

# **POWERING A SOLUTION PROVIDER NETWORK**

THE NEXT-GENERATION BUSINESS MODEL  
FOR THE INDUSTRY

**SAP White Paper**

SAP for Industrial Machinery & Components

**THE BEST-RUN BUSINESSES RUN SAP™**





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# EXECUTIVE SUMMARY

## TRANSFORMATION THROUGH A SOLUTION PROVIDER NETWORK

Business challenges drive the evolution of the industrial machinery and components (IM&C) industry. Shaped by macroeconomic and market forces, today's challenges include increasing global competition, intellectual property protection, spare-parts piracy, declining profits in product sales, and ever-increasing customer expectations.

Bearing down on all sides of the business, pressure from these challenges is forcing IM&C company executives to reconsider their business model. For you, it is no longer enough to sell just products and spare parts. To succeed in the IM&C industry today, you need to be a solution provider, and that requires a new business model – one that creates new streams of revenue by adding value to your product offerings.

At the heart of SAP support for the IM&C industry are a vision and a strategy, including an IM&C business model designed to help IM&C companies succeed, today and tomorrow. The key to the new model is the creation of a solution provider network and the ability to deliver more value to your customers by leveraging the vast IM&C ecosystem.

This SAP white paper explores transforming an IM&C company through a solution provider network and addresses the issues you will meet along the way. Does the new model fit with your business strategy and objectives? How do you enable a solution provider network? Is there a business transformation road map you can follow to get there? How are other companies benefiting from tapping into the IM&C ecosystem with such a network?

# CHALLENGE COLLIDES WITH OPPORTUNITY

## NEW THINKING FOR SUSTAINABLE GROWTH

SAP's vision and strategy for industrial machinery and components (IM&C) companies begin with a deep understanding of the pressures molding the IM&C industry and the processes that drive it. SAP customers in the IM&C industry face three major challenges. These start with emerging economies that are changing the competitive landscape rapidly (see Figure 1). Secondly, profits are shrinking despite an energetic world economy. Thirdly, customers are demanding greater value and competitive advantage. It is in this environment that the IM&C manufacturer must deliver profitable and sustainable growth.

### Emerging Economies

The first challenge is also an opportunity, as emerging economies are rapidly changing the competitive landscape of machinery and components companies. Economists call this the "positive supply shock" – rapid productivity gains in emerging economies are lifting the world's potential output as these countries try to catch up with developed economies. For example, in terms of machinery production in 2006, China and Russia were among the top 10 countries.<sup>2</sup> China was number four behind Germany, Japan, and the United States, respectively. Just a few years before, China was not even among the

