

■ *MDM Special Report: Disruptive Technologies*

Looking to the Future

An introduction to technology that could transform the supply chain

By **Lindsay Konzak**

This issue of MDM kicks off a series of articles on disruptive technologies.

While it's easy to point to a handful of technologies that have transformed the business world over the last half century, a McKinsey & Company report, "Disruptive technologies: Advances that will transform life, business and the global economy," cautions readers who may view every new technology that emerges as the "next big thing."

But there are some technologies that truly will disrupt the landscape that distributors operate in. In this series, we look at:

- 3-D printing
- Augmented reality
- Delivery innovations including drones and driverless cars
- Robotics in distribution centers

While our focus is on these four key areas, think more broadly than that when contemplating the next frontier. Other technologies already in play or on the horizon that may affect your business or your customers' businesses (just as important) may include renewable energy, new ways to store energy, the cloud and the Internet of Things.

While we are calling the subject of this series of articles "disruptive technology," the truth is technology is only as disruptive as you allow it to be at the local level. Computers themselves were disruptive when they first arrived. Now most people are surprised if a company doesn't have at least one.

Challenges come with any innovation, not the least of which is cost, training, standardization and integration into current operations and processes. Despite these,

distributors should look at these technologies and examine the potential impact on internal processes, suppliers' businesses and customers across industries.

The McKinsey report recommends business leaders think about emerging technologies this way:

Update your strategic plan with emerging technology in mind.

Use technology to improve your internal performance.

Evaluate how the technology shifts the value you provide, as well as the value driven from manufacturer to distributor to end-user.

Think outside the box about risk and competition and where it will come from.

Think about talent. As with any technology, you may not need the skills in-house now, but will you in the future? What does that work force look like?

A *Harvard Business Review* article by Clayton Christensen and Maxwell Wessel encourages leaders to identify their companies' strengths, as well as the strengths of other businesses developing and adopting these emerging technologies. They also point out that even with the rise of disruptive innovations, such as those we'll cover in this MDM series, businesses will continue to reap benefits from legacy applications for years and sometimes decades. An example in the consumer world that they provide: People still go to the movies, even though the ability to watch movies at home through a VCR was introduced a generation or more ago.

That doesn't mean that distributors should rest on their laurels. Companies must balance the old with the new and adapt as needed.

Finally, one piece of advice that any

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PERSPECTIVE ■ Commentary by Thomas P. Gale**Distribution 3.0: The Next Cycle**

This is my fourth post-recession cycle since I first starting working in industrial and distribution markets in the mid-1980s. The current cycle has been the longest for us all, but has some interesting parallels to other cycles. Here are a few thoughts from a file I keep labeled: I might just learn something if I listen hard enough. (Apologies/credit to fellow St. Louis native Yogi Berra.)

The first: The more people talk about consolidation, the more new companies come out of the woodwork. When independent distributors are absorbed by larger strategic distributors, there are always salespeople who spin off with a core set of customers. They grow a viable business from that foundation of service, knowledge and relationship. That remains the strongest competitive edge. There are more investors and more pressure to invest in distribution companies than ever before.

Product sectors, geographic markets and customer segments are more dynamic than ever. This is and will be a very fragmented industry for many more business cycles, in spite of periodic consolidation phases.

That leads to the second law of business cycles: Disruptive technologies gain widespread traction well after a downturn. CD-ROM, Internet, dot-com, e-commerce ... even integrated supply's evolution starting in the early 1990s.

There is always something. Pioneers may often get arrows in the back, but early adopters can displace entrenched business models with better, cheaper, faster offerings. Proactive companies that figure out how to leverage an advantage in the trough can accelerate their growth, reinforce their existing value and reduce the impact of the competitive threat du jour.

Some businesses make the mistake of imitating disrupters reactively, typically with poor outcomes. More strategic companies plan and adapt to the latest challenge, specifically to minimize competitive advantages, adopt appropriate elements, and then create better, more valuable, more efficient offerings into those most profitable segments most difficult for the upstarts to gain a foothold in. The best distributors celebrate (or at least realize a positive in the loss) when competitors take on the least-profitable, most resource-draining accounts.

As MDM's recent surveys and research indicate, 2014 marks a significant trend in more investment into capability and capacity – e-commerce, multi-platform, analytics, CRM. More companies are shaking off the long-lasting recession effects. A final trend across cycles: Reaction times get shorter and shorter. Companies that adapt quickly tend to execute more effectively throughout the cycle.

MODERN DISTRIBUTION MANAGEMENT

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Introduction

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business owner or leader should follow, according to the authors of *Big Bang Disruption: Strategy in the Age of Devastating Innovation*: Consult your “truth-tellers.” The authors say that leaders need to find “industry visionaries” who won’t sugarcoat the future, even if you want them to.

We have a handful of consultants in the distribution industry who are happy to tell it like it is. Distributors also benefit from having a board of advisors or directors filled with people from outside the industry; that outside perspective

can help leaders keep their eyes on the present with an ear to the future.

