A MONTHLY NEWSLETTER FROM AMERLUX®

Amerlux's New Website Delivers Functionality Light Years Ahead

Amerlux, an award-winning design-and-manufacture lighting company, announced today that it has launched an innovative website that will make project design light-years faster for architects and lighting designers. Amerlux has turned its <u>new website</u> into an invaluable tool that will save time, money and angst. "We want to help more architects and lighting designers build their projects faster with high-quality products," said Bill Plageman, Amerlux's VP of Marketing and Product Development, about the company's new website. "We followed the same blue-

print that we use for developing a new product: First, we listen to what the marketplace wants, and then we give it to them." https://blog.amerlux.com/amerluxs-new-website-delivers-functionality-light-years-ahead/

LED Energy Market Observer:

1. Lighting Companies in the US Expect Delayed Product Supply due to Coronavirus Epidemic - The outbreak of novel coronavirus continues to escalate and the production in China is postponing due to the epidemic, leading to expected production and supply chain delay. US-based lighting companies, Cooper Lighting Solutions and Satco, posted a notice respectively to inform their customers of the possible interruption of product supply. https://www.ledinside.com/news/2020/2/coronavirus_supplychain_delay

2. Certified TALQ Smart City Offerings Expand, Organization Warns of False Claims - The

TALQ Consortium has diligently pursed an industry standard that could enable interoperable products from different vendors in smart-city solid-state lighting (SSL) applications. TALQ created a modular concept model for what was originally a connected street-light system, later expanded the concept to smart city scope, and has developed and published standards for the interfaces between modules. And now the consortium says it has certified 17 products from

vendors in nine countries, including both Central Management Software (CMS) packages and what the consortium calls an Outdoor Device Network (ODN) that is essentially a gateway to the nodes in a system. Meanwhile, the consortium warns that some other companies are claiming TALQ compatibility without passing products through the formal certification process. https://www.talq-consortium.org/certified-products.html

3. Lighting Controls Association Offers Internet of Things Course - The Lighting Controls Association (LCA) now offers EE304: Lighting Control and the Internet of Things, as a new course in its popular Education Express program, written by Craig DiLouie, LC, CLCP, IES, a noted educator in lighting controls. Driven by microprocessors, low-cost sensors, and wireless communications, the Internet of Things (IoT) offers enormous potential to unlock new value in buildings. Just as the internet connected computing devices for commerce, services, and information, the IoT connects building systems and sensors in an intelligent network. This network may provide automation along with useful sensor-driven data and data-driven services. While the IoT matures, several key benefits are available now through networked lighting control, which offers wireless or wired networking, software, bandwidth, and intelligence. This course describes the IoT and the supporting or leading role networked lighting control can play in its implementation. http://aboutlightingcontrols.org/EducationExpress/

4. DOE Announces up to \$47.7 Million for Flexible Building Technologies, Heating, Ventilation and Air Conditioning

(HVAC), and Solid-State Lighting - The U.S. Department of Energy's (DOE's) Building Technologies Office (BTO) awarded \$47.7 million to 23 competitively selected projects, led by 19 organizations, to pursue innovations that can advance the goals of the Buildings Energy Efficiency Frontiers & Innovation Technologies (BENEFIT) – 2019 Funding Opportunity Announcement (FOA). The funding opportunity seeks to research and develop innovative technologies that will improve energy productivity, improve flexibility, security and resiliency, as well as lower energy costs of our nation's buildings and electric grid. https://www.energy.gov/eere/buildings/articles/department-energy-announces-477-million-flexible-building-technologies







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5. **DOE Publishes New Report on Solid State Lighting** - The U.S. Department of Energy (DOE) recently published the latest edition of its biennial report called "Energy Savings Forecast of Solid-State Lighting in General Illumination Applications," which models the adoption of LED lamps and luminaires in the U.S. general lighting market. The report theorizes that, due to increased technology innovation, energy savings from LED lighting will top 569 terawatt-hours annually by 2035, equal to the annual output of more than 92 1,000-megawatt (MW) power plants, if DOE Lighting Research & Development program goals are achieved. Key findings at: https://www.energy.gov/eere/ssl/articles/doe-publishes-new-forecast-energy-savings-led-lighting

