ENERGY OBSERVER

A MONTHLY NEWSLETTER FROM AMERLUX®

AUG 2020

As the COVID-19 pandemic evolves, our employees' safety remains our highest concern. Therefore, Amerlux has activated contingency plans that will protect our employees without missing a shipment.

We are experimenting with innovative ways to stay productive companywide, while upholding our civic responsibility to protect our communities. We are keenly focused on the health of our employees, customers and the entire Amerlux family at large.

Together, we will emerge stronger.

To protect communities and maintain high levels of service, we have implemented additional measures:

- For employees who work on-site, we have implemented extra health precautions in the building to limit exposure to other team members.
- For employees who can work off-site, we have made it easier for them to work remotely.
- All business travel has been suspended.
- Our headquarters, including the showroom, remain closed to visitors.

And our innovative plan is working.

Our production capabilities have not been impacted by the COVID-19 outbreak. From different venues, our employees remain committed to working hard to ensure our products are ready for delivery with the same amount of care and custom craftsmanship that build our brand. We continue to work with our suppliers to ensure a productive supply chain. If we are required to shut down production, we will send separate notification.

Our resolve has not waned during these challenging times.

As part of the dedicated Amerlux family, we wish good health to you and your families.

Please stay safe and be well.

Chuck Campagna
President,
Amerlux, LLC

National Energy Market Observer:

1. **DLC New Technical Requirements for Networked Lighting Controls** - The DesignLights Consortium (DLC) released a new version of its technical requirements for networked lighting controls, aiming to encourage wider market adoption of this energy saving and smart building-enabling technology by focusing on issues that are key to increasing customer confidence. Networked Lighting Control System Technical Requirements 5 (NLC5) strengthens requirements for listing systems on the DLC's NLC Qualified Products List (QPL) as part of a multi-year plan for continually advancing requirements related to the cybersecurity, interoperability and energy monitoring aspects of NLCs. The QPL supports energy efficiency incentive programs for commercial and industrial (C & I) electric utility customers across the US and Canada. **The new technical requirements will be discussed in detail during the DLC's July 2 webinar.** https://www.designlights.org/workplan/networked-lighting-controls-v5-nlc5-requirements/

2. **New DOE Study Examines Lumen and Chromaticity Maintenance of LED Packages, Based on LM-80 Data** - To better inform our understanding of LED reliability over the course of a product's lifetime, DOE has released the results of a study assessing the four major phosphor-converted LED (pc-LED) package types: ceramic-based, polymer-based, chip-on-board (COB) packages, and chip-scale packages (CSP).LED packages rarely fail abruptly (i.e., suddenly stop emitting light). In most cases, they experience parametric failures, such as degradation or shifts in either color or light output (e.g., luminous flux). In some applications, chromaticity stability—that is, the degree to which the light output maintains its color—is just as important as the light output itself. To better understand chromaticity stability in LEDs, the DOE study evaluated four pc-LED package platforms for luminous flux and chromaticity maintenance, analyzing data sets from LM-80 testing of representative products from many Tier 1 LED manufacturers. https://www.energy.gov/eere/ssl/articles/new-study-examines-lumen-and-chromaticity-maintenance-led-packages-based-lm-80

3. **EW's 2020 Top 200 Ranking** - The nation's largest electrical distributors are navigating through the economic storm touched off by the COVID-19 coronavirus. Accounting for an estimated $81.4 billion in sales — 69% of Electrical Wholesaling's $117.5 billion in estimated 2019 total sales through distributors of electrical supplies — the 2020 Top 200 electrical distributors possess an enormous amount of clout.

The Five Largest Full-Line Electrical Distributors in North America

Company	City/State	2019 Revenues	Employees	Branches
Sonepar NA	Paris, France	11,409,880,000	48,000*	987
WESCO	Pittsburgh, PA	8,358,917,000	9,500	500
Graybar	St. Louis, MO	7,525,000,000	9,030	289
CED	Irving, TX	NA	NA	700
Rexel Holdings	Dallas, TX	5,854,531,560	8,500	550

In 2019, the five largest full-line distributors in North America had an estimated $39.1 billion in combined revenue and operated an estimated 3,026 branches in North America. According to Electrical Wholesaling's sales data, these five companies account for no less 33% of an estimated $117.5 billion-plus in 2018 electrical sales in the United States and Canada.
*Worldwide https://www.ewweb.com/data-training/top-200/whitepaper/21135681/ews-2020-top-200-ranking

