

EnergyWatch



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Merry Christmas Everybody



Love is patient, love is kind. It does not envy, it does not boast, it is not proud. It is not rude, it is not self-seeking, it is not easily angered, it keeps no record of wrongs. Love does not delight in evil but rejoices with the truth. It always protects, always trusts, always hopes, and always perseveres.

~ 1 Corinthians 13:4-7 ~

Something to Think About... IF YOU ARE IN THE LIGHTING MAINTENANCE BUSINESS...IT'S OVER - As we say in Joisey, fuggeddabouddit! That does not mean your customers don't need lighting maintenance. It's just taking on a new dimension. Let me explain...

As we all know and are experiencing in dramatic ways, the lighting industry is changing. That seems to me too weak a word (I was going to say: "too light") for what's happening. When every single light source commercially available will be replaced by the new technologies, metamorphosis is more like it and is the word for the day. If you believe that, then why waste time on soliciting new customers when every one of your existing customers need you. And we all know it's easier on your sales force to sell and serve existing customers. They know you, they do business with you, they trust you, so re-enforce that trust by upgrading their lighting system to the new SSL technologies and advise them of how lighting can become the core connector to every device we own. Seriously, it's not about lighting anymore...

If you are currently in the lighting maintenance business, here's a viable approach to your selling efforts: Dear Customer, we hereby cancel our maintenance contract with you. You do not need it anymore. We propose to upgrade your current lighting system with the new LED sources. We are very familiar with your lighting system as we have served your best interests and maintained it for many years. Lighting is changing and long-term warranties, some as long as 10 years, are common now. A complete audit of your facility is in order and a total upgrade is suggested.....THEN CLOSE THE SALE.

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Now here is where you need to reposition your business. The traditional lighting industry ended about five (5) years ago. Thus, you are not in the traditional lighting maintenance business anymore; you are in the LIGHTING ADVANCEMENT BUSINESS. Advancements in lighting are here and moving rapidly into the future, at the speed of light (pardon me, I've been in lighting too long). Connected Smart Lighting is now, the present: in addition to the stalwarts of quality of light, energy efficiency, and long-life, advanced lighting products are being introduced that will not only allow consumers to manipulate the timing, intensity, and quality of light but will internally track and react and adapt to the users' living, playing and working patterns.

Connected Smart Lighting now has: its own apps, IoT / IoE / PoE applications, embedded devices, sophisticated control capabilities, interactive communications, mobile wireless communications, energy monitoring, automatic dimming, network technologies, plug-and-play interaction, facial recognition, integrated security, connected lamps, programmed to research the space, the ability to transmit sensitive information, mobile applications, wireless protocol implementations, web services, and backend infrastructure. Did I leave anything out.....I'm sure I did.

Lighting will always be concerned about quality of light, but energy efficiency and long life are off the table, really. So are maintenance contracts. So let's focus on quality of light and getting it right for our customers. SSL technology is driving the bus. Do your existing customers know this is happening? Why not?

Lighting Advancement is your business now and the exciting thing for you and your business is, it will never end. Advancements in the Connected Smart Lighting industry are pretty amazing but the Programmable Intelligent Lighting industry to come is earth shattering / a game changer.....IT CAN THINK! Lighting has the potential to be the core connector to every device you own. How many times do we have to say it: IT'S NOT JUST ABOUT LIGHT ANYMORE. It's about IoT / IoE / PoE / VLC / Li-Fi / VoIP / SAE / LaaS and much much more.....and that's just the tip of the iceberg. What's under the surface of the water is mind boggling and yet to be defined. The real game changer is Big Lighting vs. Big Networking. Or will it be cooperative innovation again, as the history of lighting has foretold? Time will tell but it is clear, we are on a pathway to connected information using light! WOW! Bill Gates points out how important that is: How you gather, manage, and use information will determine whether you win or lose.

Simply put, your customers will want Programmable Intelligent Lighting in their facilities when they understand the benefits and there are and there will be many. It's all about the ability to easily interface with other systems to deliver additional value; it is key to your success in an overall vibrant digital ecosystem. Connected lighting systems can interface with many other building verticals, all leading to things like intelligent productive workspaces, innovative applications and services, digital marketing platforms, human centric lighting, healthcare – circadian rhythm cycles, plug-and-play interactions, integrated security (installed cameras for facial recognition), home and office automation, intelligent networks – secure / reliable, horticultural applications and much much more. Changing light bulbs on a 5-year group re-lamping cycle makes no sense any more. It's not necessary and you cannot sell it. You owe your customers more.

Your task as a Lighting Advancement Company is to get it right and you will, well, some of you will. So have no fear, I predict that the opportunities will be greater than ever.....if you reposition your company and take advantage of the undeniable opportunities now and foreseen in lighting.



