

Case Study:

MICRO CONTROL COMPANY

About Micro Control Company

Headquarters: Minneapolis, Minn.

Founded: 1972

Industries: Electronics

Products: Test Equipment

Annual Revenue: Privately held

Harold Hamilton founded Micro Control Company in 1972 as a manufacturer of test equipment for the electronics industry. The microprocessor-controlled test system produced in 1973 was the first in the industry. Today, Micro Control manufactures high-power burn-in and test systems for customers throughout the world.

Along with high-power burn-in systems for logic and memory applications, Micro Control designs and builds burn-in boards and other burn-in accessories for use during reliability or production burn-in applications.

Ultra Smooths Processes, Steers Project and Delivers a Modern ERP

To be managed effectively, achieve client goals and deliver value, ERP projects require structure. On every Ultra project this framework is provided by our methodology, which organizes the transformation process into phases - **business process improvement (BPI), enterprise technology selection and solution implementation management.**

Experience shows us that achieving our primary goal - business performance improvement - with an ERP solution depends on this step-by-step process - doing first things first - because each phase guides and informs the one that comes after.

PROJECT DRIVERS



Add field service management



Better financial processes



Configure-to-order and engineer-to-order capabilities



Eliminate manual processes



Eliminate spreadsheets



Enable efficient procurement



Improve production management



Improve production planning



Modern analytics and reporting

Micro Control Company is a Minneapolis, Minn., manufacturer of advanced test equipment for the electronics industry, primarily high-power burn-in test systems designed to detect failures in semiconductor devices by applying extreme electrical and temperature conditions.

Like many specialty electronics equipment manufacturers, Micro Control produces low-volume/high-complexity products for limited number of customers. And, like many mid-market manufacturers in every industry, the company relied on a large number of manual, time-consuming and potentially error-prone processes to run the business, design its products and manage production. It was time for a modern ERP.

ERP PROJECT PHASE 1: Business Process Improvement

With a project team in place, the first step was documenting the **Current State**.

Most of the company's business is configure-to-order. "Micro Control builds four different models of test ovens, which are then customized," said Ultra business consultant Andrew Schmidt. "It's like buying a car, where you add options. About 80% of a unit is standard, and the remaining 20% is custom configured. These products are exceptionally complex, and we found that they were handing this configuration on paper."

"Micro Control had a big spreadsheet they used to plan all their work, track units through the manufacturing process, and assign to a customer order," Schmidt said. "It worked OK but, obviously, that's not the best way to handle those processes. The company needed a system to help

them manage that planning and tracking, provide visibility and better track costs and work in process (WIP).

“Micro Control is unusual. It only has about 50 customers, and the units are expensive. So, purchasing a unit is not an unplanned, spur-of-the-moment thing,” Schmidt continued. “They can do collaborative planning with customers, and have confidence that they will take delivery.”

The planning challenge, Schmidt said, is not volume, it’s accurately managing the different unique configurations and costs.

“Typically, Micro Control starts making units as basic, made-to-stock, and then, as they’re being built and as the orders actually come in, configures units to specific customer requirements,” Schmidt said. “As I said before, it’s like buying a car. You start with the basic model and add options.”

Inventory control, accurate cost tracking, and configuring and quoting is difficult using a spreadsheet, however. And when a customer wants a non-standard change, it’s even more challenging.

“Often a customer will say, for example, that they want an option, but with a different voltage, and then engineering has to get involved,” Schmidt continued.



“Changes like that create extra engineering time (which is difficult to capture), changes to the cost of materials and, in the end, changes to the cost of the unit.”

A configure-to-order unit becomes an engineer-to-order unit this way – a conversion that is hard to manage with a manual process.

With this approach to production, procurement is a challenge too. “Better production planning would enable better purchasing,” Schmidt said. “And, to make it even more challenging, Micro Control utilizes a number of suppliers that require long lead times.”

“They were managing parts-buying separately on spreadsheets,” Schmidt continued. “And a great deal of non-documented ‘tribal knowledge’ was involved in the process – they just ‘knew’ how long specific parts took to be delivered, and used that experience to anticipate the need for parts.”

Field service management offered another big opportunity for new efficiencies and visibility. Like virtually every other Micro Control process, manual processes were used to manage their installed base, track their systems in the field, catalog the parts installed in them, manage field maintenance, repairs and replacement parts, and handle the exchange/return of parts. And their installed base was surprisingly large – the testing units last 20 to 30 years.

And finally, the company’s financial processes needed an overhaul to eliminate manual work, enable easier and faster access to critical information, and provide modern analytics and reporting. A complex sales commission process also was handled manually, too.

“Documenting the Current State is critically important,” Schmidt said. “And at Ultra we take it to another level. We do the deep-dive necessary to really understand complex processes, find both obvious and hidden pain points, and determine the gaps that need to be addressed. By getting the Current State right, and complete, we can provide the structure for an accurate Future State, and we can reduce the risk that the project will not deliver needed changes.