Just as many distributors said they wouldn’t be affected by e-commerce just five years ago, but who are now scrambling to build a presence that fits their businesses online, these disruptive technologies have the potential to go mainstream and have enormous impact on the supply chain and operations of manufacturers, distributors and end-users.

■ *MDM Special Report: Disruptive Technologies*

3-D Printing Drives Supply Chain Shift

Access, customizability may make manufacturing a more local endeavor

The media is talking about 3-D printing, also known as additive manufacturing, more than ever. But adoption of the technology in everyday use is far from widespread. This article examines the role of 3-D printing in manufacturing today and how it might change the supply chain in the future.

This article is part of MDM’s Disruptive Technologies Special Report.

Access this article online at www.mdm.com/3D to see video of 3-D technology.

By Jenel Stelton-Holtmeier

A lot of excitement surrounds 3-D printing in manufacturing, and for good reason, says Jason Young, CEO of diversified manufacturer ARC Group Worldwide, DeLand, FL. “I think manufacturing is going change pretty significantly over the next 20 years or so, and 3-D printing will probably be one of the key drivers of that change,” he says.

The potential benefits of 3-D are easily understood: faster time to market for new products, shorter lead times and easier customization, just to name a few. Because of that, the impact will be felt all along the supply chain.

But today, “there are far more people not using 3-D printing than are,” Young says.

“With 3-D printing, we aren’t even in the basement in terms of really having a good grasp on how that technology might change value chains,” says Guy Blissett, specialist leader in

wholesale distribution at Deloitte Consulting. “It has a very long way to go in terms of speed, precision and cost to fully transform supply chains in general.”

Current Day

Even with the attention it’s receiving, evaluating the role of 3-D printing in today’s manufacturing environment is difficult, according to Tim Shinbara, technical director of the Association for Manufacturing Technology. Observers can see the technology being used in certain industries, such as medical or aerospace, but the industrial space is a bit further behind on the adoption scale.

In addition, people not already involved in the process tend to lump different technologies into one when trying to measure its prevalence. “There’s a lot going on already with 3-D printing as it relates to polymers,” says Heidi Hostetter, director of operations at Faustson Tool, a provider of high-precision machining to the aerospace, aeronautics, defense, energy, medical and semiconductor industries based in Arvada, CO.

In many ways, 3-D printing with plastics and polymers has been commoditized, with companies such as FedEx Office and Staples offering the service through some retail locations.

But 3-D printing with metals and alloys is a different story. “Metal is the next big wave of opportunity,” Young says.

That’s not to say that 3-D printing doesn’t have a role in manufacturing today. Compa-

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nies such as 3D Material Technologies, an ARC Group company, are already using 3-D printing to speed prototype development. "Machining might be faster if you already have the design, and you're already running the machine for that product," Young says. "But on a general basis, 3-D printing is always faster for prototypes for very small production runs." And it is often less expensive than traditional machining for these limited runs.

That is because there is no need to build a mold for the prototype and calibrate the machine to those specific parts. All of that work is done through the design and engineering process and input into the printer.

Current use of 3-D printing expands beyond prototypes, however. "What you don't see behind the scenes is that half the business in additive manufacturing is tooling, all the products that can be made with 3-D printing that are used to make the other parts traditionally," Shinbara says. "That story hasn't really been told."

In the aerospace industry, "3-D printing of metals is allowing us to test if theory even works," Hostetter says. For example, before electronics and other parts can be put into a shuttle, you have to make sure all those items will fit into the shuttle housing, she says, and that's where 3-D printing comes in. "That's two-thirds of the recipe."

Barriers

Cost is still a significant barrier for 3-D printing. High-end precision machines can easily cost more than \$1 million, Hostetter says. And the alloy powders and materials the machines use can be expensive, as well.

In addition, many of the materials used in the process, such as titanium alloy powder, are volatile and require separate licensing to purchase. Those licenses can cost \$40,000 to \$60,000 each, she says.

Cost is part of the reason the early adopters are in aerospace, medical and dental industries, Shinbara says. "They have a way to amortize high-risk high tech across different platforms," he says. "Not everyone does." But even in those industries, if a company isn't a tier one supplier, the cost may put this technology out of range.

But cost is not the only barrier. Designers may have more freedom and flexibility to move an idea from "art to part," Shinbara says, but manufacturers are still limited by what materials are reliable, certifiable and available – a selection that is growing but is still limited right now.

There is also the complexity of the 3-D printer market. "There are thousands of them

out there," Young says. "And they're all different technologies." You have to know what it is you want to do with the technology and then figure out which of the options will meet that need best.

Even if a company decides to outsource the actual 3-D printing part of the process, options in some ways are becoming more limited. "There just aren't a lot of 3-D printing services out there right now," Young says. And many of those that used to be accessible have been purchased by large manufacturers for internal product development, such as GE's purchase of Morris Technologies in 2012.

The talent needed to really take advantage of 3-D printing's capabilities is also limited, Faustson's Hostetter says. "Colleges don't have a strong curriculum to support design engineering efforts," she says. Designers need to better understand how those alloys work as powders and how they react as they are melted down and extruded by 3-D printers so they can include those considerations in the designs.

