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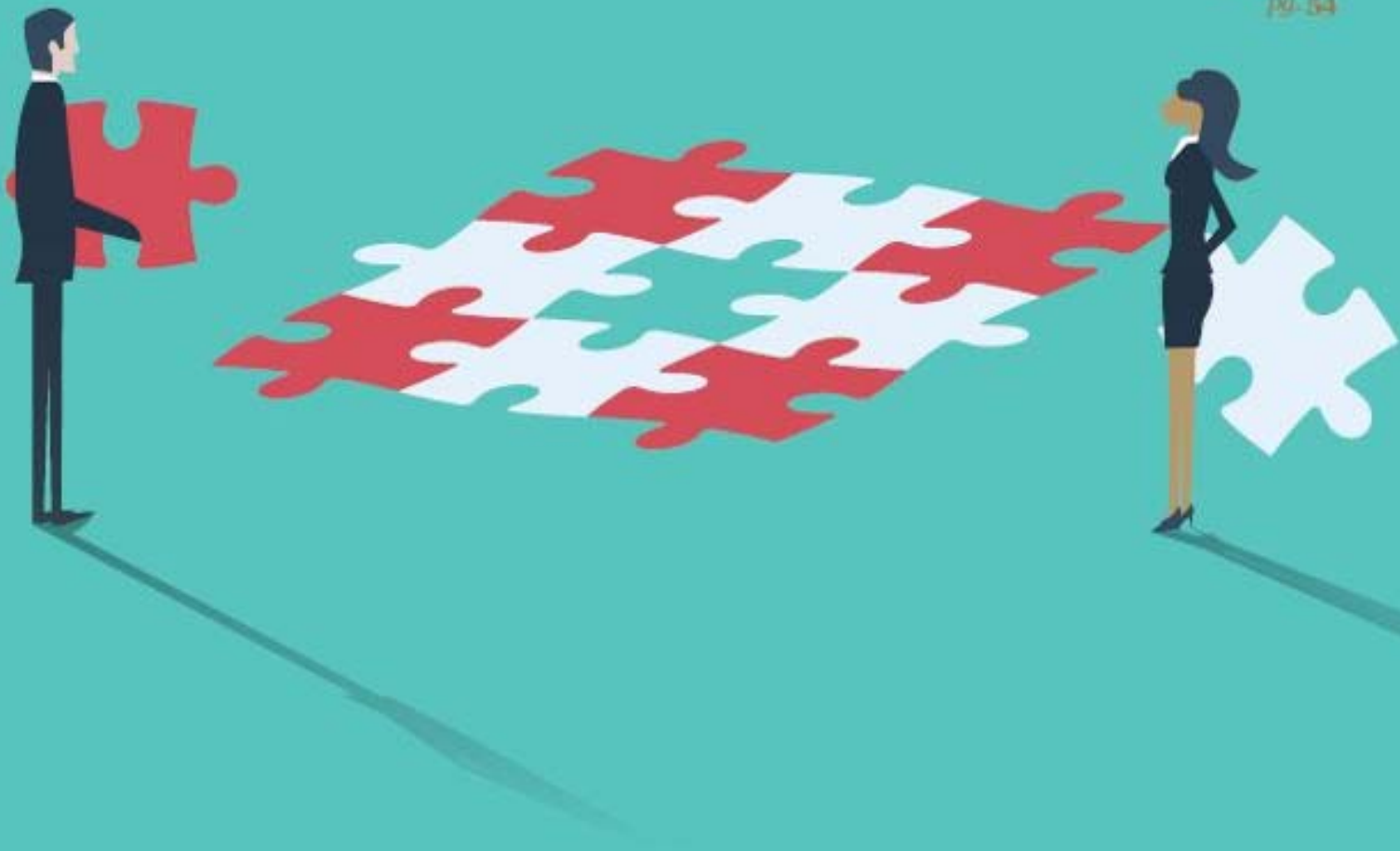
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POWER, INTELLIGENCE, AND PREDICTABILITY

