

EnergyWatch



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<http://www.attardimarketing.com/energywatch/>
www.energywatchblog.com

I never stopped trying to become qualified for my job. Darwin E. Smith

Winning is not a sometime thing; it's an all the time thing. You don't win once in a while; you don't do things right once in a while; you do them right all of the time. Winning is a habit. Unfortunately, so is losing. Vince Lombardi

Something to Think About... DOE's Solid-State Lighting: Early Lessons Learned on the Way to Market - This study identifies and characterizes 12 key lessons that have been distilled from DOE's SSL Program results. These key lessons include the following:

- ⚙ Lesson 1: Rigorous testing requirements adopted in the early days of SSL industry development were necessary to counter exaggerated claims of performance by some manufacturers, but they eventually led to unreasonably high testing costs
- ⚙ Lesson 2: Despite the promise of long life, there is no standard way to rate the lifetime and reliability of LED products
- ⚙ Lesson 3: Specifiers prefer complete families of products, but the rapid evolution of LED technology presents a challenge to manufacturers in creating and maintaining complete product lines
- ⚙ Lesson 4: The range of color quality available with LED-based products and the limitations of existing color metrics may confuse users
- ⚙ Lesson 5: The color delivered by some LEDs shifts over time, enough to negatively impact adoption in some applications
- ⚙ Lesson 6: Some LEDs flicker noticeably, which may negatively impact adoption in some applications
- ⚙ Lesson 7: LEDs can cause glare, which may negatively impact adoption in some applications
- ⚙ Lesson 8: Achieving high-quality dimming performance with LED lamps is difficult, but improving
- ⚙ Lesson 9: Greater interoperability of lighting control components and more sensible specifications of lighting control systems are required to maximize the energy savings delivered by LED sources
- ⚙ Lesson 10: Lack of LED product serviceability and interchangeability has created market adoption barriers in certain sectors
- ⚙ Lesson 11: Existing lighting infrastructure limits the full potential of SSL; more effort is needed to open the doors to new lighting systems and form factors
- ⚙ Lesson 12: Programs that provide ways to identify quality LED products have helped support market adoption

http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_lessons-learned_2014.pdf



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ANNOUNCEMENT: We are almost there.....to continue to provide you with the best site for current lighting energy market news all in one place, the energywatchblog is undergoing a complete renewal:

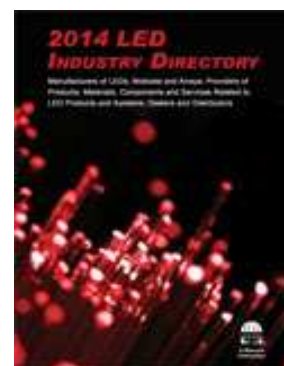
- Current energy news on a daily basis all in one place
- Open jobs for hire and for those looking
- Newest energy efficient lighting technologies
- Case studies, whitepapers and pertinent research
- Calendar of industry events all in one place

LED Issues to Watch...

1. **2014 LED Industry Directory & Market Database** - The LED Industry Directory from LED Journal is an annual reference guide to LED manufacturers and suppliers. It contains important market information organized in a way to make it a valuable reference tool for industry analysis and contacts including business development and lead generation efforts. Readers, purchasers, and users of the directory include:

- ⚙ Manufacturers of LEDs
- ⚙ Manufacturers of LED Packages/Modules/Arrays
- ⚙ Manufacturers of LED Applications/OEM Integrator/LED Systems
- ⚙ Dealers of LED Products
- ⚙ Service Providers

<http://www.ledjournal.com/main/order-a-directory/>



2. **DOE 2014 SSL R&D Workshop Presentations Posted** - Held on January 28–30 in Tampa, FL. 200 attendees explored such topics as creating added value with intelligent lighting and using spectral control to shape the lighting experience. The workshop offered a rich mix of perspectives and insights from manufacturers, research institutions, industry, academia, and government—and a unique forum to discuss innovative concepts, new directions, and key barriers that stand in the way of moving the technology to the next level. The workshop presentations and materials have been posted on: http://www1.eere.energy.gov/buildings/ssl/tampa2014_materials.html

