

Delta Acquires Lighting Solution Brand Amerlux - Delta Electronics (Netherlands) B.V., a wholly-owned subsidiary of Delta, a Taiwan-based global provider of power and thermal management solutions, will acquire 100% of Amerlux's interests for USD 90 million. The transaction is expected to close during the second quarter of 2019. The aforementioned agreement includes an earn-out mechanism in which Delta will pay an additional pre-established amount for the transaction should Amerlux's 2019 EBITDA and revenue reach a predetermined target. Frank P. Diassi, founder and chairman of Amerlux, said, "Since its inception, Amerlux has consistently grown its revenue base to become a world-class provider of high-end architectural lighting luminaries. Our products have been certified in over 58 countries throughout the world. Amerlux's existing facilities in Oakland, New Jersey will continue to produce interior and exterior lighting products, and the current management and employees of Amerlux will remain in place."

Since the introduction of LEDs approximately ten years ago, the market has grown more and more sophisticated in its technology. The initial phase of LED marketing was simply the replacement of incandescent luminaries and focused primarily on energy savings. The current phase of LED marketing focuses on the quality of the light produced by the LEDs. We are now entering the third phase of LED marketing which involves controls of the luminaries, a technology in which Delta excels. The combination of Delta and Amerlux will accelerate the development of solutions for smart buildings and sustainable cities."

Chuck Campagna, president and CEO of Amerlux, stated, "We are delighted to become part of Delta as this will help Amerlux become a total lighting systems provider. Delta's comprehensive portfolio of products and solutions in the areas of smart building automation and energy management can be integrated with Amerlux's line of LED luminaries. By complementing strengths from both sides, we will be able to provide enhanced value to our customers and further our position in the smart lighting market."

<http://www.delta-americas.com/news/press>

LED Energy Market Observer:

1. **America's Light Bulb Revolution** -The energy savings are expected to grow as highly efficient and increasingly inexpensive LED bulbs continue to replace older lights. But energy efficiency advocates worry that the Trump administration could slow the pace of this lighting revolution. Last month, the Department of Energy said it would withdraw an Obama-era regulation that nearly doubled the number of light bulbs subject to energy-efficiency requirements. A second phase of the 2007 lighting efficiency rules is scheduled to go into effect next year, prohibiting the sale of lightbulbs that put out less than 45 lumens per watt. Currently, only compact fluorescent and LED bulbs can meet that requirement. <https://www.nytimes.com/interactive/2019/03/08/climate/light-bulb-efficiency.html>

2. **Interior Lighting Campaign – Recognizing Leadership in Lighting Projects** - Applications Open! Each year, the Department of Energy's Interior Lighting Campaign recognizes organizations that have achieved exceptional energy savings by retrofitting or installing new lighting in their buildings. Retailers, hospitals, schools, churches, and military bases have been recognized in categories ranging from "Highest Annual Energy Savings for Lighting Retrofits," to "Best Use of Lighting Controls in a Single Building," to "Largest Number of Facility Projects," and more. This year three new innovative categories focus on plug loads and lighting; HVAC and lighting; as well as other integrated systems and lighting. DOE has just announced that the Interior Lighting Campaign is accepting applications now through April 16 for the 2019 recognition cycle. Facility owners and managers who have achieved significant energy savings with lighting retrofits using troffers, linear suspended, high bay, or low bay lighting and controls in projects completed between January 2013 and April 2019 are encouraged to apply. You'll find the recognition application and more information on the ILC website. <https://interiorlightingcampaign.org/submit-entry>

3. North American Smart Lighting Market Projected to Exceed \$6 Billion - According to a new growth forecast report by Graphical Research, the North American smart lighting market is expected to surpass \$6 billion by 2024. Market growth is attributed to a growing emphasis on replacing conventional lighting systems with energy-efficient smart lighting solutions in the U.S. and Canada. Between 2018 and 2024, the technology market is expected to register a robust growth with a CAGR of around 30%. The increased integration of wireless communication technologies—including Bluetooth, Wi-Fi and Zigbee—into smart lighting solutions is aiding the consistent growth of the technology market in the region. <https://www.graphicalresearch.com/industry-insights/1024/north-america-smart-lighting-market>

