



Electronics Manufacturer MCE, Inc. Relies On Fitrix™ ERP To Fuel Growth

Implementation of management and planning
solution increases productivity and reduces costs

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John Maydonovitch, President and CEO, MCE, Inc.

Company

MCE is a designer, contract manufacturer, and system integrator of custom configured appliance servers and embedded computing solutions for OEMs and independent software providers.

Industry

Electronics manufacturing

Location

San Jose, California

Challenges

Manufacturing an appliance server can require 200 components. The firm lacked an integrated ERP solution that would allow them to track and control the entire production process.

Company Background

Founded in 1973 and located in San Jose, California, MCE is a designer, contract manufacturer, and system integrator of custom configured appliance servers and embedded computing solutions for OEMs and independent software providers (MCE.com). They partner with their clients to design and build integrated clusters of servers, or dedicated appliance servers, to deploy their applications to their end customers. MCE develops and documents its design and manufacturing methodology to deliver systems tailored to specific needs, repeatable in their level of quality, and fully capable of meeting their defined application. Manufacturing designs use industry standard building blocks or their clients' Bills Of Materials (BOM).

Patchwork Approach Obscures View of the Manufacturing Process

The design and manufacturing of rack-mounted server systems is meticulous and complex. A completed server can consist of more than 200 individual parts. Using a modular production approach, purchased items are first assembled into sub-components, and then integrated into the final product. MCE was using a collection of manual processes and computerized spreadsheets to track and control the entire manufacturing process. Getting a clear picture of the process at any point in the production schedule was impossible. With 200 components, many with vastly different purchasing lead times, one costly result of this lack of clarity was unnecessarily large inventories. Without the ability to rigorously plan and manage the manufacturing process, inadequate approaches to critical tasks such as material planning could easily result in production-halting shortages. MCE's customers, many of which came from high growth industries such as healthcare, big data, robotics, security, and enterprise storage were looking for a manufacturing partner to help them offset risks related to production delays and to avoid unnecessary costs. As John Maydonovitch, MCE's President and CEO recognized, "Our continued growth hinged on finding a cost effective solution capable of providing our personnel the timely information they needed to optimize our inventory management and production processes. If we were going to prosper we could no longer get by with our existing stew of homegrown tools."



We needed a solution that would provide the features we needed at an affordable price - and given our lack of a large internal IT department, offered a high level of user support. Also, because all of our employees would be using it, the software had to be easy to use. Our challenge was to find a capable and affordable, mid-range package.

John Maydonovitch, President and CEO, MCE, Inc.

An ERP Solution Fitted To Their Size and Needs

MCE went shopping for a solution developed for the small to mid-size manufacturer offering the needed functionality and features. Maydonovitch knew MCE's manufacturing processes were too complex to use a low-end package, "We needed a solution that would provide the features we needed at an affordable price – and given our lack of a large internal IT department, offered a high level of user support. Also, because all of our employees would be using it, the software had to be easy to use. Our challenge was to find a capable and affordable, mid-range package." An evaluation of a number of ERP solutions highlighted either shortcomings in their applicability to MCE's needs and/or acquisition and customization requirements and costs exorbitantly expensive for a firm of its size and resources. MCE's assessment ultimately concluded Fitrix fit what they were looking for. Maydonovitch believes they found the solution that is just right for their needs, "the other packages we looked at were either too little for us or too big for us and it seemed that Fitrix was in the middle."

Fitrix is an end-to-end true ERP solution fully integrated in a single technology offering the functionality they needed now, yet could scale to more than accommodate the firm's anticipated growth. As Maydonovitch put it, "the package will grow as we grow, there is a lot more functionality there that we aren't yet taking advantage of, and later on we'll need it". Additionally Fitrix offered a high level of support precluding the need for extensive IT resources.

Not only did Fitrix contain the modules and features customarily found in mid-range ERP solutions – accounting, inventory, manufacturing, purchasing,

and order processing – it included numerous features and feature sets specifically designed for electronics manufacturing.

Leveraging Fitrix To Increase Output And Reduce Costs

MCE, like many electronics manufacturers, has process requirements not commonly found in traditional manufacturing environments. Some of these include serial number tracking at multiple levels within finished goods and sub-assemblies, traceability, warranty and RMA tracking, and meeting requirements for regulatory compliance.

The acquisition of Fitrix has streamlined MCE's manufacturing processes and given them a level of visibility into the firm's business operations that was heretofore unobtainable. For example, the ability to create a multi-level Bill of Materials and to capture and track components by serial/lot numbers enhances and shortens the purchasing and production cycle by providing the data needed to systematically plan and manage customers' orders. By assigning a sequence/ placement number to each component, MCE knows the precise location of that component in the finished product. This knowledge allows MCE to stage production in a manner making assembly easier.