The Supply Chain of the Future

The challenges may be slowing adoption and application of 3-D printing, but none are insurmountable. And once they have been overcome, 3-D printing has the potential to fundamentally change manufacturing and how products go to market, Shinbara says.

"3-D printing, cloud-based design, cloud-based manufacturing – all of this enables folks with fewer resources to become more important in the industrial supply base," he says. The local/regional supply base will have more capabilities to be more responsive to local and regional needs. As a result, reliance on large facilities that can produce high volumes at low cost could lessen.

Because 3-D printers don't require molds or extensive calibration to produce even extremely different parts, it also opens the door for more product customization. "Clusters" of "makers" could form around this technology, sharing production and research costs to meet the needs of local customers more efficiently than large manufacturing facilities.

"Washington may call it a reshoring of the major jobs back from China to the U.S. or North America, but what we're seeing with 3-D printing is that it's more than just reshoring," Shinbara says. "It's really getting back your blacksmiths, silversmiths, cobblers of your local/regional village."

Distributors will have a major role in the village, Shinbara says. They're the ones with the

local market knowledge; they're talking with the diverse customer base and will be able to identify demand trends as they emerge. "They will be the ones to drive this shift as they uncover what their customers really want. And they will be the ones who bring this information to their suppliers," he says.

While the return to a "maker village" may still be a ways down the road, 3-D printing will likely continue to improve the time it takes to get products approved and brought to market, Faustson's Hostetter says. "In 10 years, production windows won't look anything like they do now," she says.

For example, Faustson designed and manufactured an optical substrate for NASA's Kepler spacecraft launched in 2009. It took 18 months to prove out that part at the time, Hostetter says. As 3-D printing advances, that same process could likely be done in less than two months.

"Manufacturing is still stuck in this really long convoluted supply chain with long lead times," Young says. "3-D printing will be one of the main drivers in changing that and reducing the time to market."

Because of the volatility and specialized knowledge required to work with metal alloys, manufacturing – even with 3-D printers – will likely remain the purview of the manufacturer, Young says. "While people call it printing, it's

still manufacturing at the end of the day," he says.

Printing with polymers, on the other hand, may open opportunities for distributors to produce some products for their customers, Deloitte's Blissett says. "Think about the electrical distribution business, the boxes that house much of the electronics in houses, your light switches and your outlets, the box that sits in the wall that holds the electrical for that. The ability to print that out rather than import it from halfway around the world could have a pretty significant impact," he says. But the cost of 3-D printing still has a long way to move before that becomes a factor.

"The way we have viewed additive is much more a complementary, augmenting tool to traditional means than a disruptive substitute," Shinbara says. "If I'm a manufacturer and my shop is full of traditional technologies, I should not be thinking I'm going to lose work because I don't have additive capability; I should be looking at it as what orders am I not getting because of either affordability or complexity that I could with additive."

In other words, Shinbara says, traditional manufacturing methods are not going away any time soon, but the new technologies are and will continue to have an impact by enhancing current capabilities.

■ MDM Special Report: Disruptive Technologies

Bridging the Digital & Physical

Augmented reality may have major impact on industrial markets

Google Glass is the most visible example of augmented reality, but a business case for the emerging technology is building. According to Gartner research analyst Tuong Huy Nguyen, the technology could be most valuable where workers do not have immediate access to information such as remote sites or in jobs that require one or both hands. While it's still early, manufacturers are already using augmented reality for factory planning and equipment repair. Applications are also being developed for use in distribution centers for more efficient order-picking and delivery.

This article is part of MDM's Disruptive Technologies Special Report.

Visit www.mdm.com/ar for videos that illustrate the examples provided in this article.

By Lindsay Konzak

The rise of smartphones, tablets and wearables, including head-mounted displays such as Google Glass, is facilitating the development and adoption of augmented reality.

Google Glass, which lets users access applications like email and texts, navigate hands-free and take pictures or video through a screen that hovers just above their right eye, is the most well-known and well-publicized example of this emerging technology.

But while much of the talk surrounding augmented reality is on the consumer side, the technology's biggest impact may one day be on the manufacturing, distribution and logistics industries.

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What It Is

Think of augmented reality as layering digital information onto the real world. The technology uses smartphones, tablets or even desktop computers with cameras. An increasingly popular way to access augmented reality applications in industrial settings is by wearing double-paned smart glasses that overlay data onto whatever you are looking at in the real world.

APX Labs' Skybox will let sports fans access real-time content on their smart glasses while sitting in the stands. The program can overlay a player's statistics onto the screen or replay a home run – all with the actual game going on in the background.

The technology has also been used to augment advertising and store displays. Toy-maker LEGO's digital kiosks in stores let consumers hold a box up to a camera; the LEGO product appears on the screen in 3D, showing the potential buyer what it will look like assembled.

Esquire magazine featured an entire issue dedicated to augmented reality; when readers held the magazine's cover up to a webcam, Robert Downey Jr. jumped out of the cover and spoke to them on the screen. Another example, as detailed in the Wall Street Journal, is the ability to hold a tablet over a movie review in a newspaper and have the film's trailer pop up.

