

electroindustry

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Recapping the Annual Membership Meeting

FUTURE SUPPLY CHAIN RISKS & OPPORTUNITIES

- **2017 Award Recipients**
- **Digital Transformation of the Supply Chain**
- **NAFTA Update**

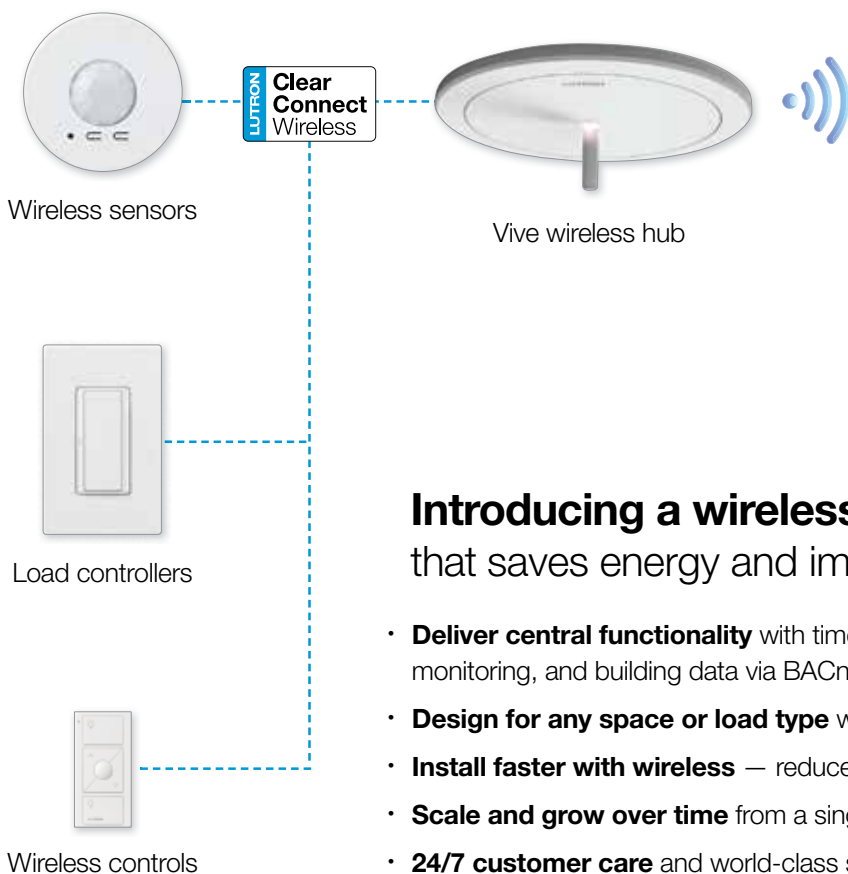
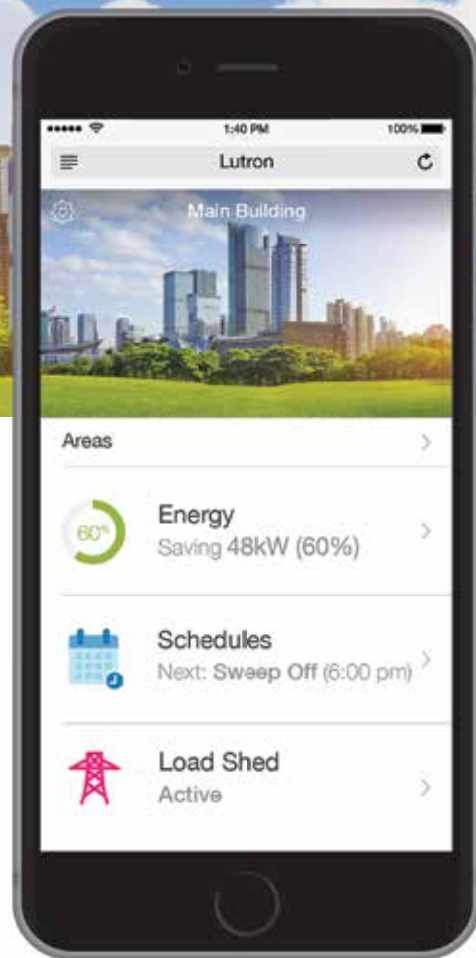
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John Estey and others recognized



Wide range of speakers address future supply chain

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FROM THE CHAIRMAN

When I became Chair of the NEMA Board of Governors, I recognized that we had tremendous opportunities but also significant responsibilities. Our association presents focused advocacy efforts; guides the development and implementation of relevant standards, codes, and other intellectual property; and expands our understanding in the rapidly changing business of manufacturing.

I have been encouraged by our successes. New energy storage protocols have been developed under the U.S. Department of Energy, regulatory relief bills regarding standby power requirements for LED technologies were passed, and MITA spearheaded the drive to repeal the medical device tax. However, we have significant challenges ahead. The rapid expansion of the Internet of Things reflects a dynamic change from a mostly components industry to a systems industry. The implications of this transformation will reach deep. We have a shortage of qualified workers and are facing gaps in the skills necessary for electrical manufacturing, which is becoming more digitized and interconnected.

Even natural disasters influence our Members. With its *Rebuild Strong, Rebuild Smart* program, NEMA is proactive in helping customers and policymakers prepare for reconstructing electrical systems in a safe manner after the multiple hurricanes, wildfires, and other tragic events that affected so many this year.

As an example of how NEMA and MITA are stepping up to the future and all it holds, the 2018 Strategic Initiatives are a good place to start.

- **Internet of Things.** We will help NEMA Members and customers capitalize on the digitally connected world by developing the standards and best practices that will enable the deployment of an array of smart technologies. At the same time, we are championing reasonable government legislation and regulations that support our efforts and serve the public through cybersecurity.
- **Smart Cities.** We will focus on enhancing the efficiency of cities by promoting electrical infrastructure and building systems that are reliable, flexible, and sustainable.
- **Workforce Development.** We will pursue an industry-tailored approach to promote interest in the electrical and medical imaging industries by delivering tools for our Members to use with their local schools.

Although not a Strategic Initiative for 2018, MITA's work in medical imaging is nonetheless purposeful. Improved screening practices will better serve patients by enabling early, accurate diagnosis and guiding follow-on therapy with positive cost and outcome implications.

In the coming year, we will also address electrification of the nation's infrastructure. Within this conversion from fossil fuel to electricity, NEMA Members make the products that generate, transmit, and utilize electricity. We anticipate that as electricity use rises, more electrical equipment will be needed to support the increased demand. It is with our Members' strong commitment that NEMA can do all this and more. As I have emphasized all year, we get out of this organization what we put into it. Your voices matter and your collective involvement makes the difference.