3. **DOE Early Lessons Learned in Bringing SSL to Market** - The U.S. DOE has published a new report that documents early challenges and lessons learned in the development of the SSL market. Entitled *Solid-State Lighting: Early Lessons Learned on the Way to Market*, it summarizes early actions taken by DOE and others to avoid potential problems that were anticipated based on lessons learned from the market introduction of CFLs. The report also identifies issues, challenges, and new lessons that have been learned in the early stages of SSL market introduction. The report is available at www.ssl.energy.gov/tech_reports.html. A webinar on the report will be presented on Thursday, February 20, at 1:00 p.m. Eastern Time. For more information on the webinar: [DOE SSL website](http://www.doe.gov/ssl)



4. **Zhaga References NEMA Dimming Spec for LED Drivers, Notes Safety Requirements** - The Zhaga Consortium has formally added requirements that LED light engines with integrated control gear support the NEMA SSL 7A-2013 dimming specification and also noted that socketable modules must meet new UL safety standards. The Zhaga Consortium has announced that it will now require dimmable LED light engines that include driver electronics — what Zhaga terms integrated control gear — to perform in compliance with the NEMA SSL 7A-2013 standard for phase-cut dimming. <http://www.ledsmagazine.com/articles/2013/10/zhaga-references-nema-dimming-spec-for-led-drivers-notes-safety-requirements.html>

5. **Transition to Solid State Lighting Leads to Decline in Fluorescent Bulb Sales** - This report analyzes the worldwide markets for Fluorescent Bulbs in US\$ Million. Annual estimates and forecasts are provided for the period 2010 through 2018. Also, a six-year historic analysis is provided for these markets. Market data and analytics are derived from primary and secondary research. Company profiles are primarily based on public domain information including company URLs. The report profiles 77 companies including many key and niche players. More information at: http://www.researchandmarkets.com/publication/m6ikt4/fluorescent_bulbs_global_strategic_business

6. **Lighting Up LEDs** - "Out with the Romex Wire: In with the Category 6 Cable" The relentless penetration of IT has a long history of changing building systems; transforming analog phones to digital phones, changing analog surveillance cameras, IP-enabled access control, IPTV as well as a host of other systems. The next building system to transform to an IT structure is low voltage LED systems; it's been in the making for a few years and led by some of the innovative companies and early adopters. It's now at the point that where we can project that the IT structure for LED lighting systems will become the new norm. <http://www.smart-buildings.com/>

7. **LEDs Change Thinking About the Light Bulb** - Lights are no longer just for lighting. With the development of LED lamp technology, the lowly light bulb is doing more than turning on and off. A lamp can be the centerpiece of an environment meant to improve health, moods and even food. LEDs can create light in multiple colors, generate less heat and use a fraction of the energy of older types of bulbs. And LEDs can be controlled remotely from a PC or smartphone app, as programmable as a television. Philips sells a range of energy-enhancing lights, including the goLITE BLU, a panel of blue LEDs. http://www.nytimes.com/2014/02/06/technology/personaltech/leds-change-thinking-about-the-light-bulb.html?_r=1

8. **Philips' Intelligent Supermarket Lighting Can Help You Find Your Groceries** - Philips is piloting an intelligent supermarket lighting system that can help shoppers find their groceries based on their location in the store. The LED lighting system can be used by retailers to send location-based data to customers via an app. Besides helping users to locate groceries like avocados, coffee and eggs, the system can also be used to send promotional offers to shoppers, which are relevant to their location in the store. Targeted information and discount coupons can be displayed on phones at a precise position in the store. The system uses lighting fixtures that form a dense network that acts as a positioning grid that each fixture is identifiable and able to communicate its position to an app on a shopper's smart device. <http://www.techhive.com/article/2098560/philips-intelligent-supermarket-lighting-can-help-you-find-your-groceries.html>



9. *The Electrical Industry's Top Ten News Stories of 2013* - Two of the Top Ten stories in 2013 relate to what's happening in energy:

#4. Lighting manufacturers acquire niche product manufacturers to fortify their positions in the LED market. It would be tough to name another product market that has undergone such a complete transformation as [the lighting business's fast march toward LEDs](#). LED new products are obsoleting entire product categories, an entire generation of new players are moving into the lighting market from the semiconductor industry, and household names in the lighting business are trying to reinvent themselves to compete in the solid-state era.