4. Smart Lighting and IoT Service for the Future Offices - What will offices be like in the future? Current by GE and Osram provided some insights about how offices evolve with technology and noted that connectivity and smart lighting might be the fundamental infrastructure for setting up the future offices. Apart from providing “lighting-as-a-service” from lighting company, Osram, now positioning itself as a high-tech photonic company, sees the trend of “space-as-a-service” in the commercial real estate industry. Space-as-a-service refers to space that is procured on-demand; corporations and individual freelancers could rent spaces by months, weeks, days or even hours. In the case, tenants are considered clients and spaces are viewed as services instead of asset. The idea also suggests that working places offers amenities and services to improve working productivities. https://www.ledinside.com/news/2019/3/smart_lighting_iot_service_future_offices

5. EW's Top 10 Product Picks for March 2019 - Arlington Industries, Burndy/Wiley, Leviton, Maxlite, NICOR Lighting, Orbit Electric, RAB Lighting, Rack-A-Tiers, Sylvania and WAGO, were selected for Electrical Wholesaling's Top 10 LED Product Picks for March, 2019. Do you have a product you would like us to consider for our future monthly picks? Send a brief description of the product and high resolution image (300 dpi or better) to Jim Lucy, Content Director, Electrical Wholesaling, at jim.lucy@informa.com

6. With Waitlist over 110 Companies, LEDucation 2020 to Expand - Celebrating fourteen years, LEDucation 2020 will return to New York City and kick off on Saint Patrick's Day, March 17, 2020. The two-day trade show and conference will be held in the heart of the city, at the New York Hilton Midtown. Due to overwhelming demand, LEDucation 2020 is expanding and will provide additional exhibition space to accommodate companies who are currently on a waiting list. The third expo area, Americas Hall 2, will open an extra 16,398 square feet of exhibition area and be dedicated to a “Controls and Components” section. The expansion will provide a fresh platform specifically for the growing segment of the lighting industry who specialize in high-performance professional LED lighting systems, technologies and solutions. https://leducation.org/2020_exhibitor-registration/

7. Register for LightShow West - Designed to offer a dedicated conference and trade show for West Coast lighting specifiers, LightShow West will be held this year on September 25-26 at the Los Angeles Convention Center. LightShow West offers two days of lighting education and solutions geared toward buyers and specifiers of commercial, architectural and high end decorative lighting products, controls and technologies. Launched in 2005, LightShow West has grown to become the West Coast's largest and foremost destination for architects, designers and other lighting professionals to keep current on the latest lighting trends through educational seminars and face to face access to 250+ leading international lighting manufacturers. <https://www.lightshowwest.com/>

8. Lighting Research Center Initiates Industry Collaboration to Study and Explore 3D Printing Solutions for Lighting - How will 3D printing affect my business? This question is being asked by companies in several industries, especially those involved in the manufacturing process. A diverse group of companies came together last month to discuss and better understand the impact of 3D printing in the lighting and allied industries. 3D printing, also known as additive manufacturing, is already being used in several industries to augment conventional manufacturing. The discovery workshop, organized by the Lighting Research Center (LRC) at Rensselaer in partnership with Carbon Group Global, was designed to understand the impact of 3D printing across all areas of buildings and construction, and especially its impact on lighting. https://www.lrc.rpi.edu/resources/newsroom/pr_story.asp?id=422#XJept3dFxbB

9. **Crowne Plaza Hotels Trial Circadian Lighting to Help Its Guests Sleep Better** - The task light luminaires feature proprietary technology which either adds and removes the blue 480 nanometers wavelength of light – believed to be the key wavelength of light that impacts on the circadian rhythm – to achieve optimal biological benefits. The hotel at Atlanta Airport has installed special free-standing lights on bedside cabinets in a pilot study into how the right light spectrum can assist guests in maximizing their sleep, says the chain's owners IHG. IHG has partnered with Healthe by Lighting Science to trial the technology and gauge feedback from guests. Lighting Science says its patented spectrum technologies 'allow access to the alertness and focus-enhancing spectrum during the day, and then easily change to the warm, sleep-enhancing spectrum at night'. <https://luxreview.com/article/2019/03/crowne-plaza-hotels-to-trial-circadian-lighting>