Many have questioned the long-term viability of some potential uses of the technology, especially in the consumer space, but Gartner research analyst Tuong Huy Nguyen says that augmented reality could be extremely valuable in industries where workers are in the field, do not have immediate access to information or jobs that require one or both hands and the operator's attention.

The military was an early adopter of augmented reality, according to Nguyen.

APX Labs, which develops software for smart glasses, was started in 2010 when it created what it called "Terminator Vision" for the U.S. military. The software lets soldiers scan crowds, identify faces, take a picture, send it over the network, make a match and then present the results in seconds on their see-through smart glasses. The company then developed MedSight, which gave combat medics remote and hands-free access to patient records.

Beyond military applications, however, augmented reality is young, Nguyen says. Most companies are just now laying the groundwork.

"We are really still in the infancy of this market," he says. "The verticals you are seeing it in is more of a trial or prototype, trying to really understand, 'What is this augmented reality

thing, and what can it do for us?'"

In the Warehouse

Analysts have big hopes for augmented reality's potential in the warehouse. Using headsets with screens that allow the overlay of digital information onto what's in front of them, warehouse workers can tap directly into the order system.

Hands-free, pickers are told or shown where to go in the warehouse, how many of which box (the screen highlights the box in front of the picker to ensure they are grabbing the right one) and even which warehouse loading dock these boxes need to be taken to. Instead of scanning a barcode to validate the item, the augmented reality-driven smart glasses would scan it as soon as the worker picked it up and would indicate if it was the right item.

While many distribution centers are already using similar technology through devices such as barcode scanners, augmented reality takes it to another level, says Trak Lord, who leads metaio's marketing in the U.S. The company's software drives augmented reality applications such as the one described above.

And smart glasses can be used for more than picking and scanning, including for example, warehouse navigation or forklift maintenance. "We can drastically change the operations of an industrial or automotive company with a single application," Lord says.

In the Field

UK-based Vuzix has partnered with enterprise software company SAP to develop augmented reality applications for field services.

In one concept video showcasing the technology, an electrician goes to a stadium, puts on his smart glasses, which then show him how to get to the room where a repair is needed. When he looks at the equipment, it highlights where the problem is through his glasses and shows him what needs to happen to fix it through instructions on the right side of his screen.

When he's done fixing the problem, he uses a voice command to call a co-worker. Still hands-free, he's able to talk with the technician (appearing live in a square at the top right of his vision), who can then see what the electrician sees and collaborate with him on next steps.

Car-maker Volkswagen worked with metaio to deliver the unique service requirements to mechanics across its European network for its XL1 concept car. It didn't make sense for VW to roll out extensive training for a car that very few mechanics would see due to its limited production run. But the car-maker also did not want

an XL1 to roll into a VW dealer and not have mechanics who could service it, Lord says.

So it developed MARTA, which stands for Mobile Augmented Reality Technical Assistance system. The system lets service technicians point a tablet at the car; it then labels the parts and shows the technician the next steps based on what it sees. The mechanic can also leave notes for future service and can track anomalies or suggestions that are then communicated back to the design team for future improvements.

"The ability to put tremendously helpful insight into the hands of individuals at the time they need it so they can then take action is the real power of augmented reality," says Guy Blissett, specialist leader for wholesale distribution for Deloitte Consulting. Blissett was also the author of the National Association of Wholesaler-Distributors' *Facing the Forces of Change: Reimagining Distribution in a Connected World*.

In the Factory

Augmented reality is already being used by manufacturers for factory planning, equipment maintenance and product design.

In one case from metaio, KUKA, a robotics firm, used the company's augmented reality software to determine if robotic arms would fit on a plant floor in the space allocated. The software allows engineers to super-impose 3D renderings to ensure that plans on paper translate to reality.

"If you literally move (the arms) too far to the left or right, it could destroy something," Lord says. "... You have a limited amount of real estate."

In another case, MAN Diesel, a ship en-

gine manufacturer, used augmented reality to simulate the installation of a new engine. Using photos, augmented reality allows virtual positioning of an engine, as well as analyzes spatial requirements for maintenance of that engine.

The Takeaway

While augmented reality is in the early stages of adoption, interest among executives across industries is high. Lord says he is frequently invited to speak on augmented reality as an emerging technology and is asked to talk about how it can be used to improve processes in industrial environments.

"They want solutions for maintenance, safety and training," he says. "... I think all companies are looking for ways to cut costs and run more efficiently."

Nguyen says executives can think of augmented reality as another way to leverage their existing assets. "Augmented reality is a tool to supplement your existing toolset. It won't replace other technology. It's a complement to them," Nguyen says.

Augmented reality can help distributors and manufacturers bridge their digital and physical assets, he says.

Blissett views augmented reality as a "game-changing development" that could change the way distributors run their businesses.

"I challenge distributors to educate themselves about augmented reality and how they may incorporate it into their warehouse, their sales force, their field service, their drivers," Blissett says. "The opportunities there are extremely powerful, especially when combined with analytics."