4. **Scientists Say UV-C Light Robots Are 'Effective' Tool Against Virus** - A real-world trial of an ultraviolet lighting robot has shown that it can provide an effective extra layer of protection against the coronavirus, say scientists. Researchers from the Massachusetts Institute of Technology tested an autonomous UV-C system's success in disinfecting a food bank in Boston. The approach uses a custom UV-C light fixture designed at the university's Computer Science and Artificial Intelligence Laboratory (CSAIL), that integrated with a mobile robot base from Ava Robotics. The results were encouraging enough that the academics say that the approach could be useful for autonomous UV disinfection in other environments, such as factories, restaurants, and supermarkets. https://www.luxreview.com/2020/07/08/scientists-say-uv-c-light-robots-are-effective-tool-against-virus/

5. **Boost for Lighting Industry as Experts Say Virus Is Airborne by Ray Molony** - The ambitions of the lighting industry to be a major supplier of UV-C products was given a boost today as 239 scientists declared that airborne transmission of the coronavirus is much more significant than previously thought. In an open letter to the W.H.O., the researchers from 32 countries outlined the evidence showing that smaller particles can infect people, and are calling for the agency to change its recommendations from an emphasis on hand washing. The scientists – who plan to publish the letter in a scientific journal next week – suggest that emphasis should move from surfaces to indoor air as the significant medium of transmission. A shift in emphasis from surfaces to air will be welcomed by the lighting industry.
https://www.luxreview.com/2020/07/07/boost-for-lighting-industry-as-experts-say-virus-is-airborne/

6. **Retrofitting with LED Lighting by Emerson** - Emerson explains why converting from traditional lighting sources to LED in industrial facilities improves safety, productivity, and long-term financial performance. When facilities are considering converting from traditional lighting sources to LEDs, getting buy-in from management before beginning the retrofit is a key step to assuring a successful project. With today's LED solutions offering some of the most energy efficient and reliable lighting technologies available, making a compelling retrofit case with your manager should be a simple process, once you have the facts. Here are nine questions to ask when retrofitting with LED lighting: https://facilityexecutive.com/2020/06/retrofitting-with-led-lighting/

7. **PGE Program Will Transform Hundreds of Homes Into a Virtual Power Plant** - Portland General Electric Company (NYSE: POR) is set to launch a pilot program that will incentivize installation and connection of 525 residential energy storage batteries that PGE will dispatch, contributing up to four megawatts of energy to PGE's grid. The distributed assets will create a virtual power plant made up of small units that can be operated individually or combined to serve the grid, adding flexibility that supports PGE's transition to a clean energy future. PGE will operate and test the benefits of using homes' batteries, each capable of storing 12 to 16 kWh of energy, to optimize the use of renewable energy, such as wind and solar, and grid capabilities. In the event of a power outage, participating customers can rely on them as a backup power resource. https://energycentral.com/

8. **The Power of Light by Sonia Fernandez** - Ultraviolet LEDs prove effective in eliminating coronavirus from surfaces and, potentially, air and water. As COVID-19 continues to ravage global populations, the world is singularly focused on finding ways to battle the novel coronavirus. That includes UC Santa Barbara's Solid State Lighting & Energy Electronics Center (SSLEEC) and member companies. Researchers there are developing ultraviolet LEDs that have the ability to decontaminate surfaces — and potentially air and water — that have come in contact with the SARS-CoV-2 virus. Indeed, much attention of late has turned to the power of ultraviolet light to inactivate the novel coronavirus. As a technology, ultraviolet light disinfection has been around for a while. And while practical, large-scale efficacy against the spread of SARS-CoV-2 has yet to be shown, UV light shows a lot of promise. https://www.news.ucsb.edu/2020/019860/power-light

9. **LED Lighting Upgrade Will Save Manufacturer $150K Per Year** - The retrofit will improve light levels at WernerCo's 500,000-square-foot facility and lower the Midwest location's lighting bill by 60%. An interior LED lighting upgrade at one of WernerCo's Illinois-based, jobsite equipment manufacturing facilities has lowered the international manufacturer's power usage, resulting in an estimated annual savings of $156,000. The project was completed by Fairbanks Energy Services, a full-service design/build energy efficiency firm and developer of comprehensive commercial and industrial (C&I) projects. Fairbanks Energy Services designed the LED lighting upgrade to deliver three primary results for Werner:

- Improve sustainability, one of Werner's core corporate values
- Reduce energy use and solve light level issues to improve safety onsite
- Lower annual operational expenditure on energy for highly productive, 24/7 facility

https://facilityexecutive.com/2020/07/led-lighting-upgrade-will-save-manufacturer-150k-per-year/