6. As Signify Dips Again, Analyst Wonders How Long This Can Go On - Still persevering through an endless business transformation aimed at becoming a lighting-based digital services and data company, a dogged Signify today reported yet another quarterly profit decline, raising questions about whether it will ever truly recover from the industry's travails despite the unflagging determination of CEO Eric Rondolat. He attributed the flattening to "a clear market degradation" that has affected the entire lighting industry. He also observed that Signify "is weathering it better than competitors." The long-term outlook is still good, the world's largest lighting outfit insists. <u>https://www.ledsmagazine.com/</u>

7. **IALD Launches New WELL Lighting Guidelines** - The International Association of Lighting Designers (IALD), in collaboration with the International WELL Building Institute (IWBI), recently launched guidelines for lighting manufacturers to help lighting designers more easily determine if their designs meet the WELL Building Standard criteria. The WELL v2 pilot is the latest version of the standard, a rating system that focuses exclusively on how buildings – and everything in them, including lighting – can improve people's comfort, health, and wellness. To learn more about the WELL v2 pilot: https://indd.adobe.com/view/545dd7eb-ec98-4dfc-b3e2-7a337eb16ca7

8. ALA Launches Lighting & Homes for Tomorrow Competition - The Lighting & Homes for Tomorrow (LHFT) competition presents manufacturers the opportunity to distinguish their products and services from other connected home devices and platforms in the market. To realize the CEE Integrated Home vision, Lighting & Homes for Tomorrow is designed to help drive the adoption of efficient, connected products that demonstrate interoperability, reliability, and simplicity. In 2020, the competition addresses residential connected lighting, connected plug load controls, connected HVAC and thermostats, connected windows and window attachments, and other connected home devices that successfully deliver a positive consumer experience, energy management, and grid benefits. For complete guidelines and entry information: http://lightingfortomorrow.com/enter-now/

9. **Registration Open for LIGHTFAIR 2020** - Registration is open for the LightFair 2020 conference and tradeshow, May 3 – 7, 2020 at the Las Vegas Convention Center. The 31st annual staging of the premier annual event in architectural and commercial lighting features more than 200 hours of accredited courses, more than 150 speakers, nearly 90 educational sessions and numerous networking opportunities plus more than 500 exhibitors presenting new advancements in lighting and technology. New for the 2020 conference are seven educational tracks, allowing attendees to focus their learning on key lighting, technology and design themes. https://www.lightfair.com/

10. **DLC Issues Final Standards for Commercial LED Lighting** - The DesignLights Consortium recently released the final version of its new performance standards for high-performing, solid-state commercial lighting, continuing a decade-long push to maximize efficacy and energy efficiency while promoting advances in lighting quality. Released in two phases, the standards aim to improve characteristics of light-emitting diode (LED) products, such as color performance, glare, light distribution, and controllability, to maximize energy savings and user satisfaction. Based on lighting science and stakeholder input, the DLC's Version 5.0 and Version 5.1 Solid-State Lighting (SSL) Technical Requirements put significant emphasis on the quality of commercial LED lighting – aspects of light that improve user satisfaction and comfort. Since LEDs installed now may run for a decade or more, strengthening controllability requirements (such as dimming and integrated controls for daylight and occupancy) at the time of installation locks in potential energy and cost savings for years to come. https://www.designlights.org/



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11. California Leadership Ensures High-Quality LED Lamps are Available to Consumers by Professor Michael Simino-

vitch - How do I ensure that I am buying the right light for my home? This will be a common question that California homeowners will be asking in the coming year given that the new lamp quality and efficiency regulations went into effect January 1, 2018. California is demonstrating leadership as the first state in the country to set regulations that ensure both lighting quality and efficiency for common lamps purchased for residential applications. The new regulations ensure Californians can enjoy the full color fidelity potential of new, solid-state LED technology as well as the opportunity for greatly increased energy savings. This supports the state's long-term commitment to smart energy use and the environment. read CLTC Director Michael Siminovitch's white paper on: California Leadership Ensures High-Quality LED Lamps are Available to Consumers