With the Current State evaluated and documented, the project moved to **Education & Visioning** phase, bringing Micro Control up to date on the capabilities of today’s technologies (and the possibilities they offer), educating the team on current best practices, and helping the organization imagine its processes transformed.

This under-appreciated but key component of the BPI process creates a platform to define a **Future State**.

“The development of a Future State vision is a significant contributor to ERP success,” Schmidt said. “In fact, it plays a huge role in the software selection process, At Ultra, we use it to guide the vendor demonstrations – to ensure that the software solution can help our clients achieve their critical objectives.”

For Micro Control, the Future State process began with collaborative business process re-engineering workshops designed to find answers to the company’s process problems, find gaps in capabilities and technologies, and quantify the potential value of new efficiencies and capabilities. And it ended with a detailed vision of the company’s re-made processes and a transformation roadmap.

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“With Micro Control, our primary goal for the Future State phase was to find ways the company could manage better by eliminating spreadsheets and manual processes, design processes to capture data – especially cost data – that was not being captured, and help them create better, more efficient management processes,” Schmidt said. “Overall, we looked for opportunities to remove human involvement from processes that didn’t need it.”

ERP PROJECT PHASE 2: Enterprise Technology Selection

The next phase – Enterprise Technology Selection – always begins with research.

“We do the important legwork,” Schmidt said. “Our job is to help our clients know the qualified ERP vendors in their industry – the ones that are experienced and strong in the vertical – and help them understand the capabilities of potential solutions.

“To do that, we leverage the knowledge of our experienced consultants, who work every day with manufacturers, manufacturing processes and manufacturing systems,” Schmidt

continued. “And we bring in our Center of Excellence (COE) to tap its expertise in today’s software solutions, current capabilities and functionalities, go-to-market strategies, product roadmaps, and supporting technologies and ecosystems.”

For Micro Control, the COE reviewed the Future State and business needs, and provided a “long list” of potential solutions and vendors that were able to meet the company’s specialized requirements.

Schmidt continued: “Then, as we do with all our clients, we asked those vendors to tell us, in detail, how their software fulfills those requirements and how their solution will enable process and business performance improvement.”

These detailed briefings, Schmidt said, gave Micro Control the information it needed to filter out the pretenders and identify a “short list” of contenders. And every software company on the list was asked to demonstrate how their solution will address the complete list of requirements and enable Micro Control’s Future State model.

“Micro Control narrowed its list to three vendors and, after a detailed analysis of software cost, total cost of ownership and implementation strategy, selected Infor CSI as its solution,” Schmidt said.

“Our expertise was important to Micro Control,” Schmidt said. “We helped them get answers on functional fit, vendor fit, technology alignment, solution strategy and cost. And our experience helped them reduce costs, minimize risk and maximize their confidence in their choice.”

ERP PROJECT PHASE 3: Solution Implementation Management

Working in tandem with the solution implementation vendor, Ultra handled overall management of the implementation.

“Our job is to provide oversight and overall project management, augment the skillset of our client and the implementor, fill gaps as needed, track and mitigate issues – and provide solutions – and keep the project on-track and on time,” Schmidt said. “That role is especially critical when the customer is a small company, like Micro Control, with limited resources and time to devote to the ERP implementation.

“Ultra has overall responsibility for project management and governance, risk management and training,” Schmidt said. “More specifically, our job is to maintain the focus on the business requirements and value drivers, provide highly structured project management, pay close attention to the utilization of resources and maintain a productive relationship between the implementation vendor and the customer. And, ultimately, our role is to ensure that the implementation is successful and business value is realized.”

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It's not just about oversight, Schmidt continued. Ultra rolls up its sleeves and does important implementation tasks, he said: "We created a detailed project plan, handled master data cleansing, managed the implementation vendor, managed communications and coordination, kept project deliverables in-sight and on time, and managed a number of post-go-live tasks."

"And we stepped in when needed, and when our expertise was valuable," Schmidt said. "For example, we handled an unexpected problem with transactional data migration at cut-over - an area we have a ton of experience with. And our consultants were available to keep the project moving forward when there were availability issues."

The implementation went well, Schmidt said, and went live on time. "Micro Control chose the right solution and were extremely happy with the structure we brought to the project.

"We provided a clear path to follow, steered the project around bumps, and got Micro Control where they wanted to go," Schmidt said. "Our methodology is what brought them to Ultra, and our methodology helped ensure the project's success."





WHY ULTRA?


When you need to bring in outside resources, it's critically important to choose an ERP consulting partner with a formal, proven ERP project methodology. In addition, you will want to work with a firm that is flexible and able to adapt its methodology to meet your company's unique needs.

For more than 27 years, Ultra Consultants has utilized its proven methodology, ERP expertise and industry knowledge to deliver measurable business performance improvements to manufacturers and distributors in virtually every vertical.

- Our services are built for your industry. **We understand your processes and requirements.**
- Our solutions leverage our expertise. **We help you choose software to meet your unique needs.**
- Our results reflect our ERP experience. **We maximize benefits and minimize risk - and deliver success.**

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