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LED Energy Watch...

1. ***IES Research Symposium 2018 Call for Posters*** - How does light during the day and night affect our circadian, biological, and behavioral responses? At the 2018 IES Research Symposium, Light + Human Health (**Crowne Plaza Atlanta Midtown – Atlanta, Georgia – April 8-10, 2018**), we will hear the latest research and consider how this research might affect current and future design applications. The Symposium will bring together researchers and design professionals for an open exchange of ideas that will influence future priorities for developing and adopting metrics, standards, and recommended practices. Researchers and designers actively involved in the study and practice of light and lighting are invited to submit posters describing their work and how human health can be affected as a result. **Deadline for abstract submission: December 15, 2017.** <https://www.ies.org/>
2. ***House Proposal Would Shift Energy Star to DOE*** - Responsibility for the Energy Star program would shift from the U.S. Environmental Protection Agency to the U.S. Department of Energy under a proposed bill, which would also make significant changes in the process of setting Energy Star specifications. The measure — called “The Energy Star Reform Act of 2017” — has not been formally introduced into the House. But a so-called discussion draft was reviewed by a House of Representatives Energy and Commerce subcommittee. The House earlier approved a 2018 funding measure that cut Energy Star funding by 26 percent. The Trump Administration had proposed eliminating the program. <http://www.facilitiesnet.com/>
3. ***LEDs ‘Making Light Pollution Worse’*** - The transition from sodium to LED exterior lighting over recent years appears to have made global light pollution worse not better, scientists have reported. A team of researchers who studied Nasa images say that in the last four years the illuminated area of the earth grew by 2 per cent. The researchers published the findings in the journal *Science Advances*. <http://advances.sciencemag.org/content/3/11/e1701528.full> The growth was most pronounced in developing nations. To make matters worse, the light sensor on the satellite – a radiometer – is not able to measure the bluer part of the spectrum of light that LEDs emit, meaning that visible light pollution is even worse than that measured. The findings are certain to increase the pressure on the lighting industry to take light pollution seriously and improve the optics and upward light control. <http://luxreview.com/article/2017/11/leds-making-light-pollution-worse->
4. ***Rexel Energy Solutions Focuses on Utility Rebate Support for ESCO Clients*** - Rexel Energy Solutions continues to expand their capabilities around utility rebate support for its ESCO partners, supported by a team of rebate specialists and an online database tool. The online database tool empowers ESCO customers to easily find utility rebate programs in any state, as well as instantly find what products qualify for rebates and at what levels. The database also assists RES partners in evaluating Utility program funding, goals, customer eligibility, program depth, locations, etc. to help them identify advantageous programs in new areas of the country. It can also be utilized to identify opportunities to add new measures beyond their existing offering. The online database expands the ability to produce reports on rebate offerings for specific products and conduct searches on products and specific rebate programs. Learn more at www.rexelenergy.com
5. ***Armstrong Ceiling Solutions Introduces Axiom Indirect Field Light Coves for its Suspended Ceilings*** - Armstrong® Ceiling Solutions of Lancaster, Pennsylvania USA has launched the Axiom® Indirect Field Light Coves. These pre-engineered, extruded aluminum light coves integrate



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with a vertical drywall upturn. According to Armstrong, the Axiom provides consistent, reliable lighting performance, and integrates perfectly with all of the company's ceiling suspension systems. The light coves come with either ceiling-to-ceiling or ceiling-to-wall profiles. Axiom features either 4" Axiom Classic, Axiom Knife Edge® Acoustical, or Axiom Knife Edge Drywall edge details, both with prefabricated corners. In addition, a notched channel helps ensure a consistent fit and finish for integration with compatible, pre-engineered light fixtures from three Armstrong lighting partners — Axis Lighting, Litecontrol, and Vode® Lighting. <http://www.solidstatelightingdesign.com/>