#8. Excitement over renewables dies down a bit. With the exception of the states in the Wind Belt that extends from the Dakotas down through Texas and those areas where local utilities are building massive solar farms, it seems like most folks in the electrical business aren't quite as jazzed about the sales potential of solar and wind. The local financial incentives that help support solar in some states are drying up. <http://ewweb.com/news/electrical-industrys-top-ten-news-stories-2013>

10. *LED Lighting Emphasizes Natural Beauty in Museo Del Duomo*

Zumtobel Arcos Xpert LED spotlights have been deployed during the just completed two-year renovation of the Museo del Duomo -- the Museum of the Cathedral located at the Milan Cathedral in Italy. The UV- and IR-free lighting with a CRI of 94 highlights the historic sculptures, paintings, and scale models of the cathedral with the oldest model dating to 1519. Zumtobel supplied a variety of LED lighting products for the renovation including Panos Infinity downlights, Tecton row lighting, and Linaria fixtures in side rooms. <http://www.ledsmagazine.com>



11. *Toshiba Progresses in Louvre Project, Lights Mona Lisa with LEDs* - A custom controllable SSL fixture now provides adaptive lighting on the famous Mona Lisa painting, and linear LED fixtures have been installed in the Red Rooms. The Louvre Museum in Paris, France will ultimately see most of the lighting converted to LEDs. Toshiba said that the design uses 32 LEDs along with a control system and optics that ensure uniformity of lighting and frame the painting. The dynamic system was developed to enable museum workers to adjust the spectrum of the light to compensate for color shift that is due to ambient lighting and the way that lighting hits the protective glazing on the famous painting. See the video: <https://www.toshiba.eu/lighting/en/news-events/mona-lisa>

12. *Osram LEDs to Light The Sistine Chapel's Michelangelo Frescoes* -

The project, involving custom-designed fixtures optimized for beam control and with a color spectrum that will highlight the pigmentation in the frescoes, will be completed next year, although a pilot project entitled LED4Art has already proven the concept. While LED-based solid-state lighting (SSL) has long offered efficiency advantages compared to legacy sources, it's a fairly recent development in which LED fixtures have become accepted in museum or historical settings where artwork is omnipresent. <http://www.ledsmagazine.com>



13. *DOE's Solid-State Lighting: Early Lessons Learned on the Way to Market* - This study identifies and characterizes 12 key lessons that have been distilled from DOE's SSL Program results. http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_lessons-learned_2014.pdf



