



## Fabless Company Ensures Solid Growth Path with Flexible, Industry-Targeted ERP System

### OVERVIEW

Country/Region: USA

Industry: Fabless Semiconductor

#### Customer Profile

Ramtron International Corp. is a fabless memory chip company, selling unique high-performance products to electronics OEMs around the world, while also maintaining licensing and manufacturing partnerships with leading semiconductor manufacturers.

#### Business Situation

Managing a rapidly growing fabless semiconductor firm using traditional ERP software was proving to be impossible for Ramtron, a public company. They needed a solid manufacturing and accounting solution designed specifically for fabless needs.

#### Solution

Ramtron selected Tensoft FSM for supply chain and manufacturing, paired with Microsoft Dynamics GP for financials and Sarbanes-Oxley reporting.

#### Benefits

- Real Visibility into Production and Profitability
- Tight Integration for Impeccable Sarbanes-Oxley Compliance
- Better Sales Forecasting, Decision-Making
- Better Long-Range Planning

*“We wanted to find software that would fit the semiconductor industry’s inverted bill-of-materials model, and give us the flexibility to really analyze and scrub data, helping us to drive business decisions, based on timely, accurate information.”*

– Brian Yates, Budget, Planning & Treasury Manager, Ramtron International

Ramtron International Corporation has experienced impressive, steady growth by designing, developing, and marketing specialized semiconductor memory, microcontroller and integrated semiconductor solutions. As the company grew, it became painfully obvious that its legacy ERP solution would no longer meet its needs. Like most ERP systems, it was not designed with an “inverted” bill-of-materials, a key requirement for the semiconductor industry, where one wafer generates many parts. Without this and other industry-specific functionality, significant work-arounds were required to obtain necessary data and create the reports needed to run the firm. Data accuracy and timeliness were questionable, affecting not only decision-making, but also, potentially, the bottom-line.

To address these and other challenges, Ramtron implemented Tensoft Fabless Semiconductor Management (FSM) for supply-chain and manufacturing management, combined with Microsoft Dynamics GP (formerly Great Plains) to manage financial operations. Today, operations and finance share data seamlessly. Collected information facilitates streamlined business processes in a host of departments, from manufacturing operations, to engineering, to accounting, to sales and marketing. Benefits are tremendous, from both a management and a manufacturing perspective. Cost accounting, planning, inventory management and sales forecasting have all improved markedly, now that accurate data, flexible reporting and intuitive analytics are the norm.

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*“The true benefit is the updated visibility to our product in the information that FSM provides – and having much closer to real-time data than ever before.”*

*– Brian Yates,  
Budget, Planning & Treasury  
Manager, Ramtron International*

## SITUATION

Headquartered in Colorado Springs, Colorado, with testing, assembly and shipping operations in Bangkok, Thailand, Ramtron International Corporation is a fabless semiconductor company that designs, develops, and markets specialized semiconductor memory, microcontroller, and integrated semiconductor solutions. It offers ferroelectric random access memory (FRAM) products, used in a range of applications for the metering, computing and information systems, automotive, communications, consumer, industrial, scientific and medical industries.

Founded in 1984, Ramtron has experienced increasingly rapid growth over the past few years. By 2005, the company found its original manufacturing and accounting software to be increasingly unsuitable for its burgeoning needs. Ramtron needed a scalable supply chain solution, designed to map the complexities of a fabless operation, as close to real-time as possible. And, because it is a public company, Ramtron needed flexible reporting mapped to the manufacturing process in order to meet Sarbanes-Oxley compliance requirements.

“We felt that the old system was holding us back from growing the company the way we wanted,” explained Brian Yates, Ramtron’s Budget, Planning & Treasury Manager. “It was taking a ton of work to obtain data – and the results were often inconsistent and outdated. At times, our engineers were receiving month-old yield data. This was simply unacceptable.

“In short, everyone in the company was screaming for a better solution,” said Yates. “We had a system that wasn’t SQL-based, so reporting was

limited. The old system also wasn’t costing correctly; accounting had to make adjustments at the end of every month. We were ready for a complete solution that would track our inventory through WIP, completely through the line, in much more detail than ever before.”

## SOLUTION

Polling each department in the company from management and operations, to sales, finance, planning and inventory, Yates compiled an extensive requirements document to use in his search: 1) Low cost of ownership in maintenance and resources; 2) Industry-specific capabilities; 3) Integration between order entry, production and financial functions; 4) Integration with manufacturing vendors; 5) Integration with Excel, Word, email and other office tools; 6) Standard reports, plus selection of reporting options; 7) Sophisticated analysis tools; and 8) Support from experienced vendor.

In addition to the basic requirements, each department also had specific hot-buttons that the ideal system should satisfy. “The operations group wanted real-time data with up-to-the-minute yields,” Yates said. “Sales and marketing wanted the ability to track backlogged orders, to see how many parts are available and see precisely when parts are done with production and ready to ship to the customer. They also wanted the ability to reserve parts for a specific customer, and trust the system to honor the reservation. Finance wanted reliable costing data, the ability to analyze yields and up-to-date information on any variances to our production standards. They also wanted the ability to see product history and to look at production data – any time in the month – to see if we were meeting our margins.”