6. ***Eaton Launches Website Dedicated to Connected Lighting and IoT*** - Eaton has launched a new website dedicated to furthering the capabilities of connected lighting and the Internet of Things, or IoT. The website offers insight into Eaton's portfolio of connected lighting solutions that leverages the real-estate of the physical light fixture to increase building, business and community operating efficiency through controls and data. With these solutions, customers can solve higher complexity problems by enabling sensing and communication capabilities. Eaton's connected lighting systems include Distributed Low-Voltage Power (DLVP), WaveLinX, PoE, LumaWatt Pro, ConnectWorks and Connected Home solutions. <http://www.eaton.com/flash/electrical/connectedlighting/index.html?wtredirect=www.eaton.com/connectedlighting>
7. ***Future Foldable iPhone May Use Micro-LED Display*** - The US Patent & Trademark Office has published a patent application related to Apple's future foldable iPhone. The application mentions that Apple has included micro-LED in its iPhone as one of the display materials for the model and liquid metal as the bendable part of the phone's body. The patent illustrates a device that has a flexible part which allows it to be folded and a flexible display that bends along. With Samsung and other brands taking interest in foldable smartphones, of late, more Apple patents are surfacing. It is reported that Apple and LG Display are partnering to develop a foldable iPhone. LG Display has created a task force to develop a bendable OLED screen for the foldable phone model. <http://bizled.co.in/future-foldable-iphone-may-use-micro-led-display/>
8. ***Power Over Ethernet Lighting Systems by Steve Mesh*** - Power over Ethernet (PoE) lighting is part of a brave new world. The ascendance of LED fixtures has given rise to some new methods of providing and controlling light in our environments. Since LEDs are low-voltage devices that use direct current, they are a good match with a system that provides low-voltage DC power over Ethernet cables. Guess what? That's a computer network! For several years, lighting (and computer) companies have been developing the idea of powering LED fixtures from what is essentially a computer network switch. As you might imagine, this gives rise to a host of questions about a variety of issues. <http://lightingcontrolsassociation.org/2017/11/29/steve-mesh-on-power-over-ethernet-lighting-systems/>
9. ***Outdoor Lighting 101 by Craig DiLouie*** - Outdoor stationary lighting presents a substantial market and a distinctive subset of lighting design. While the market covers a variety of applications, the largest are building exterior and area and roadway lighting. In a typical indoor space lighted during the day, the ceiling is relatively bright, the light is localized and has little or no impact on the natural environment, and the eye uses photopic vision. With outdoor lighting, the "ceiling" is relatively dark, unshielded lighting may be visible at great distances and impact the environment, and the eye may use scotopic vision (dark conditions) or mesopic vision (semi-dark). Generally, the primary goals are to enable nighttime business, leisure, and enjoyment while promoting safety and security. <http://www.lightnowblog.com/2017/11/outdoor-lighting-101/>



- 10. 2018 DOE SSL R&D Workshop** - The 15th annual DOE SSL R&D Workshop is a not-to-be-missed event, where top experts and thought leaders from universities, labs, and companies large and small converge to share the latest on SSL technology advances and explore new directions in lighting. Join DOE in Nashville January 29-31, 2018, for three packed days of expert speakers, lively discussions, and nonstop networking. <https://energy.gov/eere/ssl/2018-ssl-rd-workshop>
- 11. DOE 2017 SSL Technology R&D Workshop Presentations Posted** - held November 8 in Portland, OR. A diverse group of attendees and speakers examined the latest technology advances and research questions, and provided updates on various early-stage research efforts that will serve as a foundation for future SSL technological developments. The workshop was preceded by a guided evening tour that provided an inside look at the DOE: <https://energy.gov/eere/ssl/connected-lighting-test-bed> The workshop presentations and materials have been posted on the DOE SSL website: <https://energy.gov/eere/ssl/2017-solid-state-lighting-technology-rd-workshop-presentations-and-materials>
- 12. Sharpening LED Lighting's Cutting Edge with Focused R&D** - In the recently published DOE SSL R&D Plan, we chart LED efficacy projections for both phosphor-converted LEDs (pc-LEDs) and color-mixed LEDs, and researchers believe 250 lm/W is achievable with pc-LEDs and 350 lm/W is achievable with the color-mixed approach. Although the color-mixed architecture has lower performance than the currently dominant pc-LED architecture, with additional breakthroughs it has the potential for greater gains in the coming years. <https://energy.gov/eere/ssl/downloads/solid-state-lighting-2017-rd-plan-suggested-research-topics>
- 13. DOE Snapshot LED Outdoor Area Lighting by Jim Brodrick** - Outdoor area lighting is a major contributor to nationwide energy use, and the market segment has been an important player in the transition to SSL. DOE's CALiPER program has released a new Snapshot report on outdoor area lighting that covers LED area/roadway luminaires, parking garage luminaires, and canopy luminaires. Snapshot reports draw from DOE's LED Lighting Facts database, which now includes more than 52,000 registered products. LED outdoor area lighting has been a major component of that database since the LED Lighting Facts program's inception, consistently being one of the categories with the most products. <https://energy.gov/eere/ssl/downloads/snapshot-outdoor-area-lighting>
- 14. DOE to Announce FY 2018 SBIR/STTR Phase I Release 2 Funding Opportunity** - The U.S. Department of Energy (DOE) Office of Science plans to announce a funding opportunity for the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) Programs. Under this grant opportunity, DOE will seek applications for funding directed toward FY18 Phase I, Release 2 projects. Topics for this funding opportunity were released on November 3, 2017, and can be downloaded at: <http://science.energy.gov/sbir/funding-opportunities>
- 15. DOE Publishes Report on Connected Lighting System Interoperability** - The main goal of the series is to discern and document the current state of CLS interoperability at this early stage, with its landscape of multiple vendors, technologies, and business models. At present, interoperability between connected lighting systems offered by different vendors – or in some cases, even between different solutions from the same vendor – is facilitated primarily through application programming interfaces (APIs) or isn't possible at all. This first study focused on interoperability as realized by the use of APIs, exploring the diversity of such interfaces in several CLS, characterizing the extent of interoperability they provide, and illustrating challenges, limitations, and tradeoffs. <https://energy.gov/eere/ssl/connected-lighting-interoperability>