10. **Smart LED Streetlamps Can Facilitate 5G Base Station Deployments** - Smart LED streetlamps, already a multipurpose fixture that can monitor environment, traffic, public security, and display public information, may be given one more job in smart city developments: 5G base station equipment can be installed on lamp posts. The use of high-frequency millimeter wave of short wavelength enables fast 5G data transfers, but the transfer distance is limited. Therefore, it is necessary to set up a high density of base stations to attain sufficient spatial coverage. That is where LED smart streetlamps - almost a must for smart cities - come into the picture. They are evenly distributed in high density, and suitable for use in deployment of 5G and IoT networks. Streetlamps may be deployed at a distance interval of 20-30 meters, and 5G base stations may be 100-200 meters apart from each other, which means there is much flexibility in installing 5G base station equipment on lamp posts. <https://www.digitimes.com/news/a20190315PD209.html>

11. **Commercial Lighting Trends in 2019 Part 1** - With advanced LED development and improved data transmitting technologies, commercial lighting is going beyond illumination. Osram proposed some commercial lighting trends addressing the well-being of users and optimized space utilization for efficient energy usage. The first thing Osram mentioned is human centric lighting. Building owners and facility managers are incorporating Tunable White technology as part of their lighting strategy. Tunable White technology is designed for Human Centric Lighting (HCL) applications that enable LED lighting to mimic natural lighting following the circadian rhythm to balance the visual, emotional and biological needs of humans. Surveys and studies have indicated that suitable lighting can improve concentration and boost energy for users. Intelligent IoT infrastructure in buildings integrating sensors and lighting is on its way to industry adoption. Working space has joined the field of sharing economy with the new concept of "Space-as-a-Service." https://www.ledinside.com/news/2019/3/commercial_lighting_trends_2019

12. **Commercial Lighting Trends in 2019 Part 2** - Apart from human centric lighting, IoT smart lighting system and "space-as-a-service," what are other trends of commercial lighting in 2019? How to efficiently manage the space usage is critical to companies. In the past, place planning has been based on calculations using industry-standard formulas, software that addressed some of an organization's requirements, or even a manual process. This process could take a while and is less flexible. Nevertheless, data-driven space optimization applications have been ushered into the commercial real estate industry as a sought-after Smart building IoT application. Last but not the least; sustainability continues to be the focus for people, as well as for property owners. Osram indicated that investor momentum behind sustainable investments is growing driven by climate change, stringent building codes, and a strong interest from tenants in reducing the amount of energy used. https://www.ledinside.com/news/2019/3/commercial_lighting_trends_2019_2

13. **DLC Updates Horticultural Lighting Testing and Reporting Requirements** - The DesignLights Consortium recently announced an incremental update to the Testing and Reporting Requirements for Horticultural Lighting as Version 1.1. These revisions are designed to streamline the qualification process for horticultural luminaires and are effective immediately. <https://www.designlights.org/horticultural-lighting/technical-requirements/>

Global LED Energy Market Observer:

14. **Wear LED Embedded Lighting Jacket for Safer Motorbike Ride**

- LED integrated wearables are becoming more and more common in the modern society for various functions. Motorbike clothing manufacturer Held is cooperating with Osram to improve visibility on the road by launching motorbike clothing that can be retrofitted with LED light modules from Osram. The lighting modules developed by Osram can be integrated into the clothing through a fabric tube and connected to a rechargeable battery pack which riders can switch on the light easily. According to Osram, the light strips offer up to seven hours of active lighting in continuous operation (with a 4,000 mAh battery) with the LED light modules emitting white light at the front and red light at the back.

https://www.ledinside.com/news/2019/3/wear_led_embedded_lighting_jacket_for_safer_motorbike_ride



15. **Schools Invests in 'Concentration' Lighting** - A Primary school has invested in dynamic colour-tuning LED lighting to boost the concentration of pupils during the notorious afternoon lull. Herstedlund School in Albertslund, Denmark has installed lighting which switches between warm colour temperature (3000K), cool colour temperature (4000K) and cold colour temperature (6000K). The lighting is controlled by an internet-enabled and app-based lighting management system with four pre-programmed lighting scenarios, which is controlled by the teachers, who change the lighting mood three times a day on average. The colour settings and light intensity of all the luminaires in the classroom are individually adjustable, while teachers can also define their own settings. Generally, the cold 6000K colour temperature is reserved to tackle the low-energy period after lunch while the warm-white light provides a relaxing ambience for breaks. <https://luxreview.com/article/2019/03/schools-invests-in-concentration-lighting>

