



Case Study: Eldon James

How Eldon James Increased Quality and On-Time Delivery Over 90% with an Integrated MES System

How Adopting An Integrated Manufacturing Execution System is Accelerating Growth

Multiple, standalone systems not connected were taking valuable time that could be better spent inventing new products, serving customers and growing the business. Manufacturing plastic tubing and connectors for tubing for several industries including medical products, pharmaceutical, beverage, automotive, pneumatic machinery and general industrial products, Eldon James was finding itself constrained by the lack of systems integrated across the company. Disconnected, multiple systems had become a bottleneck on every aspect of manufacturing and supplier operations, making it progressively more difficult to provide the responsiveness the company prides itself on. Most importantly, it was starting to slow down the company's ability to grow as fast as it was capable of.

Their stand-alone QuickBooks accounting application could not keep up with the speed and scale they were expanding at. Not having accounting and finance systems integrated with manufacturing also was making it more difficult to balance supplier inventory levels and coordinate inbound inspection with production planning. Because accounting and manufacturing systems weren't integrated, more time had to be allocated for job setup, quality management, and trial production runs.

Relying on non-integrated systems took valuable time out of every day to get routine tasks done and was starting to impact the company's growth potential in the following areas:

- **Eldon James' industry-leading PVC-Free manufacturing expertise that is essential for selling into the medical and food & beverage market needed greater system integration to grow and serve new customers.** Eldon James was a pioneer in their insistence of never producing products with PVC due to the materials' potentially hazardous effects on employees and corrosion to equipment. Also, Eldon James does not manufacture PVC products due to the harmful health effects of phthalates and plasticizers used in the medical industry. This turned out to be an excellent decision as medical, and food & beverage companies started to look for alternatives to PVC. Eldon James wasn't getting the full value of one of their greatest differentiators because disconnected, siloed systems were making it a challenge to see how the production team could free up the additional volume and take on new orders.
- **Eldon James was beginning to get inquiries from foreign distributors, yet multiple, disconnected systems were making it hard to scale international sales.** CEO and co-founder Marcia Coulson says she and her team were honored to get e-mails from foreign companies and distributors who wanted to buy from and represent the company in their respective markets. Marcia says that the CRM systems she was using at the time didn't connect to manufacturing, quoting, production scheduling or finance, which made every inquiry from a potential new international account very manual to respond to. "At first I was ecstatic to see how we were being considered by companies in Europe and Asia," Marcia said. "And then I realized that we were going to need a process to scale international responses so we could stay in front of the growing demand globally for our products."
- **Financial reporting was becoming more time-consuming as the number of spreadsheets multiplied, and QuickBooks was bogging down in the sheer volume of entries being tracked and calculated daily.** Eldon James' CPA accountancy firm faced the formidable challenge of producing monthly financial statements based on a multiple of spreadsheets and a QuickBooks system bursting at the seams with transaction data. QuickBooks had been the financial reporting system of choice since the founding of the company, yet as international sales grew along with the product lines, the application was bogging down and taking longer to produce reports than ever before. One of the senior members of the

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accountancy warned that QuickBooks had reached its limits and would crash soon or at the very least, cease to be able to complete queries and run reports. The lack of system integration across manufacturing and financial systems was becoming an issue to getting the reports needed to manage the business daily.

- **It was getting more challenging to create quotes, upsell and cross-sell customers, and offer promotions because QuickBooks and stand-alone systems were so slow.** If slowing down financial reporting cycles every month wasn't enough of a challenge to deal with, Eldon James was starting to see QuickBooks and the legacy, standalone systems they relied on to upsell, cross-sell and offer promotions to existing customers slow down and eventually take minutes to provide any response. "We learned how to be very good at small talk with our customers," Marcia Coulson, CEO said. "QuickBooks would work for minutes on a query while we tried to keep customers engaged on the phone." Marcia continued, "it was frustrating and cumbersome, and it was slowing down our ability to get the customer the information they needed quickly."
- **Providing audits to a fast-growing new base of medical products manufacturers was manually done, taking valuable time away from continuous improvement efforts.** Initially, quality management was handled through Excel spreadsheets and an isolated manufacturing system that didn't integrate across the shop floor. Eldon James' medical products manufacturing customers wanted greater audit visibility than Microsoft Excel spreadsheets could provide. An essential element of these audits is providing customers with tool validations using digital calipers. Ensuring tools are operating within specifications removes variability in production and increases quality. Customers were also asking for Production Part Approval Process (PPAP) data, and Eldon James produced these reports manually using Excel. This took valuable time away from quality and continuous improvement efforts, and tied up members of the quality team for hours and in some cases days when integrated systems could produce the reports in minutes.
- **As more customer orders were processed, it was becoming more challenging to find what the sources of scrap material were.** Eldon James was beginning to grow fast and taking in as many orders as they could profitably produce. The isolated, stand-alone systems were handling the scheduling of orders and providing production scheduling within constraints while ensuring the best mix of machines as best as possible. The Quality Manager saw scrap rates begin to increase with the exponential increase in production with no easily-traceable signs of why. Scrap rates on some jobs were reaching 30%. The quality team, CEO and senior management team looked in detail at the problem and decided they needed to invest in an ERP system with MES functionality purpose-built for the needs of plastics manufacturers.

