



Manufacturing IT Innovation: Building on Bandwidth

By Anne Rawland Gabriel

Channel Partners™

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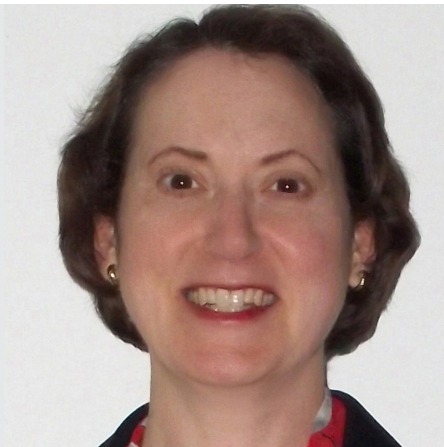
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About the Author



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ANNE RAWLAND GABRIEL has more than 20 years of experience writing about business technologies as a journalist and marketing communications consultant. Her work spans technology ranging from the latest in AI, mobility, network intelligence and SDN to traditional data center and desktop solutions. In addition to Channel Partners content, Gabriel currently contributes to other channel publications as well as education, financial services and various industry trade publications. Previously, she spent nearly a decade as a contributing editor to Bank Systems & Technology, Insurance & Technology and Wall Street & Technology. Earlier in her career she worked as a communications executive at a top software company and established her own award-winning regional marketing communications firm. Gabriel holds a bachelor's degree in economics from Grinnell College.



Manufacturing IT Innovation: Building on Bandwidth

It's well established that U.S. manufacturing suffered from back-to-back downturns in 2001 and 2008 while struggling with the impacts of globalization throughout. However, industry watchers sense manufacturers are now shaking off the doldrums, with optimism on the rise.

[PwC reports](#) gains over the past year in the percent of manufacturers intending to increase expenditures in facilities expansion, information technology, product introductions and R&D. Fully 98 percent of companies plan to boost spending in these areas in 2017.

At the forefront of the resurgence is a collection of technologies dubbed "[Industry 4.0](#)." According to [McKinsey](#), these digitally enabled advancements hold the potential to improve productivity efficiencies by 15 to 20 percent and reduce machine downtime by 30 to 50 percent.

Further, manufacturers are embracing various innovations like Industrial Internet of Things (IIoT), big data analytics, advanced enterprise resource planning (ERP) and improved business continuity. For IIoT alone, [MarketsandMarkets](#) predicts an annual market growth rate of 27 percent between now and 2021.

	3Q'15	4Q'15	1Q'16	2Q'16	4Q'16
Percent planning to increase spending (net, next 12 months)	82%	86%	80%	80%	98%
New product or service introduction	48%	44%	55%	52%	67%
Research and development	37%	41%	50%	40%	52%
Information technology	22%	36%	35%	30%	42%
Facilities expansion	20%	22%	18%	20%	33%
Marketing and sales promotion	10%	15%	17%	20%	27%

Source: PwC, 2017 Industrial Manufacturing Trends

No matter which digital innovations a manufacturer adopts, common to all is the need for high-performance bandwidth. “For example, the competitive advantage to IIoT goes beyond the technology and the data it collects, to the story the data tells,” points out Craig Schlagbaum, vice president of indirect channels at [Comcast Business](#). “Accessing that data and performing analytics across multiple geographies requires more bandwidth than ever before.”

Presented as a series of case studies, this Report explores the IT modernization experiences of four manufacturing firms — all serving global markets — to help partners understand the challenges and opportunities ahead. Each case demonstrates how digitizing industrial systems requires investments in fiber, supplying insights solution providers can monetize at their firms.

Se-Kure Controls Inc. / Chicago

Total Locations: 5 throughout the U.S.

Business Lines: Retail asset protection systems

Challenge: Untangle previous agreements for improved data and voice

When CAD files transmitted between [Se-Kure Controls](#)' Illinois and Michigan locations became too large to move efficiently across its existing 10 Mbps fiber connections, the company contacted its reseller. The connections were turned up to 20 Mbps, for a price.

In an attempt to economize, Se-Kure adopted a cut-rate VoIP telephony solution. Six months of dropped calls and poor customer service caused Se-Kure to seek the advice of [JEP Communications](#). “When Se-Kure explained the bigger picture, we knew we could help,” recalls Joe Proctor, principal at Chicago-based JEP.

