



CONNECTIONS

Western Ohio Chapter • National Electrical Contractors Association



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URS Thirteenth Annual Telethon

The United Rehabilitation Services (URS) held their thirteenth annual telethon at WDTN TV Channel 2 studios on Sunday, December 6, 2014. The presenting sponsor this year was the Western Ohio Chapter of the National Electrical Contractors Association (NECA) and International Brotherhood of Electrical Workers (IBEW) Local 82. Several volunteers were on hand to take calls from donors. This is one of the biggest fundraisers for the URS and was a huge success! They set a new record of collecting over \$120,000! Executive Director Dennis Grant was elated with the number of volunteers that participated in the telethon, and the amount of contributions collected.

For over 50 years, United Rehabilitation Services has been

providing hope for families around the Miami Valley. The



IBEW Local 82 Membership Development Coordinator Ben DeHart and IBEW Local 82 Business Manager Nick Comstock opened the telethon.

URS began in the 1940's as an informal support group created by parents advocating for their children with cerebral palsy. Founded in 1956 as an official organization, URS offers a wide variety of services for people with disabilities and their families, including: adult

daycare, adult latch key, augmentative communications, the Berry Hearing Center, childcare for six weeks to nine years, community employment, hearing aid sales and service, home-based personal care, in-home respite care, latch key program for youth 10 to 18 years old, physical therapy, occupational therapy, aquatic therapy, senior daycare, speech pathology, and vocational training.

Ben DeHart, Membership Development Coordinator of IBEW Local 82 and IBEW Local 82 Business Manager Nick Comstock opened the telethon. "I can't think of a better organization to work with," said Ben. Nick Comstock added, "The work URS does with the children they help is phenomenal. It is a great partnership."

A big thank you to all the volunteers who fielded the phones for donations during the telethon: Debbie Eckley with Graybar; Amy Fox and Cindy Jennings with Chapel Electric; and Tammy Severance.



Volunteers (from left to right) Tammy Severance, Debbie Eckley, Amy Fox and Cindy Jennings.

NEW IBEW Contracting Class

International Brotherhood of Electrical Workers members who become electrical contractors have the advantage of knowing not just a trade and an industry, but also how to unleash the powerful contributions of the men and women who work on their projects. Today there's a

compelling need to better train and prepare new entrepreneurs – members who are starting their own contracting businesses and who are willing and able to respond to the major changes afoot in the electrical industry.

To fill that need, IBEW has launched a new program,

Market-Driven Contracting. The program's two week-long sessions not only offer the basics to get started in one's own business, but also provide ongoing coaching. The first session was offered in May, 2014.

During week one of on-campus instruction, students

gained in-depth exposure to accounting, financial and legal subjects encompassing business administration concepts that every contractor should know. Classes included:

- *Basic Estimating-Labor Management- Material Management*

IBEW course *cont'd.*

- *Pre Fab Utilization-Sales and Marketing*
- *Cash Management-Choice of entity- Business plans and budgets.*
- *Insurance and Bonding*

Then students return home for six weeks to complete a rigorous set of take-home assignments to start their new businesses, including filing for incorporation, selecting accounting, legal and insurance firms, beginning a banking relationship, and developing a business plan.

During week two, students went back to class, where instructors concentrated on best practices in both pre-construction and construction activities, with an overarching theme of balancing well-planned material management with the effective use of multiple classifications of electricians.

Two IBEW members from Local 82 attended the course. Chuck Terry has since started his own business, Electricity, LLC and performs residential, commercial and industrial

electrical work. Mike South with Chapel Electric also completed the course. "For the



Mike South

most part, I was blown away with all of the knowledge that was covered in this two week

course," says Mike. "Fred Sargent and Amanda Pacheco (Director of the IBEW Education Department) were top notch. This class was extremely valuable in providing me with the key management tools and material that I will need to further my career. I would recommend this class to any Journeyman (JW), looking to further their career. And by learning what challenges contractors face day to day, will help any JW become a better employee," says Mike.

Harvesting energy... *just by walking*

Imagine a device that fits inside a pair of shoes, harvests the energy leftover from walking and stores it in AAA or watch batteries. At the Center for Research in Advance Materials (CIMAV) in Chihuahua, Mexico, scientists have done just that.

CIMAV personnel have designed a cylinder to store the mechanical-vibrational energy a person generates when walking. With the captured energy, they have been able to recharge batteries.

The prototype is a pill-shaped device with a diameter of 2 inches and a thickness of 1/8 inch that fits in a shoes sole.

Abel Macia Hurtado, head of research and specialist

in materials science, said the pill is a piezoelectric device, measuring pressure, force and acceleration that is placed in the sole of a shoe and converts mechanical energy into microwatts using a circuit.

When connected to batteries, it was tested with good results. Hurtado



indicated that, in the area of nanostructured materials, an important base of the research is to harvest or produce clean energy, and this prototype is ideal for that purpose.

Hurtado said that, although a pair of shoes can generate power for the operation of a battery, he is considering adapting a similar system on a "mat" and placing it on the entry of a mass transport system. There it could generate energy capable of illuminating the public transport stations.

University of Wisconsin's In-Step

Another research team at the University of Wisconsin has developed a shoe that can recharge your mobile phone. Engineering researchers Tom Krupenkin and J. Ashley Taylor have developed an in-shoe system that harvests the energy generated by walking. Currently, this energy is lost as heat. With their technology, however, they claim that up to 20 watts of electricity could be generated, and stored in an incorporated rechargeable battery.

