

MICROE SYSTEMS

Solution Overview

Industry

Manufacturing

Scenario

As MicroE Systems grew, it required a more robust and flexible system to manage their business without the high-cost and implementations challenges of a high-end ERP system. Microsoft Great Plains eEnterprise met that criteria

Company Profile

MicroE Systems is a leading supplier of precision encoders and motion control positioning systems. Their high tech encoders create a pure optical design.

Benefits

With Microsoft Great Plains, MicroE Systems has been able to apply tactical customization to this high tech product to create a business solution that meets their specific needs.

Software Used

Microsoft Great Plains eEnterprise
 Financial Series
 Distribution Series
 Manufacturing Series
 Integration Manager
 Modifier with Visual Basic
 Visual Basic for
 Applications
 Continuum
 FRx Financial Reporting
 Crystal Reports

By implementing an economical manufacturing and financial system that is customized to match its own business processes, a high-tech manufacturer has reduced administrative costs and streamlined shop workflow. MicroE Systems is a leading supplier of precision encoders and motion control positioning systems.

When MicroE Systems, Natick, Massachusetts, began operations, it used a simple Windows-based accounting system and spreadsheets to track manufacturing orders. As the company grew, it recognized that it needed a more comprehensive system yet didn't want to bear the expense or implementation headaches of a high-end Enterprise Resource Planning (ERP) system. Instead it invested in medium enterprise business software, Microsoft Great Plains eEnterprise that provides full manufacturing functionality and was relatively easy to customize to match their business processes. For example, they added workflow processing to the built-in return material authorization (RMA) functionality of the software so that email alerts are provided to each person involved in the process to notify them that the RMA is ready for their attention.

"At a reasonable expense and in minimal time, we were able to customize this economical software to the point where it fits our needs to a tee," said Jim Lines, Business Systems Analyst for MicroE Systems.

MicroE Systems is a leading supplier of precision encoders and motion control positioning systems. MicroE's patented technology provides a superior encoder by taking advantage of the principles of physical optics to create a pure optical design. The resulting encoders are smaller, more accurate, and more robust while delivering industry leading nanometer-level resolution, repeatability and accuracy. MicroE Systems revolutionized the data storage industry with the first encoder capable of enabling servo track writers to write 100,000 tracks per inch. MicroE continues to be the market leader for high resolution position sensing technology in data storage. More recently the company has transitioned to its current position as a leading vendor in the growing original equipment manufacturer (OEM) market for smaller encoder systems and motion control positioning systems with excellent resolution and stability. MicroE Systems' rotary and linear encoders have found numerous applications across a broad range of industries including semiconductor manufacturing, metrology and instrumentation.

Need for a more robust solution

MicroE Systems performs what it calls "light manufacturing," meaning the majority of components are purchased from suppliers and assembled at the company's plant to its demanding quality specifications. The relative simplicity of its manufacturing operations made it possible to operate for several years using just a very basic accounting system and a number of spreadsheets. As the volume and complexity of its operations increased, however, it became apparent that a more flexible and robust solution was needed. Company managers looked for a system with powerful manufacturing capabilities that could accommodate their unique operations without requiring the high level of investment and long and expensive implementation process associated with most ERP systems. "We began using Great Plains Dynamics and later upgraded to eEnterprise because these packages offer an excellent mix of manufacturing functionality, world-class

financial capabilities, state-of-the-art software design as well as the ability to be easily customized and expanded to meet our individual needs,” Lines said. This software package makes it possible to add features, create your own menus, build automated routines, and connect to the Internet with little or no programming.

MicroE worked closely with DataSys Corporation, Marlboro, Massachusetts, a Microsoft Great Plains Partner with 100 customers in Massachusetts, to implement customizations that matched the business software to their operations. For example, Donovan Dunning, DataSys Development Manager used Modifier with VBA and Visual Basic to provide blanket purchase order capabilities, which includes automating the type of orders that ask a vendor to provide many items with delivery to be staggered over a lengthy period.