10. **University of Washington Retrofits Dempsey Center with High-Bay LEDs** - Cree Lighting has released details of an LED retrofit project on the University of Washington campus in the Dempsey Indoor Center. The solid-state lighting (SSL) project saw the athletic department increase light levels and decrease energy usage in the facility used both for practice and actual competition. Moreover, the LED upgrade will eliminate twice-annual maintenance cycles and expenses. In the University of Washington project, Cree Lighting supplied its HXB high-bay luminaires. That product won a 2017 LEDs Magazine Sapphire Award in the Industrial SSL Luminaire Design category. The product was designed for one-for-one replacement of high-intensity discharge (HID) fixtures. https://www.ledsmagazine.com/

11. **Feature Analysis and Comparison between LCD, OLED, Mini LED and Micro LED Displays** - A research team led by Shin-Tson Wu, Professor from the College of Optics and Photonics, University of Central Florida, USA, conducted a comprehensive analysis on the current display technologies: LCD, OLED, Mini LED and Micro LED. The researchers analyze the performance of self-emitting Mini LED, Micro LED and OLED display, as well as Mini LED backlit LCD, evaluating the power consumption and ambient contrast ratio of each display in depth and systematically compared the dynamic range, motion picture response time, color gamut, and adaptability to flexible and transparent displays. This team indicated that each display technology has its strengths and challenges. These researchers aim to understand the fundamental limits and develop new approaches for each technology to overcome its obstacles. They have also been devoting to discovering new materials and devices. https://www.ledinside.com/news/2020/7/display_technology_comparison

12. **PNNL Seeks Feedback on IoT-Upgradeable Lighting, Considers SSL Luminaire Challenge** - The US Department of Energy (DOE) and its Pacific Northwest National Laboratory (PNNL) have issued a request for feedback for potential guidance on future-proof, LED-based luminaire design that yields products that are cost competitive with luminaires that have no easy upgrade path to connectivity. The DOE is seeking to spur the industry toward a connected lighting future and PNNL is using the feedback-gathering exercise to guide a possible luminaire design challenge. The solid-state lighting (SSL) initiative would require that installed luminaires be easily upgradeable using industry-standard modules from below. For now, PNNL is seeking input on the program concept. Comments and feedback are due by August 10 and can be sent to lightingchallenge@pnnl.gov. PNNL will also hold a webinar for discussion of the program on July 30. https://www.ledsmagazine.com/

13. **LEDucation 2020 Webinar Schedule August 18–19, 2020 - VIRTUAL Trade Show and Conference** - August 18 –19, 2020 TRACK HIGHLIGHTS: CONTROLS. Register today for a comprehensive online education about lighting controls technology and application from our controls specialists. This panel will discuss how technology and user expectations have changed the process of designing lighting controls. Our panel considers lighting control scope from the initial narrative, to whole building networking, to individual luminaire controls and what happens between drivers and the LEDs that they control. https://leducation.org/2020_seminars/

14. **NAED Combines Eastern and South Central Conferences** - Because of COVID-19 concerns, the combined Eastern and South Central Region Conferences will be held Feb. 22-24, 2021 at the JW Marriott Tampa Water Street, Tampa, FL. The conference format and scheduling will be similar to past NAED Region Conferences. https://www.naed.org/events

15. **NAED VIRTUAL SUITE MEETING - August 24 - 26, 2020** - This three-day event will allow distributors and suppliers to schedule meetings and discuss 2021 business strategy at a critical time of year. NAED says the virtual event will provide an easy way to schedule meetings, taking less time than when industry execs plan for an in -person regional. NAED will open registration for virtual suites to the manufacturers, suppliers and industry partners only. Distributors will then be allowed to register in July, and you will both be able to begin making appointments with each other through the Virtual Suite Directory in early August. Once appointment times are confirmed, you'll be sent a calendar invite with all the necessary information. https://www.naed.org/virtualsuite

16. **LUMADEAL is a Marketplace for the Lighting Industry** - Smarter Solutions for Lighting Liquidations! It is designed and built to provide suppliers a more efficient and effective means to market and sell their Excess and Clearance products while offering buyers great value on high quality goods. By connecting supplier's Excess and Clearance inventory directly to a wide base of lighting buyers, LUMADEAL's Marketplace provides a transparent sales platform that creates maximum value for both buyer and seller and enables the best possible value deals to happen. LUMADEAL's Marketplace connects lighting suppliers and buyers through various 'deal formats' including 'buy now/fixed price', 'auction' or 'best offer' listings. These different formats provide the market a voice in the process and presents the buyer and seller the greatest possible opportunity to strike a deal that is equally valued by both! https://www.lumadeal.com/ Follow @LumaDeal on Twitter at http://www.twitter.com/LumaDeal

17. **Registration Opens for LEDucation 2020 Virtual Trade Show and Conference** - The Designers Lighting Forum of New York and the LEDucation committee have announced the LEDucation 2020 Virtual Trade Show and Conference, being held August 18-19, 2020, is open for registration. Click here to register.