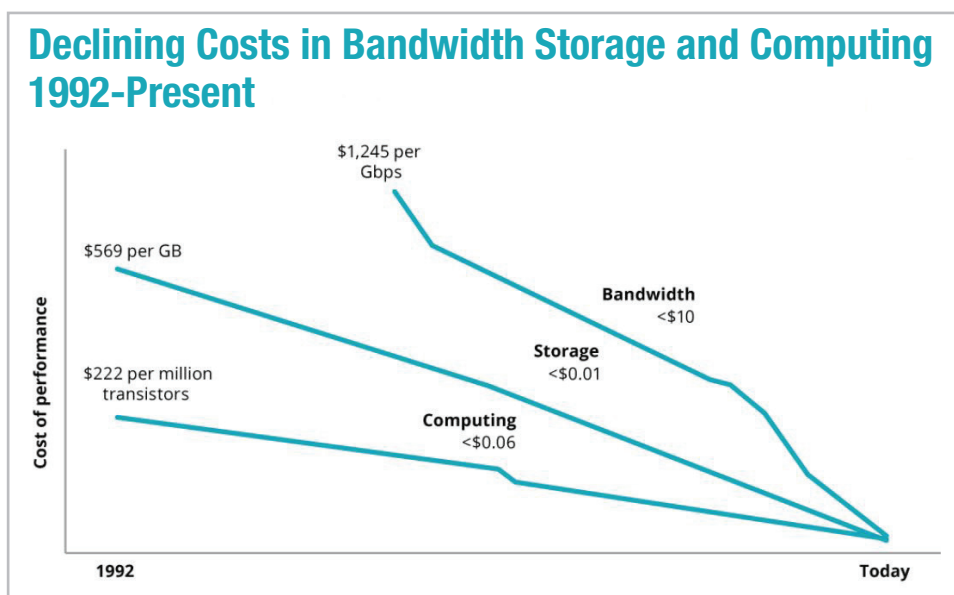
As Proctor suspected, the connectivity reseller had written new multiyear contracts. “Like many end users, Se-Kure didn’t understand they were resetting the clock,” he says. “They thought they were only increasing the bandwidth.”

Boosting Bandwidth While Lowering Costs

To untangle the situation, Proctor started with the Michigan facility and determined the location’s existing provider, [Charter Communications](#), offered the best solution. Then he negotiated moving the contract from the reseller to a direct Se-Kure relationship. Charter also agreed to increase speed from 20 Mbps to 50 Mbps, at no added monthly cost, in return for retaining the contract’s length.

With more options available in Illinois, the lowest bid for 100 Mbps fiber came from Comcast.

“Like Michigan, we also negotiated a direct agreement,” Proctor says. “By removing the reseller from the middle, we reduced Se-Kure’s monthly fiber costs about 20 percent overall.”



Source: [The Rise of the Digital Supply Network](#), Deloitte University Press

Reinvesting Savings in Robust VoIP and Other IT Needs

With the savings, Se-Kure adopted JEP's robust VoIP solution, gaining the channel partner's signature high-touch VIP service.

In addition, the increased bandwidth enabled Se-Kure to complete two other modernization initiatives. First, they centralized backups using a [VMware](#) solution. Next, the manufacturer discontinued reliance on its ISP for external email and adopted the [Zimbra](#) email collaboration solution instead.

All of these initiatives reduced burdens on Se-Kure's super-lean IT staff. "Now, instead of troubleshooting phones or connectivity, IT focuses on the applications that enable the company to be competitive," Proctor says.

Imperial Industries / Wausau, Wisconsin

Total Locations: 7 spread across a 34-acre complex

Business Lines: Storage systems for industrial bulk, commercial waste and agricultural

Challenge: Adopting wireless Industry 4.0 production equipment requires major refresh

When it needed a new plasma burn table, [Imperial Industries](#) discovered the desired unit only connected wirelessly. This launched a bottom-up infrastructure refresh.

"To adopt the required Wi-Fi, Imperial conducted a network assessment in early 2016," recalls Art Corallo, CTO of [RMM Solutions](#). "Upon reviewing that assessment, it was clear the company needed improvements at every layer — fiber, data center, networking and applications."