As I pass the gavel to my colleague and friend David Nord, chairman, president, and CEO of Hubbell, I say thank you to the entire NEMA membership, staff, and partners for making this a great year. It's been a true honor to serve you all as chair of our National Electrical Manufacturers Association. Under Dave's guidance we will continue to transform the electrical and medical imaging industries, improve the lives of all our customers, and drive progress in our markets. 🇺🇸

Michael Pessina
Chairman, NEMA Board of Governors

David Nord Assumes Chairmanship, Foresees Bright Future



David G. Nord, chairman, president, and CEO of Hubbell Incorporated, accepted the symbolic gavel of office from Michael W. Pessina, co-chief executive officer and president of Lutron Electronics Company, Inc., to mark his inauguration as chair of the NEMA Board of Governors at the conclusion of the association's Annual Membership Meeting, November 9, 2017.

Also elected to the Executive Committee were Vice Chairman Mark Gliebe of Regal Beloit Corporation, Treasurer Theodore Crandall of Rockwell Automation, and Immediate Past-Chairman Michael Pessina.

Elected to the Board of Governors were Lee Cooper, GE Healthcare; Susan Graham, ELANTAS PDG, Inc.; Jes Munk Hansen, LEDVANCE, LLC; Donald Hendler, Leviton Manufacturing Co., Inc.; Robert McIlroy of Robroy Industries, Inc.; Jack Nehlig, Phoenix Contact; Greg Scheu, ABB, Inc.; Richard Stinson, Southwire Company; and John Williamson, Atkore International. Additionally, David Pacitti of Siemens Healthineers was elected to the Board. 📸

Photos by Pierce Harman

Florida Governor Scott Meets with NEMA Board of Governors

Florida Governor Rick Scott met with the NEMA Board of Governors before addressing the Annual Membership Meeting, November 9, in Bonita Springs, Florida. In his remarks, Governor Scott spoke about the state's efforts to rebuild after Hurricane Irma. Pictured with the governor are (from left) Andrew Quinn, Jack Galyen, Richard Stinson, Kyle Seymour, Susan Graham, Mark Wingate, Governor Scott, Greg Scheu, Kevin Cosgriff, John Selldorff, Annette Kay Clayton, Michael Pessina, Raj Batra, David Nord, Mark J. Gliebe, and Jack Nehlig. 📸



Paul Biggins Retires from MITA Board

NEMA's Medical Imaging & Technology Alliance (MITA) Board of Directors recognized Paul Biggins, director of regulatory affairs at Toshiba America Medical Systems, with its Excellence in Leadership Award 2017 during its November meeting. Mr. Biggins, who also chaired MITA's X-Ray Section for many years, retired from the board.

Among those thanking Mr. Biggins (center, holding plaque) for his service were (from left) Michael Wendt, Siemens Healthineers; Phil Sullivan, Samsung NeuroLogica; Sheldon Schaffer, Hitachi Healthcare Americas; Nelson Mendes, Ziehm Imaging, Inc.; Patrick Hope, MITA Executive Director; Neo Imai, Canon Healthcare Solutions; MITA Board Chair Joe Robinson, Philips North America; Tiffany Olson, Cardinal Health; Rich Fabian, FUJIFILM Sonosite, Inc.; Eric Stahre, GE Healthcare; and Dennis Durmis, Bayer Healthcare. ©



Photo by Pat Walsh

Stay Safe, Avoid Counterfeits

In the wake of numerous destructive hurricanes, the Electrical Safety Foundation International (ESFI) urges consumers and contractors to rebuild with an eye to safety.

ESFI's new *Rebuilding and Renovating Safely* toolkit provides information on replacing versus reconditioning water-damaged electrical equipment, reasons to hire only qualified electricians to perform electrical work, and tips on avoiding counterfeit electrical goods. ©

Andrea Viñas,
Communications
Coordinator, Electrical
Safety Foundation
International

THE IMPORTANCE OF: REBUILDING & RENOVATING SAFELY

HOW TO AVOID
COUNTERFEIT ELECTRICAL GOODS
— PREVENTING A DEADLY MISTAKE —

Using **qualified electricians** and purchasing from **reputable distributors and retailers** gives you: safety, security, and the backing of the manufacturer.

► **COUNTERFEIT'S UNINTENTIONAL CONSEQUENCES**

Value of seized counterfeit goods: \$1.38 billion	87% of counterfeits originate in China and Hong Kong .	1/3 of websites hosting pirated or counterfeit goods contain malware according to the office of U.S. Intellectual Property Enforcement Coordinator.
750,000	American jobs are lost every year due to counterfeiting.	

► **HOW TO REPORT COUNTERFEITS:** Visit IPRCenter.gov or ESFI.org to report counterfeits.

www.facebook.com/ESFI.org
www.twitter.com/ESFI.org
www.youtube.com/ESFI.org



John W. Estey Honored for Lifetime Achievement



About the Bernard H. Falk Award

Bernard H. Falk joined NEMA's Operations Section in 1956. He became vice president of government and membership services in 1967 and president in 1972, a position he held until his retirement in 1991.

As vice president, Mr. Falk influenced two distinct domains within the association—government relations and membership. Concentrating on legislation related to product regulation and international trade, Mr. Falk prepared and coordinated industry position papers, testified regularly before Congress and government agencies, and developed a program for improving day-to-day relationships with executive agencies. During his tenure, NEMA membership grew to an all-time high.

The Bernard H. Falk Award was established in 1991 to recognize outstanding achievement in technology, management, marketing, international trade, education, public affairs, or any other field important to the electroindustry. This year's award was sponsored by Leviton Manufacturing.

John W. Estey, an enduring contributor to the electroindustry, received the 2017 Bernard H. Falk Award, NEMA's highest award, on November 9 at the Annual Membership Meeting in Bonita Springs.

Mr. Estey joined S&C Electric Company in 1972 as a young engineer. He progressed through various management positions that culminated in his appointment as its president in 1988. As one of only three chief executive officers in S&C Electric Company's 100-year history, he led the company to prominence in the industry through an unwavering focus on product innovation, customer service, and the highest standards of integrity and ethical behavior.

According to S&C Electric Company CEO Kyle H. Seymour, Mr. Estey exemplifies the characteristics and character that this award recognizes.

"John is admired and revered within the company, particularly for his steady leadership," Mr. Seymour noted.

Mr. Estey's work ethic extends to the broader industry. His participation in the Institute of Electrical and Electronics Engineers (IEEE) and its Power and Energy Society (PES) includes being an IEEE fellow, past director of IEEE, and past PES president. Through the IEEE PES Scholarship Plus Initiative, he encourages undergraduate engineering students to pursue careers in the industry. IEEE recognized him for a lifetime of service with the IEEE PES Leadership in Power Award. In 2011, the S&C Foundation endowed the John W. Estey Outstanding PES Scholarship.

