

EnergyWatch



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

The best executive is the one who has sense enough to pick good men to do what he wants done, and self-restraint to keep from meddling with them while they do it. Theodore Roosevelt

Something to Think About... A Time of Great Fortuity in Lighting

It's now time to Connect the Lighting Industry Dots on the Opportunity side. You know what a sports nut I am and one thing is certain, every time you take the field, there is the threat of losing and the opportunity of winning. This is not Little League though where everyone get a trophy. There are consequences and you know what they are, certainly if you are a Cubs or Mets fan. Even when you win, there are those who will accuse you of cheating...but I digress. A Coach from Indiana, Bobby Knight once said, "The key is not the will to win... everybody has that. Few have the will to prepare to win."

Well, it's time to prepare to win in the lighting industry. The one over-riding, most infectious opportunity we have ever seen in the Lighting Industry is that every single light source now burning will be replaced by a better mouse trap. If that has happened at any time in our history, please let me know as I have only been at it for 50 years. If you are in the lighting business, you most likely sold what's out there. Now it's time for you to prepare to replace them all. That spells OPPORTUNITY.

Let me give you an example of opportunity lost. History has shown that the relationship between the electrical manufacturer and the electrical distributor has in essence developed a thriving industry making its products readily available at cost competitive prices. In the early years, consigned inventories made it possible for more diverse lighting products to make it to market. Steady growth for decades. Then, *times, they are a changin.....*energy efficient lighting caused the pain Chicken Little Chris Brown is talking about. Electrical Distributors heard from their customers that they wanted to upgrade and realize bottom line savings from their energy bill. It wasn't just a product sale anymore, it was *a money deal*. Customers were told they had under-performing assets in the ceiling. That lighting cost them too much to operate. Who told them that.....? Not Electrical Distributors. It was Energy Services Companies (ESCOs). Their sales pitch was very effective, "I'm here to improve your business, not just sell you product." A new channel of distribution emerged because the existing channels did not or are not capable of serving the new needs of their customers. End-User customers in the final analysis determine with whom they chose to do business and continue to switch away from ineffective channels of distribution. If you do not adapt, they will switch away in the future, you can bet on it.

Dirk Beveridge of 4th Generation Systems in his new book INNOVATE talks about how wholesaler-distributors need to create a relevant and sustainable business. “With everything moving faster, businesses must keep up. How are we going to remain relevant in the future? Innovation is the key, both professionally and personally. The future success in wholesale distribution will be based on the ability of distribution firms to innovate.” Order his must-read study at: <http://www.naw.org/innovate>

Folks, this is still a SWOT Analysis.....Here’s what we are looking for now: identify and connect those external market opportunities to our traditional lighting business that are in common.....what opportunities are so in agreement with each other that we have to pay specific attention as they will lead to dynamic growth and successful participation in the lighting industry of the future. Then Chris (see @illumigeddon) and I will work on the Strengths & Weaknesses. Let’s Connect the Dots:

2015 EXTERNAL OPPORTUNITIES TO THE TRADITIONAL LIGHTING INDUSTRY

Traditional Manufacturers

They control the lighting business now and are in the best position to take advantage of the opportunities in the future. Will they give it away to the new Entrants?

- | | |
|------------------|----------------------------|
| General Electric | Hubbell |
| Philips | Controls companies |
| Osram Sylvania | Other lamp companies |
| Acuity | Other fixture companies |
| Cooper | Current technology players |

TARGET MARKETS

The focus should always be on the end-user customer. Are you in a position to serve the various markets that present significant opportunities? Which markets are you positioned to target?

- | | |
|------------|-----------------------------|
| Commercial | Hospitality |
| Industrial | Government |
| Retail | Institutional / Educational |
| Healthcare | Construction |

SMART LIGHTING

Will you participate here or give it up to the Technology Companies?

- | | |
|---------------------------------------|---|
| Advanced SSL technologies: LED, OLED, | Mobile wireless communications |
| Nano-technology, Laser Diodes | Energy monitoring & verification |
| Lighting Controls | Wireless protocols: Wi-Fi, Li-Fi |
| Integrated Lighting Controls | Zhaga Consortium |
| Lighting Apps | ZigBee Alliance |
| IoT and IoE | Connected Lighting Alliance |
| Big Data | Smart Lighting Engineering Research Center |
| Light as a service | Automatic dimming |
| Selling light not light bulbs | Network technologies |
| Demand response | Plug-and-play interaction |
| Automated demand response | Integrated security, facial recognition |
| Sophisticated control capabilities | Connected light sources |
| Value & Benefits of Smart Lighting | Home and office automation |
| Interactive communications: Bluetooth | Research the space ie retail store activity |

OTHER OPPORTUNITIES

What other opportunities do you see having the most significant impact on your business?

Increasing energy rates

Deregulation / Restructuring of the Power industry

Opportunity to differentiate yourself from your competition

Ability to grow in a dynamically growing market segment

End-user customer pressure to increase profits

Implementation of a strategic marketing plan in the SSL lighting business

Selling the new advanced technologies to new customers

New markets / new technologies / leading edge / incremental sales

LED Issues to Watch...

