welding data for each weld session
 - Parse logic for the data
 - Read barcode / QR code data using bluetooth scanner for various parts, consumables and welding instructions
 - Read GPS coordinates that would enable track and trace
 - Act in case of connectivity failure: Data persistence
 - Secure transmission of data using Wi-Fi and 3G
 - Provide cloud connectivity through MQTT lightweight protocol
 - Enable two-way communication for FOTA and remote access
 - Enable auto switching among Wi-Fi, LAN and cellular based on user choice and signal strength for connecting the welding machine
- Developed end-to-end testing of the system
- Support Integration of manufacturing lines onto the platform

Business impact

As an end-to-end partner, Wipro brought in niche technology capabilities enabling ESAB's product range to connect to WeldCloud™. Data was pushed to the cloud to integrate with the enterprise IT. The connected equipment enhanced visibility, optimized service operations and expanded services and functions to customers.

We helped:

- Improve ESAB's time to market by 40%
- Improve visibility of machine health, usage pattern and availability
- Reduce costs and increase revenue
- Increase productivity
- Add business value by helping launch the connected product at Fabtech 2015

Paramount to success in IIoT is building and leveraging a leading eco-system of partners. Wipro has been a valuable and symbiotic partner for ESAB - from shaping the strategy to driving fast execution. I see ESAB's deep partnership with Wipro as a competitive advantage, which will drive significant value for both parties, going forward.

Anders Lindh,

Director of Corporate Strategy,
Head of Data Driven Services, ESAB

About Wipro

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