18. **Smart Lighting Creates Safer Workplaces With Social Distancing Data by Mark Milligan** - The fact that smart lighting can play a significant role in helping people get back to the workplace safely during this pandemic is rather astounding. This was not a planned use-case but is an example of why future proofing is so important. We are now able to equip executives, facilities managers and building occupants themselves with critical data to to keep employees safe as well as help them be productive. Capabilities will only expand into the future, including new apps leveraging the data streams and deeper integrations with other employee-facing applications and services. What was once seen as simply a light source now brings entirely new meaning to building operations. Digitization of lighting helps solve problems we never knew existed. This is a significant opportunity for those who design, specify, and manage lighting systems to understand the full capability and benefits of an IoT sensory system. https://www.ledsmagazine.com/

Global LED Market Observer:

19. **Looking at Red LED Light Helps to Improve Eyesight for Elderly** - A research led by researchers of UCL (University College London) revealed that staring at a deep red light for three minutes a day can significantly improve declining eyesight. Based on the result of the study, scientists believe that new affordable home-based eye therapies could be develop, helping the millions of people globally with naturally declining vision. The study was published on The Journals of Gerontology, titled "Optically improved mitochondrial function redeems aged human visual decline. https://academic.oup.com/biomedgerontology/article-abstract/doi/10.1093/gerona/glaa155/5863431?redirectedFrom=fulltext

20. **Your Guide to the New EU Regs on Lighting** - The result of nearly five years of negotiations, the new rules – the Single Lighting Regulation (SLR) and the Energy Labelling Regulation (ELR) – will apply from 1 September 2021.The only exception to this dateline is for the removal of labelling requirements for luminaires, which started from last Christmas.Both will have significant consequences for the lighting industry. LightingEurope's guidelines on both the SLR and ELR can be downloaded for free at: https://europeanlightingpriorities.eu/guidelines.php

21. **New Holding Company of Epistar and Lextar Named ENNOSTAR** - Epistar and Lextar, the two LED companies in Taiwan said that they are forming a new holding company via share conversion with the aim to strengthen Micro LED and Mini LED display technology and business. The new holding company is now named ENNOSTAR, revealed Epistar in its announcement following the agreement of both companies. TrendForce estimates that Epistar and Lextar will collectively account for 12.43% of the global LED chip production capacity after the formation of the holding company. https://www.ledinside.com/news/2020/7/epistar_lextar_ennostar

22. **Osram, Like Signify, Is Ramping Up Conventional UV-C Lamps to Fight COVID** - It's working on an LED version, but for now, a 30-year-old mercury tube is getting the call. On the heels of Signify announcing it is cranking up production of ultraviolet-C-band (UV-C) lamps proven to kill the coronavirus in a lab, Osram said that it, too is ramping up output of a similar product, which like Signify's uses conventional mercury discharge, not LED technology. Osram said Chinese hospitals in Wuhan and Beijing have installed 2000 of the company's 254-nm (253.7-nm, to be precise) ultraviolet AirZing tube lamps, and that it has supplied about 10,000 to children's nurseries. While Osram did not rule out eventually using LED technology for UV-C, and told LEDs Magazine that it is working on such a product, its 30-year-old mercury product is now getting the call in the fight against COVID-19. https://www.ledsmagazine.com/

23. **European Commission Approves Ams' Osram Acquisition** - The verdict is in: The European Commission has approved the acquisition of Osram by Austrian optical sensor maker ams, ruling that the combination of the two companies poses no competitive threat in the European Economic Area. While Osram has shrunk and ams has grown since the acquisition efforts started, Osram is still substantially bigger, with 2019 revenue of $3.91B at today's exchange rate compared to $2.08B for ams. https://www.ledsmagazine.com/