As president of the S&C Foundation, he led efforts to fund and endow numerous community programs, particularly those that steer young people into engineering. He chaired the Adler Planetarium Board of Trustees, where he helped to endow a program focused on STEM education. He is also a member of the Dean's Advisory Board at the Kellogg School of Management at Northwestern University.

A strong supporter of NEMA, Mr. Estey invigorated S&C's engagement within the association. He played a pivotal role in helping to establish strategic focus. After several leadership roles, he chaired the NEMA Board of Governors in 2007. At the time of his retirement, Mr. Estey was the longest-serving active board member.

Since his retirement from S&C in 2015, Mr. Estey continues to serve in a nonexecutive capacity as chairman of the S&C Board of Directors. He has been a role model to many, a legendary leader, and a distinguished servant to the electroindustry. ☼



Champion Fiberglass Exemplifies Innovation

On behalf of Champion Fiberglass, Goran Haag accepted the 2017 Illuminations Award for Business Innovation, November 9, at the Annual Membership Meeting in Bonita Springs, Florida.

Mr. Haag is the owner and co-founder of the company. His passion for fiberglass and his commitment to quality products revolutionized the electroindustry. Within a year of its founding in 1988, Champion Fiberglass distinguished itself as a small company whose innovations in epoxy resin-based conduit and fittings exceed the most stringent fire-safety requirements.

These products led to the company's position as a leading supplier of fiberglass conduit and strut for use in demanding industrial, electrical, and mechanical environments, including passenger railways, subways, and stations; bridges and tunnels; utility installations; and applications requiring two-hour fire ratings. The strong, lightweight, and non-metallic solutions have improved performance, enhanced safety, and cut costs.

Although a relatively small company with limited resources, Champion Fiberglass is active in the Polymer Raceway Products Section's work and its technical committee. Mr. Haag is proactive in working with the electrical manufacturing industry to convey the advantages of fiberglass conduit and to expand the applications of fiberglass conduit in the field. All of its manufacturing equipment was built by the company's own staff, including compression molds for fiberglass conduit fittings.

Champion Fiberglass's dedication to code adherence and sustainability is evident not only in its technological advancements but also in the entrepreneurial spirit with which it rebuilt its Houston, Texas, plant in record time last year after a devastating fire. Under Mr. Haag's leadership, the new digital facility increased capacity, incorporated state-of-the-art safety systems, and upgraded its power system and electrical infrastructure to be compliant with the *National Electrical Code*® (NEC).

Champion Fiberglass is active in the National Fire Protection Association, which publishes the NEC, and has been successful in getting many proposals adopted in it. This kind of participation demonstrates the company's commitment to safe electrical and structural systems.

Internally, this commitment can be seen in Champ Camp, an event that brings together national representatives to discover new ways to help customers. Speakers share techniques, tips, and first-hand accounts of how fiberglass increases efficiency and decreases costs on major projects.

In demonstrating ingenuity and forward-thinking, Mr. Haag changed the trajectory of the electroindustry. From data centers to mining, from subway tunnels to the Hoover Dam, Champion Fiberglass embodies the values that NEMA celebrates with the Illuminations Award for Business Innovation. 🌟



About the Illuminations Award for Business Innovation

The Illuminations Award for Business Innovation is presented to a NEMA Business Innovation Council (BIC) member company that has demonstrated success through entrepreneurial growth and advanced technology or pioneered innovation. This year's award was sponsored by MVC-Maxivolt.



Hans Beinke Embodies Röntgen's Legacy



Photo by Pierre Harman

About the Röntgen Award

Named for the father of medical imaging, Wilhelm Conrad Röntgen, this award celebrates pioneers within NEMA's Medical Imaging & Technology Alliance (MITA). A mechanical engineer and physicist, Mr. Röntgen discovered x-rays and created the first medical image in 1895. In 1896, Siemens developed that technology and invented the first industrially manufactured x-ray tubes for medical diagnostics. This year's award was cosponsored by GE Healthcare and Siemens Healthineers.

Hans Beinke's decades of leadership in the medical device industry were recognized during the NEMA Annual Membership Meeting with the presentation of the first Röntgen Award.

Named for the father of medical imaging, Wilhelm Conrad Röntgen, this award celebrates pioneers within NEMA's Medical Imaging & Technology Alliance (MITA). A mechanical engineer and physicist, Mr. Röntgen discovered x-rays and created the first medical image in 1895. In 1896, Siemens developed that technology and invented the first industrially manufactured x-ray tubes for medical diagnostics.

As vice president of Healthineers, Mr. Beinke was involved in MITA for more than 15 years. During that time, he has held numerous positions, including chairing the Magnetic Resonance Section and the Global Affairs Committee, and vice-chairing the Technical and Regulatory Committee.

His acumen during two Medical Device User Fee Agreement (MDUFA) negotiations with the U.S. Food and Drug Administration (FDA) in 2012 and 2017 led to increased efficiency within the agency and faster approval times for members' products.

Additionally, while chairing the Global Affairs Committee, he drove the development of NEMA/MITA 1-2015 *Good Refurbishment Practices for Medical Imaging Equipment*, which the International Electrotechnical Commission (IEC) recognized as a Publicly Available Specification, a designation that applies to a publication responding to an urgent market need.

He was also instrumental in developing a new work item proposal for the International Medical Device Regulators Forum (IMDRF) that will enhance the standards development environment to create standards that are a better fit for regulatory purposes.

Mr. Beinke's participation in MITA activities and significant leadership roles have advanced MITA's mission by furthering the medical imaging device marketplace domestically and internationally, reducing trade and regulatory barriers, and addressing technical issues integral to the industry.

His unparalleled work for Siemens Healthineers and his leadership within MITA continue to play a crucial role in Röntgen's legacy. 🌟



Kite & Key Awards

Becky Rainer Shines in Lighting

Rebecca F. “Becky” Rainer, whose exceptional leadership shines throughout the lighting industry and especially within NEMA, was recognized with a 2017 Kite & Key Award at the NEMA Annual Membership Meeting, November 9, in Bonita Springs.

A member of the NEMA Lighting Division for more than 20 years, first representing Cooper Lighting and now Eaton Lighting Solutions, Ms. Rainer has held several leadership positions, including vice-chair and chair of both the NEMA Lighting Systems Division and Luminaire Section. She also participates in NEMA cross-divisional activities, such as the High Performance Buildings Council.