16. **World's Largest Tuneable-White Facade Lighting Unveiled at the Famous Bund in Shanghai**

- The installation on 40 historic 1930s buildings along the waterfront is also the largest ever implementation of connected architectural lighting. The brief by the city chiefs was to emphasise the classical colour tones of this architectural masterpiece. The installation features with Signify's Interact Landmark system, ColorKinetics ColorReach and eW Reach, Philips UniFlood and UniStrip LED luminaires. Interact Landmark is being used to monitor and maintain the lighting on the Shanghai Bund building as well as rooftops in the Pudong area and the main bridges. The lighting design for the historic Shanghai Bund facades involved a host of designers... <https://luxreview.com/article/2019/03/world-s-largest-tuneable-white-facade-lighting-unveiled>



17. **When Football Became a Light Show** - Thanks to LEDs, football has become a spectacular light show as much as a display of sporting talent. In the past, lighting was switched on an hour before kick-off and took at least 30 minutes to warm. Today's LED lighting is instantaneous. The main driver for clubs to switch to LED is compliance with the latest standards demanded by TV broadcasters and football federations. Only the highest quality lighting enables TV cameras to capture those amazing flicker-free super slow-motion action replays – where every bead of sweat and strained sinew is broadcast in glorious 4K ultra-high definition. The ability to use the lighting in pre-match light shows is a huge added bonus – afforded by the ability to program individual LED lights to turn on and off rapidly, vary their intensity and sync them to music. In a few short years, such entertainment has reached new heights of sophistication as top clubs vie with each other to produce the most spectacular light show. <https://www.youtube.com/watch?v=M9YS2UaGVnw>

18. **Research Proves LED Lighting Improves Flower Growth Compare to HPS Lighting** - To prove the advantages of LED lighting in horticultural applications, researchers at the University of Guelph, Canada, tried to find out to what degree LED advancements could benefit greenhouses. The team cultivated three varieties of cut gerbera under both LED and HPS supplement lighting with minimal treatment differences in leaf, soil, and air temperatures. With the experiment, researchers found out flowers with LED treatment were larger and higher in comparison with the flower treated with HPS lighting. The study then concluded that flowers grown with LED lighting had equivalent or better production than those grown under HPS lighting. The research result is published in HortScience in January 2019, titled Light-emitting Diodes Can Replace High-pressure Sodium Lighting for Cut Gerbera Production

19. **Darwin Is Latest City to Go Smart With Its Street Lighting** - In what is set to become one of the largest local authority-run projects of its type in Australia, Darwin will replace close to 10,000 lights on its street and public lighting network with LEDs wirelessly connected by UK firm Telensa. The luminaires will be controlled by the Telensa Central Management System (CMS) and hosted in Australia by Amazon Web Services. Telensa PLANet is an end-to-end intelligent street lighting system, consisting of wireless nodes connecting individual lights, a dedicated wireless network owned by the city, and a central management application. With more than 1.7 million lights connected, Telensa PLANet is the world's most popular connected streetlight system. <https://luxreview.com/article/2019/03/darwin-is-latest-city-to-go-smart-with-its-street-lighting>

20. **Osram Announces Profit Warning and Lowers Its 2019 Forecast** - Osram said the revenue of fiscal 2019 is expected to decline between 11 and 14 percent while the previous forecast was a revenue growth between 0 and 3 percent. The company also lowered is the range of its adjusted EBITDA margin to eight and ten percent from 12 to 14 percent. In addition, Osram expects a negative free cash flow between US\$ 56.15 million to 168.45 million in comparison with the positive mid-double-digit million range as it anticipated previously. <https://www.ledinside.com>

21. **Douglas Lighting Controls Expands Partnership with NexGen Lighting Solutions** - Douglas Lighting Controls, a member of the Panasonic family of companies, recently announced an expanded partnership with NexGen Lighting Solutions to deliver commercial digital lighting control solutions across a broader network footprint. Having represented Douglas Lighting Controls products in central and northern Texas since 2016, NexGen will now offer the company's complete product line throughout northern Louisiana. For more information on NexGen Lighting Solutions, visit <http://www.nexgenlightingsolutions.com>

