MSI
Information Technology for Manufacturing Executives

Plant integrators edge upward

New breed of systems integrator uses blend of plant automation expertise and business acumen

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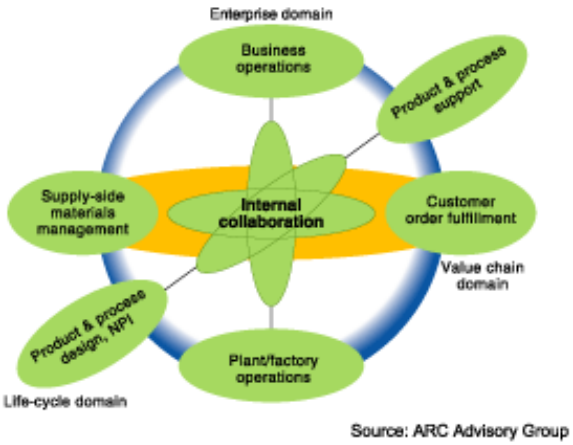
Start a conversation about plant-focused systems integrators (SI), and you'll hear some odd monikers—from "code slingers" to "hardware jockeys." The names stem from the reputation that SIs have gotten over the years as technically oriented, short-term "fix-it" experts.

Plant-focused integrators recommend, design, and implement plant-floor automation and production management systems for manufacturers, but—at least historically—have been considered worlds apart from the consulting firms companies normally turn to for enterprise and supply chain management system projects. That's beginning to change.

Collaborative manufacturing management model



Source: ARC Advisory Group

Collaborative manufacturing is causing plant-floor systems integrators to expand their expertise to support higher-level value chain issues.

A number of factors have converged to influence the nature of these firms. For one thing, plant automation systems are less reliant on proprietary technologies, making it possible for corporate information technology (IT) departments to become more closely involved in plant-floor systems and projects. Perhaps most important, today's plant-level projects aren't simply about point efficiencies. They are being tied to larger supply chain initiatives and are expected to deliver bottom-line results. At the same time, consulting firms are acquiring the technical capabilities to integrate plant-floor and business functions.

The relationship between Peabody, Mass.-based **Eastman Gelatine Corp.** and New York-based integrator **Parity Americas** illustrates the changing nature of this relationship.

Eastman produces gelatin used in photographic film emulsions, pharmaceuticals, and food gelatins. Like many companies, it was confronted several years ago with the Y2K dilemma. Rather than remediating its mainframe system for product tracking, it opted to replace it from the ground up. The company contacted Parity Americas, a recommendation that was driven by Parity's expertise in manufacturing execution

systems, says Ted Felouzis, Parity's vice president of systems and services.

Information and manufacturing teams from Parity and Eastman Gelatine developed EGEL, a system for product tracking and lab information management based on the InTrack MES from Lake Forest, Calif.-based **Wonderware**. During design, Parity presented Eastman with options based on high, low, and medium probabilities of realizing cost savings.

"Our company was driving us to create a system that could produce favorable cash flow and an internal rate of return," says Mike DiMeo, Eastman Gelatine's treasurer and director of IT. "Parity Americas helped us develop that."

As the integration landscape shifts, other customers will experience the same kind of success in partnering with integrators as Eastman Gelatine has, say knowledgeable observers. However, others say there is corporate resistance to putting unbridled faith in consultants, or for that matter, in new IT systems—including those at the industrial automation level.

Times force change

Mark Cubine, a vice president with Birmingham, Ala.-based integration firm **EnteGreat**, notes that the costs associated with Y2K remediation projects—as well as "out-of-control spending" associated with large deployments of enterprise resources planning (ERP) systems—left many manufacturers feeling "burned."

But at the same time, manufacturers were aware that they could create business value by integrating data from their production-level and business-level systems. "There was a new business model that manufacturers began to exploit during the e-Business wave, and that situation forced them to become more technologically savvy," says Ram Prabhakar, the director of engineering and manufacturing solutions strategy for Plano, Texas-based consulting giant EDS. "They realized they could exploit the availability of information in a better way to position themselves competitively and grow their revenue base."

To achieve those results—and to avoid making more "all-sizzle, no-steak" buying decisions—manufacturers have instituted much more disciplined decision-making processes regarding automation investments.

"Nobody's funding a project anymore based on some perceived need to invest in technology or some blind acceptance that IT investments will pay off," says Cubine. "Each project must have a solid and believable payback in terms of either cost savings, or new and valuable capabilities."

Integrators have been forced to grow their capabilities to meet those demands.