A recognized authority in outdoor lighting, Ms. Rainer has earned recognition from her peers, electric utilities, and municipalities. She chairs the NEMA LSD 55 working group that is addressing the American Medical Association’s position on the health implications of outdoor lighting. She is also active in the ANSI C136 Roadway and Area Lighting Committee, supported by the NEMA Luminaire Section.

Her active advocacy in NEMA Government Relations activities includes working on congressional legislation, Department of Energy standards development, and California Energy Commission building and appliance standards.

Her other state policy work includes developing light pollution bills and collaborating in the joint development of model state ordinance language supported by NEMA, the Illuminating Engineering Society (IES), the International Association of Lighting Designers, and the International Dark-Sky Association. A member of the IES, Ms. Rainer chairs the IES Street and Area Lighting Planning Committee and serves on the Obtrusive Light, Liaison, Maintenance, and Off-Roadway subcommittees of the IES Roadway Lighting Committee. She is also a member of the International Dark-Sky Association and is an educator for the Eastern Electric Utility Outdoor Lighting Council.



When the new ANSI C137 committee formed to address interconnectivity issues with complex lighting system technology, Ms. Rainer again assumed a leadership role, chairing the ANSI C137 Lighting Systems Applications Working Group. She provided leadership in the Lighting Systems Division 2015 strategic planning and advocated for the C137 Lighting Systems Approach, focusing on interoperability and an integrated systems perspective to lighting technologies.

Her NEMA activities include membership in the Luminaire, Emergency Lighting, Lighting Controls, and Light Source Sections in addition to the Technical Committee of the Luminaire and Light Source Sections. She consistently promotes the association and its standards in all aspects of her work and with adjacent industries.

Ms. Rainer has been characterized by her peers as a leader who listens and is always prepared to act on solutions. Her insight, commitment, and willingness to hear all sides of an issue before working with committee members to reach a solution exemplify the spirit of the Kite & Key Award. 🏆

Steve Rood Measures Success with Standards



Photo by Pierce Harman

About the Kite & Key Award

The Kite & Key Award is named after an experiment on the nature of electricity that is attributed to Benjamin Franklin. This annual award recognizes individuals whose exceptional work in codes and standards has advanced the interests of the electroindustry. To be eligible, a nominee must have a history of active participation in NEMA and in the industry. This year's awards were sponsored by Philips Lighting.

Steven G. "Steve" Rood, a recipient of a 2017 Kite & Key Award, is director of codes and standards for Legrand North America and a guiding force in global standards development for NEMA.

In his work at LNA, a subsidiary of Legrand, Mr. Rood is accountable for strategic development, market implementation, and product coordination of relevant codes and standards pertaining to current and future marketplace demands for cable trays, wiring devices, and wire and cable management solutions.

Having worked in the electrical industry since 1987 in a wide spectrum of domestic and exporting businesses, Mr. Rood brings a background that encompasses electrical infrastructure, consumables, construction materials, systems solutions, and tools. This perspective allows him to bring a broad understanding to the strategic role of codes and standards as they relate to the various segments of the electrical industry.

He avidly promotes products and solutions that offer engineers, facilities, contractors, and distributors increased productivity, maximum installation safety, and opportunities to employ higher levels of energy management. NEMA has relied on this passion to shape strategies that meet current and future marketplace demands and ensure proper standards integration on a national and global level.

He is a voting representative of numerous NEMA sections and committees, including Codes & Standards, Codes & Standards Task Force for State Code Adoptions, Conduits, Electronics Labeling Task Force (chair), Enclosures, High Performance Buildings Council, Internet of Things Council, Lighting Systems Division, Lighting Controls Section (chair), Section Affairs Policy Committee (2LC chair), and the Standards & Conformity Assessment Policy Committee.

Certified as a construction documents technologist and a LEED Green Associate, Mr. Rood has been involved in the International Association of Electrical Inspectors, U.S. National Committee of the International Electrotechnical Commission (IEC) Management Council, IEC TAG committees, Council for Harmonization of Electrotechnical Standards of the Nations in the Americas (CANENA), the NFPA ASHRAE/NEMA SPC 201P Facility Smart Grid Information Model, and several other organizations.

A regular contributor to *electroindustry* magazine, Mr. Rood also has written for *Electrical Contractor Magazine*, *tED*, and *EC&M*. An engineer with a master's degree in marketing and finance, Mr. Rood is an adjunct professor at Bryant & Stratton Business College. ☎

Carlos Gutierrez Sees Disruption in Supply Chain



According to former Secretary of Commerce Carlos Gutierrez, “nothing will destroy your supply chain more than technology.”

Drawing on his experience as a key player in the passage of landmark free trade agreements, Secretary Gutierrez spoke about the effects of technology on supply chains in his keynote address.

“Technology will change your business,” he said, noting that its disruptive nature has dramatic effects on trade.


He illustrated this with a fable analogous to Moore’s law, which predicts that processing power doubles about every 18 months. Legend has it that an emperor was so impressed with the man who invented the game of chess that he offered the inventor any price he asked.

“The only thing I want is for you to put one grain of rice on the first square and then double it for each subsequent one.”

His wish was granted, but by the time the emperor got to square 32 and its four billion grains of rice, he knew he had a bad deal.


“If you doubled technological capacity every year since 1958, you get to the 32nd box today,” Mr. Gutierrez said.

Having served as Secretary of Commerce under President George W. Bush, Mr. Gutierrez oversaw agreements that removed trade barriers, expanded export opportunities, and boosted global investment. He urges caution.

“With all these variables in trade, I wouldn’t make a decision today,” he said. The keynote address was sponsored by Hubbell. 




Key Drivers Improving

Donald R. Leavens, PhD, NEMA vice president and chief economist, began his economic outlook session by noting that key market drivers for the beleaguered core electrical equipment manufacturing sector were improving. He noted that synchronized global economic growth, more balanced domestic economic growth, and accommodative monetary policy will help to lift demand modestly for sectors of the electroindustry serving the industrial sector. Anemic productivity gains and labor force growth will continue to keep growth potential below the long-term average near three percent. Structural policy changes such as tax reform could lead to higher investment and productivity gains longer term. The Economic Outlook was sponsored by Lutron Electronics. 



Governor Scott Praises Building Codes

An innovator in business, healthcare, and politics, Florida Governor Rick Scott summarized the state’s rebuilding efforts after Hurricane Irma. After human life, he said, the public is most interested in the restoration of electrical power. He credits updated building codes and asset cooperation for storm recovery efforts. According to Governor Scott, the state restored nearly 90 percent of power within four days of the storm’s passing. 

Disruption Strengthens Supply Chain



In his talk on Digital Transformation and the Supply Chain, Michael Steep, executive director of Stanford Engineering Center for Disruptive Technology & Digital Cities and adjunct professor, focused on the role of disruptive technology on the coordinated supply chain and developing a strategy to reduce risk within it.