Global LED EnergyWatch...

- 16. PureLiFi Reveals New Product Ready to Immerse the World in Real Li-Fi** - PureLiFi, a LiFi technology company spun off from the University of Edinburgh, revealed their latest product the LiFi-XC in London, considered a revolutionary step forward to the future of wireless communications via light. The LiFi-XC is three times smaller than the previous generation and provides high-speed, bi-directional, fully networked and secure wireless communications through light. The significant progression pureLiFi has made in the miniaturisation of real LiFi technology means that it is now small enough to be integrated into many laptops, tablets and smart appliances. <http://bizled.co.in/purelifi-reveals-new-product-ready-to-immersed-the-world-in-real-li-fi/>
- 17. World's First Li-Fi Classroom Opens in Germany** - Pupils in the space – at the Hegel-Gymnasium in Stuttgart – uses modulated light from the LED luminaires to receive data to their devices, an emerging technology known as Li-Fi. Wi-Fi, by contrast, delivers data via radio waves. A special memory-stick sized dongle – above right – is inserted into computers and other devices. A photoreceptor on the dongle receives the data embedded in the modulated visible light. Similarly, users upload data using an infra-red transmitter embedded on the dongle. France is also the location of the first office in the world with the internet supplied using lighting. At next month's LuxLive exhibition in London, the Li-Fi is unveiling a host of off-the-shelf products. The innovations come from the top three firms, PureLiFi, Linmore and Lucibel. <http://luxreview.com/>
- 18. Flagship Office with IoT Lighting Opens in Italy** - The headquarters of the Agnelli Foundation – funded by the family who owns Fiat – features personalized heating, cooling and lighting for each employee as they move around the building. The key answer to that question lies in human interaction. The 100-year-old edifice boasts hundreds of sensors which monitor different sets of data, including the location of the building's occupants, the temperature, the CO2 concentration, and the availability of meeting rooms. By interacting with the Building Management System (BMS), each person can customize his or her workspace experience, adjusting lighting, heating and air-conditioning. A smartphone app allows the occupants to check in, interact with colleagues, book meeting rooms, and regulate environmental settings in real time. <http://luxreview.com/article/2017/11/flagship-iot-lighting-office-opens-in-italy>
- 19. Controls Specialist Introduces IoT Node for Any Luminaire** - Commercial lighting users have gained yet another means for collecting valuable data from luminaires and for controlling lighting scenes, as Dutch controls specialist Nedap introduced a small node that adds Internet of Things (IoT) capabilities to fixtures. The electronic device plugs into any brand luminaire, and draws power and data from the electronic driver. It is the latest addition to Nedap's Luxon lighting management line. Its radio antenna sends data about lighting performance and conditions such as temperature, motion, and electricity grid information. The node also receives signals that tell the lights when to turn on, off, dim, and brighten. It also boosts lighting-as-a-service opportunities, in which lighting vendors don't sell hardware per se, but instead guarantee lighting levels and support functions such as facilities management based on IT. <http://www.ledsmagazine.com/articles/2017/11/controls-specialist-introduces-iot-node-for-any-luminaire.html>