End-users are using data to save money, reduce downtime.

by Kara Bowlin

POWER IS A KEY ELEMENT IN virtually every facility, but all power distribution systems are not created equal. Power distribution generally encompasses five categories: LVGP (low-voltage general purpose) distribution transformers, power conditioners, ICT (industrial control transformer), power supplies, and uninterruptable power

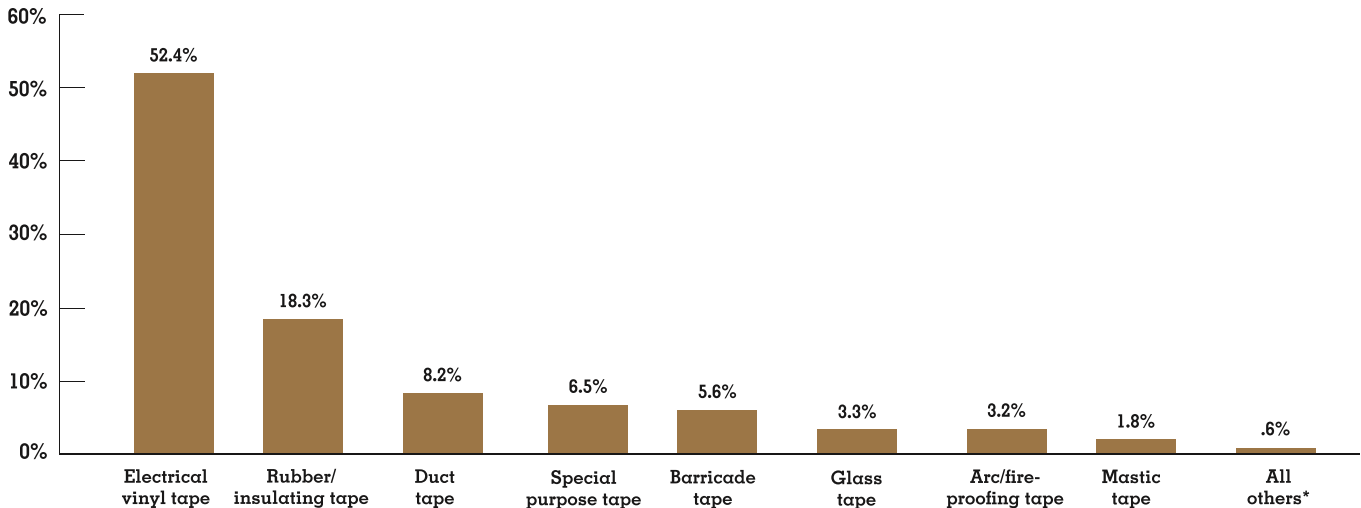
supplies. Distributors sell these products across many markets—from general industrial and commercial facilities, manufacturers, OEM, oil and gas to metals and mining and water and wastewater. And while these systems were once somewhat cut and dried, the increased demand for data, need for reliable uptime, and interest in alternative energy are changing these

products at a rapid pace. To keep up, manufacturers are working directly with end-users to understand customers' needs and wants as they innovate newer, smarter products.

Mark Dziedzic, senior product marketing manager for SolaHD at Emerson (solahd.com), sees an increased need for power distribution products from data centers and alternative energy. “For data centers, it’s about understanding the shift in customer behaviors toward digital and embracing digital strategies that make it easier for customers to interact with you,” he said. “This has led to a rise in data center and server farms needing more power to cope with demand. We also see alternative energy as a growth area. Wind and solar power are expanding across the

TAPE BY PRODUCT TYPE

12-MONTH DOLLAR SHARE ENDING MARCH 2019



TAPE-SHARE CHANGE BY PRODUCT TYPE; 12-MONTH DOLLAR SHARE ENDING MARCH 2019 VS. ONE YEAR AGO

Electrical vinyl tape	.5
Rubber/insulating tape	-.1
Duct tape	.2
Special purpose tape	.1
Barricade tape	.2
Glass tape	.2
Arc/fire-proofing tape	-.5
Mastic tape	-.2
All others*	-.3

