

# PAC Innovation Register

## Case Study



ESAB Welding & Cutting GmbH

## Helping ESAB Realize an IoT Connected Vision



**wipro** digital



## THE CUSTOMER: ESAB, MANUFACTURER OF WELDING GOODS

ESAB is a world leader in the production of welding and cutting equipment and consumables. The company offers a world of products and solutions for virtually every welding and cutting process and application. ESAB serves industries including among others automotive, power generation, ship building and offshore, transport and mobility machinery. Sales and support is established in 80 countries and there are 26 manufacturing plants across four continents. ESAB has more than 8,700 employees.

Project background: ESAB aimed at a technological transformation of their entire global operations. Prior to the project, machines that left production for client supply had not been connected. The status and parameters of equipment and the types of consumable used in processes were manually recorded. Below the line, neither ESAB nor its clients had a central overview of the current machine condition.

## CASE FOR ACTION

- **No online connection machines**
- **Missing central view on the status quo of distributed production facilities**
- **Parameters set on machines could not be controlled centrally**
- **Information on types of consumable were manually recorded**

## THE SOLUTION

- **Machines are equipped with two-way-connectivity modules**
- **Just-in-time inventory and tracking through integrated GPS**
- **Data is stored in ESAB's global Weld Cloud**
- **Weld Cloud is integrated with the enterprise IT**

## THE PROJECT: CONNECT ESAB PRODUCTS WITH WELD CLOUD

ESAB partnered with Wipro Digital to implement a connected vision. Connectivity technologies like 3G, Wi-Fi and Ethernet connect ESAB products with the company's Weld Cloud. The solution allows enterprises and welding services companies to better track, monitor and optimize the performance of their welding equipment and the welding process. The solution can also push settings to machines.

The project helped ESAB reach the main digital goals, such as: providing a platform to connect distributed ESAB products to a central portal and building a foundation for data-driven decision-making.

## PROJECT DESCRIPTION

The focal point of the project was to connect welding device and machines to the Weld Cloud. Therefore a powerful and appropriate communication hardware module was selected to provide a seamless gateway between the enterprise IT and its machines. Wipro Digital developed the mounting plan of the module as well as software that would collect data for equipment sessions and parse logic to make the data actionable.

Barcode and GPS technology was implemented for inventory and supply chain tracking. Communications and security were improved with secure transmission of data via Wi-Fi and 3G, cloud connectivity through MQTT lightweight protocols and two-way communication for firmware updates (FOTA) and remote access. Auto-switching enabled various communication technologies employed by users (Wi-Fi versus LAN, etc.). Additionally, data persistence was implemented in case of connectivity failure.

***“Helping ESAB with their digital journey was made easier by their foresight and openness to share their business challenges and goals. This really was a combined team effort and a partnership between ESAB and Wipro in the true sense.”***

Alan Atkins, VP and Global Head of IoT, Wipro

## CUSTOMER BENEFITS

The digitization project has enhanced ESAB's business model from selling products to selling services as well. The connected equipment enhances visibility, optimizes service operations and expands services and functions to customers. It also allows the company to collect information on the equipment's health parameters, usage pattern and status of consumables. Data is pushed to the cloud. The solution is integrated with ESAB's enterprise IT.

The company was able to increase productivity and quality, as well as better use its working capital. Time to market was improved by 40%, thus creating a competitive edge.

Most importantly, ESAB expects that this strategic initiative will be a source of competitive differentiation while reducing costs and increasing revenues.

***“Paramount to success in IoT 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, at ESAB



# Case Study: Helping ESAB Realize an IoT Connected Vision

## ESAB Welding & Cutting GmbH



### CATEGORIZATION

<b>Sector</b>	Manufacturing	
<b>Subject</b>	IoT; predictive maintenance; smart services; Industry 4.0	
<b>Project status</b>	Closed	
<b>Project duration</b>	n/a	
<b>Technologies used</b>	IoT, cloud, sensors, mobility, GPS, RFID, M2M	
<b>Region</b>	Global	
<b>Partner</b>	Wipro Digital	

### PAC'S ASSESSMENT

**Relevance** ★★★★★

**Maturity** ★★★★★

**PAC's comments**

Very good relevance (an example of good practice within a specific region or industry)  
The ESAB case clearly illustrates the potential of machine networking: it offers both ESAB and customers access to the latest data of welding equipment. For users, the data can be important to improve the utilization and deployment planning. ESAB itself increases customer loyalty. Additionally new services such as a central cockpit can be designed around the Weld cloud. The analysis of data from many can improve product quality. The project has built the technical basis for such improvements.

**Explanation:**

Relevance ★ = Concept is good with room for development ★★ = Interesting for a special, limited target group ★★★ = Excellent example for a specific region or sector  
★★★★ = Best practice for a region or sector ★★★★★ = Globally applicable best-practice example  
Maturity ★ = Data – generate ★★ = Data – process ★★★ = Analytics – dashboard ★★★★ = Analytics – action ★★★★★ = Business case – improvement ★★★★★★ = Business case – disruptive

### CONTACT

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ABOUT THE INNOVATION REGISTER FROM PAC – A CXP GROUP COMPANY

Industry 4.0 and the Internet of Things are generating a good deal of interest. Numerous companies appreciate the relevance of these topics and want to know more. As well as trend studies and academic research papers that discuss the potential of these technologies, companies want real-life case studies that are related to their specific situation and business challenges. Positive case studies can provide value by serving as best practice in order to avoid pitfalls.

The Innovation Register provides companies with business case studies and provider data on Industry 4.0 or the Internet of Things. Users can access case studies related to their specific industry and situation, which can be used as best practice. Further, users are given detailed information on the capabilities of potential IT or engineering partners in their respective industry. Every capability shown in the database can be found in the offerings of a selected group of companies, based on PAC's research or on the self-assessments provided.