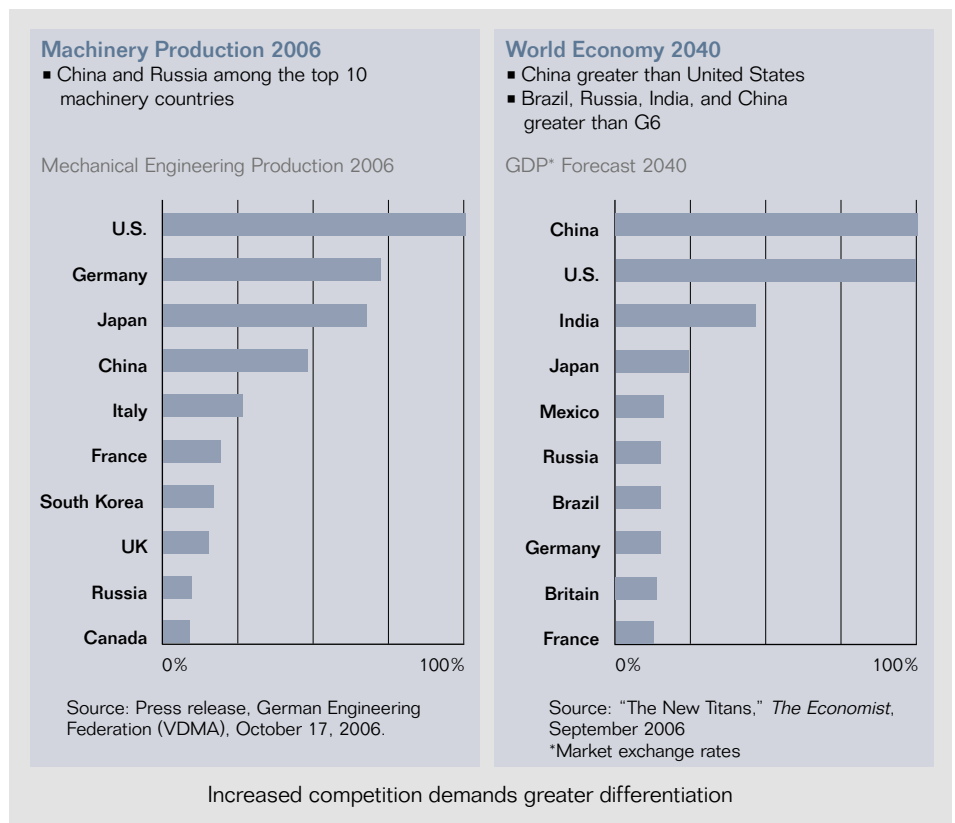


Figure 1: New Competition Requires New Thinking from IM&C Companies<sup>1</sup>

top 10. Today, China machinery production contributes almost 25% of the IM&C industry market worldwide.

Furthermore, in the world economy GDP forecast for 2040, new giants are emerging.<sup>3</sup> China's GDP would be greater than that of the United States.

Moreover, Brazil, Russia, India, and China will have a GDP greater than that of the G6 countries. Therefore, the future sees a huge demand for machinery equipment, and, at the same time, global competition will increase, which will demand greater differentiation for machinery manufacturing companies.

1. Press release, German Engineering Federation (VDMA) (October 17, 2006) and "The New Titans," *The Economist* (September 2006).

2. Press release, German Engineering Federation (VDMA) (October 17, 2006).

3. "The New Titans," *The Economist* (September 14, 2006).

## Shrinking Product Profits

Despite the fact that the world economy is improving, higher costs continually threaten to undercut margins, resulting in shrinking profits from traditional product profit streams (see Figure 2). A census<sup>5</sup> conducted by *IndustryWeek* magazine and the Manufacturing Performance Institute among 668 manufacturing plants in the United States showed that manufacturers are struggling to maintain their profits. In 2006, material costs of 8.4% undercut pricing gains of 8.2%. Moreover, machinery manufacturers are coping with increasing energy costs that affect the bottom line and threaten long-term product margins, as does the increasing threat of intellectual property (IP) theft. For these reasons, IM&C companies must go beyond traditional business models to improve profit margins through the creation of alternative revenue streams.

## Rising Customer Demands

Customers are demanding greater value and competitive advantage when they buy machinery equipment (see Figure 3). A study performed by Manufacturing Insights<sup>7</sup> reveals that customers

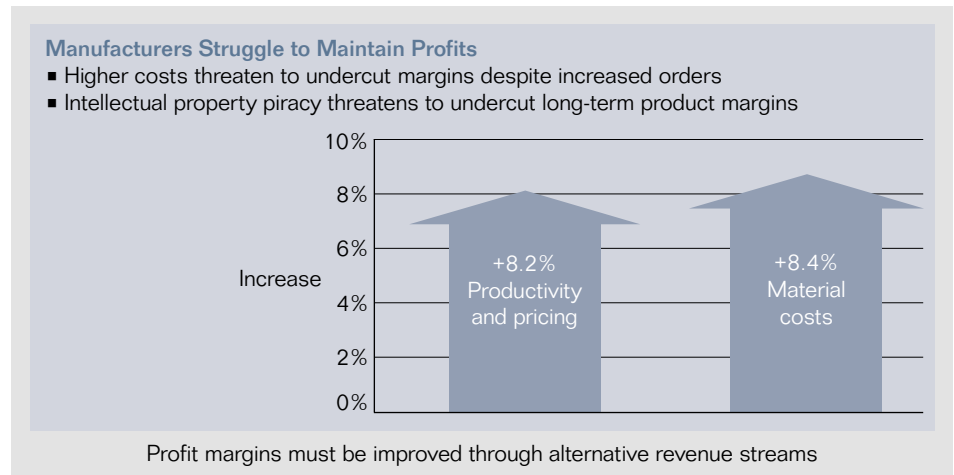


Figure 2: Sustainable Growth Demands New Revenue Streams<sup>4</sup>

are looking for faster product innovation; higher quality; and broader, value-added solution and service offerings. When buying machinery, they also consider return on investment. Furthermore, customers are looking for different delivery models. They no longer want to buy just machinery; they want to buy greater up time in the overall equipment life cycle.

