



Cognitive Manufacturing and the NEXT Factory

Powered by Connected Intelligence Suite

Digileum Inc.

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With the explosive growth of data in today's modern factory, how to view and manage the factory floor, the machines, and the day-to-day operation is rapidly evolving. As digitalization of the industry continues, more and more factories, machines, and processes are now networked to enable a "next factory" to run on connected intelligence. Early adopters of digital innovations are now moving ahead to cognitive computing capabilities, enabling analytics to drive instrumented, integrated, and automated factories for improved productivity, quality, and reliability of manufactured products.

This new era of manufacturing known as Industry 4.0, started in 2011 in Germany, and today many of that country's leading industrial companies are rapidly accelerating the value chain of cognitive manufacturing. Investments in key technologies such as advanced robotics and Artificial Intelligence (AI), Sensors for Data Capture, the Internet of Things (IOT), and Advanced Analytics have set forth the data foundations and the connected intelligence application opportunities. Industry leaders are driving a new era of self-monitoring systems, predictive analytics, and workflow automation.

Factors Driving Industry 4.0 and the Next Factory

- **Internet of Things (IOT):** A networked ecosystem of physical objects, environments, vehicles and machines through embedded electronic devices that allow the collection and data exchange. Systems that operate on the Internet of Things with embedded sensors and actuators to enable Cyber-physical systems, and are the basis of Industry 4.0.
- **Big Data Analytics:** The process of examining the large data sets collected from IOT derived data combined with enterprise data to uncover hidden patterns, unknown correlations, and insights to drive predictions and discovery of useful business information.
- **Platform Availability and Security:** A new generation of cloud based, application services are driving this next industrial revolution, providing increased availability, security and robustness of information systems. Industrial information systems are essential to protect the company's know-how contained in process control files while at the same time enabling the transmission of machine-to-machine, IOT, and enterprise systems communications.

Digileum and "Connected Intelligence"

In partnership and collaboration with CEOs and business executives of leading, global manufacturers, Digileum has developed an IOT based "Connected Intelligence Suite" to support Industry 4.0 adoption. Digileum has amassed a portfolio of use cases to address key industry business drivers, and has the refined roadmaps/frameworks to enable a pathway for continuous business improvement via cognitive manufacturing.

Powered by IBM Bluemix and IBM Watson, the Connected Intelligence Suite enables the integration of data of legacy and new machines, sensors, and devices for complete visibility of the plant floor, the supply chain, and the products in the field. Improved instrumentation and intelligence provide insights to reduce unplanned asset downtime and to enable preventative and predictive maintenance. Furthermore, improvements in quality, first pass yield, and scrap optimization contribute to greater profitability.

The Connected Intelligence Suite provides the core analytics and operational console for business leadership, plant management, and other key operators to work in concert. This solution is designed to integrate an organization's IOT data ecosystem with Big Data/Advanced Analytics as well as existing enterprise systems such as ERP and CRM.

As manufacturers expand their information assets and cognitive capabilities, they are also able to explore new services and revenue streams such as connected field services and asset tracking. Improvements in customer service and product performance in the field can also enhance the customer experience and improve customer retention.

The CONNECTED INTELLIGENCE IMPACT to the NEXT FACTORY

- 1. Improve operational efficiency (OEE) and utilization**
- 2. Optimize quality of production**
- 3. Reduce downtime of equipment by predictive maintenance**
- 4. Reduce maintenance time and cost by remote monitoring of machines**
- 5. Provide real time visibility via dashboards and reports of production**
- 6. Digitize audit and compliance checks**
- 7. Go completely paperless at the shop floor**
- 8. Enable a multi-device, advanced analytics portal**

To facilitate the adoption of cognitive manufacturing and to advance along the value chain of Industry 4.0, Digileum has developed a clear and consistent path to support our customer implementations-- a step-by-step approach that has proven successful for the Industrial IOT implementations across multiple clients in various sectors of manufacturing. We have provided services and solutions to enable Industry 4.0 capabilities for Auto, Aero, Hi-Tech, Electronics, CPG, Medical Devices, Pharma, Textiles, Chocolates, Food, and Paint production.

Our portfolio includes adapters, hardware modules, and solution accelerators for connectivity of CNC, PLC, Sensors, and Gateways. Digileum is also an embedded solution partner of IBM, where we leverage IBM Artificial Intelligence and Cloud technologies to deliver world class solutions for our clients.

Manufacturing Advisory Services

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“IOT Craft” —Our proven assessment methodology and framework enables clients to optimize investments to achieve immediate business value and to define a roadmap for continuous financial returns

Typical Introductory Engagements within 8-12 weeks

Crafting and Minting Next Factory Solutions

Industry expertise at connecting both legacy and new machines

Real-time data processing and scalability

Over 35 Proven Use Cases

A portfolio of customizable reports

Mobile Dashboards

On-premise and cloud deployments

Enterprise integration (ERP) (CRM)

A one-stop shop for digital and IOT