While the details of the energy-harvesting technology are proprietary, it is said to involve a process known as "reverse electrowetting." It converts mechanical energy to electricity via a microfluidic device, in which thousands of moving microdroplets (of an undisclosed non-toxic, inexpensive liquid) interact with "a groundbreaking nanostructured substrate." In order to get the power from it to the phone or other mobile device, the two would have to be temporarily physically

joined with a wire, although the researchers are also looking into the use of conductive textiles and wireless inductive coupling.

Besides directly powering the phone, the device could also serve as a mobile WiFi hotspot, linking the phone to a wireless network. Having its own hotspot constantly nearby could drastically increase the phone's battery life - this is because the phone would only need to transmit in a low-power standard such as



Bluetooth in order to reach the device, which would then use its own battery (which would be continuously getting recharged, by walking) for the high-power long-range transmissions to the network. Krupenkin claims that this could allow phone batteries to last up to ten times longer than normal.



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Your comments, suggestions and questions are welcome! Contact the Western Ohio Chapter - NECA.

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Consumer Electronics Show 2015

Rarely does a new technology product break the mold and truly stand out amid a chaotic contest like the annual Consumer Electronics Show (CES). CES is gigantic, with 170,000 attendees this year and 3,600 exhibitors.

At CES 2015's first big showcase — called CES Unveiled — there was nearly every cutting edge product category under the sun being pitched by companies you may have never heard of and may never hear from again, from pocket-size drones and palm-size robots to new iterations of headphones, speakers, smart bikes and anything that can fit a screen.

And every single one of those gadget makers wishes they could do what Belty did, which is turn heads.

The “smart belt” prototype, out later this year, from Paris-based startup Emiota is admittedly not very fashionable. Yet the device was a standout hit. It helps track lesser known fitness and health features, like daily changes to your waist as you go about your day, exercise and, of course, eat. The device is a heavy-looking snake of

metal resembling something a superhero might design. It will slim and expand itself on your waist using built-in motors depending on if you're sitting



The new Belty, a belt that adjusts to your waistline automatically.

down — or if you just ate way too much.

Other standouts at CES

The cable TV model is about to get disrupted in a big way. Years from now, the one announcement from this CES that's likely to be remembered is Sling TV. Dish's over-the-top video service will give anyone with a broadband connection in the U.S. a decent lineup of channels (including ESPN, CNN, Food Network and more) for a starting price of just \$19.99 a month with no contract on a wide variety of devices, including Roku, Fire TV, Xbox One and Android devices.

Drones and 3D printers are continuing to evolve rapidly. Whether the laws are

ready for them or not, quadcopter drones seemed to be everywhere at CES. The same goes for 3D printers, which are moving beyond plastic filaments with such materials as metal, wood, and stone — not to mention chocolate.

Self-driving cars hit high gear. Audi set the tone for automakers at CES by sending a car — with no driver — from the San Francisco Bay Area to Las Vegas. Not to be one-upped, German rival Mercedes-Benz pulled the curtain up on its own autonomous prototype, a



Audi Connect, self-driving car.

15-foot-long, space-age-looking “living room on wheels.” And while commercial versions of those models might still be years away, BMW and Volkswagen's self-parking vehicles brought the

same automated navigation technology to the show in a more practical way with vehicles that can hunt down their own parking spots in a large garage.

Wearables are getting stealthier and healthier.

As expected, there was a fair share of new smartwatches. Health trackers were everywhere on the show floor — and they were only the tip of the iceberg for health and medical tech. There was everything from smart toothbrushes to a wrist-based device for chronic pain relief.

Wireless and high-resolution digital is reshaping

audio. Bluetooth and Wi-Fi have been cutting cords in the audio realm for years, but CES 2015 offerings felt wire-free like never before. Whether it was an endless assortment of Bluetooth speakers, Bluetooth headphones, or the continuing onslaught of multi-room audio “Sonos killers,” wireless is clearly the key selling point for audio right now.

DOE invests in solid-state lighting research

By all accounts, light-emitting diodes (LEDs) have emerged as the new, efficient source of lighting, making most consumers forget the short-lived reign of compact fluorescents, which replaced incandescent only a few years ago. While LEDs have come a long way in their journey to mainstream applications, there is still plenty of room to grow.

Recognizing this potential, the U.S. Department of Energy (DOE) recently made a commitment to invest heavily in the pursuit of even greater innovation.

In October, the DOE announced the availability of \$10 million in funding for research, development and manufacturing of solid-state lighting (SSL) technologies. The DOE is bullish on the

potential of LEDs and feels this technology has the potential to reduce lighting-energy use by 50 percent.

The DOE noted that advances in SSL technology yielded an estimated energy savings of \$1.8 billion in 2013 alone and could help Americans save \$26 billion a year by 2030.

The DOE also stated that LED technology is rated at

about 150 lumens per watt today but could be reduced by another 75 percent per watt. That is the target the agency is shooting for. To reach this mark, the DOE is making the \$10 million available for projects from industry, academia and national labs.

- from Rick Laezman, Electrical Contractor magazine, Dec. 2014



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Team Building Night Awards Banquet

The Builders Exchange of Dayton and the Subcontractors Association of Western Ohio (SAWO) are sponsoring the **Twelfth Annual Team Building Night** on January 22, 4-8pm at the Ponitz Center Sinclair College.

In addition to great networking opportunities, awards will be presented.

- BX Craftsmanship Awards
- BX Project Manager Award
- BX Architectural and Engineering Awards
- SAWO Subcontractor of the Year
- SAWO General Contractor of the Year
- SAWO Architect/Engineer of the Year
- SAWO Public Official of the Year
- And many other industry recognitions.

Visit www.bxdayton.org for more information.

The Western Ohio Chapter - National Electrical Contractors Association Directory:

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