As a machinery and components manufacturer, knowing what your customers want and expect gives you the opportunity to create long-term differentiators for

your products and services. However, the creation of differentiators that deliver more total value to your customers requires innovative solutions.



Figure 3: Customer Demand Is Increasing<sup>6</sup>

4. 2006 Manufacturing Executive Summary (IndustryWeek and Manufacturing Performance Institute, November 2006).

5. Ibid.

6. Source: Joe Barkai, *Discrete Manufacturing Industry Update*, 3Q06 (Manufacturing Insights, an IDC company, October 2006).

7. Source: Ibid.

## Endress+Hauser Group

**Industry:** Industrial machinery and components

**Revenue:** €916 million

**Employees:** 7,100+

**Summary:** As a leading manufacturer of instruments to measure level, flow, pressure, and temperature, Endress+Hauser (E+H) Group was challenged continually by proliferating customer requirements and unpredictable demand. These challenges put tremendous pressure on both worker and machine at E+H, requiring 24x7 flexibility and higher throughput with fewer employees.

By striving for a common platform based on the SAP NetWeaver® technology platform and enterprise service-oriented architecture (enterprise SOA), Endress+Hauser integrated internal solutions with customer and supplier systems,

thus paving the way for the transformation from being simply a pure manufacturer of products to a true solution provider. E+H now offers an online value-added service that supports maintenance of original equipment throughout its life cycle. Connecting customer equipment directly to E+H service experts via a portal enables the automatic display of malfunctions, leading to quicker resolutions to problems and enabling a smooth-running, well-maintained production process. Original equipment customers can integrate their local asset management system to E+H's global maintenance solution or outsource the control of their facilities to selected E+H suppliers, thus creating a true network.

### **Results with SAP® software:**

E+H has truly evolved from a niche manufacturing specialist to a provider

of comprehensive solutions for industrial measurement and automation. By accelerating process velocity nearly 30%, this evolution significantly improved customer service levels and reduced overall operating costs for E+H. Additional Web-based solutions like supplier-managed inventory and automated equipment control helped E+H increase revenue by 11%, once again outpacing market growth in the process automation industry.

*“By managing the rollout projects through SAP Solution Manager, we expect to reduce the time and effort involved by as much as 20%.”*

Peter Rathfelder, Executive Board Member,  
Endress+Hauser InfoServe GmbH+Co. KG

# MASTER THE FUTURE

## A NEW BUSINESS MODEL: SOLUTION PROVIDER NETWORK

“A new type of firm is emerging . . . that of integrated solution providers. These firms do not conform to the traditional categories of manufacturing or services. Instead, they add value – and perform their distinctive role – by bringing together products and services in ‘integrated solutions’ that address the needs of large and midsize business – and government-owned customers.”<sup>8</sup>

### Enabling a Solution Provider Network

In response to the challenges of global competition, diminishing profits, and customer demand, many machinery manufacturers are transforming themselves into solution providers to achieve sustainable growth by delivering greater value to customers. They are finding this value in their solution provider network (see Figure 4) – a global ecosystem of customers, partners, and software developers, all working together to create continuous customer value. Through their solution provider network, they are seizing new opportunities and developing new capabilities to enhance value to their customers.

### Offer Turnkey Solutions

The business transformation toward a solution provider network includes a shift from just selling finished goods and spare parts to providing complete aftermarket service and value-added support in addition to the original equipment. That is because revenues from value-added services can contribute a substantial or even majority portion of total revenues, and profit margins for value-added services can be much higher than profit margins for product sales. A study by Deloitte<sup>9</sup> reveals the importance of turnkey solution support to revenues when it found that some of the best-performing manufacturing companies generate 50% of their revenue from services, while the

average company is only at 26%. Additionally, the average profitability of service and spare parts operations is typically more than 75% higher than the profitability on original equipment and machinery.