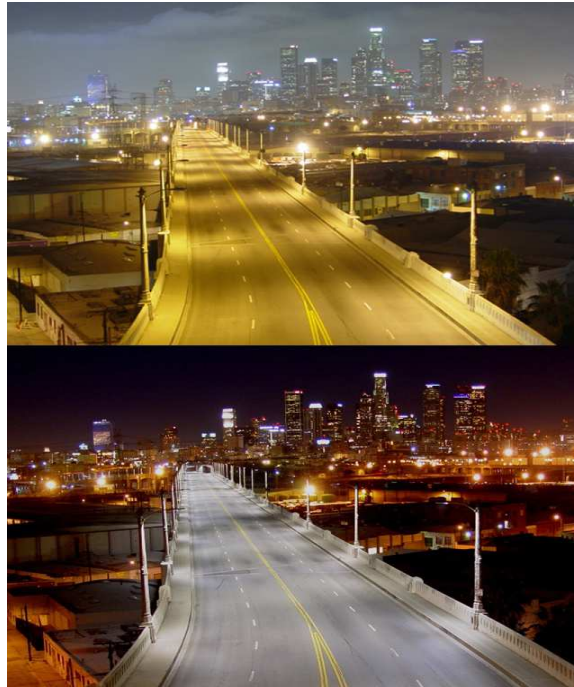


- 14. IKEA to Donate Solar Lighting to Refugees with Each LED Bulb Purchase** - For the 10.5 million refugees around the globe, much of their lives are spent in the dark. In partnership with the United Nation Refugee Agency (UNHCR), IKEA announced that for every LEDARE LED lightbulb sold in its stores, it will donate €1.00 (U.S. \$1.34) to UNHCR refugee camps for solar lighting, fuel-efficient cooking stoves and other renewable energy technologies. <http://www.ikeafamilylivemagazine.com/gb/en/article/35914>
- 15. 2014 Lighting for Tomorrow Competition** - Since 2002 the annual *Lighting for Tomorrow* competition has encouraged manufacturers to develop well designed, energy efficient lighting products - the best decorative energy efficient lighting fixtures in the market. The 2014 competition seeks lighting control devices, solid state lighting (SSL) fixtures, replacement lamps, and retrofit kits. This year there is a particular interest in securing high lumen LED lamps, LED lamps under \$10, LED fixtures under \$50, high efficacy LED products, high CRI LED products, OLED fixtures, and senior friendly lighting products. Guidelines: <http://www.lightingfortomorrow.com/>
- 16. LEDs Lighting Can Triple the Efficiency of Greenhouse** - LED greenhouse lighting is poised on the hockey stick of the adoption curve, saving electricity while potentially improving the world food supply. The past year has seen production-scale deployment emerge out of years of trial grower installations. LEDs have a unique efficacy advantage in horticulture. Plants appear green because they absorb red and blue, the bandgap energy of the two primary photosynthetic reactions. With LED lighting, the color of the light can be tuned to “horticultural red” (660 nanometers) -- deeper than the standard traffic light or brake light. <https://www.greentechmedia.com/articles/read/leds-can-triple-the-efficiency-of-greenhouse-lighting>
- 17. When (and Where) Solar LED Lighting Makes Sense** - Right now, very few businesses or real estate development companies would think first about using solar panels to run their outdoor lights, but in places where’s no established cabling, solar lights really can make sense from an economic and efficiency standpoint. The size of the overall commercial outdoor lighting market is estimated at \$11 billion. Within that, there’s a pronounced shift to LED technologies. In 2012, for example, 54 percent of the 2 million luminaires installed along roadways and tunnels around the world were LED format, reports Strategies Unlimited in its [January 2014 report](#) on outdoor area and street lighting. Another [forecast](#) from Navigant Research predicts shipments of smart, LED-based street lights will top 17 million by 2020. This technology will find traction in locations where safety and grid infrastructure are of equal concern. <http://www.forbes.com/sites/heatherclancy/2014/02/11/when-and-where-solar-led-lighting-makes-sense/>
- 18. New ENERGY STAR SSL Requirements Ensure LED Bulbs Delight the Customer** - On September 30th 2014, “ENERGY STAR Program Requirements Product Specification for Lamps (Light Bulbs)” will replace the “Integral LED Lamps Version 1.4”. We should look at dimming requirements in the new document, described in section 12, pages 19 and 20. Anyone familiar with designing dimmable LED bulbs and drivers is aware of the challenges that result from the availability of huge volumes of dimmers with very different performance in the market, and the significant trade-offs necessary to ensure the most widespread compatibility. However, ENERGY STAR has limited the compatibility requirements to only five different dimmers from at least two manufacturers. <http://www.ledjournal.com/main/blogs/new-energy-star-ssl-requirements-ensure-leds-bulbs-delight-the-customer/#more-9511>



19. How LED Streetlights Will Change Cinema (And Make Cities Look Awesome) - The decision by the city of Los Angeles last year to replace its HPS streetlights—known for their distinctive yellow hue—with new, blue-tinted LEDs might have a profound effect on at least one local industry. All of those LEDs, with their new urban color scheme, will dramatically change how the city appears on camera, thus giving Los Angeles a brand new look in the age of digital filmmaking.

<http://gizmodo.com/led-streetlights-will-change-hollywood-and-make-every-c-1514840416>



20. Amerlux Will Deliver Sensity Systems SSL Network Technology in Outdoor Luminaires - Sensity Systems and Amerlux have announced a partnership around Sensity's Light Sensory Network (LSN) technology and the Net Sense platform that includes an open application programming interface (API) that allows customization of feature sets in a lighting network. The LSN technology supports adaptive control in outdoor solid-state lighting (SSL) systems, along with cloud services and other features that can help justify the installation cost such as security-system functionality. Amerlux had previously announced its own wireless networking technology called SmartSite. Apparently the company will now use Sensity's network technology to accomplish the service delivery goals over the SmartSite network. www.amerlux.com



21. Cree Launches Autonomous Controls Technology for LED Luminaire Portfolio - Cree has announced the SmartCast lighting controls technology including luminaires equipped with occupancy and ambient light sensors, dimmer switches, and a TV-remote-control-like configuration tool. A 2.4-GHz wireless mesh network connects the SmartCast system elements, and luminaires and switches automatically form network groups based on proximity. Cree says SmartCast can deliver 40% in energy savings over and above the efficiency advantages of LED-based lighting. The SmartCast technology is designed to automatically implement occupancy sensing and daylight harvesting. <http://www.cree.com/>