*All others = friction tape, strapping tape, and unknown. Epicor's Industry Data Analytics tracking information is based on sales from a representative sample of full-line electrical distributors located throughout the United States. For more information, call 512-278-5800, email epicorindustryanalytics@epicor.com, or visit www.epicor.com/en-us/business-need/sales-and-marketing/vista-information-services/.

country, leading to more distribution equipment to support.”

Clinton Hommel, product specialist at Phoenix Contact (phoenix

contact.com), works frequently with energy-monitoring products. “A lot of these products end up being used in machines, but we also have prod-

ucts that are installed in the bigger power distribution equipment: switchgear, motor control centers, etc.,” he said, adding that he does a

lot of business with OEM and machine builders as well as end-users from many different segments. “Process-oriented firms are especially interested in power monitoring. Places like big oil and gas and food and beverage need continuous product flow; downtime is really detrimental to production of products or goods or services.”

Both agree that power-monitoring and distribution products are evolving at a rapid pace.

“It’s a really exciting time to be in the monitoring side of the business because the changes are happening very quickly,” said Hommel. “You’re seeing power distribution and switchgear becoming smarter. Before, we had old-school paper chart recorders and analog panel meters. Now we’re networking everything. We have automatic switchgear. We’re looking at power quality. We’re logging energy consumption, and more and more monitoring is becoming integrated as a solution and not just an auxiliary product.”

Dziedzic added that improvements in energy efficiencies like mandates from the *DOE 2016 Efficiency Standards* and the National Resources Canada Energy Efficiency standards have changed how products are cre-

A CONTRACTOR’S VIEW

Distribution and conditioning products are staples for Long Beach, California’s Elec-Tech, an electrical consulting firm that has many large commercial and industrial clients.

“We’re talking about bringing power from main services to distribution panels; power for welding; mixers, ovens, server racks, and conveying systems for bakeries; distribution centers; freezer systems used for the transfer of fish from ships to sales outlets; and frozen food products to sales outlets,” said Gary Urke, president and CEO. “We recently installed a 400A/480V/three-phase/four-wire power conditioner to a radio transmitter site in San Diego that was located close to a rock quarry that operates from 6 a.m. to 4:30 p.m. The quarry’s operations put spikes into the transmitter’s main power feeder, which took the station’s transmitter off the air. The power conditioner solved the problem. Power conditioners and variable frequency drives (VFDs) are also used to reduce power consumption and control speeds for motors on equipment and conveyors.”

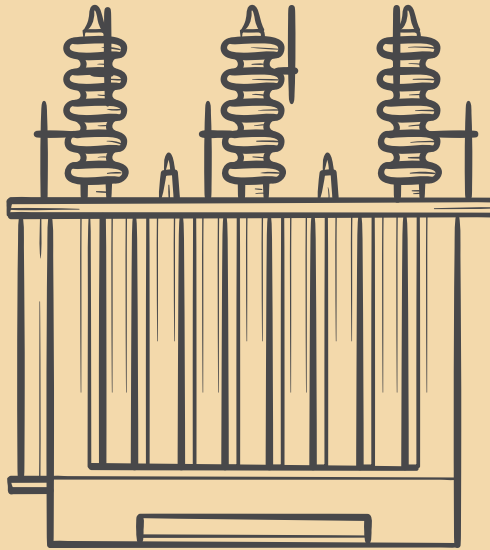
On retrofit jobs, clients often select which manufacturer’s products will be installed, unlike other installations where Urke can suggest a variety of products based on price, requirements, and operational time. And while the company uses several different manufacturers’ lines, retrofits of old buildings with older systems often have Urke’s crews installing equipment from the same manufacturer to ensure consistency.