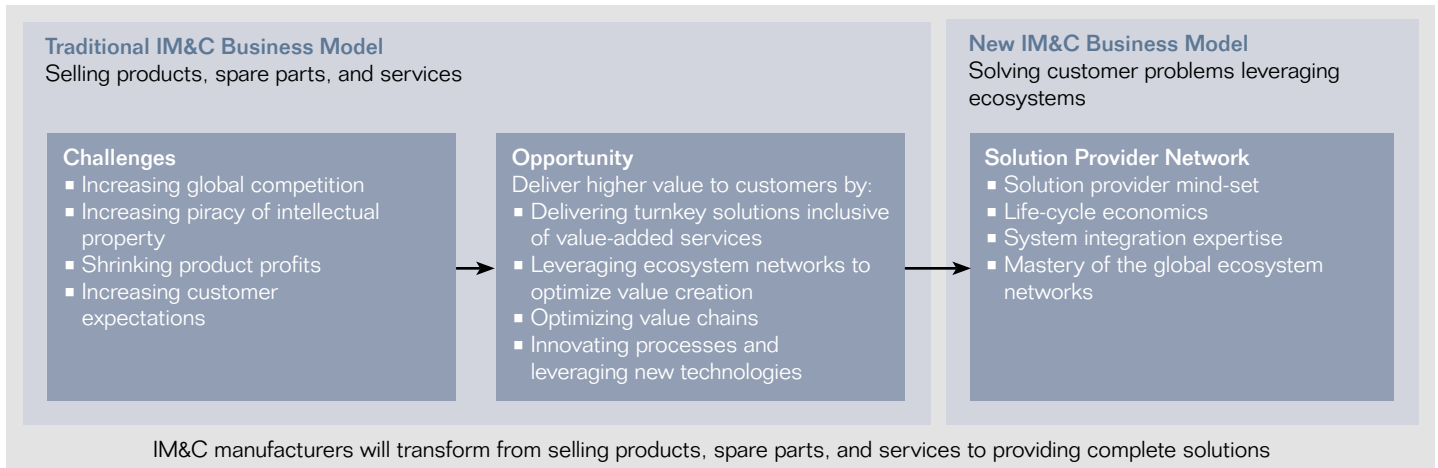
### Use the Power of the Ecosystem

To create new revenue streams, machinery manufacturers are leveraging their ecosystem networks and optimizing their value streams. They are using the ecosystem to create a barrier between themselves and their competition, because it is difficult for a competitor to copy an ecosystem, but relatively easy to copy a product.

In addition, going beyond the four walls of the manufacturing plant and extending out to ecosystem networks present opportunities for manufacturers to collaborate more closely downstream with customers and upstream with suppliers. This increased collaboration can create new value and revenue stream enhancements for the manufacturer.

8. Source: Charlotta Windahl, Pierre Andersson, Christian Berggren, and Camilla Nehler, “Manufacturing firms and integrated solutions: characteristics and implications,” *European Journal of Innovation Management*, Volume 7, Number 3 (Emerald Group Publishing Limited, 2004).

9. Peter Koudal, *The Service Revolution in Global Manufacturing Industries* (Deloitte Services LP, January 2006).



**Figure 4: A New Business Model for the IM&C Industry**

#### Optimize Value Chains

A third opportunity for machinery manufacturers to deliver more value to customers is by optimizing their value chains. In an increasingly complex world, your value chains need the right information at the right time. You need to manage the dynamics of the supply and demand ecosystem to ensure that all members of the value chain network are fully connected and informed. This is the path to ensuring that you can react with speed and agility to any changes in your supply and demand picture.

#### Use New Technologies to Innovate Processes

In a snapshot, the product sales cycle of machinery manufacturers is getting shorter because product innovation is getting faster; however, aftermarket sales and service cycle is getting longer. You need to find ways to face these realities early in the new-product development and introduction (NPDI) phase. In fact, by leveraging technology, machinery manufacturers can create products in a totally different way.

Mechatronics, for example, which combines mechanics, electronics, and computing to provide a synergistic approach to using hardware, electronics, and embedded software, is becoming increasingly important. In addition, manufacturers can differentiate themselves in the area of software, employing software engineers in addition to mechanical engineers.

# GAIN NEW COMPETENCIES

## ADOPTING A NEW MIND-SET

To profit from these opportunities by creating new revenue streams, machinery manufacturers not only need to leverage existing competencies, but they also need to establish new ones via the IM&C ecosystem. A solution provider network makes that possible.

### Develop the Mind-Set of a Solution Provider

To be a solution provider, you first need to think like one. With a solution provider mind-set, a manufacturer can look, for example, into the value streams of its customers. You may find it advantageous to take over certain aspects of the value stream and deliver it to the market. This requires the ability to support customers with relevant industry and technology expertise that includes not just products but also services like consulting, financing, preventative maintenance, field service repair, and other value-added support services. When you transition from selling products to also solving problems, you need a new way of thinking.