12. Rocky Mountain Lighting Academy Announces Summer Lighting Courses - The Rocky Mountain Lighting Academy (RMLA) recently announced its 2020 lighting courses. The RMLA Technical Course and the RMLA Design Course are offered concurrently from June 4 – 7. Participants in both courses learn the fundamentals of light and vision, visual perception, IES TM-30 color metrics, light and health, LED systems, the lighting design process and aesthetics of light. Each course also offers opportunities for in-depth learning in specialized breakout sessions: The Technical Course offers an intensive hands-on exploration of photometry, optics, and luminaire design software. https://www.colorado.edu/rmla/about-technical-course

13. **Digging into Anixter** - Given that Anixter has been in the consciousness of many in the industry lately due to WESCO's successful acquisition bid, thought it may be informative to take a deeper dive into Anixter's recent Q4 / end of year report. Some insights from Anixter's 8-K and their slide presentation at: <u>https://electricaltrends.com/digging-into-anixter/</u>

14. **EW's LED Lighting Picks for February 2020** - Congratulations to the project managers and marketing teams of Access Fixtures, Cooper Lighting Solutions, Earthtronics, Engineered Products Company (EPCO), Lind Equipment, Lutron, MaxLite, Nora Lighting and WAC Lighting for having their products selected for this month's LED Lighting Picks. Do you have a product you would like us to consider for our future monthly picks? Send a brief description of the product and a high-resolution image (300 dpi or better) to Jim Lucy, Content Director, Electrical Wholesaling at jim.lucy@informa.com

15. **Guidance on 2019 Changes to Lighting Rules in California by Craig Dilouie** - California's 2019 lighting standards and regulations went into effect January 1, 2020. The 2019 changes include updates to both the Appliance Efficiency Regulations and Building Energy Efficiency Standards. The California Lighting Technology Center developed a series of resources to identify and explain the new changes:

- What's New in Title 20?
- What's New in Residential Lighting?
- What's New in Nonresidential Lighting?

http://www.lightnowblog.com/2020/02/guidance-on-2019-changes-to-lighting-rules-in-california/

16. **Cooper Lighting Will Become Signify Business Unit on March 2** - Cooper will continue to operate as a standalone business with no impact on or change for customers once the Signify acquisition is finalized. Beginning Mar. 2, the business will be officially named Cooper Lighting Solutions. Cooper has again confirmed that it will maintain existing sales departments, channels, brands, and more. The company allowed that there could be email address changes to come, but in general customers will continue to work with their existing contacts. https://www.ledsmagazine.com/

17. **Deco Lighting Restructures to Support Technology Play** - Deco Lighting is restructuring operations and financial affairs to support its growing wireless technology controls offering. The decision comes after a year of difficult financial disruptions that included a cyber-attack that disabled Deco's operating systems and engineering archives, resulting in substantial rebuilding costs and loss of revenue. Deco financed the development of their new technology entirely from the cash flow of its business, the restructuring will also support access to growth capital. Deco has launched Deco Mesh, a patented Bluetooth-enabled commissioning system. The system is used in Deco Lighting fixtures, and both the technology and graphical user interface (GUI) are currently being licensed to integrators for the purpose of making their integrated protocol the industry standard. AP 2/20/20



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18. **2020** Nonresidential Construction Forecast: Slowdown But No Downturn - The U.S. economy grew by 2.2% in 2019 and is expected to slow to 2% in 2020, according to the most recent forecast released by the Federal Open Market Committee Meeting on December 11, 2019. The slowdown in 2019-20 is considered a byproduct of the trade war. A major contributor to the economy is construction, and the outlook for construction spending in 2020-21 is positive but lower than 2019. The AlA's semi-annual Consensus Construction Forecast, a survey of the nation's leading construction forecasters, is projecting 1.5% growth in nonresidential construction spending in 2020 and 1% in 2021. http://lightingcontrolsassociation.org/2020/02/18/2020-nonresidential-construction-forecast-slowdown-but-no-downturn/