Siloed Systems Quit Scaling Forcing An Operations Breaking Point

The six dimensions of Eldon James' business quit scaling when their stand-alone systems did.

The company's vision of being a state-of-the-art production facility capable of running lights-out manufacturing was in jeopardy. Existing systems were falling far short of the goal of being able to run their 27 injection molding machines continually for a production shift or longer. To compete and win against offshore competitors, going lights-out would give Eldon James the competitive advantage they needed to win deals anywhere on the planet and still deliver higher quality than their offshore competitors.

Eldon James' operations were reaching a breaking point because of the lack of siloed systems' scale. "With our disconnected systems, it was at times a challenge to get products shipped on time to customers. If a late part ships from Eldon James then a customer of ours may shut down an entire production line because they're waiting on one specific fitting," said Andrea Collins, System Operations Manager. She continued, "We knew we had to turn this situation around to keep our existing customers and grow to find new ones." Andrea adds that "Eldon James prides itself on its ability to communicate with customers, constantly providing them the information they need to keep their production operations running."

Eldon James' Inflection Point

Eldon James was at an inflection point and knew the siloed systems had to go:

- The lack of real-time data from the production floor and individual machines was making it difficult to deliver the excellent customer service and communication the company prided itself on.
- Eldon James was growing quickly, and the CEO and senior management team needed more real-time, in-depth data in production status, costs, quality and yield to guide the company's growth.
- Inventory control was becoming more of a challenge with over 6000 different products to manage as Eldon James was rapidly designing and launching new plastic tubing and connectors for tubing for new markets.
- The production teams were finding it nearly impossible to get accurate cycle counts at the machine level with the existing manual systems in place.
- Distribution sales were active in over two dozen countries, which would eventually soar to over 40.

Quality Assurance needed the following from the existing siloed systems to stay competitive, yet was finding workarounds very time-consuming and costly from a delay standpoint:

- Isolate the sources of scrap rates by production run and gain insights into how these could be reduced.
- Attaching certificates of compliance and conformance to orders that customers specifically asked for was turning into a major accuracy and time challenge.
- Having traceability to the lot and material level to begin creating a thorough product genealogy record which would streamline vendor and agency audits.
- Needed greater control over which data specific members of the Eldon James team had access to and which items they could modify, which is also essential for passing audits.
- More automated approaches to Statistical Process Control (SPC), which was being completed using Excel spreadsheets.
- An urgent need for real-time monitoring that would make troubleshooting scrap rates more efficient, in addition to improving the accuracy and quality of audit records, while streamlining manufacturing operations.
- A system-level plan that could scale and support the company's goals of ISO 9001 and ISO 13485 certifications, both of which are essential for gaining access to new markets where regulatory compliance is a must-have.

Exceptional product quality and on-time deliveries are the two differentiating service values that Eldon James had engrained into every manufacturing and customer-facing process they have for years. With the siloed systems that often required manual intervention, she said the company had to make many special efforts to get customers the information they needed.

Eldon James Chooses IQMS as its ERP and MES Solution to Grow its Business

Eldon James quickly began the search for a Manufacturing Execution System that could scale across its entire business. Their requirements included a system capable of integrating accounting, Customer Relationship Management (CRM), finance, manufacturing, operations, and service, ideally located on a single database. The company also wanted to find someone who had expertise in the plastics industry, who could not only provide the system but also provide guidance on how to streamline operations for future growth. They quickly realized what they needed was an Enterprise Resource Planning (ERP) system designed specifically for the

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plastics industry. That's when they called IQMS.