Using examples from design automation, intelligent manufacturing, model-based reasoning, integrated planning and control, advanced manufacturing and deposition systems, and printed electronics, Mr. Steep illustrated how these work together to create a dynamic supply chain for complex products like vehicles, airplanes, and consumer electronics, which are then shipped directly to end customers through third-party distribution channels.

He challenged meeting participants to think about the supply chain in terms of disruptive technology, its impacts on the electroindustry, and best practices. ☎

Connected Devices Surge

According to Ken Rempe, manager of standards and industry relations at Siemens Industry, Inc., connected devices will grow from eight billion to one trillion by 2030, 25 percent of the world's economy will be digital by 2020, and about half the world's data is less than one year old. Mr. Rempe introduced Michael Steep, whose presentation was sponsored by Siemens. ☎



Photos by Pierce Harman

Adapting to a Digital Supply Chain

In a lively discussion about the future supply chain, Michael Steep, executive director of Stanford Engineering Center for Disruptive Technology and Digital Cities, moderated a panel of experts from NEMA Member companies who are trailblazers in adopting the digital supply chain. They included David Burns, senior vice president and chief information officer, manufacturing and supply chain, GE; Debora Fronczak, vice president, 3M Engineering; and Brian Tessier, vice president of innovation, global supply chain transformation, Schneider Electric.

Noting that people don't understand how much private data is in the supply chain, the panel emphasized the need to change corporate culture before companies can begin to manage the data.

According to Mr. Tessier, solving privacy issues is a secondary process. "The bigger challenge is to drive the cultural change rather than the technology," he said.

Ms. Fronczak agreed, adding the need for standards in creating a culture in which people can innovate. "We balance speed of adoption with probability of success," she said.



Privacy is a significant concern in the digital supply chain, according to a panel that included (from left) Michael Steep, Brian Tessier, Debora Fronczak, and David Burns.

Mr. Burns sees the pace of change getting faster in the business-to-business (B2B) and business-to-consumer (B2C) worlds. "We need to become more nimble across the board," he said, noting that "we live in uncertain times in regulated environments." ☞



Digitalization to Transform Business

Explaining the differences between digitization and digitalization, Annette Kay Clayton, president and CEO of Schneider Electric North America Operations, and chief supply chain officer, introduced the panel on Adapting to a Digital Supply Chain.

"Digitization is simply the conversion of something from an analog format into a digital one," she said. "Digitalization is enabling, improving, or transforming business functions, operations, processes, and models by applying digital technologies and digitized data to create insight and knowledge for us to take action."

The panel was sponsored by Schneider Electric. ☞

Photos by Pierce Harman

National Testing Labs Discuss Plans

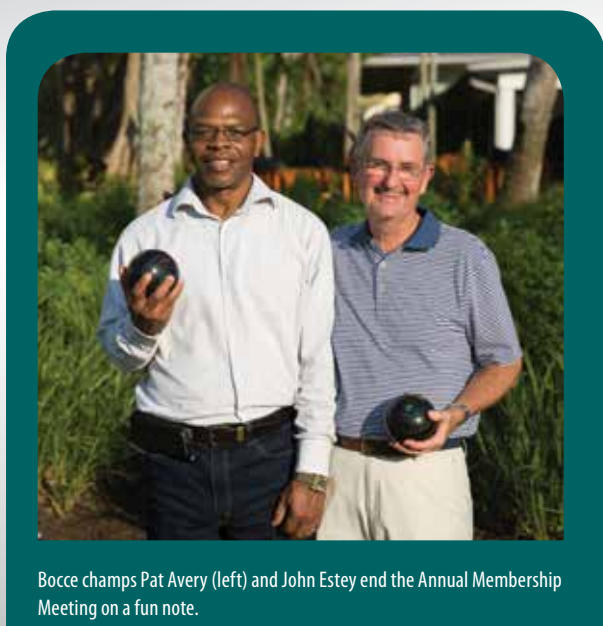


In a roundtable discussion, representatives from three nationally recognized testing labs presented their future plans and policies related to trade, reducing product approval timelines, navigating the shift toward integrated systems design and testing, Internet of Things technologies, the mutual acceptance of test data among labs, and setting effective dates for new requirements. Moderated by NEMA Industry Director Suzanne Alfano, the panel included (from left) Jeff Smidt, Vice President and General Manager, Energy & Power Technologies, UL; Tim Corcoran, Vice President of Operations, Intertek; and Gianluca Arcari, Vice President, Home & Commercial, CSA Group. 📸

Forum Explores Future Trends



NEMA Member CEOs gathered after the Annual Membership Meeting to discuss medium- and long-term industry trends and to hear from experts about monetizing data and improving resilience to cybersecurity threats. The exclusive sponsor for the Industry Future Forum was the Copper Development Association (CDA). Speakers included Jim Gilsinn (left), Principal Consultant at Kenexis Consulting, and Thom Passek, President of CDA (below), who launched the event. 📸



Bocce champs Pat Avery (left) and John Estey end the Annual Membership Meeting on a fun note.



Photos by Pierce Harman

Sponsoring Success of Annual Meeting



Mike Eby, director of content for Informa Business Intelligence, welcomed guests to breakfast.



Sean Mott (left) and Anthony Lignetta, Mar-Bal, Inc., greeted attendees at the morning networking break.



David Weinstein, president and CEO of CSA Group, the luncheon sponsor, spoke about the importance of codes and standards that promote safety and sustainability in Canada and the United States.



The Thursday evening reception was sponsored by UL. Representing the company were (from left) Tom Jackson, Dan Dunlap, Helene Ebach, Mirko Bautz, Ben Miller, Barry Kallian, and Jeff Smidt.



Intertek, represented here by (from left), Matthew Snyder, Paul Moliski, and Mark Keller, sponsored the Wednesday evening reception.



Atkore International sponsored the WiFi Lounge.