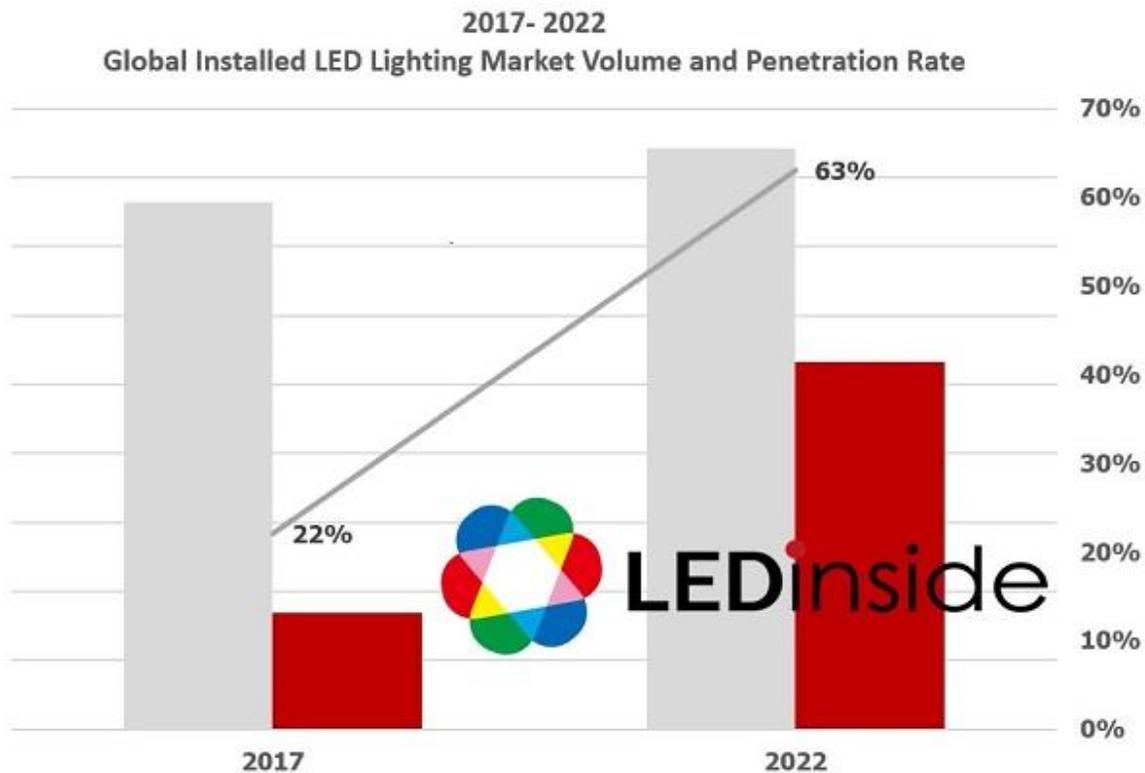
- 20. Osram Will Relight St. Peter's Basilica with LEDs** - Luminaires will replace halogen, accentuating the art and architecture, and saving energy. Osram has won a notable piece of repeat business, as the Vatican agreed to replenish the lighting inside St. Peter's Basilica with LED luminaires and spots, three years after relighting the Sistine Chapel. The new architectural lighting will accentuate the “magnificence, power, and architectural complexity,” of the world's largest church, will improve the illumination of artworks such as Bernini's bronze canopy and Michelangelo’s marble Pieta, and will also provide energy savings of around 85% by replacing halogens. The company will use between 650 and 700 luminaires as well as LED spots. <http://www.ledsmagazine.com/>
- 21. Osram, Continental Plan Automotive Lighting JV** - Technology companies Osram and Continental today announced their intention to establish a joint venture. The idea is to combine innovative lighting technology with electronics and software to develop, manufacture and market intelligent lighting solutions for the automotive industry. The global joint venture will operate under the name Osram Continental GmbH and have its registered office in the Munich region. Osram and Continental will each have a 50 percent stake in the joint venture. Osram Continental will therefore be able to offer a broad range of end-to-end, innovative lighting solutions, designed especially for headlight and tail light applications. <http://bizled.co.in/osram-continental-plan-automotive-lighting-jv/>
- 22. Osram Opens \$440M Malaysian Plant Amid World's Widening Clamor for LED Chips** - The German giant banks on global “digitization” that it says will require optical diodes serving as sensors and light sources in everything from humans to cars to general illumination. With its eyes bulging on an increasingly digitized world that it believes will embed LEDs for sensing and illuminating in everything from automobiles to fitness watches to — oh, yes — general lighting, Osram formally opened its brand new €370 million (\$440 million) LED chip manufacturing plant here last week, the first phase of a general €1 billion factory expansion. <http://www.ledsmagazine.com/>
- 23. Global Quantum Dot Market Is Expected to Reach \$4.6 Billion by 2021** - According to Acute Market Report, global quantum dot market is expected to reach \$4.6 billion by 2021. Worldwide quantum dot markets are poised to achieve significant growth as next generation systems provide a way to improve traditional displays with vibrant color and decrease the cost of making electronic devices by decreasing manufacturing costs while increasing quality. Quantum dot (QD) and quantum dot LED (QLED) market is evolving. The quantum dot market depends on techniques for the development of commercial quantity production. Kilogram quantity mass production of quantum dots is a game-changer. high quality, high quantity and low price quantum dots increase the rate of change in consumer electronics markets. The quality of light is better for displays with quantum dots. New products are emerging as manufacturers learn to integrate high efficiency / luminescence quantum dots into display products. <http://bizled.co.in/>
- 24. General Lighting Maker LEDVANCE Plans Drastic Cuts** - LEDVANCE GmbH of Germany is continuing the process of moving the company away from the production of conventional lighting sources to LEDs. The company contends that LED solutions are being adopted at a much faster rate than expected. For this reason, LEDVANCE says it needs to make deep cuts in manufacturing and personnel. The company says it intends to concentrate its production in Germany in Wipperfürth and Eichstätt. The company’s management told the employee representatives that about 1,300 jobs in Germany will be affected with the headcount reduction measures through the end of 2021. <http://www.solidstatelightingdesign.com/general-lighting-maker-ledvance-plans-drastic-cuts/>