National LED Energy Market Observer:

23. **Cree to Sell Lighting Business to Ideal Industries, Inc.** - Cree, Inc. (Nasdaq: CREE) announces the execution of a definitive agreement to sell its Lighting Products business unit ("Cree Lighting"), which includes the LED lighting fixtures, lamps and corporate lighting solutions business for commercial, industrial and consumer applications, to IDEAL INDUSTRIES, INC. for approximately \$310 million before tax impacts, including up-front and contingent consideration and the assumption of certain liabilities. Cree expects to receive an initial cash payment of \$225 million, subject to purchase price adjustments, and has the potential to receive a targeted earn-out payment of approximately \$85 million based on an adjusted EBITDA metric for Cree Lighting over a 12-month period beginning two years after the transaction closes. The agreement continues Cree's strategy, announced in February 2018, to create a more focused, powerhouse semiconductor company, providing growth capital for Wolfspeed, its core Power and RF business, and equips Cree with additional resources to expand its semiconductor operations. The deal also enables Cree Lighting to gain additional global focus, channel support and investment as it becomes a growth engine for the IDEAL team. <https://www.cree.com/news-events/news/article/cree-to-sell-lighting-business-to-ideal-industries-inc>

24. **Eaton Announces It will Spin-Off Its Lighting Division** - Dear valued customer or channel partner, I am writing to let you know that today we announced Eaton's intent to pursue a spin-off of our Lighting business, creating an independent, publicly traded company. We expect this transaction to be completed by the end of this year. Included in the spin-off are Eaton's Lighting business, our global Airport Lighting business, and our Mains Lighting and Intrusion Systems businesses that operate primarily in Europe and the Middle East. The Crouse-Hinds Industrial Lighting business and Life Safety Division's Emergency Lighting product lines in Europe, the Middle East and Africa will remain with Eaton. Kraig Kasler, President & Joe Melchiors, VP, Eaton Lighting Division

25. **Simkar Files for Bankruptcy Protection** - EdisonReport can confirm that Simkar has filed for bankruptcy protection in the Southern District of New York. EdisonReport has received the Official Form 204 that lists the creditors and it looks like OSRAM SYLVANIA is on the hook for \$203K and Philips (Signify) for \$263K. <https://edisonreport.com/legacy-manufacturer-files-for-bankruptcy-protection-developing/>

Monthly Feature:

Navigant Research Leaderboard: IoT for Lighting Assessment of Strategy and Execution for 15 Key Market Influencers

Navigant Research defines the Internet of Things (IoT) for lighting concept as adding value beyond illumination. IoT lighting solutions for commercial buildings bring connectivity to devices that were previously not connected and provide data (where data was not available) through the connection. Connectivity and communication can happen between devices within the lighting system and between lighting devices and non-lighting devices. Within lighting systems, such communication can be accomplished through lighting controls. Networked lighting controls achieve many of the aspects described in this definition of IoT lighting solutions.



Lighting controls, originally designed for dimming or daylighting, have shifted to more sophisticated controls that can provide space utilization, conference room management, increased employee productivity, and improved operational efficiency. This shift has expanded the vendor ecosystem for lighting controls in commercial buildings beyond lighting manufacturers and lighting control companies to include technology firms and startups. The evolution from an intelligent lighting system toward an IoT lighting system has occurred in large part because of the easy use of sensors as a host for IoT applications. This evolution has expanded the playing field to include many companies that do not manufacture their own luminaires but focus instead on the sensors and controls or platforms for an IoT lighting system.

This Navigant Research Leaderboard evaluates 15 vendors in the IoT lighting for commercial buildings market. These players are rated on nine criteria: vision; go-to market strategy; partners; technology; geographic reach; sales & marketing; solution performance; solution portfolio; and staying power. Using Navigant Research's proprietary Leaderboard methodology, vendors are profiled, rated, and ranked with the goal of providing an objective assessment of their relative strengths and weaknesses in the market for IoT lighting solutions in commercial buildings. <https://www.navigantresearch.com/research/navigant-research-leaderboard-iot-for-lighting>