Photos by Pierce Harman

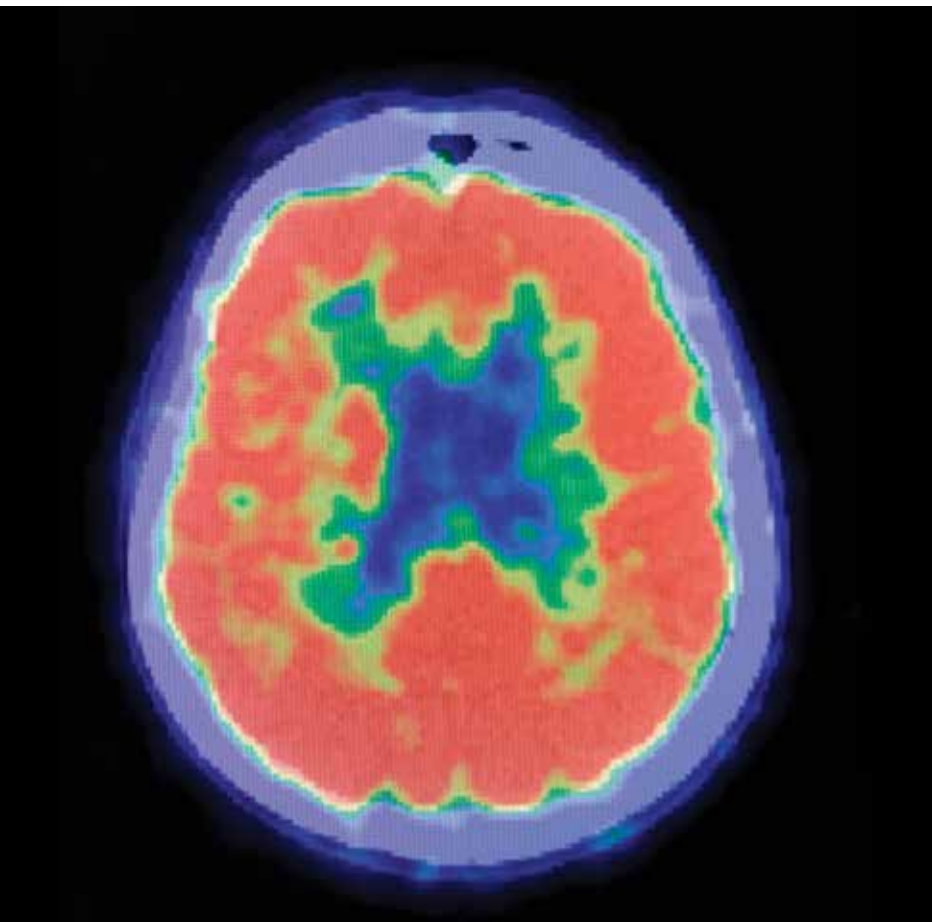
PET Imaging Leaps Forward

Walter Smith

Director of Nuclear Products
Marketing, Lantheus Medical
Imaging

Joel Lazewatsky, PhD

Director of Clinical Imaging,
Lantheus Medical Imaging



Since the discovery of positron-emitting radionuclides, their use for medical imaging has seen a series of clinical and technical advancements. Today, many nuclear medicine and molecular imaging scientists and physicians believe that positron emission tomography (PET) is making another leap forward.

TECHNOLOGICAL PAST

Our understanding of positron-emitting nuclides began with their discovery in the 1920s and continued with major advancements into the 1940s. In 1934, phosphorus-30 was first produced artificially; soon after, the first patent for the cyclotron was issued. These events paved the way for the development of carbon-11, nitrogen-13, oxygen-15, fluorine-18, gallium-68, and other radionuclides.

From the 1940s through the 1960s, positron-based imaging research advanced as these short-lived radionuclides increased our understanding of

human biological and physiological processes. In the early 1950s, the first sodium iodide rectilinear scanner was developed and clinical neurologic positron imaging was introduced. The first true PET imager emerged in 1961, with multi-detector PET introduced in 1968.

In 1975, major improvements in PET scanner technology, including circular geometry and attenuation correction, advanced the field.

In parallel, nuclear scientists successfully labeled a glucose analog with fluorine-18, and ^{18}F -fluorodeoxyglucose (FDG) molecular imaging was born. Broad use of ^{18}F FDG imaging remains a mainstay of cancer diagnosis and a critical adjunct to treatment to this day.

In the 1980s and 1990s, PET imaging continued to advance with the introduction of rubidium-82 and nitrogen-13 ammonia for myocardial perfusion imaging.

PERSONALIZED FUTURE

The fusion of PET and computed tomography (CT) was named the medical invention of the year by *Time* magazine in 2000.

In 2012, the Food and Drug Administration (FDA) approved florbetapir F 18 for neurologic imaging and C 11 choline was approved for prostate imaging. Since then, two additional PET neurologic imaging agents have received FDA approval. In 2016, the FDA approved fluciclovine F 18 for prostate imaging and gallium-68 dotatate for neuroendocrine tumor imaging.

With a focus toward personalized medicine, molecular imaging and theranostics (i.e., the combination of diagnostics and therapy) is moving toward the forefront of medicine.

The exciting research with PET nuclides gallium-68, lutetium-177, and copper-64, as well as the continued expansion of PET/CT and the introduction of PET with magnetic resonance imaging (MRI), has led many nuclear medicine and molecular imaging scientists and physicians to believe that PET is again poised for a leap forward. ☼

The PET Group is housed the Medical Imaging & Technology Alliance (MITA), a division NEMA.

Visits Underscore Importance of Legislation

Recent congressional visits to Regal Beloit Operations demonstrated the challenges facing manufacturing businesses and showed how legislation can help positively affect manufacturing growth.

Congressman Warren Davidson (R-OH) and district director Adam Hewitt visited the company's Tipp City, Ohio, facility. They met with Erik Nordquist, vice president and business leader for global pumps; Christina Shafer, human resources manager; Randy Oyster, vice president and business leader for controls and motors; Bryan Snipes, business leader for commercial HVAC; Randy Schwan, IT director for engineering systems/EDI; Michele Blake, training manager; Steve DeWeese, facility manager; Rob Covault, lab manager; and Dan Bentley, application engineer. After an overview of Regal, Mr. Nordquist and Mr. Covault led the team on a tour of the facility.



Rep. Davidson (center) toured the Regal Tipp City, Ohio, plant.

Congresswoman Vicky Hartzler (R-MO) and field representatives Adam Timmerman and Steven Walsh visited Regal in Lebanon, Missouri.

During their visit, Rep. Hartzler met with Nick Fax, plant manager; Brian Randall, director of manufacturing; and plant staff, team supervisors, and employees. After a tour of the facility led by Mr. Fax, the congresswoman answered questions and discussed the importance of manufacturing.



Rep. Hartzler (left) visited Regal in Lebanon, Missouri.

Congressman Bob Latta (R-OH) and district director David Wirt visited Regal's Bowling Green, Ohio, facility. During the visit, the congressional delegation discussed how legislation involving energy efficiency and alternative energy investments impacts business.