- 25. Feilo Sylvania Opens Two Innovation Centers** - Two months after relocating headquarters from London to Budapest, Feilo Sylvania has fortified its smart lighting push with two new innovation centers. The centers are an integral part of a smart lighting group that forms one of four new pillars in a revamped corporate structure. They are reaching out to technology and lighting partners. Chinese-owned Feilo has opened one of the centers at its new headquarters in Budapest, and the other in London where it still maintains offices. <http://www.ledsmagazine.com/>
- 26. LED Lighting Could Save Developing Countries \$40 Billion/yr.** - Developing and emerging economies could save \$40 billion worth of electricity and prevent 320 million metric tons of carbon pollution annually simply by transitioning to LED lighting, according to estimates from United Nation's Environment. Today speakers at a side event to the big international climate change conference (COP 23) occurring in Bonn, Germany, announced new model regulations that are designed to phase out inefficient incandescent light bulbs and establish minimum performance requirements for the LED bulbs to replace them in Asia, Africa, and Latin America. Lighting represents roughly 15 percent of all worldwide electricity use and there are several billion sockets around the globe that still contain an incandescent light bulb. http://www.ledinside.com/knowledge/2017/11/led_lighting_could_save_developing_countries_40_billion_yr
- 27. Spain's Guadalajara Connects 12,000 New Philips LED Street Lights to a Web Browser** - It's smart lights now, smart city later for Guadalajara, Spain. The small city about 40 miles northeast of Madrid has installed 12,000 Philips LED street lights and connected them to Philips' CityTouch management software to allow remote monitoring and management of lights and of related electrical cabinets, via a web browser. CityTouch allows the system's operators to dim or brighten the illumination as needed in different pockets of the city, such as at pedestrian crossings or public squares. By tying them into the electrical cabinets — a new feature for CityTouch — Guadalajara is better able to manage power consumption through the grid, and to monitor electrical outages and leakages, Philips said. The software provides a map-based view of all light points and of 198 cabinets, making it easier for Guadalajara to spot trouble spots and dispatch maintenance crews. The lights and cabinets communicate with the central control room via a cellular phone network. Philips partnered with energy services provider Ferrovial Services on the job. <http://www.ledsmagazine.com>
- 28. Philips Lighting Delivers 1 Billion LED Lights as Part of Global Lighting Challenge** - Philips Lighting has delivered one billion LED lamps and luminaires as part of its commitment to the 'Global Lighting Challenge', the Clean Energy Ministerial campaign to deploy ten billion high-efficiency light points to improve energy efficiency around the world. In doing so, it has pushed through the halfway mark of its target to deliver two billion by 2020. The Global Lighting Challenge <http://globallightingchallenge.org/> is a Clean Energy Ministerial campaign to reach cumulative global sales of ten billion high-efficiency, high-quality, and affordable advanced lighting products, such as LED lamps. <http://www.ledinside.com/>
- 29. LG Display to Shut Down LCD Plants and Prioritize OLED** - Vice Chairman of Korean panel maker LG Display (LGD) Sang-Beom Han announced in July that by the end of 2017, LCD panel Fab P2, P3, and P4 in Gumi would be shut down. Fab P4 is officially closed. Sources pointed out that LGD is accelerating the transformation to pare down LCD Lines. LGD said that Fab P2, P3, and P4 will not manufacture other products after being shut down. However, some market observers predicted that these production lines might be converted to make high-value-added products, such as OLED or ultra-large high-resolution LCD panels. <http://www.ledinside.com/>