22. 2013 Outdoor Competition Winners - Next Generation Luminaires congratulates the winners of the 2013 Solid-State Lighting Design Competition! Twenty-six commercial LED outdoor lighting products received awards for excellence, including six Best-in-Class winners. The judging panel selected the luminaires on the basis of color quality, appropriate illuminance, light distribution, glare control, appearance, serviceability, value, and energy efficiency and lumen maintenance. The awards event took place during the *2014 Strategies in Light* Conference on February 27, 2014. <http://www.ngldc.org/13/outdoor/winners.stm> **Best in Class (click on respective photo):**



23. ASE Test Develops Industry's First SSL Test System - ASE Test, a division of Automation South Electronics, has developed the industry's first automated test system that is specifically designed for quickly testing the electrical performance of LED drivers, LED arrays and LED fixtures. Designated the ASE SSL 3.0 Test System, this flexible test system can be used for design, design validation and volume manufacturing testing to verify quality of production. <http://www.asetest.net/>



National Energy Issues to Watch...

24. Linear Fluorescent Lamp Shipments Retreat During Third Quarter of 2013 - NEMA's shipment indexes for T5, T8 and T12 lamps retreated during 2013Q3, decreasing by 7.3%, 9.4% and 5.5%, respectively. Year-over-year (y/y) performance showed mixed results for the different lamp types. The T5 lamp index increased by 5.7% compared to 2012Q2. T8 lamp shipments improved as well increasing by 10.7%. Shipments of T12 lamps continued to decline, registering a decline of 6.3% (y/y). <http://www.nema.org>

25. Applying 2013 Energy Codes by Dennis Hidalgo - Building energy codes mandate design and construction practices, materials, equipment, and systems that are intended to achieve minimum efficiency targets when buildings are initially constructed as well as when renovated. However, the process by which these codes are implemented and enforced makes it difficult to ensure that the efficiency targets are actually met. From the number of stakeholders involved in each building project to the fragmented nature of local enforcement, there are many potential gaps in the code implementation and enforcement process. After significant gains in energy code adoption, national focus has now shifted to meeting the 90 percent compliance goal set by the U.S. Department of Energy (DOE). <http://energycodesocean.org/news/2014/february/18/applying-2013-energy-codes>

26. NEMA Publishes ANSI C78.375-2014 – Entitled *American National Standard for Fluorescent Lamps—Guide for Electrical Measures*. This standard describes the procedures to be followed and the precautions to be observed in obtaining uniform and reproducible measurements of the electrical characteristics of fluorescent lamps under standard conditions when operated on alternating current (ac) circuits. These methods are applicable both to lamps having hot cathodes—either preheat-start, rapid-start, or instant-start—and to lamps of the cold-cathode variety. <http://www.nema.org>