Rep. Latta met with Paul Goldman, vice president of marketing and communications; Ernie Leicht, vice president of operations; Bret Danks, vice president and general manager; Carol Espen, human resources manager; Brian Mick, plant manager; Julie Baggett, customer service representative; and team leaders Victoria Melendrez, Carrol Portala, and Cathy Ward. After a brief overview of Regal, Mr. Mick led the team on a tour of the manufacturing facility. 🇺🇸



Rep. Latta (center) visited Regal in Bowling Green, Ohio.
All photos courtesy of Regal Beloit

ANSI Z535 Safety Alerting Standards Now Available

By the end of December, ANSI Z535 *Safety Alerting Standards* will be available for purchase. ANSI Z535.1 *Safety Colors* has been revised, and all other standards in the set have been reaffirmed.



According to Donna R. Ehrmann, former chair of ANSI Z535.1 *Safety Colors*, there are significant changes to the standard.

“ANSI Z535.1-2017 *Safety Colors* is a major standard revision. Prior editions of this standard were difficult to understand and did not provide enough information to specify safety colors consistently,” said Ms. Ehrmann.

“My goal as the subcommittee chair was to make *Safety Colors* a usable tool for producers and designers of safety signs and labels,” she added. “During the revision process, we decided it was also important to harmonize with ISO safety colors and with the Code of Federal Regulations.”

These revisions are meant to minimize references to color tolerance charts and focus on methods to achieve uniform safety colors, rather than the technical aspects of measuring color. The goal is to simplify the process of specifying safety colors consistently, whether printing spot or process colors, displaying online manuals, or digitally printing safety signs or labels. Also, five new annexes have been added.

Advance orders on all ANSI Z535 *Safety Alerting Standards* can be placed while visiting the standards store.

For more information, visit www.nema.org/ANSI-Z535-Series or contact Paul Orr, program manager in NEMA Industry Operations, at paul.orr@nema.org. ☎

Updates Ahead for Cybersecurity Standard

Steve Griffith, PMP

Industry Director, NEMA

When the Federal Energy Regulatory Commission (FERC) issued Order No. 829, Revised Critical Infrastructure Protection Reliability Standards, in 2016, it directed the North American Electric Reliability Corporation (NERC) to address reliability.

FERC instructed NERC “to develop a forward-looking, objective-based Reliability Standard to require each affected entity to develop and implement a plan that includes security controls for supply chain management for industrial control system hardware, software, and services associated with bulk electric system operations.”

The order identifies the following security objectives: software integrity and authenticity, vendor remote access, information system planning, and vendor risk management and procurement controls.

Over the past year, the NERC standards drafting team has developed a new critical infrastructure protection (CIP) standard, CIP-013-1 *Cyber Security—Supply Chain Risk Management*. It was successfully balloted and a petition was filed for its approval. The new standard becomes effective on the first day of the first calendar quarter that is 18 months after its approval date.

NEMA, through its Internet of Things (IoT) Cybersecurity Task Force, had been monitoring this activity. While the responsible entities for this new standard are organizations that operate the bulk electric system, companies that provide these entities with products and services may start to see these new requirements in requests for proposals and contract negotiations. ☎

NEMA Responds to Record Hurricane Season

The NEMA Field Representative Program's busy hurricane season began on August 24 as Hurricane Harvey intensified in the Gulf of Mexico on its track toward the Texas coast.

As part of their standard operating procedure, NEMA and Electrical Safety Foundation International (ESFI) posted guidance documents, storm information, and other disaster recovery resources to various social media sites. We called and emailed state and local contacts, electrical professionals, and emergency management officials.

The Category 4 hurricane came onshore with a storm surge that exceeded 12 feet. During the next several days, 50 inches of rain fell on the wind- and flood-devastated communities. At the storm's peak, approximately 300,000 customers lost electric power due to downed power lines and submerged transformers. More than 250,000 buildings and structures were damaged, with some estimates upward of \$40 billion in total losses.

In Florida, Hurricane Irma, another Category 4 storm, made landfall on September 10. Communities in southwest Florida experienced 125 mph winds, 20 inches of torrential rain, and four feet of storm surge. High winds resulted in downed power lines, trees, street lighting, and traffic signals. As many as one million customers lost power, and marinas, boat lifts, and other maritime electrical infrastructure suffered extensive damage.

Electric vehicle supply equipment (EVSE) was remarkably resilient to wind and rain.

PUERTO RICO AND U.S. VIRGIN ISLANDS

In September, Hurricane Maria roared through the Caribbean, leaving the electrical infrastructure in Puerto Rico completely destroyed. The U.S. Virgin Islands fared better, and officials predict full power restoration there by the end of the year. Most of Puerto Rico is again in the dark with the failure of a recently repaired high-voltage transmission line. The NEMA Field Representatives are leading efforts to provide technical assistance to Puerto Rico as the island rebuilds its entire electric grid. The U.S. has a unique opportunity to ensure that recovery funds deploy smart technologies that are reliable, resilient, and efficient. Puerto Rico could become the model project for larger-scale grid modernization elsewhere.

NEMA distributed new Spanish translations of its Storm Recovery Toolkit throughout Texas, Florida, and Puerto Rico. NEMA will continue working with local authorities and allied associations to support rebuilding efforts in all affected jurisdictions.

RESPONDING BY THE NUMBERS

NEMA's field representatives worked extensively with state and local officials. Outreach efforts included social media updates, printed materials, webinars, and a centralized website.

- NEMA's *Storm Reconstruction Toolkit* served as a one-stop clearinghouse for guidance and information related to storm recovery. More than 660 individuals accessed it since August. A Storm Recovery Center also was established on the NEMA Intelligence Portal.
- NEMA's *Evaluating Water-Damaged Electrical Equipment* was distributed to electrical professionals, emergency management officials, and local governments in Florida, Puerto Rico, Texas, and the United States Virgin Islands. The guidelines also were published in Spanish as *Evaluación de equipos eléctricos dañado por el agua*.
- Electronic copies of the guidelines were sent to more than 350 industry contacts in Texas and Louisiana; 500 hard copies were sent to the Texas Department of Licensing and Regulation and the City of Houston Building Department.
- NEMA's publication *Storm Reconstruction: Rebuild Smart—Reduce Outages, Save Lives, Protect Property* was sent to utility companies in Texas and Florida.
- NEMA collaborated its outreach messages with the National Fire Protection Association (NFPA), the International Association of Electrical Inspectors (IAEI), and the Independent Electrical Contractors (IEC), who established training programs to educate the electrical industry and other stakeholders on storm recovery and restoration topics.
- GE Industrial Solutions and the IEC hosted three NEMA-led webinars on *Evaluating Water-Damaged Electrical Equipment*.
- Field representatives visited 10 NEMA member facilities and EVSE networks in Texas and Florida. 📍



Download

- NEMA's *Evaluating Water-Damaged Electrical Equipment* at www.nema.org/Evaluating-Water-Damaged
- *Evaluación de equipos eléctricos dañado por el agua* at www.nema.org/Evaluating-Water-Damaged-Español

NAFTA Talks Heating Up and Slowing Down

The United States, Canada, and Mexico agreed in October to continue but also to slow their efforts to renegotiate the terms of the North American Free Trade Agreement (NAFTA). After major proposals were presented by the three governments at the fourth round of formal talks, U.S. Trade Representative (USTR) Robert Lighthizer and his counterparts reported progress as well as significant challenges.