19. **Director of LRC Develops Treatment for Alzheimer's** - With the support of a recent \$3 million grant renewal from the National Institute on Aging (NIA), Mariana Figueiro is perfecting a treatment she developed for older adults with Alzheimer's disease and related dementias that helps to regulate sleep and reduce symptoms of depression — and requires no drugs, only light. With over 20 years of study and success in real-world settings, Figueiro, the director of the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute, has demonstrated that providing light exposure of certain amounts and qualities throughout the day improves sleep patterns, sociability, and agitation while decreasing symptoms of depression. <u>https://www.lrc.rpi.edu/programs/</u> lightHealth/LightOlderAdults.asp

20. **Smart Lighting in Macy's New Store Format** – The Future of Retail – Macy's celebrates the launch of its innovative and smaller format retail store, Market by Macy's, now open at Southlake Town Square, a lifestyle shopping center in Southlake, TX. Consistent with Macy's test, learn and innovate approach, Market by Macy's partnered with the best-in-class technology companies:

- General Electric Lighting (GE) Smart lighting that enables real-time data about traffic and customer behaviors in-store.
- Avery Dennison 100 percent of the store is Radio Frequency Identification (RFID) tagged to allow easy inventory counts and help locate misplaced products.
- RetailNext Overhead cameras that count traffic and consumer behaviors. Within Getchell's, motion sensing is in place to understand customer dwell time.
- Teatro A Dallas-based company that enables colleagues to communicate individually or collectively with each other. Fitting rooms will also have devices to allow customers to page colleagues.
- Zebra Overhead cameras that scan products with RFID to report inventory levels and product movement.

https://marketbymacys.com/

21. **Rexel Energy Solutions Now Offering EV Charging Stations & Solutions** - While lighting and controls have historically been its core focus, Rexel Energy Solutions (RES) continues to expand their offering in support of the country's electrification initiative. As part of RES's multi-year strategy to expand their offering in order to help their clients implement comprehensive energy projects for end user clients, they have added Electric Vehicle Supply Equipment (EVSE) to their offering. In support of EVSE, RES has brought in over a million dollars of stock, trained inside consultants, and hired a team of EV Specialists to provide comprehensive solutions to support ESCOs and Utilities across the country. RES is hosting a webinar on March 11 at 2pm EST to discuss the EV market and their offering. The webinar will also cover key enablers and hurdles to mass EV adoption, types of cars and charging, and more. Visit <u>www.rexelenergy.com/ev</u> to register.

22. Energy Focus to Supply LED Lighting for the U.S. Navy Fleet with \$3.4 Million Contract - Energy Focus, a U.S. LED lighting company, announced that it has been awarded a contract valued at approximately US\$3.4 million to supply tubular LED lighting products to the U.S. Navy by Defense Logistics Agency (DLA), a combat support agency in the U.S. Department of Defense with more than 26,000 civilian and military personnel throughout the world. The Company expects to deliver on the contract beginning in the second quarter of 2020 with completion expected by year-end. Energy Focus has installed approximately 650,000 lighting products including TLEDs, waterline security lights, explosion-proof globes and berth lights. https://www.ledinside.com/news/2020/2/energy_focus_ledlighting



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Global LED Energy Market Observer:

23. **Research and Markets Global Intelligent Building Automation Technologies Market Report 2019-2025** - The Global Intelligent Building Automation Technologies Market size is expected to reach \$103.7 billion by 2025, rising at a market growth of 7.3% CAGR during the forecast period. Intelligent building uses advanced technologies and interconnected systems that can assist the automation of building management systems. This further facilitates the efficient operation of a building and supports space reconfiguration in response to changing usage. Because of increased demand for connectivity, improved automation of building management, expanding market for building automation and control system, as well as the need for energy-efficient solution to save energy and reduce carbon emissions around the world, the intelligent building market share has multiplied. In addition, continuous extensive population growth, specifically among developing countries, generates the need for smart buildings that offer optimum use of space in a core comforting and sustainable way. Due to this, many governments are making substantial investments in smart cities and smart building development in order to promote sustainable development practices to address the challenges of urbanization growth. https://www.researchandmarkets.com/r/ghixbn