Leveraged for their business processes

This customization eliminates the manual process that would otherwise be required of generating the individual line items on the purchase order to specify how many of which item needs to be delivered at a particular time. Instead, the user simply enters the item and the total quantity that needs to be delivered over the period of the blanket purchase order. The customization offers several options such as distributing the order evenly by week or by month and also allows the user to quickly specify dates and quantities in the case where the order is to be delivered unevenly. The customization then automatically completes the purchase order, generating each of the required line items.

Another customization using Modifier with VBA and Visual Basic for Applications maintains and enforces an approved vendor list. MicroE keeps a list of approved vendors in order to maintain ISO 9000 compliance. In the past, the list was kept on a spreadsheet and purchasing agents were responsible for checking that orders went only to approved vendors unless special procedures were followed. The problem with this approach was that a fair amount of time was needed to maintain the list and it was very easy for a purchasing agent to forget to accidentally place an order with an unapproved vendor. Now, MicroE maintains the approved vendor list within the customization which automatically communicates with the business software to check the vendor for every purchase order. If a purchase order is issued to a vendor not on the list, then the customization will not allow the order to be completed unless special authorization is received from a manager. The customization also maintains control over the approved vendor list, including an audit trail that tracks additions and removals.

Yet another customization using eEnterprise customization tools, Modifier with VBA, Visual Basic and Continuum, helps to automate the RMA process. Returns need to go through several steps to be processed and, in the past without any controls, there was always the concern that RMAs would fall through cracks and not be processed in an expeditious manner. The customization moves the RMA through the entire process from being issued by a support technician, to its receipt in the shipping department, through the repair process, and finally through shipping back to the customer. Each person involved in the process can call up a list of RMAs that require their attention. In the case where any individual step takes more than a pre-defined amount of time, email reminders are issued.

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Jim Lines
Business Systems Analyst
MicroE Systems

DataSys also helped by developing custom purchase order and packing list forms using Modifier with VBA and Crystal Reports. The purchase order form was modified so that the correct revision number from the manufacturing bill of materials automatically appears on the line item. The packing list customization was implemented to allow the user to have the ability to input additional information such as the preparer, waybill number, and custom serial numbers. Datasys created the framework in such a way that the user input data can easily be used in reports from tables specific to the customization.

Reducing the number of steps

MicroE takes advantage of eEnterprise's Quick Manufacturing Order (MO) capability to reduce the number of steps needs to track manufacturing operations. The company creates bills of material using parent/child relationships that extend throughout the company's entire product structure. Bills of Material are constructed using the point and click selection of previously defined components and subassemblies. Time is saved by the fact that parts of existing bills or entire bills can be copied or reused for the same parent or across different parents, minimizing repetitive data entry tasks. The Quick MO capability avoids the need to perform data entry for each manufacturing process. Instead, when product is built and moved into inventory, a system user is able to issue a Manufacturing Order from a single window that back flushes all of the labor, machine time and materials required to build the part. This eliminates the need for a series of entries that would otherwise be required to issue kits from the stockroom, enter labor costs for each operation, manage work in process, etc. Of course, more complete tracking methods can also be used if detailed records are needed for each step in the process.

Solution for entire business

Lines said the financial accounting modules of eEnterprise are first-rate. The software immediately posts manufacturing transactions to the General Ledger, so reports are accurate as of the time they are printed. The company uses eEnterprise FRx Financial Reporting to generate financial statements from the eEnterprise database in various formats. This tool uses a spreadsheet-like interface with powerful row, column, and reporting tree building blocks that make it easy to construct new reports. Managers can also drill down into these reports to see the detailed information that lies behind them down to the level of individual transactions.

Lines concluded that "technical support is great. The support technicians are prompt, courteous and knowledgeable, and stick with us to solve even the toughest problems."