Upgrading to 10 Gbps on Campus

For the backbone layer, RMM upgraded the 100 Mbps fiber running between six buildings on the campus. Using OM3 50 micron cable, RMM supplied half the structures with 10 Gbps connections and the remainder with 1 Gbps. A seventh building, now under construction, is also slated for 10 Gbps.

“As the facility lies on either side of a city street, we had to make the necessary arrangements to bore under the roadbed,” Corallo says.

“Industrial manufacturers must become more active players in the technology ecosystem, seeking expertise outside the industry in order to develop equipment connectivity, data analysis and software that are beyond their current capabilities.”

— PwC, 2017 Industrial Marketing Trends



Further, Imperial planned to share a new accounting application with a sister company located about four miles away. “Previously, the companies communicated via a VPN connection, but this was insufficient for future needs,” says Corallo. “Instead, Imperial contracted with Charter for a 50 Mbps point-to-point solution, which also permits adopting VoIP telephony with extension dialing.”

As reducing infrastructure burdens on the single-person IT staff was a priority, RMM deployed the data center and networking solutions as a managed service. Vendor standardization was also a goal, resulting in server, storage and LAN solutions from [Hewlett](#)

[Packard Enterprise \(HPE\)](#) and a secure, ubiquitous gigabit Wi-Fi from [Aruba Networks](#), an HPE company.

Leveraging IIoT and Other Advances Across the Enterprise

With the new burn table and an enterprise ERP conversion, Imperial looks forward to leveraging IIoT to improve production and supply chain efficiencies. “Instead of overstocking parts to build a product, Imperial will take advantage of just-in-time manufacturing,” Corallo says.

On the sales side, mobility and digital self-service are replacing paper. “It gives the sales force real-time connectivity to a variety of systems,” says Corallo. “Plus, Imperial will establish an e-commerce platform for its commercial lines.”

The anticipated gains can’t be overstated adds Corallo. “Imperial is entering a growth phase to expand its market leadership,” he says. “Fiber is essential to making it possible.”

An Industrial Packaging Manufacturer / Columbus, Ohio

Total Locations: About 100 worldwide

Business Lines: Rigid industrial packaging, paper packaging, flexible products and land management

Challenge: Modernizing global IT operations post-acquisition

After growing by acquisition in the U.S. and abroad, this centenarian global manufacturer inherited many disparate IT systems. During the past few years, the company has embarked on a modernization, standardization and resiliency initiative to significantly reduce inefficiency and boost continuity.

A key component of the modernization is implementing a centralized on-premises ERP system as well as adopting cloud applications, such as [Microsoft Office 365](#).

“To enable these applications, the manufacturer is establishing an SD-WAN using [Citrix NetScaler SD-WAN](#),” explains Tim VanderMel, client relationship manager with [Collaborative Communications Consulting \(C3\)](#) of Grand Rapids, Michigan.

“For continuity, the SD-WAN will be comprised of a primary and secondary connection,” he adds. “Our organization is assisting with secondary connections.”

IP Cameras Jump-Start a Relationship

However, the relationship with C3 didn’t originate with the SD-WAN initiative. Rather, the manufacturer hired C3 prior to the modernization to establish fiber connectivity for IP cameras at a single location.

A positive experience eventually led the manufacturer to request C3’s assistance with the modernization. Initially, the manufacturer contracted for upgrading three sites from existing bonded T1.

“The goal was 50 Mbps connections, scalable to 100 Mbps on demand,” VanderMel says. “Using our proprietary research, we determined two sites would be best service by Comcast and the third by Charter.”

“Industry 4.0 allows for a faster response to customer needs than is possible today. It improves the flexibility, speed, productivity and quality of the production process. And it lays the foundation for the adoption of new business models, production processes and other innovations.”

— *The Boston Consulting Group, [Industry 4.0: The Future of Productivity and Growth in Manufacturing Industries](#)*



Speedy Fiber Installs Spawn More Projects

Although negotiating the carrier contracts proceeded smoothly, the permitting processes threatened to become a bottleneck. “Working with the carrier, we determined which permitting authorities were involved,” says VanderMel. “Then, instead of waiting months for a permit to get issued, we contacted the authority directly and negotiated an expedited process.”

Speedy fiber deployments at the three sites, coupled with attractive contracts, resulted in the manufacturer tapping C3 for another eight locations. “When we finish the current set, there’s talk of more to come,” VanderMel says.