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After extensive exploration, Ramtron selected Tensoft, a Microsoft Gold Certified Partner with extensive experience working with fabless semiconductor organizations and other Microsoft Dynamics GP clients. Tensoft's vertical market solution, Tensoft Fabless Semiconductor Management (FSM), integrates seamlessly with Microsoft Dynamics GP to provide an industry-specific fabless semiconductor solution that promised solutions to Ramtron's ever-expanding supply chain, manufacturing and financial needs.

Once the choice was made, Ramtron execs were anxious to get the system up and running. "Our CFO immediately saw the benefits of using FSM, and he wanted a full two quarters on the system before our year-end in December," said Yates. That meant an extremely ambitious two-month implementation schedule to synch up this U.S. company that gets its raw wafers from Japan, but whose product assembly, testing and shipping facility is in Bangkok, Thailand.

"Going live in two months was a really challenging project," Yates recalled. "The Tensoft team stepped up and delivered for us, big time. Because of this, we were able to hit the ground running. The thing that really impressed our CFO – and he's a pretty demanding guy – is the availability of the Tensoft team and their willingness to work with us on the challenges we encountered. They're very good from the customer service standpoint, because of who they are and because Tensoft focuses on the needs of the fabless industry so closely. That was the case during ramp-up, and remains true today."

## BENEFITS

### **Real Visibility into Production and Profitability**

The success of a company's fabless operation depends on how clearly the big picture can be seen. An up-to-date view is virtually impossible without close communication between departments, sub-contractors, and customers. Tensoft FSM was designed with visibility and integration in mind from the start, extending core financials, and adding fabless semiconductor-specific operations and manufacturing functionality.

Brian Yates agrees. "The true benefit is the updated visibility to our product in the information that FSM provides – and having much closer-to-real-time data than ever before. Considering there is almost a day's time difference between Asia and the U.S., that's a pretty impressive statement," he says.

"Right now, our upper management is trying to discern the right inventory mix for the company as a whole. With FSM, they can go in daily and look at current inventory levels, which we have costed by product. Not only are they able to view this for finished product, but they can also see what's in the line to be built, and what we have in terms of wafer forms – making our whole operation sharper and more cost-effective."

### **Tight Security and Integration for Sarbanes-Oxley Compliance**

Since Ramtron is a public company, it functions under the dictates of Sarbanes-Oxley compliance requirements. "From an audit standpoint, Sarbanes-Oxley wants you to have processes in place, and they want to see them performing and functioning properly," Yates says. "This was one of the biggest selling points of FSM."

## TENSOFT, INC.

*Tensoft is an established financial and manufacturing systems provider. Founded in 1996, Tensoft's corporate experience includes involvement with more than 200 software implementations for a wide variety of companies. Tensoft is a Microsoft Gold Certified Partner, with both a Microsoft Business Solutions Competency and an ISV/Software Solutions Competency.*

*Tensoft FSM is a web-based solution to support Fabless semiconductor manufacturing. The product was designed in cooperation with four fabless companies and a leading industry analyst. Operations and financial professionals contributed to the product design, yielding a product that supports both functional areas. The resulting product is a clear leader in its field, and is the only industry specific solution that is fully integrated to Microsoft Dynamics GP out of the box.*

*Most fabless companies still manage their operations on some combination of manual and homegrown systems. Tensoft FSM supports the unique financial, manufacturing and supply chain needs of fabless companies, for a reasonable investment and in a highly scalable design. With customers from start-ups to one of the largest fabless semiconductor company in the world, Tensoft FSM delivers a comprehensive fabless solution that integrates seamlessly with Microsoft Dynamics GP.*

Ramtron Cost Accountant, Dawn Harmon manages Sarbanes-Oxley compliance at Ramtron. "Internal controls are mandatory. One of the nice things about FSM is its ability to lock the security down to specific views," she says. "View Only and Read-Write settings enable me to determine who can see what screens or fields. We drop ship from our assembly and test houses in Thailand, directly to customers. FSM allows our Thai vendor into the system to schedule shipments, granting it access only to the inventory warehoused at its particular facility. The vendor only sees what it needs to see...nothing more."

### **Better Sales Forecasting, Decision-Making**

One big improvement for Ramtron is sales forecasting. "We build our inventory based on sales forecasts," says Yates. "Once we implemented FSM, we discovered that our sales forecasting system was flawed. Now that we have the performance data to back it up, we can track how we've done against the forecasts, shifting the onus back on sales and forcing better, more reliable sales forecasting.

"In fact, overall decision-making at Ramtron is improved, thanks to FSM. I'm a big proponent of data. The more data that you can give people – in a quick, concise format – the better. If we can't provide our people with hard data, then management's decisions aren't really based on fact. We're a public company, so profit margins are really important," says Yates. "Now that management has more and better data, we can also better see why profit margins are changing. Is it

because inventory is lower? Because of our sales price? Because raw material is higher? Now we know."

### **Better Long-Range Planning**

"FSM also helps us in long-range planning," explains Yates. "We're at the point now, where we're experiencing pretty good growth – our revenue is up by a 30% compounded growth rate. If we hadn't switched to Tensoft FSM, we simply could not have handled this. We have so much more information available to us from a tracking standpoint. In fact, I believe we're now much better prepared to grow than our competitors that are using traditional systems.

"We see some pretty big growth in our future, and we see the FSM product and Tensoft growing with us, in parallel. There are other products out there that purport to do what FSM does. They look really good in the beginning, but begin to show cracks once they've been in place for a while. We've had exactly the opposite experience. In fact, our respect for the Tensoft team and the capabilities of FSM has grown, the longer we work together."

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