The serial number/lot number assignment of parts allows MCE to know exactly which part was used in each server rack, which means they can always check the engineering revision level of the part. This can be critical information as electrical components are frequently revised. With traceability of parts down to the individual unit, a problem component can be quickly identified and corrective actions taken. This



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knowledge also helps maintain quality by assessing a supplier's performance.

Other key features pertinent to electronics manufacturing have helped reduce overhead, improve customer service, and enhance profitability:

- Make-to-Order Production allows each order to start with a base configuration with additions and changes made at any level in the configuration specific to the order. If, for example, a customer service representative (CSR) learns that a customer requires product modification, the CSR can easily make changes to the BOM while they're conferring with the customer.
- Material Planning functionality contained in the Fitrix MRP module, allows the firm to assess and reduce its cumulative material lead times, which minimizes investment in inventory and expedites production. Accurate quantities of materials are purchased for delivery on dates coordinated with production schedules thereby reducing inventory and freeing cash.
- Bar Code Integration during production allows MCE to quickly and accurately record component usage. Given that serial numbers can be up to 20 numerals long, a bar code scanner reduces input time, minimizes errors, and expedites review when necessary. Having this information greatly increases the accuracy and speed of materials movement, facilitates frequent cycle counts for analysis and adjustment, and provides real-time intelligence into the production process. If, for example, someone placed the wrong motherboard into the production bin, the system catches the error before the component is used.
- Document Management captures scanned images of customer RFQs, production specifica-

tions, and quality and test results for storage with customer and production orders. These documents are stored in the Fitrix database as part of the order and production records and can be retrieved during server assembly or for review after completion and shipment.

- Customer Relationship Management (CRM) is integrated with the other Fitrix ERP modules such as Order Entry and AR, which eliminates having to synchronize leads, prospects, and active customers. It gives sales and customer service personnel easy access to all aspects of the customer relationship. MCE, initially evaluated Salesforce.com, but the full integration of the Fitrix CRM module with its ERP compelled them to change direction. They are now in the beginning stages of implementing Fitrix CRM.

The high level of support for Fitrix users was critical in ensuring the solution fit MCE's existing manufacturing processes.

The Positive Impact of Using the Right System for the Right Environment

MCE's John Maydonovitch is confident he made the best choice in using Fitrix, "Although the solution's functionality and applicability to our size and processes was critical, selecting the right package goes beyond that. Although Fitrix does not require customization, we knew our needs were complex and unique and we were going to need some special features, Fitrix has a sound and cost-effective approach to managing customizations so support doesn't become a problem down the road. The Fitrix support team listened to us. They gained an understanding of our processes and needs and made sure the solution conformed to the way we worked."

Results

Soon after implementing Fitrix ERP, MCE realized marked operational improvements. Key metrics tracked over time highlight the beneficial impact of the Fitrix solution.

- » Inventory turnover improved by a factor of nearly three,
- » Average days to collect cut by nearly a week,
- » Inventory to cash nearly halved,
- » Average days to sale reduced by 60%.

Other benefits include more accurate pricing and delivery scheduling, additional revenue opportunities resulting from efficiency gains, and improved supplier performance.

MCE started realizing benefits of using the solution within 90 days and within 6 months after “go-live” had achieved dramatic improvements in a number of important benchmarks:

- » Performance metrics provide a window into the benefits provided by Fitrix
 - Inventory to cash was 87 days now 47 days
 - A/R turnover was 10.5 now 12.8
 - Avg. days to collect was 34.2 now 28
 - Avg. days to sale was 52.9 now 21.4
 - Inventory turnover was 6.8 now 16.9
- » The accuracy of the firm’s BOMs and quantities of inventory on-hand improved significantly.
- » Material planning has enabled just-in-time ordering of materials so it arrives when needed in the production process. This has reduced MCE’s inventory in stock by 50% resulting in large cost savings.
- » Detailed visibility into each production order has led to more accurate pricing and delivery scheduling resulting in improved customer relations.
- » Efficiency improvements in manufacturing operations have allowed for expanded capacity without more capital investment offering opportunities to generate more revenues.
- Supplier performance improved because of accurate feedback on inventory delivery and quality.
- » MCE management now has confidence in their 6-month revenue forecasts, which facilitates future planning.

Maydonovitch succinctly summarizes their experience with Fitrix, “it’s going great! Everybody in the company touches it, which is the whole purpose of an ERP system. It’s clear we wouldn’t have been able to do the kind of business we’re doing right now without the package.”



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