- 27. NEMA Publishes ANSI C136.41-2013 - For Roadway and Area Lighting Equipment—Dimming Control Between an External Locking Type Photocontrol and Ballast or Driver.** Describes methods of light level control between an external locking type photocontrol (or similar device) and a dimmable ballast or driver for street and area lighting equipment. Mechanical, electrical, and marking requirements are established for dimming, and photocontrols. <http://www.nema.org>
- 28. NEMA Publishes ANSI C136.46-2013 – Entitled American National Standard for Roadway and Area Lighting Equipment—Concrete Lighting Poles.** This standard applies to concrete lighting poles used in roadway and area lighting equipment and includes nomenclature, performance criteria, marking and recordkeeping requirements, and certain minimal material needs. It does not cover concrete poles manufactured with any modified concrete mix incorporating the use of polymers or other modifiers. <http://www.nema.org>
- 29. Indoor Lighting Can Affect Decision Making -** Facility managers may want to take care while adjusting indoor lighting. According to new research, the way a room is lit can affect decision making, with bright light acting as a possible catalyst for more intense emotions. Researcher Alison Jing Xu says the effect bright light has on our emotional system may be the result of the light being perceived as heat, and the perception of heat can trigger our emotions. The majority of everyday decisions are also made under bright light. So turning down the light may help people make more rational decisions. <http://www.sciencedirect.com/science/article/pii/S1057740813001174>
- 30. Voters Overwhelmingly Support Energy Efficiency -** The poll released by NEMA and NAM commissioned by McLaughlin & Associates, found that 9 in 10 likely voters support energy efficiency as a key part of the solution addressing our energy challenges. Results showed a desire for greater adoption of efficient technologies throughout our economy, including the federal government, where tax dollars can be saved. A national survey among 1,000 likely voters clearly illustrates broad support for energy efficiency that cuts across demographic and political lines. Two-thirds are more likely to vote a candidate for Congress who supports energy efficiency policies. <http://www.nema.org/Policy/Documents/National-NEMA-NAM-Memo.pdf>
- 31. Hubbell Lighting Launches Lighting Upgrade Program for Colleges and Universities -**Hubbell Lighting announced a new energy efficient lighting program to cut electricity costs by 84%, enhance the quality of light and reduce the financial risk of upgrades. The initiative, called **createchange®** consists of two innovative offerings from Hubbell Lighting:
- A suite of unique audit tools and other product selection resources that allow schools to precisely forecast the economic impact of various lighting retrofit strategies and identify any utility rebates that are available.
 - A 90-day risk-free trial program called "Compare in the Air", which allows customers to validate cost saving estimates in buildings or outdoor environments with up to four Hubbell Lighting products. <http://www.hubbellighting.com/solutions/retrofit/applications/education>
- 32. 2014 DOE Solid-State Lighting Manufacturing R&D Workshop - May 7–8, 2014 • San Diego, California -** Join DOE—and lighting industry experts representing the entire SSL supply chain—at the sixth annual SSL Manufacturing R&D Workshop. Gain cutting-edge perspective on manufacturing issues related to LED and OLED lighting, as leading experts share insights on global manufacturing trends and strategies for reducing costs, improving quality, and increasing volumes. More information—including a preliminary agenda and registration details—will be available soon.



33. LEDucation 8 Announces Presentations for Eight CEU Sessions During Annual Event - The lighting industry's premier event dedicated solely to LED Technology. LEDucation 8 will host its annual educational event and expo in New York City on March 18th and 19th, 2014 at the Sheraton NY Times Square hotel located at 811 7th Avenue at West 52nd Street, New York, NY. Attendees will be able to participate in a variety of accredited educational seminars held throughout the day starting at 11:00 am on Tuesday, March 18th and 10:00 am on Wednesday, March 19th. The product and technology expo from over 220+ leading LED manufacturers will be open at 1:00 pm on Tuesday to 7:00 pm, and from 10:00 am to 7:00 pm on Wednesday. <http://www.leducation.org>



34. GLOBALCON 2014 Presented by The Association of Energy Engineers - The multi-track conference covers a broad range of currently relevant topics, and gives you the opportunity to hear first-hand from some of the major players in the energy field. The GLOBALCON Expo will emphasize critical areas of leading edge technology and related services <http://www.globalconevent.com>



35. NAED National Meeting April 26-29 - With challenges come opportunities for growth, and that's what the NAED National Meeting is all about. The National provides a venue for a vigorous exchange of ideas complete with networking, educational speakers and some of the industry's best distributors and suppliers. You'll find all the ideas, strategies and information you need to be successful in one place. Before you attend the meeting, be sure to read the Recommended Best Practices document for the National Meeting. <http://www.naed.org/national/>



36. 32nd Annual West Coast Energy Management Congress (EMC) - June 25-26, 2014, Washington State Convention Center, Seattle, Washington - For business, industrial and institutional energy users. It brings together the top experts in all areas of the field to help you set a clear, optimum path to energy efficiency, facility optimization and sustainability, as well as innovation solutions to improve your ROI. <http://www.energyevent.com/>

State Energy Issues to Watch...

37. Newark Airport Terminal Lights Tied to Security System - There are new LED lights greeting passengers at Newark Liberty International Airport's Terminal B but they do more than illuminate; they also are part of a security system that is watching you before you even get to the security checkpoint. The lights are fitted with computer chips, cameras, sensors and wi-fi antennas. They collect data that can help detect suspicious activity or aid in police investigations. Installed by FSG, Perth Amboy, NJ, the sensors in the lights were designed by Sensity Systems. Currently, the lights are only near the ticketing counters of the one terminal but the Port Authority of New York and New Jersey, which operates the airport, is considering expanding the pilot program to other terminals.