“I have seen improvements in nearly all of the products used in the electrical industry and motor control,” Urke said. “VFDs and programmable logic controllers have made the greatest improvements.” He credits R&D for lifespan improvements and price decreases, but pointed out that some manufacturers maintain high prices to be recognized for providing premium equipment.

He also noted that distributors are making vast improvements to ensure contractors have access to products. “When we first started dealing with [our distributor] more than 50 years ago, there was one branch in Long Beach,” Urke recalled. “Now there are more than 30 locations with central distribution to ensure rapid delivery in Southern California. He added that in the past, manufacturers required their distributors to carry a certain amount of stock, “but recently I have seen this trend moving to area distribution with less product in each outlet. This change has seemed to help the distributor in getting the product to the contractor for a competitive price.”

He also noted that while some contractors are buying cheaper products from Asia, “They don’t last as long and they have more problems. If you install a product that is going to be doing a high amount of operations per day—like manufacturing plants and bakeries—you need to have reliable products. If you shut down an industrial manufacturing line, it costs thousands of dollars per second. You get what you pay for.” ■

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ated. He noted that the IIoT has essentially changed the demand for power-monitoring and distribution products.

Growing Retrofit Market

While many power distribution systems are designed to last up to 10 years, technology advances and efficiencies are changing so rapidly that even systems in good condition can benefit from retrofit.

Hommel is seeing a huge retrofit market for power-monitoring products. “A good chunk of what I’m doing now with my sales is looking at a customer’s existing processes and applying newer technologies,” he said. “For example, Rogowski coils are super simple to install and get data from remote equipment without cabling restraints. The beauty of monitoring is that it’s fundamentally very basic: You’re looking at voltage and current. From that, a lot of information can be extrapolated, but only two inputs are needed: a current transformer and voltage input. With them you can look at power quality, consumption, and trends—all with something that can be retrofitted.”

Hommel offered the New York City subway retrofit as an example of how data can provide major cost savings:

“We retrofitted the New York City subway system’s rail heating system with basic energy monitoring and remote control radios. By optimizing when they switched the rail heaters on and off, they saved about \$25,000 per day in electricity cost. There are dozens of solutions out there like that. People assume with this rapid change of industry that they have to get rid of everything and start over, but that’s not true. Huge energy savings can come from retrofit.”

Another major benefit of the data is increased uptime for facilities. Dziejcz explained: “Monitoring the power chain enables end-users to perform load shedding when power usage is high, reducing or eliminating costly demand charges from utilities along with providing actionable data to prevent downtime. Customers are looking to monitor and improve data collection in real time to assist in predicting events so they can be proactive and not reactive, which is the goal of the IIoT. More than 60% of global manufacturers now use the IIoT to collect analytics data from connected devices, including power, to analyze processes and identify not only potential problems, but also ways to profitably optimize systems.”

And where this influx of data once presented a huge learning curve for operators, Hommel noted a recent focus on usability of analytics systems. “One of the biggest trends with energy monitoring is actually simplification. In the past, end-users would buy a \$10,000 energy-monitoring system and then would never look at it because it was too complex and overbuilt for what they need. Now we’re seeing a trend that is more consumer minded: end-user equipment that is more accessible. Everybody can get in on the

fun now,” Hommel said. “People think that with this rapid change of industry you have to get rid of everything and start over, but that’s not true. You have to look at where your pain points are and where you have the most opportunities for improving the systems and making smart investments in technologies that can be easily retrofitted.”

With rapid changes and manufacturers racing to refine systems and provide the best possible solutions for end-users, distributors face an uphill battle in staying informed and up to date on the latest technologies.

“It’s very much an end-user-driven market right now,” Hommel added. “Training is a very important part of staying current.”

Manufacturers agree that rapid gains in technology are making this an exciting time to be in power distribution, but the real challenge can be explaining changes and benefits to end-users. “The modern salesperson needs to be fluid and willing to accept new technologies,” Hommel concluded. ■

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