How to Clear 2014's Economic Hurdles

Alan Beaulieu: Develop growth strategies, not survival strategies

After a year of slow, uneven recovery in 2013, distributors should focus on meeting the challenges posed in 2014, as well as positioning for growth in 2015 and beyond, according to Alan Beaulieu, president of ITR Economics. Beaulieu was featured in the recent MDM Webcast, The Path to Profitability in 2014. This article is an exclusive summary of the webcast, which is available on-demand and on DVD at mdm.com.

By Scott Merrill

While 2014 was off to a stronger start than 2013,

distributors still face challenges, according to Alan Beaulieu, president of ITR Economics. Beaulieu was featured in the recent MDM Webcast, The Path to Profitability in 2014.

Beaulieu outlined hurdles to economic progress in 2014:

The first hurdle will be a correction to the S&P 500 and Dow Jones Industrial. Beaulieu believes there will be a 15 to 30 percent correction in the S&P 500 sometime within the next few months. He was speaking in mid-April.

"With the stock market correction, (companies will) see their equity has fallen, and that's

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going to cause a collective sucking in of the breath and a lot of people responding with 'no' when faced with requests. And that's going to be part of the slowdown that happens later this year," Beaulieu said.

The second hurdle he outlined was a slowing of automobile sales. This will have a negative impact on the overall economy, Beaulieu said.

One of the biggest hurdles in 2014 will be employment. Both high unemployment rates, as well as a lack of skilled, qualified workers will continue to be a problem in 2014, he said. Wage inflation will also be an issue, as competition for qualified workers grows.

"The best way to beat margin pressure caused by wage inflation is to get the most out of your business through other efficiency gains, and the most out of your people through efficiency gains," Beaulieu said. "The longer-term approach is to make sure you carefully monitor your headcount, because in an inflationary period, that is one of the most expensive and volatile areas of your business and you want to be very careful with it as you move forward."

One of the ways to increase efficiency and decrease margin pressure is to effectively manage inventory. By paying attention to where the market is heading, you can make smarter decisions regarding inventory levels, Beaulieu said.

"When we start talking about A, B and C inventory items, knowing the change in the business cycle three to six months in advance gives you a real advantage over the competition, in that what it does to your cash as you go into the future really changes that future," Beaulieu said.

Pete Billson, corporate technology director for electrical and industrial distributor Turtle & Hughes, Linden, NJ, agreed. "It's really important these days to make sure your inventories are rising when you need it to be, and you're downsizing when you need it to be," Billson said during the webcast.

Another concern for distributors in 2014 will be the effect of the Affordable Care Act, or what's typically referred to as Obamacare. The uncertainty around the legislation will continue to make it difficult for businesses during the year, Beaulieu said.

"These are higher premiums for a lot of

folks, and we're also going to find it's sapping businesses," he said. "And the uncertainty created by the Act and by the constant delays and postponement of segments creates more uncertainty, and uncertainty is the enemy of business. So overall, this is going to be a drag – a sea anchor, if you will – on economic growth."

The final major hurdle to economic progress in 2014 is the deceleration of corporate profits. That's not to say that profits will decline, but rather that they will be increasing at a slower rate, Beaulieu said. This will cause a lot of companies to begin to restrict investment, something that should be avoided, he said.

"The deceleration of corporate profits means that people in the C-suites across America are going to look at their bottom line and see that's not growing as fast," he said. "You need to develop growth strategies. Not survival strategies, not wait-on-the-sideline strategies. There'll be a lot of that in the second half of this year; don't participate in that. You have to be looking toward a bright future."

With interest rates at an all-time low, now is the time to make investments in your business for the stronger growth forecast in 2015 and beyond, Beaulieu said.

"Interest rates are going to be going up," he said. "The Federal Open Market Committee has said that they will be going up to the historical mean, which is 400 basis points higher than today. Borrowing now, for all the participants today, means that you'll be borrowing at very nice interest rates. Integrate all the services – all the help – that you need now because it's less expensive now."

Along with low interest rates, banks are also lending again. "I would encourage you to take advantage of that. Borrow some money to get ready for the future, invest in yourselves." Invest for challenges that will come with growth, he said.

"Anything you do now, and finance now, is more affordable now, and you get to pay it back with inflated dollars. It's a real win-win situation for people who act now."

Access the MDM Webcast, [The Path to Profitability in 2014](#), on-demand or order the program on DVD at [mdm.com/2014-path-to-profitability](#)

3M Sales Up 2.6% in 1Q

Diversified manufacturer 3M, St. Paul, MN, reported sales for the first quarter 2014 of \$7.8 billion, a 2.6 percent increase year-over-year. Organic local-currency sales increased 4.6 percent, offset 2 percent by a negative currency impact. Profit increased 6.9 percent to \$1.2 billion.

"Our teams delivered positive organic growth in all business groups and geographic areas," said Inge Thulin, president and CEO. "At the same time we increased investments in R&D and commercialization to help secure future growth in the business."