<http://www.myfoxny.com/story/24757880/newark-airport-terminal-lights-tied-to-security-system>

38. The Port Authority of NY and NJ Awards Contract for \$2.1 Million Lincoln Tunnel Lighting Upgrade - Constellation announced that it has been awarded a contract by The Port Authority of New York and New Jersey for the installation of 2,300 energy efficient LED lights in the Lincoln Tunnel. Facilities Solution Group (FSG), located in Perth Amboy, N.J., installed the system. Green RG Management, based in North Arlington, N.J., provided the LED lighting fixtures. Green Econometrics, in Clifton, N.J., conducted the energy efficiency analysis of the project. Bernie Erickson, Northeast Regional Manager for FSG stated, "FSG values our longstanding relationships with both Constellation and the Port Authority, and we were pleased to play a part in this exciting project." 2/03 BUSINESS WIRE

39. CUNY Gets ARPA-E funding for Metacapacitors for LED Lighting - City University of New York (CUNY) Energy Institute is developing less expensive, more efficient, smaller, and longer-lasting power converters for energy-efficient LED lights. LEDs need more sophisticated converters because they require a different type of power (low-voltage direct current, or DC) than what's generally supplied by power outlets. CUNY Energy Institute is developing sophisticated power converters for LEDs that contain capacitors made from new, nanoscale materials. <http://www.arpa-e.energy.gov/?q=arpa-e-projects/metacapacitors-led-lighting>

40. York County PA Commissioners Poised to Spend \$2.4 Million for Efficiency Projects - The board is considering making an amendment to an existing contract with Harrisburg-based McClure Company. The county has already spent about \$6.1 million on facilities upgrades, under McClure's guarantee that the company would pay the difference if county coffers didn't save the \$380,000 per year McClure said would be saved. Under the current proposal, projects include heating and air-conditioning improvements, more interior and exterior lighting upgrades at various facilities, and transformer replacement. 2/13 The York Dispatch

41. Orlando Is One of 10 Cities Picked for \$9 Million Energy Project - The City Energy Project will pay for a building-efficiency expert to work full time in each of the cities and to finance additional expertise as each city rolls out plans to lessen the energy used by municipal and privately owned buildings. The other cities are Atlanta, Boston, Chicago, Denver, Houston, Kansas City, Los Angeles, Philadelphia and Salt Lake City. They were selected for "ambitiousness" and range of sizes and types. <http://www.cityenergyproject.org/>



- 42. Cary, NC installing 8,000 American Electric Lighting (Acuity Brands) LED Streetlights** - The project, done in partnership with energy provider Progress Energy, will replace the majority of the city's streetlights with LED streetlight fixtures. <http://www.newstreetlights.com>
- 43. NPPD, Others Offer Incentives for LED Bulbs** - The Nebraska Public Power District and its wholesale customer utilities are offering incentives to residential electric customers for the purchase and installation of LED bulbs with a \$5 account credit for each Energy Star-qualified 60-, 75-, or 100-watt LED equivalent to the standard bulb they buy, with up to 10 credits available per residential account this year. NPPD www.nppd.com and its wholesale customer utilities are contributing approximately \$100,000 toward this campaign in 2014. 2/10 Public Power Weekly
- 44. Grissom Air Reserve Base, IN Paves Way for Energy Savings** - The U.S. Department of Defense has an annual energy budget of approximately \$20 billion, which accounts for nearly 80 percent of the federal government's total energy consumption. U.S. military bases alone rack up a \$4 billion energy bill annually. One of the most innovative and groundbreaking projects at Grissom was the recent installation of a \$100,000 geothermal heating and cooling system. It's the first unit of its kind ever installed on an Air Force Reserve Command base. Other energy-saving upgrades include the installation of low-flow plumbing, better HVAC controls, energy efficient lighting, and infrared heating systems. Grissom spent more than \$900,000 last year on those projects. 1/30 AP
- 45. Public Lighting Authority to Install LED Lamps in Detroit** - The state-created Public Lighting Authority is looking for LED suppliers to speed up the \$160 million relighting project of Detroit. The authority decided to exclusively use LED lamps and accelerate the pace of installation with a goal of completing all city neighborhoods with 50,000 new LED lights to be installed over the next two years. Fewer than half of Detroit's 88,000 streetlights are believed to work. 2/12 Detroit News
- 46. Elk Grove, CA Explores LED Future for Street Lamps** - Elk Grove neighborhoods could soon glow under LED light if leaders move ahead with a plan to replace traditional street lamps with the energy-saving technology, joining other cities that are switching to save money and electricity. It could go out to bid by early summer. Work would start around August and could be completed by year's end. The city would work with the Sacramento Municipal Utility District to retrofit 11,000 lights throughout the region's second-largest city this fall. Sacramento is working with Siemens on plans to retrofit the city's 35,000 street lights over the next five years, spending between \$9 million and \$10 million on the installations. 2/17 The Sacramento Bee
- 47. World Energy Engineering Congress - October 1-3, 2014, Washington Convention Center / Hall A Washington, DC** - Now in its 37th year, AEE's WEEC is well-recognized as the most important energy event of national and international scope for end users and energy professionals in all areas of the energy field. The 2014 WEEC featured Keynote Speaker will be President Bill Clinton. <http://www.energycongress.com/>
- 48. Shift in Lighting Technologies to Dim Energy Use by End of Decade** - A fundamental paradigm shift in lighting technologies toward more efficient lamps and bulbs will significantly reduce global electricity demand for general illumination in the next few years, according to IHS. The energy usage of the installed base of lighting technologies for general illumination will fall to a projected 2.75 trillion kilowatt-hours (kWh) by 2020, down 24% from 3.61 trillion kWh in 2013. <http://www.digitimes.com/news/a20140303PR201.html>



