University Duisburg Launches NectOne for IoT Research

NectOne

Industry 4.0 and smart, connected products are a reality that's changing the way business intelligence systems are being used to identify and understand how data can be used to drive business value. As a result, manufacturing companies are going through strategic and organizational transformation in order to deliver next generation products with enhanced capabilities that utilize new data about product function, environment and use. This single concept offers a view into the value chain of a manufacturing company.

How well a manufacturing company functions will dramatically change everything from product development to IT, manufacturing, logistics, marketing, sales, and after-sale service. The nature of the people, the skills and how they work together inside the company is also impacted. It's safe to say we are at the start of another industrial revolution, and NectOne, a company focused on developing IoT systems, is helping companies to prepare, adapt, and thrive in this new economic age.

The NectOne Experience

The vision and inspiration behind NectOne is Sebastian Feldmann, founder and CEO. Mr. Feldmann decided to develop this company from his position as the Chair of Mechatronics at the University of Duisburg-Essen. He was determined to start his own business after collecting prior experience from participating in business management contests organized by the university, followed by his first experiences as a freelancer for Business Intelligence Systems and a PhD in Mechatronics. The key factor for founding NectOne was winning the Adesso Mobile Solutions 2015 award with his concept of transferring image data into the cloud and process them there.

What makes NectOne different from other companies is they are doing this with five geographically distributed employees who are recent graduates with mechanical and industrial engineering degrees. This start-up model offers them freedom in development and managing their time while also working on other projects. Additionally, the staff are given early responsibility of important projects, enabling them to gain practical experience in state of the art technology.

Manufacturers with individual systems understand how difficult it can be to build and use intelligent structures between their systems. In order for IoT to become fully operationalized, the devices and the data they generate, along with logic rules governing how the data is handled and what actions are driven, must be integrated into existing business systems and processes. In fact, many of the data sources as well as connected systems may be external to the business. This systems integration work can be complex and difficult to manage, but is vital to achieving business objectives. The final goal is to deliver cloud base production control.

> We fill the gap between the IoT-platform ThingWorx and the middle class shop floor of industrial companies."

Sebastian Feldmann
CEO, NectOne

Internet of Things: ThingWorx and NectOne

To address this challenge, NectOne developed a system that spans the tool chain lifecycle from the mobile application (a type of application software designed to run on a mobile device, such as a smartphone or tablet computer) over ThingWorx (an IoT-development platform) and finally to the mechatronic parts. NectOne systems also supports communication security, real-time control, availability, and sensor performance, and data analytics. Additionally, they develop specific interfaces to implement a wide range of hardware.

The NectOne IoT-product-ecosystem includes industry-ready hardware-controllers like the NectTronic IoT-Connector M101, the modular tough real-time controller IoT-Connector-XL and the smart connected industrial robot XR101. ThingWorx is used to connect and control the robot by mobile devices or for teaching in the motion trajectory. By choosing popular industrial interfaces they enable companies under use of their certified hardware to deploy the IoT strategy in shortest time.

The ThingWorx platform provides the technology to integrate complex systems in shortest time over the complete industrial tool chain. In addition, the ThingWorx Community provides support and makes it easy to develop and the local PTC offices provides outstanding support that helped them to reach their goals.

> “Our projects reach from capturing data of solar cells to improve the efficiency to capturing and process data direct out of the production process to monitor cycle times or malfunctions.”
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> Sebastian Feldmann

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