![B&L Information Systems logo]

![RCM Industries, Inc. logo] ![BGRI logo]

Industry/Services

High pressure aluminum die casting, CNC machining and finishing

Products

Odyssey ERP
Unifact MES

Summary

RMC Industries is a long-time Odyssey user who, in recent years, has expanded its utilization of Odyssey modules to collect more comprehensive real-time data from their die casting machines and CNC machining centers to optimize operational efficiency.

Odyssey exceeds expectations for RCM Industries on journey to Industry 4.0

RCM Industries has used B&L Information Systems Odyssey ERP Software for 16 years for one simple reason: "It was the best ERP system specifically tailored to the foundry/die casting industry." 16 years ago, however, the RCM team was not looking for the level of data automation and consistency that would be available to them as Industry 4.0 came on the scene. The expectation was simply for a solid ERP that would accurately manage financial and production data for the company.

As data automation in manufacturing became more and more important, RCM quickly recognized that Odyssey offered the ability to integrate with third-party Industry 4.0 applications to offer a level of functionality that went well beyond their initial expectations. Big time.

Based in Chicago, RCM began as a single facility in 1951 as Aallied Die Casting Company. The company now operates four facilities in Illinois, North Carolina and South Carolina, in which they produce high pressure aluminum die casting, CNC machining and finishing.

Integrating wide variations in the use of data among four distinctly different operations was a major issue. Not only were there inconsistencies in the data generated by the four plants, but generating and outputting data in real-time was simply not part of the process. This created serious challenges for short-term decision-making needed by the management team.

"A great spreadsheet eliminator"

RCM's president, Dan Twarog, describes Odyssey as "a great spreadsheet eliminator." Early on, RCM essentially used only the Odyssey accounting module. As the team developed confidence in this limited application of the Odyssey suite of modules, they began to see a host of benefits through a robust and strategic utilization of multiple Odyssey modules. Twarog, based on his previous experience as president of the North American Die Casting Association, saw opportunities to leverage Odyssey's functionality to integrate data in real-time and across multiple plants.

Ethan Hamblen, Executive Vice President, refers to this advanced integration as the flywheel effect. "We now have a single source of data from die casting production, CNC machining and finishing to outsourced services and even scrap. The more you use the data output from your ERP, the more the organization demands that data be input into the ERP."

> *"For the first time, it truly feels like we are operating as a single company, and not four different plants."*
>
> *— Ethan Hamblen, Executive Vice President of RCM Industries*

"For the first time," Hamblen continues, "it truly feels like we are operating as a single company, and not four different plants. Not only are we generating data in real-time, but we have the critical information we need to see the whole picture – the kind of actionable data essential to enhanced efficiency and profitability."

Odyssey Modules

- Odyssey Maintenance Management
- Odyssey Intelligent Views
- Odyssey eCommerce (EDI)
- Odyssey Production Interface
- Odyssey API
- Odyssey Shop Floor Manager Licenses

RCM was able to achieve this data automation by partnering with BGRI, LLC., a key vendor at the "Machine Execution System (MES)" level of Industry 4.0 – Level 3 in the ISA Standards. BGRI's Unifact product provided the ability to connect the machine PLCs to Odyssey. Now, production data can flow directly into the ERP from the die cast machine. Both Twarog and Hamblen cite multiple areas in which Odyssey has enabled substantive improvement in RCM's operational efficiency. Hamblen notes that 10 years ago, the time required to input data was about 90 minutes per day per plant. "Since we've fully implemented the MES-Odyssey connection, that number is now zero – our production data flows directly from the PLC into Odyssey, updating every hour. "

Why We Need MES:
ERP + MES = optimal efficiency

ERP is designed to communicate with other systems; many manufacturers use a two-layer approach to manage manufacturing operation (information technology systems like ERP and operational technology systems like MES). Orders are created and scheduled in ERP, then the orders are executed in MES. The production data collected in MES is exported back to ERP at regular intervals.