Monthly Special Feature...

http://www.mckinsey.com/insights/sustainability/toward_a_circular_economy_philips_ceo_frans_van_houten

Toward A Circular Economy: Philips CEO Frans Van Houten - Two years ago, we decided to embed circular-economy thinking in our strategic vision and mission, both as a competitive necessity and with the conviction that companies solving the problem of resource constraints will have an advantage. We believe that customers will increasingly consider natural resources in their buying decisions and will give preference to companies that show responsible behavior—something we are already seeing. Designing products and services for a circular economy can also bring savings to a company. The first impression people always have is that it adds costs, but that's not true. We find that it drives breakthrough thinking and can generate superior margins.

In our lighting business, for example, rapidly changing technology and the economic crisis made business and municipal customers reluctant to make big investments, because they felt uncertain. This led us to consider lighting as a service. After all, why do these customers buy light fixtures and luminaires? It's not for the fixture but for the light itself.

For business customers, we therefore now sell lighting as a service: customers only pay us for the light, and we take care of the technology risk and the investment. In many cases, we also take the equipment back when it's the right moment to recycle the materials or upgrade them for reuse. Similarly, for municipal customers we now have streetlight installations in Singapore and, more recently, a contract in Buenos Aires to replace the majority of the 125,000 existing streetlights there with LED luminaires over the next three years. We install the equipment, maintain it, and make sure that it runs for a very long time.

The benefits are substantial: the energy savings are anywhere from 50 to 70 percent, depending on the installation, so customers can pay us out of the savings for the light output. The LEDs have five times the lifetime of normal lights—which, in turn, means much lower maintenance and operating costs for us. We are putting networking capabilities in these lights, as well, essentially making them part of an IT network. This lets the community adjust the lights depending on the circumstances. For example, if there is low traffic density at night, then the lights can be turned further down. But if there is a soccer match one night, the lights can go up. And, of course, we can apply all sorts of algorithms as well to give customers even more control. These kinds of innovations help us move away from selling products and toward selling higher-value solutions.

.....for municipal-lighting customers, the thinking around the tendering process needs to change. These customers are used to looking at the initial purchase price, not the total cost of ownership and the ecological impact. Changing the ownership of the lights is also tricky, as it often gets into legislative issues with municipal governments.

There are supply challenges in operating in this new way, as well. We need to get our products back. Streetlights are fairly simple because the lights don't walk away, but consumer lamps are another story. Here we work with partners to organize for collection, but even then it's very hard. Currently, in Europe we recover about 40 percent of our lamps, of which 85 percent are recycled for reuse.

.....designing for recyclability, upgradability, and serviceability.