Service Filtration Corp. / Chicago

Total Locations: 7 throughout the U.S.

Business Lines: Commercial, industrial and residential filtration systems and supplier of injection molding products

Challenge: Provide IIoT-ready bandwidth to multisubsidiary corporation

As part of a vertically integrated manufacturer, [Service Filtration Corp.'s](#) six subsidiaries rely on each other. This makes Industry 4.0 production solutions critical to staying competitive.

“At our plastic injection molding company, [Polymar](#), in Leola, Pennsylvania, we’re planning for an IIoT and analytics implementation to centrally manage the output required for our other five businesses, while also meeting the needs of Polymar’s direct customers,” says David Roberts, corporate IT manager at Service Filtration.

Bottlenecks Unaddressed on Many Fronts

Beyond transitioning to smart manufacturing, Service Filtration was also exceeding the limits of existing bandwidth for just-in-time operations and business continuity.

“We adopted a centralized ERP system, but accessing it could mean waiting 30-40 seconds for a click to go through,” Roberts says. “We also deployed a cloud backup solution, but we couldn’t get data out of our buildings fast enough.”

“In some locations we tried broadband,” he adds. “But the performance would fluctuate dramatically and knock systems offline in the middle of an important job. Such challenges are killers for a business like ours.”

Developing a Strategic Approach to Connectivity Needs

Service Filtration turned to long-time partner telephony partner JEP for help devising a corporatwide strategy for moving from T1 or cable to fiber. The blueprint calls for solving the greatest pain points first.

Based on individual needs and location, JEP negotiated appropriate fiber connectivity. For the Filterspun subsidiary in Amarillo, Texas, it was [AT&T](#) for 10 Mbps fiber. At [Pacer](#) in Lancaster, Pennsylvania, Comcast provided the best 100 Mbps pipe.

Along the way, JEP’s most significant hurdles related to working with local third-party channel partners. “We always verify local partner quotes to ensure they match up with carrier data,” Proctor says. “Then, during deployment, we rely on our project managers to keep everything moving along.”

Going forward, JEP will evaluate and establish 100 Mbps fiber options for Polymar. Afterwards, it’s Service Filtration’s headquarters facility, which will upgrade from 10 Mbps to 100 Mbps and — if proven advantageous — consolidate from an existing two-vendor setup to one.

“The IIoT in Manufacturing market size is estimated to grow from \$6.17 billion in 2016 to \$20.59 billion by 2021, at a CAGR of 27.2 percent from 2016 to 2021.”
— [MarketsandMarkets, January 2017](#)



Catching the Industry 4.0 Wave

With the resurgence in manufacturing, these case studies demonstrate the growing importance of fiber to powering Industry 4.0. The stories also illustrate a few of the ways to add value as a solution provider.

Further, each of the examples highlights how fiber can assist with capturing new customers or expanding services for existing clients.

Regardless, as IT veteran Roberts puts it, his company's trusted partner relationships are vital to success. "We just pick up the phone and explain our needs to JEP," Roberts says. "They bring us solutions that help ensure we're building the ecosystems of tomorrow, which ultimately enables us to grow."

Related Reports



[Sky's the Limit: 6 Ways to Become a Vertical Industry Specialist](#)

Looking to take your business to the next level? The best way to get there may just be vertically. Not only can selling industry-specific solutions make you more profitable, it can be an important differentiator — even above technical prowess, according to Techaisle. In this Report, a team of channel experts offers six steps to make the move.



[Health Care IT Innovation: Building on Bandwidth](#)

The North American health care IT market is projected to grow at a rate of 13.5 percent over the next few years. And, these customers' comfort with software-as-a-service platforms is also improving, giving rise to significantly greater adoption. At the intersection of these two trends: growing demand for bandwidth. In this Report, we profile two health care organizations that adopted cloud solutions — precipitating a cascade of IT projects in which fiber, and partners, played a fundamental role.



[Banking IT Innovation: Building on Bandwidth](#)

Banking accounts for the largest portion of all financial services IT spending — and the sector's appetite for adopting new technologies shows no signs of slowing. As banks strive to improve customer experiences with digital initiatives while also driving down costs, bandwidth is critical. This Report presents case studies on four banking institutions using fiber to unlock opportunities to stay competitive.