On a geographic basis, organic local-currency sales grew 6.9 percent in Asia Pacific, 6.8 percent in Latin America/Canada, 3.7 percent in EMEA (Europe, Middle East and Africa) and 2.6 percent in the U.S.

In the industrial business group, first-quarter sales of \$2.8 billion were up 3.1 percent over the prior-year period. Organic local currency sales grew 4.9 percent. Segment sales growth was led by 3M Purification, automotive OEM, advanced materials, abrasive systems, and aerospace and commercial transportation; sales declined in personal care. Operating income was \$618 million, up 6.7 percent year-on-year.

In electronics and energy, sales grew 2.7 percent to \$1.3 billion. Organic local-currency sales increased 4.1 percent. Electronics-related sales increased 5 percent, with strong growth in optical systems partially offset by declines in the electronic materials and the electronic solutions businesses. Energy-related sales grew 2 percent year-on-year, led by renewable energy and telecom. Operating income was \$227 million, up 16.1 percent year-over-year.

Safety and graphics sales of \$1.4 billion were up 1.7 percent year-over-year. Organic local-currency sales increased 4.6 percent. Operating income was \$318 million, a decrease of 4.2 percent year-

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Distributor News

Kaman Corp., Bloomfield, CT, first-quarter sales were \$413.9 million, up 6.7 percent year-over-year. Profit grew 60 percent to \$11.5 million. Sales for Kaman's distribution segment were \$264.9 million, up 3 percent over the prior-year period.

Motion Industries reported sales for the first quarter of \$1.1 billion, up 3.7 percent from the previous year. Operating profit increased 5.3 percent to \$83 million. Parent company **Genuine Parts Co.**, Atlanta, GA, reported sales for the first quarter of \$3.6 billion, up 13 percent year-over-year. Profit increased 9 percent to \$157.5 million.

Lawson Products Inc., Chicago, IL, first-quarter sales were \$69.2 million, up 3 percent year-over-year. Lawson reported a net loss for the first quarter of \$3 million, compared to a net loss of \$3.2 million for the same period a year ago.

Airgas Inc., Radnor, PA, reported sales for the fiscal full year 2014 ended March 31 of \$5.1 billion, up 2.3 percent year-over-year. Profit increased 2.9 percent to \$350.8 million. Fourth-quarter sales were \$1.3 billion, flat compared to the previous year. Profit increased 2.6 percent to \$88.4 million.

United Stationers, Deerfield, IL, first-quarter sales were \$1.3 billion, effectively unchanged from the prior-year quarter. Profit increased 57.6 percent to \$21.9 million.

WESCO International Inc., Pittsburgh, PA, first-quarter sales were \$1.8 billion, up 0.2 percent from a year ago. First-quarter profit fell 38 percent to \$51.9 million.

The Fastenal Company, Winona, MN, reported sales for April of \$315.1 million, up 10 percent from the previous year. Daily sales increased 10 percent to an average of \$14.3 million.

Applied Industrial Technologies, Cleveland, OH, has acquired Canada-based **Reliance Industrial Products**.

Applied Industrial Technologies reported sales for the fiscal third quarter ended March 31 of \$618 million, down 0.6 percent year-over-year. Profit increased 3.8 percent to \$30.4 million. For the first nine months of the year, sales decreased 0.9 percent to \$1.8 billion. Profit fell 3.3 percent to \$83.1 million.

Paris-based **Rexel** first-quarter sales were €3.1 billion (US\$4.3 billion), a decrease of 2.7 percent from the prior-year quarter. Profit increased 9.3 percent to €43.2 million (US\$59.9 million).

Germany-based **Würth Group** has acquired fastener distributor **Timberline Fasteners**, Commerce City, CO. Würth Timberline is now a part of the industrial division as a sister company of **Würth Industry of North America**.

US LBM Holdings LLC, Green Bay, WI, has acquired **Coastal Roofing Sup-**

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News Digest

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ply, Clearwater, FL.

US LBM Holdings LLC also acquired **Desert Lumber & Truss** and **Desert Fastener & Supply**, both of Las Vegas, NV, and **Integrity Truss**, Cedar City, UT.

Shale-Inland Holdings LLC, Houston, TX, has acquired **Flomax Products Inc.**, a distributor of small-diameter valves and actuators.

B/E Aerospace Inc., Wellington, FL, first-quarter sales were \$1 billion, up 20.1 percent compared to the same period a year ago. Profit increased 21.2 percent to \$109 million.

Huttig Building Products Inc., St. Louis, MO, first-quarter sales were \$135.3 million, up 9 percent over the same period a year ago. Huttig reported a loss of \$0.8 million, down from a net loss of \$2 million in the first quarter of 2013.

Avnet Inc., Phoenix, AZ, reported sales for the third quarter ended March 29 of \$6.7 billion, a 6.1 percent increase year-over-year. Profit increased 32.1 percent to \$113.9 million. Year-to-date sales were \$20.5 billion, up 8.4 percent year-over-year. Profit increased 10.9 percent to \$359.3 million.