According to Mr. Lighthizer, NAFTA “has become very lopsided and needs to be rebalanced” in terms of the large U.S. trade deficit and loss of “tens of thousands of manufacturing jobs.” Citing “resistance to change from our negotiating partners” in Canada and Mexico, he added, “if we are going to have an agreement going forward, it must be fair to American workers and businesses that employ our people at home.”

Canada and Mexico are resisting U.S. proposals in the areas of rules of origin for automobiles and parts, dispute settlement, investment, government procurement, a five-year review, and a sunset clause for the entire agreement. Threats of U.S. withdrawal from NAFTA are also causing uncertainty and preventing constructive engagement on modernization elements, including

regulatory cooperation, digital trade, and anti-corruption provisions.

Disagreement on the substance of the negotiations prompted Mr. Lighthizer, Canada Foreign Minister Chrystia Freeland, and Mexico Economy Secretary Ildefonso Guajardo to change the timeline for the negotiations. Instead of concluding talks by the end of this year, the goal for concluding NAFTA 2.0 was moved to the first quarter of 2018.

At the NEMA Annual Meeting on November 9, NEMA President and CEO Kevin Cosgriff discussed NAFTA modernization with Pablo Moreno Cadena, president of Cámara Nacional de Manufacturas Eléctricas (CANAME) of Mexico, and Carol McGloghan, president and CEO of Electro-Federation Canada (EFC).

NEMA was an adviser to U.S. negotiators at the fourth round, which took place October 11–17 a few miles from NEMA headquarters in Arlington, Virginia. The NAFTA negotiations began in August, following USTR’s July issuance of its negotiating objectives.

For updates, contact Craig Updyke (craig.updyke@nema.org) or visit the NEMA Intelligence Portal. ☎



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Amid Uncertainty, Fundamentals Remain Solid

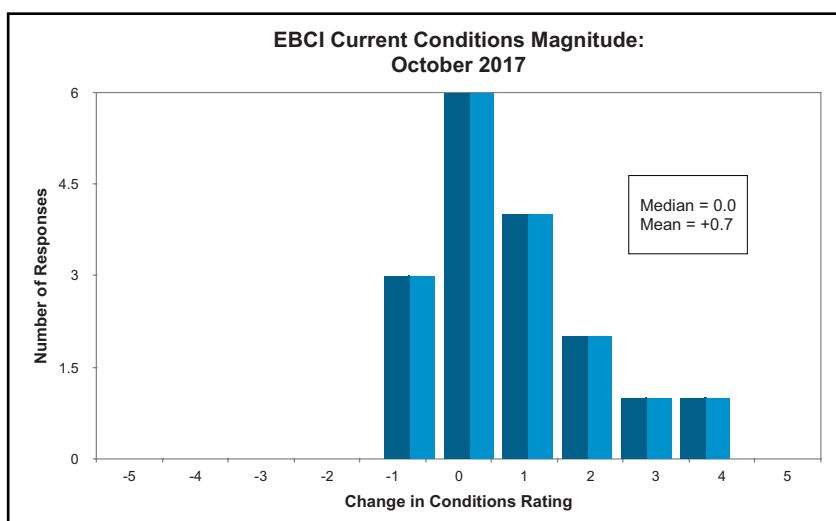
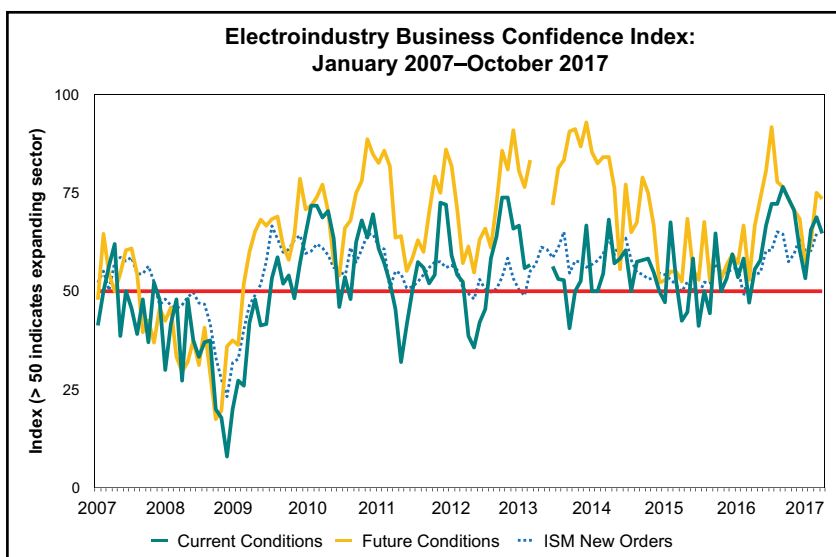
The current conditions component of NEMA's Electroindustry Business Confidence Index (EBCI) edged down from 68.8 points in September to 64.7 in October, a reading still well within the range considered to be indicative of expansion in the electroindustry. The largest shift from last month came from the share of respondents that noted worse conditions, which increased by more than five percentage points to 18 percent in October. The proportion of panel members reporting better conditions fell from 50 percent in September to 47 in October, while the percentage of those indicating unchanged conditions similarly declined from 38 to 35 percent.

The reported intensity of change in electroindustry business conditions shifted somewhat toward the more positive end of the scale. Although the median value declined incrementally, the distribution of responses pulled the mean up slightly. The median value now stands at 0, down from 0.5 last month, but the mean value added three-tenths of a point to last month's reading to reach 0.7 in October. Panelists are asked to report intensity of change on a scale ranging from -5 (deteriorated significantly) through 0 (unchanged) to +5 (improved significantly).

Although the share of panelists expecting better conditions increased two percentage points to 65 percent in October, the future conditions component decreased modestly to 73.5 points in October after having reached 75.0 last month. The proportion of respondents who expect worse conditions grew from 13 percent in September to 18 percent in October, while expectations for unchanged conditions dropped seven points to hit 18 percent in October.

Visit www.nema.org/ebci for the complete October 2017 report. 📄

	Current Conditions (Compared to Previous Month)	Conditions Six Months from Now (Compared to Current Conditions)
EBCI	64.7 ▼	73.5 ▲
% Better	47% ▼	65% ▲
% Worse	18% ▼	18% ▲
% Unchanged	35% ▼	18% ▲



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