Visteon IIoT Analytics Pilot Saves Plant Money with Expansion Underway

Visteon is a tier-one automotive supplier focused on cockpit electronics, a subsegment of the industry with fast moving technology and stringent safety requirements. It's also an area that makes a large and lasting impression on the customer. Automakers expect their manufacturing suppliers to reliably deliver high-quality parts at low prices so there is little margin for error. Complicating this is Visteon's global presence with manufacturing plants throughout the world and employees in eighteen different countries, making seamless collaboration and real-time responsiveness challenging to accomplish.

Creating Business Value

In order to solve these manufacturing challenges and drive value throughout its business, Visteon decided to invest in new analytics capabilities with Incite. Jeff Degroot, Director of IT, spearheaded a key program to create business tools that can be used every day. Having spent more than a decade as a consultant before joining Visteon, Jeff knew straight away when he discovered Incite that this analytics company could be helpful. "It was obvious to me that Incite has a unique approach to analytics," he explains. "They understand how to get to the root of a problem and how to manage organizational dynamics in order to affect change."

Through extensive dialog between Incite and various Visteon functions such as manufacturing, business, and IT, the team identified three challenges to solve for a pilot project: globally standardizing, quantifying, and visualizing cycle time, improving quality control, and generating lifecycle traceability data for parts.

SOLUTION OUTCOMES

> Standardized manufacturing data sources for access to globally diverse plant machines

> Realtime dashboards with intuitive visualizations of key plant metrics for controlling cycle times

> Predictive maintenance to keep expensive and critical machines maximally operational

> Alerts to technicians as soon as problems occur to reduce the number of scrapped components

> Cataloged components and touch points for each part to guarantee precise traceability and risk reduction
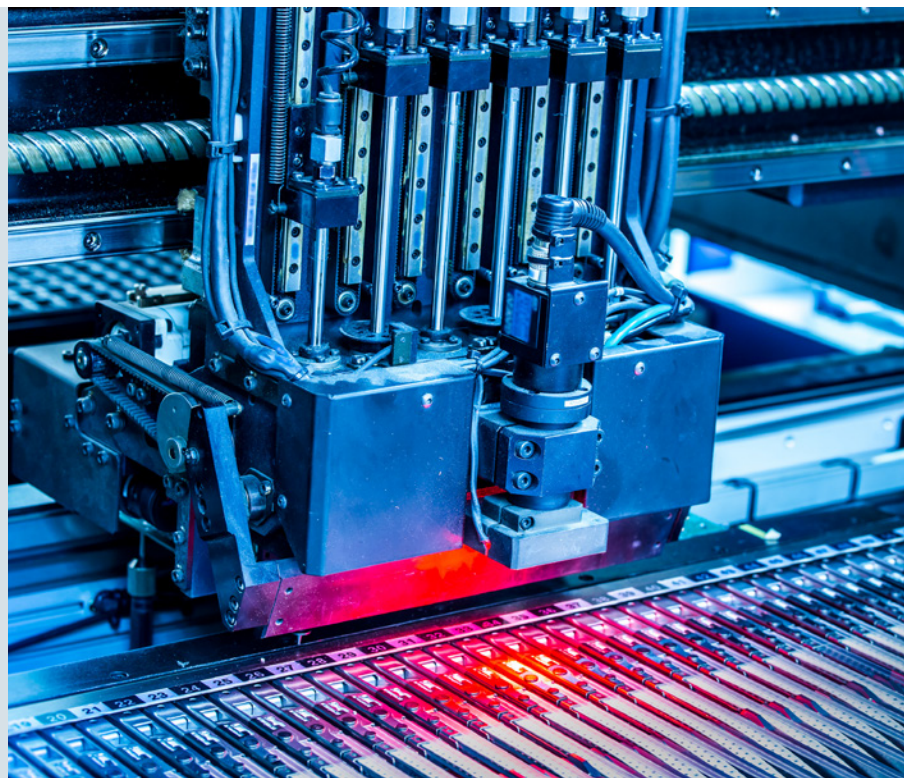
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REAL-TIME ANALYTICS FOUNDATION