L&W Supply Corp. first-quarter sales were \$300 million, up 6.8 percent year-over-year. Operating profit for the quarter was \$1 million, compared to a loss of \$2 million the prior-year quarter. L&W's parent company **USG Corp.**, Chicago, IL, reported first-quarter sales of \$850 million, up 4.4 percent. Profit was \$45 million, compared to a profit of \$2 million in the prior-year quarter.

Builders FirstSource Inc., Dallas, TX, first-quarter sales were \$345.9 million, up 8.2 percent year-over-year. The company reported a loss of \$3.4 million, compared to a year-ago loss of \$11.8 million.

ABC Supply Co. Inc., Beloit, WI, opened a new branch in Denton, TX.

Ferguson, Newport News, VA, has acquired **Factory Direct Appliance Inc.**, an appliance dealer with seven locations throughout Missouri, Iowa and Nebraska.

Prospect Fastener, a master distributor of rings, clips, clamps and pins, launched a new website

featuring updated images, a new design, blogs and how-to videos.

Midway Industrial Supply, Minneapolis, MN, a distributor of fluid handling, spray finishing equipment, accessories and consumables, named Patrick Hoolihan president and CEO. Hoolihan succeeds Gregg Lien.

Arrow Electronics Inc., Englewood, CO, first-quarter sales were \$5.08 billion, up 5 percent from the previous year. Profit increased 37.4 percent to \$107.1 million.

Interline Brands Inc., Jacksonville, FL, first-quarter sales grew 3.1 percent to \$392.5 million from the prior-year period. Net loss for the first quarter was \$6.1 million compared with \$1.5 million in the first quarter 2013.

MRC Global Inc., Houston, TX, first-quarter sales were \$1.3 billion, flat from the prior-year quarter. Profit decreased 49.1 percent to \$23.5 million.

Affiliated Distributors, an industrial and construction products buying group, has named Ed Crawford as the new president of U.S. electrical and international development.

First-quarter sales for **Affiliated Distributors** affiliates for all divisions grew 4 percent year-over-year to \$7.1 billion. AD industrial affiliate sales grew 3 percent in the first quarter year-over-year. AD electrical affiliate sales grew 3 percent, while plumbing/PVF sales were up 2 percent and building materials sales were up 12 percent. HVAC affiliate sales were up 6 percent.

Anixter International Inc., Glenview, IL, first-quarter sales were \$1.5 billion, up 2.2 percent year-over-year. Profit grew 11 percent to \$47.4 million.

Stock Building Supply Holdings Inc., Raleigh, NC, first-quarter sales were \$280 million, up 12.6 percent year-over-year. The company reported a loss of \$3.3 million, compared to a loss of \$4.1 million a year ago.

Air Products, Lehigh Valley, PA, sales for the fiscal second quarter ended March 31 were \$2.6 billion, up 4 percent from the previous year. Profit decreased 2 percent to \$284 million. Year-to-date sales were \$5.1 billion, up 1.6 percent

year-over-year. Profit increased 1 percent to \$573.7 million.

Praxair, Danbury, CT, first-quarter sales were \$3 billion, up 5 percent year-over-year. Profit increased 8 percent to \$448 million.

Reliance Steel & Aluminum Co., Los Angeles, CA, first-quarter sales were \$2.5 billion, up 26.1 percent from the first quarter of 2013. Profit rose 4.2 percent to \$87.2 million.

Economic News

New orders for manufactured goods in March increased 1.1 percent to \$493.9 billion, according to the U.S. Census Bureau. **New orders for manufactured durable goods** increased 2.9 percent to \$236 billion.

Led by declines in production-related indicators, the **Chicago Fed National Activity Index** decreased to +0.20 in March from +0.53 in February. The index's three-month moving average, **CFNAI-MA3**, increased to a neutral reading in March from -0.14 in February.

The **Conference Board leading economic index** for the U.S. increased 0.8 percent in March to 100.9, following a 0.5 percent increase in February, and a 0.2 percent increase in January. The **coincident economic index** increased 0.2 percent and the **lagging economic index** increased 0.6 percent in March.

Real gross domestic product – the output of goods and services produced by labor and property located in the U.S. – increased at an annual rate of 0.1 percent in the first quarter, according to the advance estimate released by the Bureau of Economic Analysis.

Construction employment expanded in 197 metro areas, declined in 87 and was stagnant in 55 between March 2013 and March 2014, according to a new analysis of federal employment data released by the Associated General Contractors of America.

March **construction spending** was estimated at \$942.5 billion, 0.2 percent above February, according to the U.S. Census Bureau. The March 2014 figure is 8.4 percent above the March 2013 estimate. During the first three months of the year, construction spending was \$196.6 billion, 8.3 percent above the same period in 2013.

The April **Purchasing Managers Index** regis-

tered 54.9 percent, an increase of 1.2 percentage points from March's reading of 53.7 percent, according to the latest Manufacturing ISM Report on Business.

The **Canadian industrial product price index** rose 0.4 percent in March, according to a release from Statistics Canada. The **raw materials price index** increased 0.6 percent.