- 30. Samsung Unveils Cob LED Packages Optimized for Commercial Lighting** - Samsung Electronics announced a new family of chip-on-board LED lighting packages, labeled the “Samsung D-series Special Color.” The packages are engineered to bring out the most desirable color tones of objects whose viewing is particularly color-sensitive, making them optimal for many commercial lighting applications. Through spectrum engineering, color spectrums within the D-series have been tuned to deliver exceptionally high color vividness, without the use of harmful ultraviolet (UV) lighting chips. The packages deliver a TM-30* Gamut Index (Rg) of over 110, a level that ensures lighting with outstanding color and whiteness. <http://bizled.co.in/samsung-unveils-cob-led-packages-optimized-for-commercial-lighting/>
- 31. ... Smart Lighting, Niche Lighting and Lighting in Emerging Countries** - According to the latest report from LEDinside, a division of the market research firm TrendForce, 2018 Light LED and LED Lighting Market Outlook, LED lighting market scale will achieve USD 32.72 billion in 2018 and will reach USD 33.3 billion in 2019 when lighting that can be replaced enter the period of saturation, while industrial, architectural and landscape, outdoor and special commercial lighting will keep on developing. According to LEDinside survey on global installed LED lighting market, the quantity of installed LED lighting products replacing traditional lights increased rapidly. The LED lighting penetration in 2017 is 22% and it is expected to reach 63% in 2022. CAGR of installed LED lighting products will be 26% during 2017 to 2022. <http://www.ledinside.com/>



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LED Technology Watch...

32. Cree Introduces Up to 150 LPW, KBL High-Bay - Cree, Inc. of Durham, NC, launched the KBL LED High-Bay Series for industrial, retail, civic and athletic venues. Cree claims that the KBL LED High-Bay features dramatically reduced glare for a more productive work environment. The new high-bay offers up to 150 lumens per watt (LPW) and boasts a payback as fast as 1.5 years. The KBL Series is available with nominal lumen outputs of 18,000 and 24,000 with correlated color temperatures (CCTs) between 3000K and 5000K. Like other LED lighting solutions, the high-bay is virtually maintenance free and requires zero warm-up or restrike time, unlike the high-intensity discharge lamps that the luminaires might replace. The LED fixture is eligible for DLC® Premium Certification. <http://lighting.cree.com/products/indoor/high-bay-low-bay/kbl-series>



33. Netgear Lights Up Your World with New Arlo Smart Home Security Light - Netgear, a worldwide leader in home networking and smart home security products, is expanding its best-selling Arlo® Smart Home Security product family with a new category of devices: the Arlo® Outdoor Smart Home Security Light. The Arlo Security Light is a 100% wire-free, smart-controlled, weather-resistant and customizable LED light that illuminates the dark areas around a property and provides alerts via the mobile app when motion is detected. Position the Arlo Security Light virtually anywhere with the easily adjustable mounts. Powered by removable rechargeable batteries or an optional solar panel. The Arlo Security Light will automatically turn on whenever motion is detected, or when out of town, it is simple to set a schedule to turn lights on and off to give the illusion that someone is home. <http://www.arlo.com/en-us/landing/arlo-security-light/>



34. Case Study: 9 Reasons Why Cities Choose Amerlux for Streetlighting - Amerlux Avista and Portland, OR - Two industry experts—Lisa Elbert, P.E., signals and lighting engineer with the City of Portland at Oregon's Bureau of Transportation (which recently oversaw the upgrade of Portland's 6,100 century-old single and twin ornamental decorative fixtures to Amerlux's Avista LED light engine), and Jason Strano, C.E.M., energy sales manager at leading lighting agency Reflex Lighting in Wethersfield, Connecticut—discuss the many reasons why cities are wise to invest in Amerlux's Avista fixtures for their streetlighting needs. Avista is an advanced LED light engine for retrofitting traditional and post top luminaires or for new construction. Unique with a completely sealed LED optical chamber, Avista offers cutting-edge optics and extraordinary output. <http://blog.amerlux.com/9-reasons-why-cities-choose-amerlux-for-streetlighting/>



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35. Acclaim Lighting Introduces New Generation Dyna Drum HO - Acclaim Lighting of Los Angeles,



CA, an entertainment and theater lighting firm, has introduced the second generation of its Dyna Drum HO. According to Acclaim, the new Dyna Drum HO features a new chipset and optic system that the company engineered from the ground up. This high-power floodlight now offers higher energy efficiency than the previous generation. It also boasts class-leading output in both white and quad-color LED versions. The white version achieves more than one million center candela, while reducing power consumption by 20 percent compared to the previous version.

<http://www.acclaimlighting.com/products/product-detail/product/dyna-drum-ho.html>

National EnergyWatch...