24. **Navigant Research Market Data: Smart Street Lighting** - The strong business case and platform potential of smart street lighting has helped generate substantial commercial projects in a variety of cities around the world. Over the past 2 years, millions of control nodes have been deployed on street lights worldwide. For many municipalities, connecting their lighting systems with intelligent controls is the first smart city solution being deployed due to the immediate and significant energy and maintenance savings associated with the technology. Smart street lighting provides a strong platform for a multitude of city services. There has also been a notable increase in activity in the smart street lighting market from electric utilities. Smart street lighting fits particularly well with utility priorities where they already have ownership over considerable street light assets, as is the case in many parts of North America. Using smart street lighting as a platform for other smart city applications is also becoming more widespread in a number of cities globally. According to Navigant Research, a Guidehouse company, the installed base of smart street lights is expected to reach roughly 90 million worldwide by 2028. This Navigant Research report analyzes the current state and future trajectory of the smart street lighting market, with a focus on key market trends, drivers, and barriers. https://www.navigantresearch.com/reports/market-data-smart-street-lighting

25. **M&S Introduces Cloud-Based Lighting Control** - UK Retailer Marks & Spencer is using a new multisite version of Signify's Interact Retail system. The platform – which has already 2,000 installations in stores across the world – allows retailers to reduce energy consumption by defining scenes and schedules on store level. The multisite version makes it possible to create a network of connected stores. So for instance the retailer can create and manage uniform light schedules for its stores from a single dashboard, to reduce its operational costs, ensure compliance and to plan maintenance. The system allows for individual control of zones in the store using any internet-connected device Facility managers can use the multisite IoT-based system to monitor energy consumption across the stores, as well as optimise the light settings. Sensors can enable daylight harvesting and trigger the right light behaviour based on presence. The light fittings for the Marks & Spencer store roll-out – believed to run into thousands – are being made at Signify's first 3D printing factory in the Netherlands, but it plans to establish additional 3D printing facilities in the US, India and Indonesia. <u>https://www.luxreview.com/2020/02/24/ms-introduces-cloud-based-lighting-control/</u>

26. **TClarke in Exclusive Deal with Smart Light Pioneer Gooee** - London-Based contracting giant TClarke has signed a five-year deal with Internet-connected lighting pioneer Gooee to exclusively provide its advanced technology in the UK. Gooee provides the opportunity for TClarke to become what executives called 'a smart facilities-management provider'. Gooee pioneered the concept of smart lighting connected to the internet to provide control as well as additional services and insights to building owners. It provides a 'full stack' of software, firmware and hardware to create intelligent and responsive spaces. At the start, the technology was designed to be bundled in luminaires but increasingly in recent years it has been it has been marketed as a platform that can be integrated anywhere into buildings. https://luxreview.com/



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Global LED Energy Market Observer:

27. **CONFIRMED:** L + B Postponed to September - In view of the increasing spread of the coronavirus in Europe and after intensive consultations, Messe Frankfurt has decided to postpone Light + Building. The world's leading trade fair for lighting and building-services technology will now be held in Frankfurt am Main between the middle and end of September 2020. The cooperation partners of the international trade fair, ZVEI and ZVEH, support this decision. The unexpected appearance of Covid-19 in Italy since last weekend demanded a new analysis of the situation in close cooperation with the public-health authorities of the City of Frankfurt. Therefore, Light + Building 2020 is being postponed and will be held in Frankfurt between the middle and end of September 2020. https://edisonreport.com/confirmed-I-b-postponed-27-sep-2-oot/