### Support Aftermarket Sales and Service

Life-cycle economics significantly impact the IM&C manufacturer, particularly where it concerns short sales cycles and very long aftermarket sales and service cycle times. In the IM&C industry, 10, 20, and 30 years of service are typical. In this environment, the manufacturer must find the right solutions for the company and its customers, including remanufacturing, remodeling, and new software solutions, if necessary. It is why manufacturers are taking full advantage of a software solution that supports processes from product introduction all the way to product retirement.

### Get System Integration Expertise

Today's customers are looking to solve problems, not just buy products, so the ability of a machinery manufacturer to offer value-added expertise beyond simply selling a piece of original equipment is critical. Such expertise requires a competency in systems integration, not only to integrate your own legacy systems, but also to integrate them with the systems of your business partners. Sometimes this expertise can extend as far as an original equipment manufacturer integrating competitive third-party products or services.

### Master Ecosystem Networks

A machinery manufacturer must master global ecosystem networks. This is essential to finding the right alliances and partnerships with suppliers, partners, and distributors that enable you to capture market opportunities and to identify ways to add value for your customer. In this manner, you transform from just selling products, spare parts, and services to delivering complete solutions via the power of a solution provider network. Ecosystem mastery requires the knowledge to move from simple discrete pricing of products and services to comprehensive long-term contracts. Based on sharing risks, this capability rewards the various members of the value chain, all the way upstream to raw material suppliers and all the way downstream to end customers.

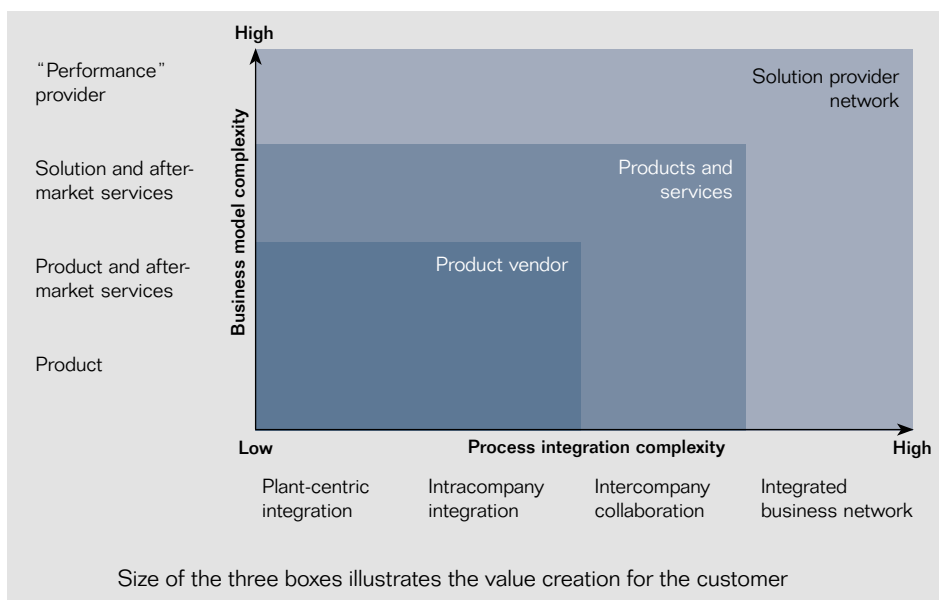
By striving for these competencies, IM&C manufacturers can evolve to the next-generation business model – a solution provider network – to leverage ecosystems, solve problems, and add value for their customers, and themselves.

# ROAD MAP TO A SOLUTION PROVIDER NETWORK

## MAKING THE TRANSFORMATION

### A Combination of Business and Revenue Models to Follow

The transformation to becoming a solution provider network follows definite phases. These normally begin with enterprise resource planning (ERP) and preparing the organization. The next phase, intra-enterprise cooperation, then takes place, such as adding more manufacturing plants or sales offices. As the transformation continues, the company goes outside corporate walls by enabling collaborative business scenarios, such as inventory collaboration with suppliers, design collaboration with engineers, and financial collaboration with financial services organizations. Finally, the manufacturer transforms into the last phase – the solution provider network – developing industry coalitions leading to new ways to drive additional value to customers. Depending on your business, you can leverage different business and revenue models to get to the next-generation business model for IM&C – the value-added solution provider.