36. tED Cover Story: Independents: Strengths, Weaknesses & Strategies by Susan Bloom - In life and in business, founding father and renowned inventor Ben Franklin put it simply by saying, "when you're finished changing, you're finished." Some 250 years later, this old adage has never been more applicable to the community of independent electrical distributors. Competing alongside large national chains in a field marked by continued consolidation, rapid technology growth, eroding margins, and recruiting/retention challenges, independent firms can feel overwhelmed and behind the eight ball, but the savviest and most strategic will continue to play a critical role in the industry. Following, a range of independent firms and industry veterans share their thoughts on the future of the independent electrical distributor – their greatest strengths, their biggest vulnerabilities, and the positioning that will help ensure their continued success and longevity in an industry undergoing great change. http://www.tedmagazine-digital.com/tedmagazine/october_2017?pg=74#pg74

37. GE to Focus on Three Key Units, Exit Most Other Operations - General Electric Co's Chief Executive John Flannery plans to disclose a road map for the company on Monday that will focus on three of its biggest business lines - aviation, power and healthcare, the Wall Street Journal reported, citing a person familiar with the matter. The report also says the plan stops short of a breakup or more radical restructuring of the 125-year-old company, but Flannery will look to exit most of its other operations. <http://on.wsj.com/2jnKS2F>

38. Boston-Based Current Is Now on GE's Chopping Block - The first General Electric Co. division to set up a presence in Boston is now on the list of businesses that CEO John Flannery wants to sell. During his first presentation to GE shareholders on Monday, Flannery laid out his vision for a more streamlined version of the huge industrial conglomerate, his first since taking over the company in August. As part of that vision, Flannery plans to jettison \$20 billion worth of assets over the next year or two, including not only its Boston-based smart-lighting division Current — confirming speculation reported by the Business Journal on Friday — but its transportation and industrial solutions divisions. Flannery didn't give any indication of what an exit path for Current might look like. <https://www.bizjournals.com/>



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39. Belmont, Arizona Is a Smart City Funded by Bill Gates - One of the many investment companies owned by Microsoft founder Bill Gates has purchased a whopping 25,000 acres of land in Arizona. Located roughly 45 minutes outside of Phoenix, the land will be turned into a smart city named Belmont. Focusing on high speed networks, advanced manufacturing capabilities, self-driving vehicles, and data centers, Belmont could become a hub for new technologies to thrive. A proposed I-11 freeway would connect Belmont to Las Vegas, Nevada, opening up significant opportunity. It'll reportedly include space for 80,000 residential units, in addition to 470 acres for public schools and 3,800 acres designated for offices, commercial buildings and retail outlets. <https://www.techspot.com/news/71849-belmont-arizona-smart-city-funded-bill-gates.html>

40. Eaton and Miami Dolphins Hold Essay Contest - The Miami Dolphins football organization and power management company Eaton announced a community initiative called "Light Like the Pros". The initiative will award one deserving Miami-Dade or Broward County high school a free Ephesus LED sports lighting system valued at more than \$100,000. The program urges high schools and other venues in Miami-Dade or Broward counties that host high school football games to enter an essay contest to win the free, energy-efficient LED lighting retrofit solution at www.Dolphins.com/LightLikeThePros. Applicants must submit a short essay regarding the limitations and issues with their current lighting system. Further, the short essay should address how an energy-efficient LED lighting system can benefit the students, the school, and the entire community. Deadline to enter is December 23, 2017.

Monthly Special Feature... *Energy Supplier vs. Utility: What Is the Difference?*

Energy bills from your utility are split into three services: supply, transmission and delivery. What is the difference between an energy supplier and utility?

- Energy suppliers can sell you energy supply but cannot transmit or deliver it to your home.
- Energy utilities in some states can sell you energy supply as well as transmit and deliver energy to your home.

When you start an energy supply plan, your utility bill might look a little different, but it will not complicate how you pay for energy. Your new energy supplier's name will appear beside the supply cost, while the utility continues to charge for the two remaining portions of your bill. But in most cases you'll still pay only the utility. What services are on an energy bill and what does each mean?

- **Supply:** Energy supply accounts for the cost of purchasing the energy from where it is produced.
- **Transmission:** Energy transmission charges involve the movement of electricity from where it is generated to the place it is distributed.
- **Delivery:** Delivery costs account for the delivery of electricity to your home or business.

In a traditional energy market, you receive your energy supply, delivery and transmission from the local utility. A public utility commission (PUC) controls the rates utilities charge for these services, and these rates are subject to change.

If you live in a state with energy choice, you can sign up for energy supply from an independent supplier that offers rates not determined by the PUC. The local utility continues to provide power line maintenance, deliver energy to your address and restore energy in an emergency – for which it charges delivery and transmission fees. <https://www.chooseenergy.com/electricity-rates-by-state/>



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