28. **Orion Lands \$4.8M Job for Online Retailer** - Orion Energy Systems, Inc, a provider of LED lighting and turnkey energy project solutions, including controls and integrated IoT capabilities, announced today that it has been selected to provide \$4.8 million in custom-designed LED luminaires and lighting controls to upgrade two facilities for a global online retailer. Teaming with a long-term electrical contractor partner, Orion will provide custom LED lighting fixtures, as well as integrated lighting controls, initially for two facilities. Orion has initiated project design with this electrical contractor partner for an additional five facilities and anticipates more purchase orders to be forthcoming. Including these prospective locations for this customer, we anticipate a total a revenue potential of approximately \$8-9 million. Feb. 2/03/2020 GLOBE NEWSWIRE

29. **LED Industry Players Continue to Focus on Mini LED Applications** - Display applications adopting Mini LED technology is expected to bloom in 2020 following the rumors of Apple releasing Mini LED based iPad and MacBook this year. Since last year, related players in the industry are pushing production and development of Mini LED backlight as well as Mini LED RGB displays. <u>https://www.ledinside.com/news/2020/2/miniled_display</u>

30. **2020 Global Smart Residential Lighting Market Outlook** - According to the latest report of 2020 Global LED Lighting Market Outlook- Light LED and LED Lighting Market Trend-1H20 issued by LEDinside of Trendforce, with the development of technology, mature products, active promotion of manufacturers and popularization of smart lighting concepts in 2019, the global smart lighting market has entered a stage of rapid development, with the market size approaching USD 10.7 billion. Among them, smart residential lighting accounted for 29% of the global smart lighting market in 2019, reaching USD 3.11 billion. Currently the main communication protocols adopted in smart home lighting include Bluetooth, ZigBee, and WiFi. Euro-American lighting majorly implements Bluetooth and WiFi in order to be compatible with smart speaker of Amazon and Google. Featuring fast responding time and gateway free, Bluetooth Mesh is going to be the mainstream communication protocol to cover applications in short distance and small area. <u>https://www.ledinside.com/</u>



Monthly Feature:

LRC Evaluates Hybrid UV Lighting System to Reduce Healthcare-Associated Infections -

People who visit hospitals are expecting care and treatment, not additional complications, yet approximately 1 in 25 patients contract healthcare-associated infections (HAIs) in U.S. hospitals, according to the Centers for Disease Control and Prevention (CDC). Standard cleaning procedures usually involve manual application of detergents and disinfectants. Unfortunately, the efficacy of these manual cleaning procedures can vary considerably. In fact, less than 50% of patient room surfaces are properly cleaned.

Given the rather poor effectiveness of manual cleaning, the Lighting Research Center (LRC) at Rensselaer Polytechnic Institute is investigating alternate, so-called, no-touch methods, including short-wavelength light, ranging from ultraviolet (UV) to blue light (200 nm to 410 nm). Short wavelengths can kill pathogens through a variety of pathways, depending upon the wavelength, the duration, and the amount. The expectation is that decontamination of room surfaces will improve when the human element is removed.



LRC researchers tested a new hybrid lighting system, developed by GE Current, a Daintree company, which was designed to provide both visible white light and disinfecting UV-A. The system was retrofitted into a modern hospital newborn intensive care unit (NICU) at the Memorial Beacon Children's Hospital in South Bend, Indiana. The UV-A dosing was set to levels calculated to be safe for human occupation. Eight-hour exposures on counter surfaces were effective for suppressing pathogens identified by the CDC as highly problematic for healthcare facilities. LRC researchers also conducted a survey aimed at assessing the opinions of professional staff working in the NICU about the hybrid lighting system. Staff members accepted the hybrid lighting system, and the comments about the system were generally positive. An analysis of photodegrading effects suggested that UV-A resistant equipment and furnishing may need to be installed with this technology. The findings were recently published in Lighting Research & Technology.

"This lighting technology offers great promise in hospital applications," said Jennifer Brons, Director of Design Demonstrations at the LRC. "We are currently planning future demonstrations in another hospital unit with greater bioburden."

"Reducing healthcare-associated infections is critically important," said LRC professor Dr. Mark Rea. "Unfortunately, the prevalence of these infections is only expected to rise. The present findings should form the foundation for the next generation of this technology."

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