Wholesale sales in Canada rose 1.1 percent to C\$50.7 billion (US\$45.9 billion) in February. Gains were recorded in all subsectors, led by motor vehicle and parts. In volume terms, wholesale sales were up 0.8 percent in February.

Compared with February 2014, March **industrial producer prices** fell by 0.2 percent in the euro area (EA18) and by 0.3 percent in the EU28, according to estimates from Eurostat.

Compared with January 2014, February 2014 seasonally adjusted **production in the construction sector** grew by 0.1 percent in the euro area (EA18) and in the EU28, according to Eurostat. Year-over-year, February construction production increased 6.7 percent in the euro area and by 5.5 percent in the EU28.

Manufacturer News

The Timken Company, Canton, OH, first-quarter sales were \$1.1 billion, up 1 percent from the prior-year quarter. Profit grew 11 percent to \$83.5 million.

Emerson, St. Louis, MO, sales for the fiscal second quarter ended March 31 were \$6 billion, up 2.5 percent from the prior-year quarter. Profit increased 2.6 percent to \$561 million. For the first six months of the fiscal year, sales were \$11.5 billion, up 1 percent. Profit increased 1 percent to \$1 billion.

Brady Corp., Milwaukee, WI, completed the first phase of the previously announced two-step divestiture of its European and Asian die-cut businesses to **Boyd Corp.**

Kennametal Inc., Latrobe, PA, reported sales for the fiscal third quarter ended March 31 of \$755.2 million, a 15.2 percent increase year-over-year. Profit decreased 5.6 percent to \$50.9 million. For the first nine months of the year, sales increased 7.7 percent to \$2.1 billion. Profit fell 20.7 percent to \$112.9 million.

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**MARKETS
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News Digest

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European building materials supplier **Saint-Gobain** first-quarter sales were €9.9 billion (US\$13.7 billion), up 2.6 percent year-over-year. Building distribution segment sales increased 6.1 percent to €4.4 billion (US\$6.1 billion).

Swedish manufacturer **Atlas Copco** first-quarter sales were SEK 21.4 billion (US\$3.3 billion), up 5.9 percent year-over-year. Profit decreased 7.8 percent to SEK 2.8 billion (US\$426.5 million).

Eaton Corp., Dublin, Ireland, first-quarter sales were \$5.5 billion, up 3.4 percent year-over-year. Profit increased 16.1 percent to \$439 million.

Parker Hannifin Corp., Cleveland, OH, reported sales for the fiscal third quarter ended March 31 of \$3.4 billion, up 1.5 percent year-over-year. Profit dropped 5.5 percent to \$242.5 million. For the first nine months of the fiscal year, sales were \$9.7 billion, up 1 percent. Profit grew 9.3 percent to \$740 million.

Illinois Tool Works Inc., Glenview, IL, reported sales for the first quarter of \$3.6 billion, up 4.4 percent from the previous year, with organic sales up 3.3 percent. Profit increased 33.6 percent to \$473 million.

Sandvik first-quarter sales were SEK 22.5 billion (US\$3.4 billion), a slight increase year-over-year. Profit for the quarter increased 1.1 percent to SEK 1.5 billion (US\$227.6 million).

Stanley Black & Decker, New Britain, CT, first-quarter sales were \$2.6 billion, up 7 percent over first quarter 2013. Profit from continuing operations was \$167 million, compared to \$84.7

million a year ago.

ABB, Zurich, Switzerland, has agreed to sell the **Power Solutions business of Power-One to Bel Fuse Inc.**, Jersey City, NJ, for \$117 million.

ABB reported sales for the first quarter of \$10.4 billion, down 1 percent year-over-year. Profit decreased 18 percent to \$544 million.

Safety products manufacturer **Capital Safety**, Bloomington, MN, has acquired **Altiseg Equipamentos de Seguranca de Trabalho Ltda.**, a fall protection company in Brazil.

H.B. Fuller Company, St. Paul, MN, will open a new manufacturing facility in Rionegro, Colombia.

Ingersoll-Rand plc, Swords, Ireland, reported sales for the first quarter of \$2.7 billion, an increase of 3 percent from the previous year. Profit decreased 10.2 percent to \$79 million.

Pentair, Schaffhausen, Switzerland, reported sales for the first quarter of \$1.7 billion, down 3 percent from the previous year. Profit was \$188.6 million, compared to \$51.7 million in the first quarter of 2013.

Regal Beloit Corp., Beloit, WI, first-quarter sales were \$801.2 million, up 3 percent from the prior-year quarter. Profit decreased 11.5 percent to \$43.8 million.

The Manitowoc Company Inc., Manitowoc, WI, first-quarter sales were \$850 million, down 5 percent year-over-year.

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over-year.

Health care segment sales were \$1.4 billion, up 4.8 percent. Organic local-currency sales increased 6.2 percent. Operating income was \$427 million, an increase of 5.6 percent.

Consumer sales of \$1.1 billion were down 0.2 percent. Organic local-currency sales increased 2.6 percent. Operating income was \$228 million, down 3.5 percent year-over-year.