24. **AR/VR Devices Shipment Projected to Reach 43.2 Million Units in 2025** - Total shipment of AR/VR devices is expected to reach 5.12 million units in 2020, according to TrendForce. Thanks to the release of various glasses-like AR/VR devices, the AR/VR devices market is likely to rapidly expand from 2021 to 2022, with a forecasted shipment of 43.2 million units in 2025. This market is projected to reach a compound annual growth rate (CAGR) of 53.1% from 2020 to 2025. To keep a diminutive size, the projectors used in these devices are mostly small-sized LCD or Si-OLED displays. https://www.ledinside.com/intelligence/2020/7/ar_vr_headsetshipment

25. **Toyoda Gosei Develops Deep UV LED Light Module for Sterilization** - Toyoda Gosei unveiled its new deep UV LED modules developed for sterilization of water, air, and surfaces. Deep UV LEDs emit short wavelength UV light including the UVC wavelengths that destroy the genetic materials of viruses and bacteria. They are promising as a new sterilizing light alternative to replace mercury lamps. https://www.ledinside.com/products/2020/7/uvled_toyodagosei

26. **UK Trade Body: Smart Lighting Must Be Part of Europe's €750B Recovery Plan** - Lighting Industry Association says no renovations without modern smart lighting that will support health, wellbeing, and productivity that includes repairing and renovating buildings across Europe. Although a question looms as to whether companies will continue to occupy commercial office space at anywhere near pre-crisis levels, one school of thought says that the economic slowdown has opened a serious opportunity to retrofit buildings with modern and healthy lighting that will invite occupants. That appears to be the thinking at the Telford, England-based Lighting Industry Association (LIA), which issued a long list of modern lighting features including smart sensors and controls that together not only improve energy efficiency but also buoy human health and wellbeing and foster productivity. https://www.ledsmagazine.com/

Monthly Feature:

Distributors Must Lead to the New Normal by Mark Dancer, NAW Fellow and founder of the Network for Business Innovation –

It's easy to accept that the COVID-19 pandemic will result in a shift to customers embracing e-commerce, employees working at home and stronger distributors getting stronger. These predictions feel "right" now because they fit preconceived notions. They are outcomes long-predicted by experts and now enabled by the crisis. Following early predictions about the new normal may or may not be a formula for failure, but following them is certainly a missed opportunity to lead.

So far, surviving the crisis is about taking quick action around preserving cash, managing liquidity and protecting customer relationships. Leading to the new future requires challenging assumptions, looking for subtle insights and sharing a compelling vision.

The most impactful outcome from social distancing may be about online ordering. It could equally be about augmented reality tools for collaborative problem-solving. Working at home gives flexibility to employees and diminishes the need for office space. However, that can come at the expense of unplanned human interactions that are essential for creative problem-solving. Strong distributors may ultimately become stronger. Nevertheless, entrepreneurial leaders may come up with game-changing solutions that weaken incumbents.

Over the last few weeks, I have listened to and participated in many discussions about responding to the crisis and innovating the new normal. I've distilled three initial ideas for challenging the emerging conventional wisdom. I offer them to help kick-start new mindsets, creative leadership and thoughtful planning:

- **From working at home to working among partners.** The new normal isn't that employees can work at home, but that they can work in places other than the distributor's office. Working with others in the same physical space builds opportunistic problem-solving, relationships and culture. The new normal may be about asking customers if a distributor's employees can borrow a desk and work onsite. Or inviting customers to do the same at the distributor's location. This potential new normal can be about colocating with partners (customers, suppliers, key vendors and more) as ways of building personal connections and "being there" when a new idea or need emerges.

- **Don't distribute products; assemble goods.** In an earlier Distributing Ideas blog post, I explored whether it was time to rename and rebrand distribution. The new normal that emerges from this Coronavirus crisis may be that the value of a distributor is not to stock products and distribute them when ordered. Instead, the role of the distributor may be to help customers when help is needed — during crises and also during digital transformations, labor shortages, market disruptions, facility expansions and on and on. In this new normal, distributors may play a leadership role by "assembling" products, ideas, experiences, vendors and more to create "goods" in the economic sense — positive outcomes achieved by overcoming the scarcity of solutions.

- **From products sourced afar to value created locally.** There is an emerging narrative that global supply chains will transform as businesses decouple from distant sources offering low-cost labor. This change may happen, but its story does not explicitly position distributors as an essential partner for a new normal. Distributors must tell their own stories, starting with a radical mind shift — something like "distance kills, intimacy thrills." Customer value is optimized by partners that stand beside customers where they work and live, in local markets and communities. Distant sourcing is a singular pursuit of low-cost labor yields, inflexible sourcing and fragile profits. "Localness" creates shared experiences that enable predictive risk and rapid mitigation solutions, as discussed in this recent Distributing Ideas post. https://www.naw.org/author/m-dancer/