**Figure 5: The Road to Becoming a Value-Added Problem Solver**

In Figure 5, process integration complexity, shown by the bottom axis, ranges from very low complexity with a plant-centric model to very high complexity with an integrated business network model. The further you move to the right with regard to integration complexity, the closer you are to the solution provider network model.

The vertical axis of the chart shows the range of business model complexity. Selling a product is on the low end of business model complexity, whereas a performance provider is on the high end of complexity.

The evolution starts with a product vendor, moves up and to the right in complexity with a broader product and service provider, and reaches the pinnacle of a solution provider network, where a company has mastered highly complex process integration and a highly complex business model.

The relative sizes of the boxes in Figure 5 indicate the amount of value created for the customer. For example, a traditional product vendor provides much less customer value than a thought-leading solution provider.

### Pick Your Possibilities

In Figure 6, the three business models map to six revenue models. As you move up the revenue model, the degree of sophistication or complexity rises.

For example, starting at the bottom, a product vendor, instead of simply selling more products, could offer value-added services, like financing or field service installation, to begin solving more problems.

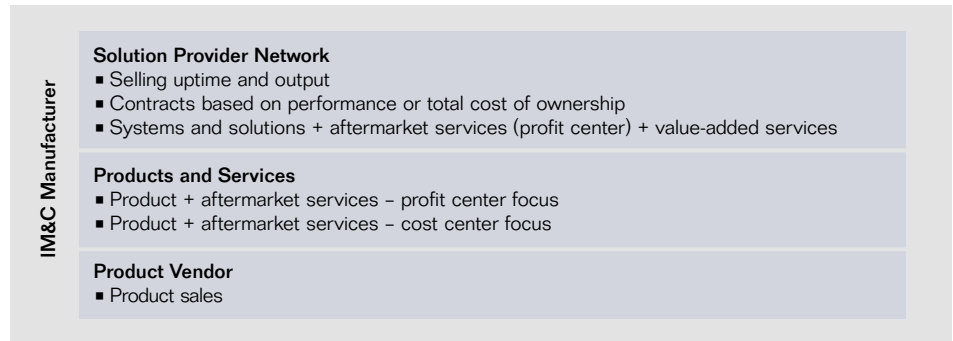


Figure 6: Value Increases as Sophistication Rises

In the middle, as the sophistication of the revenue model increases, a product and service business model could evolve to performance-based solutions or even the leasing or renting of machines instead of selling original equipment outright.

At the top is the ultimate business model: solution provider network. Here, solving problems and adding value through selling uptime, leasing and renting machines, delivering value-added services, and providing performance-based solutions and pricing become the norm. And here, where

the highest level of complexity and sophistication is mastered by what once was simply a “manufacturer,” there is now a true solution provider.

### Daikin Europe N.V.

**Industry:** Industrial machinery and components

**Revenue:** €5.6 billion

**Employees:** 33,480

**Summary:** Daikin Europe N.V. is a global leader in the air conditioning systems industry and also active in the heating and refrigeration industry. The company manufactures a wide variety of product models and quantities driven by actual, highly dynamic market demand.

Daikin developed a new production concept powered by a collaborative supply network strategy. In the distant past, to satisfy market demand, Daikin only needed to mass produce lots of single models based on seasonal forecasts. Over time, in response to ever-diversifying customer needs, Daikin moved to a mixed production planning strategy of multiple models to satisfy demand.

**Results with SAP® software:** Today, using a collaborative supply network, Daikin is more flexible than it has

ever been. It has executed a variable-product and variable-quantity strategy where fast-cycle, high-volume production is linked with discrete shipments to rapidly respond to a wide range of customer requirements and demand changes. In moving from a pure manufacturing strategy to a solution provider model, Daikin embraced the value of network collaboration by offering solutions that were adopted quickly by suppliers, supported easily by the network, and operated at a much lower cost than ever before possible.

### Francotyp-Postalia Sales & Service GmbH

**Industry:** Industrial machinery and components

**Revenue:** €145.1 million

**Employees:** 1,092

**Summary:** Francotyp-Postalia manufactures a full line of postage meters and mailing solutions used across the globe. As the business grew, Francotyp-Postalia realized that aftermarket service was becoming more and more important. Evolving into a solution provider strategy, Francotyp-Postalia implemented a customer

relationship management solution that integrated all business processes from initial sale to aftermarket service.

