

Success Story: IMC Helps Videon Central, Inc., Use QRM to Boost Quality and Inspire Innovation

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Videon Central, Inc. (Videon), an Intel Capital portfolio company, is a leading provider of media solutions, supplying streaming video and Blu-ray Disc technology to the consumer electronics market.

Videon is also an Original Design Manufacturer for highly regulated industries like in-flight entertainment, delivering fully qualified hardware platforms designed and assembled in the United States. **Videon's media playback solutions have enabled more than 25 million embedded systems including Smart TVs, IPTV set-top boxes, BD players, tablets and other connected devices.** Videon offers OEM and vertical market customers a unique set of capabilities to help scale product development and facilitate the launch of next-generation digital media applications.

SITUATION

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Videon had targeted lean initiatives for some time, but being a high-mix, low-volume operation had its perceived obstacles when it came to traditional lean practices. In 2011, though, the company got a nudge from customer Rockwell Collins, an aviations electronics company headquartered in Cedar Rapids, Iowa. Their leadership encouraged Videon to pursue Quick Response Manufacturing (QRM). The recommendations came at a time when Rockwell Collins was focusing on their key suppliers like Videon in an effort to help drive improvement.

In December 2011, Rockwell Collins introduced Videon to the “Accelerate” supplier improvement model offered by the Wisconsin Manufacturing Extension Partnership (WMEP). **This model calls for the supplier, OEM and MEP to formally agree to a charter defining rules, roles and responsibilities, and to pursue the initiative together.**

With Videon based in central Pennsylvania, IMC was the designated MEP and became the third arm of what would prove to be a hugely successful effort.

SOLUTION

QRM emphasizes relentless reduction in lead-time, allowing opportunity for improved quality, elimination of waste and reduced cost. With Accelerate, Videon moved through a three-phase program toward establishing a lean culture.

Phase I, Gauging Performance and Identifying Opportunities - The first phase began with an assessment of Videon’s current performance surrounding its dual Blu-ray Disc player, the primary product supplied to Rockwell Collins. IMC and partner-consultant Sharon Hoffman worked with Videon through an intensive assessment period, deploying Value Stream Mapping as the primary mechanism.

According to Videon’s Chief Operating Officer, Paul Brown, it became clear that their “silo approach” was creating a series of negative impacts. Materials were piled, orders were on backlog and employees were not truly working together. The company was missing out on the learning and innovation that can come from collaboration and streamlined planning. Despite having a talented team and a solid product, Video wasn’t making the most of its resources and wasn’t optimizing its work.

Our outcomes have been very successful and we are poised to apply these principles to other areas of our business for more widespread improvements. We have much to be proud of at Videon, and this effort is truly helping to take our entire team to a new level.” - Paul Brown

This first phase allowed Videon to identify areas of improvement and work through an agreed future state of improvement. Two key measures of that agreement included reducing Defective Parts per Million (DPPM) by 50 percent and boosting On-Time Delivery (OTD) to 99.5 percent.

Phase II, Implementing Improvements - Videon implemented its first QRM cell in April 2012, with production starting on April 30. Over a seven-week period, they saw great reductions in Manufacturing Critical-path Time (MCT) and recognized opportunities for continuous improvement. Leadership responded to the success and shifted manufacturing operations to total QRM in August of that same year. They moved from six separate functional areas with a single-person silo at each and multiple orders being processed at the same time, to one-piece flow with the entire team focused on the order and orders processed one at a time.

The results included further reductions in MCT, lead-time, Work-In-Progress (WIP), DPPM and more, along with a significant improvement in OTD.

Sharon Hoffmann attributed much of the success to Videon’s forward-thinking and innovative culture. “The folks at Videon are extremely bright, dedicated and resourceful. They understand that the associates actually building their products have valuable knowledge and input.”

Hoffmann noted that top management was extremely supportive and involved, adding, “After studying the proposed QRM application and realizing its potential, they developed their own motivation to proceed, make changes and ensure that this approach was value-added to their company and its products.”

Phase III, Next Steps - Establishing a Lean Culture: Videon already maintains a strong focus on continuous improvement. After the QRM implementation, the company built upon the momentum by indicating that the next focus would be on

error proofing and preventative measures. Tenets to this next phase include: documentation updates based on Process Failure Mode Effects Analysis(PFMEA) and control plans; supply chain risk analysis and mitigation and a concentration on overall production quality.

RESULTS

Through this process, Videon has achieved high-impact results in key areas of quality, on-time delivery, rework/defects and capacity. The initiative also sparked renewed innovation and teamwork.

- Planning wait time reduced from 7 days to 1 day
- Batch size reduced to 10-15 units; number of shipments increased
- 62.5% reduction in rework
- 0% DPPM in Oct-Dec
- 50% reduction in scrap
- 60% reduction in MCT
- 61% reduction in MFGNVA transfer time
- 30% reduction in lead-time (from 13+ to under 10 hours)
- 80% reduction in WIP (from \$500k to \$100k)
- 100% OTD in Oct-Dec, soon after going totally QRM

Easier Scalability - Each cell has defined resources and equipment. Purchase orders for equipment and tools can be placed immediately to create a new cell. Personnel requirements are known.

Improved Production Planning - Before, there was no starting information for functional areas, and only the touch-time was planned. Lack of insight caused Videon to schedule multiple builds at the same time, causing overtime, stress and heroics. The planning process required a higher level of skill and experience. Now, all orders are scheduled when received. Staff can plan for other activities and more easily adjust to accommodate customer requests.

Better Measures for Capacity - Capacity is now calculated daily rather than monthly and includes "other activities." Potential overloads are quickly identified and overtime is therefore reduced. Capacity stabilization is at 80 percent and allows

for maximum flexibility.

New Mechanisms for Saving Time & Improving Quality - Videon now utilizes new error-proofing techniques and improved work instructions.

Weekly Reviews at QRM Cell - Teams meet weekly and encourage regular, timely feedback. That, plus consistent measurement and monitoring, enables continuous improvement.

All Employees Trained on QRM Principles - Videon is establishing a true Lean culture within its manufacturing operations. All employees have opportunity to be a part.