As a starting place for Visteon's improved manufacturing analytics, Incite created a cloud platform that could collect and process machine data from manufacturing plants across the globe. The first pieces of equipment in the pilot project were pick-and-place machines for building cockpit electronics boards. Incite created a standard language to translate data from these machines with different manufacturers and formats, in order to acquire a continuous stream of IIoT data. Jeff says of Incite's technical aptitude: "Their understanding of data and technology is very specialized; they make it simple to acquire diverse data sources without machine downtime, allowing us to control and contain most risks." Thanks to the new analytics platform, the uniform IIoT data stream now allows both plant operators and business leaders to see what their machines are doing, globally, in real time for the very first time.

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CAREFULLY CONTROLLING MANUFACTURING CYCLE TIME

One of the most important metrics a plant can track is cycle time, the amount of time required for a part to make it completely through a manufacturing process. This provides a view of the plant's efficiency and helps describe the plant's capacity and ability to deliver in volume. It also supports just-in-time manufacturing, the ability to order raw materials exactly when needed without having surplus waiting on loading docks or missing parts stalling production lines. Visteon previously calculated cycle time manually and so was only able to measure after-the-fact performance. Visteon's new analytics tools include real-time alerts as well as dashboards that give Visteon rich, intuitive summaries to view cycle time instantaneously, allowing them to deliver the right number of units at the right time and avoid hefty OEM penalties for over or under delivering.

KEEPING AHEAD OF QUALITY CONTROL

Because data from machines in Visteon plants around the world is now being gathered and analyzed by their new analytics platform, technicians are immediately alerted to production malfunctions as soon as they occur. Also, critically, the platform identifies patterns in the data such as part-placement drift or other serviceability indicators and provides guidance for predictive maintenance, ensuring Visteon's expensive and critical machines are kept maximally operational. Visteon estimates a large annual savings from their analytics platform at their pilot-project plant in Portugal. "The results have been so positive," Jeff says. "We're working toward a second phase where we'll have alerts sent to managers when particular quality metrics drop below certain thresholds so we can further improve our ROI."

Visteon's analytics platform gives plant managers instant health stats of each line and machine.

Visteon's executive insights panel lets business leaders see global operations at a glance.

SUPPORTING MANUFACTURING TRACEABILITY

Automotive parts manufacturers like Visteon must be able to track the entire lifecycle of each part—the plant it was built in, where the source materials came from, and the exact machines and individuals who interacted with it. "Before, data was decentralized and plant-specific," Jeff explains. "For someone in a central logistics or manufacturing role, it was nearly impossible to look at traceability across a region or the globe."

All that has changed with the new platform from Incite. Visteon can now view its traceability data in a single, central, and standardized way and precisely identify which parts may have had a manufacturing defect by tracing back to the problematic subcomponent or assembly process. By quickly assessing the true impact of faulty parts, Visteon can quickly quantify and contain the consequences, vastly reducing their risk exposure and avoiding the terrific cost of a blanket recall.

Competency and Collaboration

As Jeff knows from managing many global implementations, success in global business projects depends on more than talent—it takes collaboration and teamwork to unite people throughout an organization and across partnerships. Thankfully, the collaboration within Visteon divisions was exemplary and while IT may have kicked off the project, manufacturing leadership now champions its further development.

Jeff explains that Incite was a key part of the equation as well. "The folks at Incite are amazing to work with," explains Jeff. "They all had great rapport with everyone involved in the pilot, from our IT team to our business executives, which made the whole implementation incredibly smooth."

Overall he says: "The total effect that Incite brings is invaluable. They have a strong team across the board; their breadth of expertise and quality of people across different disciplines is unique, and they always put our objectives first."

THE FUTURE LOOKS BRIGHT

Based on the strength of the pilot project, Visteon has expanded the pilot to six more plants, and everyone involved from manufacturing leaders to business executives sees the value of eventually connecting all manufacturing machines to their new analytics platform. Jeff says this expansion includes new metrics, new machine processes in manufacturing, and new executive dashboards. He adds: "Once the business is familiar with the base analytics, we'll begin doing more predictive modeling. The foundations we've put in place are key to that, and people all over the business are excited about what's next."

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