"At EnteGreat, we budget for and deliver at least twice as much total annual training for our people as we did five years ago," says Cubine. "Five years ago, most of that training was technical in nature, while today, at least 25 percent of the training we do is on manufacturing and business processes, vertical market issues, and regulatory compliance."

In addition, sales and marketing personnel have altered their methods, says Dan Miklovic, a manufacturing industries analyst with **Gartner**, Stamford, Conn. "Sales business

development staffs have shifted from being engineering and technical types to more professional [salespeople who are] used to building a value message and selling it to senior management," says Miklovic.

New frameworks

Another factor that has changed the nature of systems integration is the architecture of the automation systems themselves. The notion of integrating business and manufacturing systems to improve productivity, time-to-market, and profits isn't a new one, says Greg Castner, a London-based manufacturing consultant for New York-based **Accenture**.

"Fifteen years ago, people were talking about Computer Integrated Manufacturing, or CIM. Back then, though, the whole concept was predicated on very monolithic, thick-client architectures," Castner says.

Today, Castner says, de facto standards such as Microsoft operating systems, thin-client architectures, and Web-based standards such as eXtensible markup language have accelerated manufacturers' ability to link their systems. With fewer technical barriers to integration, manufacturers can focus on the business benefits of integration.

Another sign of changing technology is that some companies have moved control engineering functions into their IT departments, says Dan Freed, sales manager of **Xyntek**, a Yardley, Pa.-based integration firm.

Finally, just as the integration firms with their roots in technical services have found themselves having to learn more about business applications, traditional business consultancies such as Accenture have rolled up their sleeves to acquaint themselves with the plant floor. While big consultancies have formed loose relationships with technical providers over the years, they are now trying to form tighter relationships.

The changing face of plant integrators

Old	New
Expertise centered on technology	Expertise encompasses a mix of technology, business processes, and vertical industry knowledge
Focused on installing proprietary automation system technologies	Adept at using open standards such as XML, Microsoft COM, OPC
Service local/regional area	Bigger regional, or even national/international, reach
Installation of process automation products and PLCs	Implementation of higher-level MES, PLM, and scheduling apps

Source: *MSI*

"They're out there trying to come to grips with MES and plant floor-type issues," says Miklovic. "For example, Accenture clients don't go to that consultancy and say, 'Give me five guys who have implemented MES in a particular type of manufacturing.' Those people don't exist in Accenture. Instead, they'd ask Accenture, 'What other companies are you working with in this area?'"

Accenture, in fact, made a splash earlier this year with the announcement that it had become part of an alliance that includes **Intel**, Santa Clara, Calif.; **Microsoft**, Redmond, Wash.; and **ABB**, Wickliffe, Ohio, to deliver more effective integration of plant and business systems.

"We've leveraged the technology that Microsoft brings with Intel's processing power, and ABB's manufacturing system platforms. And Accenture brings capabilities in supply chain management, ERP, and integration," says Castner. "When you combine all that, you get capabilities you couldn't have gotten in the past."

Even the right blend of technical know-how and business process knowledge sometimes isn't enough to meet customers' demands. Both EDS' Prabhakar and EnteGreat's Cubine say integrators need to be well versed in industry-specific needs, such as regulatory issues in the pharmaceuticals and food & beverage verticals. For example, Xyntek cites regulatory compliance as a core competency.

Naturally enough, as the traditional plant-floor integrators move upward in the hierarchy, they deride the business consultants attempting to move downward. "We're right out there competing with those guys [large business consultancies] and beating them at their own game because of our experience with raw, real-time systems that are running plants with 30,000 instruments," says Mac Hashemian, director of operations for Xyntek, which employs 80 consultants. "This is in contrast to the consultancies that come from the world of SAP and PeopleSoft and are putting in systems for finance, human resources, and payroll."

Hashemian also looks askance at the big consultancies' efforts to partner with smaller firms. "We'd just wind up doing a lot of free work on the proposal end, and if the big firm did get the job, they'd try to staff up, wing it, and never come to us anyway," he says.

Who will prevail

Some predict further consolidation among services firms. "Some of the smaller integrators will get acquired, some of them will maintain good positions as boutique providers with very specialized industry knowledge, and some of them will just wind up going out of business," says Miklovic. "I hate to say it, but bigger companies usually win. It's not always right, but that's just the way it is."

EnteGreat's Cubine believes integrators that operate strictly at the plant-floor level are going to be at a disadvantage. Says Cubine, "Not many of them have been able to grow or embed the consulting or business process design skill sets that projects like MES and PLM [product life-cycle management] require."

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