**Results with SAP® software:** With enhanced contract management capabilities and the ability to define configurable pricing and flexible billing models, Francotyp-Postalia was able to greatly increase the quality of its service offerings. In moving from manufacturing products to providing end-to-end solutions, Francotyp-

Postalia was able to eliminate paper service orders, reduce service cycle times, and increase usage-based billing. This new aftermarket service solution is integrated with accounting processes and has enabled Francotyp-Postalia to track serial numbers, warranty entitlements, service histories, service level agreements, machine configurations, and installed-base records to ensure customer service expectations are met or exceeded.

# HARNESS THE POWER OF A SOLUTION PROVIDER NETWORK

## GAINING NEW COMPETENCIES THROUGH EXTENDED ECOSYSTEMS

### Key Capabilities

From postage meters to measuring instruments, the companies mentioned in this white paper are each pursuing unique opportunities to create sustainable, profitable growth by delivering higher value to their customers through the IM&C ecosystem.

These IM&C companies – and many others – are capturing new revenue opportunities by developing the following capabilities:

- **Deliver turnkey solutions.** Go beyond selling original equipment, including finished goods and spare parts, to provide aftermarket services.
- **Leverage IM&C ecosystem networks.** Bring fresh value to your customers while creating new streams of value and revenue, as well as a unique competitive advantage.
- **Optimize the value chain.** Manage the complexity of the supply and demand ecosystem and react with speed and agility to changes.
- **Innovate processes and leverage new technologies.** Drive customer value constantly while mastering the increased frequency of new-product introductions and the shorter life cycles of original equipment and machinery.

### Key Competencies

To take full advantage of opportunities to add customer value by using extended ecosystems, these companies had to gain new competencies. To create a winning SPN profile, they leveraged existing competencies in a different way, balancing them with new competencies, including the following:

- **Develop a solution provider mindset.** This takes you beyond products to encompass value-added services, such as consulting, finance, and field service repairs.
- **Incorporate product life-cycle economics.** You need software that supports the entire life cycle, from product development to product retirement.
- **Enhance your technical competence and systems integration expertise.** This competency is essential to helping your customers solve problems – for example, by offering remote service, thus eliminating the need to send a service representative.
- **Master global ecosystem networks.** Doing so helps you build alliances with suppliers and partners, no matter where they are located.

The transition to a service provider network requires business transformation. Traditionally, business process reengineering involved ERP software as the tool and three-tier client-server architecture to drive IM&C processes. However, supporting a solution provider network requires business network transformation using an integrated business process platform. You can implement your own business process platform using the SAP NetWeaver® technology platform and enterprise service-oriented architecture (enterprise SOA) as the foundation.

# BECOME A BEST-RUN IM&C COMPANY

## BUILD THE FOUNDATION WITH SOLUTIONS AND BEST PRACTICES FROM SAP

Traditionally, SAP customers in the IM&C industry have worked closely with their ecosystems – customers, design partners, and service centers, to name a few. In the future, it will become even more important to adopt the right business scenarios and to be able to assemble and reassemble those scenarios in the framework of the solution provider network.

### SAP Has the Building Blocks

SAP can help. It already delivers state-of-the-art, industry-specific best practices that include research and development, sales and marketing, and supply chain planning. Manufacturing building blocks enable the cross-application integration needed by IM&C companies to capture real-time data from multiple shop floors and react with agility and flexibility to implement changes quickly. In addition, procurement, logistics and distribution, and aftermarket sales and service are principal building blocks along the value chain. These functionality-based building blocks are open, rely on industry standards, and can be integrated through enterprise SOA.

The foundation for the building blocks is a business process platform that supports industry-specific applications. The intellectual property of the SAP ecosystem of partners and vendors drives innovation for the IM&C manufacturer. This large IM&C ecosystem leverages enterprise SOA, based on SAP NetWeaver, to enable independent software vendors to integrate with SAP® solutions.

### Put the Power of the Ecosystem to Work for You

SAP delivers a technology platform integrated with industry-specific applications and supports this with the IM&C ecosystem – the heart of the SAP industry value network.

#### Learn More

To continue the exploration of the power of a solution provider network to transform your IM&C business, consult with your local SAP representative or visit SAP at [www.sap.com/industries/machinery](http://www.sap.com/industries/machinery).

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