Unifact MES Roles

MES may operate across multiple functional areas. For example: management of product definitions across the order execution, production analysis and downtime management for overall equipment effectiveness (OEE), product quality, or materials track and trace. MES creates the "as-built" record, capturing the data, processes and outcomes of the manufacturing process. MES acts as middleware, which will process the data from the

machines and convert it to usable input for users and the ERP system. The source data is the die casting machine's control system, which, in addition to user entered data from the Odyssey Quality Module and Maintenance Module, provides associated production information.

The enhanced efficiency goes beyond the base Odyssey ERP platform, which provides essential data for financials, purchasing, delivery, human resource allocation and sales. By integrating a robust MES system into the Odyssey platform, RCM is now able to monitor product being manufactured on the floor and send the data to other systems. For example, downtime is an important efficiency metric. RCM now reports it is capturing 100 percent of downtime because that data is coming directly from the machine signal.

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>
> *— Dan Twarog, President of RCM Industries*

Another prime example is the measurement and control of scrap – a persistent challenge in the industry. Hamblen reports that RCM has been able to reduce scrap significantly. The key is consistency in how orders are tracked from the initial shop order generated by Odyssey through the entire production process, including scrap codes, downtime, etc. "Now, we have the real-time data to stop machines faster and address any potential failures immediately. No more continuing to run machines in hopes that an operator saw the paper check sheet that indicated a failed inspection; no more loss of efficiency through inconsistencies in the production process or data generation."

Engendering confidence through prompt, accurate and consistent data

The single data source provided by Odyssey has revolutionized RCM's costing accuracy, says Twarog. "Before, there was no consistency between plants, or even sufficient data within a single plant, to provide trustworthy information. Now we have that confidence because we have real-time reality checks on how

efficiently we are operating. Sometimes in the past, we would quote a job based simply on how we had estimated it previously. Now we can be more aggressive in our quoting because we have confidence in our numbers. And that gives us a real competitive edge."

"The bottom line," Twarog says, "is maintaining that competitive edge. The casual user of an ERP system, like Odyssey, might be satisfied simply to have 10,000-foot information. We're not. We want the most detailed information available in real time. What were our sales today? How much scrap did we have yesterday? What kind of total revenue have we generated? How much revenue was generated by each department? Whatever data we can access – from estimating and sales through production and delivery – that's what we want. That's what will make us a better, more efficient company."

"Right now, we are probably ahead of our competitors in leveraging the data Odyssey provides. In time, I have no doubt other producers will have access to this kind of technology. But the real differentiator will be how they use this data. So, we feel confident that we have the skills to better maximize the robust, real-time information Odyssey provides."

About B&L Information Systems

B&L Information Systems is a global leader in providing integrated enterprise resource planning (ERP) software for metalcasters. Since 1976, B&L has used its experience and in-depth understanding of the specific challenges and problems of foundries, die casters and investment casters to create an ERP solution which addresses the way metalcasters operate, making it easier to learn and use. With Odyssey, metalcasters are able to maximize their resources, minimize costs and make better decisions more quickly. www.blinfo.com

About BGR Integrations, LLC

At BGRI, we believe in harnessing technology to support digital transformation to Industry 4.0. BGRI is well conversant with all the die-cast vendors including Visi-Trak, Buhler and Prince along with automation products such as Rockwell, ABB , Fanuc, Mitsubishi, etc. Our engineers provide software solutions for gaining control over process and equipment, bringing more insight into what drives the business. BGRI's corporate structure is tightly integrated for prompt & efficient service after the sale. BGRI has pioneered and specialized in offering a one-stop customizable solution in the casting and foundry industries. www.bgr-integrations.com

About Progress Software Corporation

Odyssey SaaS is based on the Progress Software Corporation's OpenEdge application development platform, an unbreakable technology platform that has been powering over 47,000 businesses for more than 30 years. By focusing on factors such as performance, cost, reliability, scalability and ease of maintenance, Progress Software enables B&L to focus its efforts on functionality, trends, and metalcasting industry best practices. www.progress.com