CEO and founder Marcia Coulson says the decision to select IQMS as their ERP systems provider and partner "was probably the single best decision I've ever made for the company. That was one of those milestones in the history of Eldon James that allowed the company to grow," she continued. Marcia and her senior management team went to work defining an implementation plan with IQMS and quickly began to see the difference in operations, quality and most of all, customer satisfaction. Here's what Eldon James was able to accomplish and has enjoyed the efficiencies for the past 10 years with IQMS by breaking free of the siloed systems that held them back in the past:

Positioned for Product Quality

- **Quality Assurance and perform an audit anytime a customer or regulatory agency wants one as all data including product genealogy is available in IQMS.** Eldon James found having an integrated ERP system streamlined their attaining ISO 9001 and ISO 13485 Certification. Also, using the integrated Quality module, the Quality Assurance team can provide Production Part Approval Process (PPAP) data to any customer who wants it in seconds. They're able to deliver calibration certificates with orders, have complete auditing and control of all production records and process workflows, have tighter controls on work order instructions and now have SPC to the machine level, reviewable anytime. In short, the IQMS ERP system has given them an entirely new level of visibility and control over every aspect of quality.
- **The long-term goal of offering and producing over 6,000 products has been achieved with scale to spare.** One of Eldon James' strategic priorities is always to be innovating, always find new ways to improve, and this includes their new product development strategies. With IQMS in place today they are now offering over 6,000 products to their customers located in 40 different countries.

Improved Performance

- **On-time deliveries happened 50% of the time with siloed systems that didn't communicate, and with IQMS integrated across their operations, they soared to 98% - a jump of 96%.** By having a single system that organized all the data they needed for production scheduling, quality assurance, and shipping, Eldon James was able to increase their on-time delivery accuracy nearly 100%, jumping from 50% to 98% in less than a year. Customers were thrilled and more orders poured in. Eldon James had become one of the most trusted suppliers in plastic tubing and connectors for tubing and continues to expand their reputation today.
- **Reject rates plummeted from 30% to 2% as Quality Assurance had real-time monitoring to track where scrap was being produced in the production process.** Like on-time deliveries, scrap rates and reject rates drastically improved when Eldon James had real-time data from IQMS to manage production. Where and how scrap was being produced was no longer a mystery; the answers to the most challenging quality assurance questions were in the IQMS system anytime they needed them.

Ability to Continue to Grow and Scale

- **Improve selling efficiency by accelerating the quoting process, improving response times to international distributors and global customers.** With QuickBooks and the siloed systems the company had been using before, it often took hours to produce a quote given how slow the systems were operating. And with international distributors interested in stocking their products, Eldon James was facing a time crunch with nearly every inquiry to make sure it stayed in consideration for every possible opportunity. Now with IQMS, quoting takes 3 minutes at the most and by having an integrated system with real-time response, pricing, and availability including Available-To-Promise (ATP) dates are all done automatically. Close rates for new quotes are soaring, and order-to-close rates keep growing to new records as the company's reputation for quality and speed bring them into new markets.

- **Lights-out manufacturing is making it possible for Eldon James to compete and win opportunities anywhere, anytime, against any competitor.** By partnering with IQMS, Eldon James achieved the most important goal they have, which is being able to run lights-out for a shift or more. Being able to run their 27 injection molding machines non-stop is giving them speed, quality and cost advantages many of their competitors can't touch. Lights-out manufacturing is making Eldon James a single source supplier for many of the world's leading medical products, pharmaceutical, beverage, automotive, pneumatic machinery and general industrial product manufacturers. CEO Marcia Coulson says that "IQMS has proven it can grow with the company, and we could easily grow 50 to 100 times larger with IQMS." Partnering with IQMS opened up new avenues of growth and helped the company scale and capitalize on all its opportunities and more.

Conclusion

It has been nearly 10 years since Eldon James began working with IQMS. Improving product quality, increasing production performance, and achieving the highest level of customer responsiveness are just a few of the many areas Eldon James is excelling at today. Their results show that the more integrated an MES system is with accounting, finance, Supply Chain Management (SCM), CRM and ERP, the greater the opportunities to excel for current customers and grow by winning new ones. An integrated MES has removed the roadblocks to greater revenue growth and enables Eldon James to enter and excel at winning new business in new markets.