- 1. *The Global Smart Lighting Market Accounted for Revenue of ≈ \$22.36 Billion in 2014*** - The report presents a detailed market analysis of Smart lighting by incorporating complete pricing and cost analysis of components & products, product benchmarking, Porter's analysis and PEST (Political, Economic, Social & Technological factor) analysis of the market. The report deals with major lighting products and control systems, market drivers, challenges and opportunities with respect to the global Smart lighting market. The lighting products include new innovative light sources such as LED, Light Fixtures, CFL, Fluorescent lamps and HID lamps that help conserve energy along with control systems that include various sensors, dimmers and accessories to serve the purpose of optimization. The report provides a detailed geographical analysis of the current situation of the industry and estimates the expected growth over the coming years. For more information: http://www.researchandmarkets.com/publication/mnj627p/global_smart_light_fixture_led
- 2. *SSL is Stepping Up to the Plate in the Sports World*** - LED lighting, which is gaining a foothold in a rapidly growing number of applications, has reached a level where it can perform as well as, or better than, the incumbent technologies in one of the most demanding settings imaginable: a high-stakes sporting event where hordes of rabid fans have paid big bucks to visually devour every move their favorite athletes make – and where those athletes need to see extraordinarily well in order to *make* those moves. The list goes on:
 - Seattle Mariners Safeco Field
 - Arizona Cardinals home field, the University of Phoenix Stadium in Glendale
 - Staples Center in LA, home of the NBA Lakers and Clippers and the NHL Kings
 - Philadelphia's Wells Fargo Center, home to the NHL Flyers and NBA 76ers
 - PNC Arena in Raleigh, NC, home to the Carolina Panthers (NFL) and Hurricanes (NHL)
 - NRG Stadium, where the NFL Houston Texans play
 - Basketball arenas at Arizona State University and the University of Notre Dame
 - The Palace of Auburn Hills – home to the NBA's Detroit Pistons
 - New Minnesota Stadium being built in Minneapolis for the NFL Minnesota Vikings
 - Stay tuned..... postings@akoyaonline.com
- 3. *Your Smart Home Hub*** - Smart homes are smartest when all the systems are able to talk to each other. One simple way to do that is to have a device that's in charge like a smart thermostat. <http://www.luxreview.com/news/622/five-things-that-could-replace-the-light-switch>

4. **Rebate Trends for 2015** - 2015 is shaping up to be another great year for rebates and incentives in North America. Over the past few months, rebate organizations have been busy updating their offerings and preparing their 2015 programs. While some programs ended at the end of 2014, others programs have received new funding and started providing rebates again. **Right now, 72% of the country is covered by an active commercial lighting rebate program.**
<http://www.briteswitch.com/news/2015RebateTrends.html>
5. **Rebates for LED Replacement Lamps Drop 32%** - This year, we've seen a larger than expected drop in the average rebates for LED replacement lamps such as PARs, MRs, A-lamps and decorative lamps from **\$11.12 in 2014 \$7.51, a 32% decline.** This change comes as rebate programs try to adjust their offerings to match the price decreases of many LED lamps. There are lots of programs for these lamps though, so it still makes a great opportunity for those customers using halogen or incandescent lamps:
 - **Replacement LED T8 Tubes Gaining In Popularity But Still Not Universal**
 - **Lighting Control Rebates Still Strong As Ever**<http://www.briteswitch.com/news/2015RebateTrends.html>
6. **DOE 2015 SSL R&D Workshop Presentations Posted** - The 12th annual DOE Solid-State Lighting R&D Workshop was held January 27–29 in San Francisco. Over three full days, 300 attendees participated in both plenary and LED/OLED breakout sessions, with presentations from over 60 solid-state lighting experts and special opening remarks from 2014 Nobel Laureate Shuji Nakamura. The workshop presentations and materials have been posted on the [DOE SSL website](#)
7. **DOE Publishes Long-Term Testing Investigation of Retail Lamps** - CALiPER Retail Lamps Study 3.2 focuses on lumen depreciation and color shift in a subset of 15 LED A lamps from CALiPER Retail Lamps Study 3. The lamps were monitored in an automated long-term test apparatus for more than 7,500 hours. On average, the lumen maintenance of the LED lamps was better than either of the benchmark lamps (CFL and halogen), but there was considerable variation from lamp model to lamp model. A key takeaway is that the long-term performance of LED lamps can vary greatly from model to model. <http://energy.gov/eere/ssl/downloads/retail-lamps-study-32-lumen-and-chromaticity-maintenance-led-lamps-operated>
8. **DOE Publishes CALiPER Report on Lumen and Chromaticity Maintenance of LED PAR38 Lamps** - The U.S. DOE's CALiPER program has released Report 20.4, which is part of a [series of investigations on LED PAR38 lamps](#). Report 20.4 focuses on lumen maintenance, chromaticity maintenance, and catastrophic failure in 32 of the Series 20 LED PAR38 lamps and eight benchmark lamps, which were monitored for nearly 14,000 hours at ambient temperatures between 44°C and 45°C. The report is best used to understand the variation in LED product performance, compare the robustness of LED lamps and benchmark conventional lamps, and understand the characteristics of lumen and chromaticity change. <http://energy.gov/eere/ssl/downloads/report-204-lumen-and-chromaticity-maintenance-led-par38-lamps>
9. **Cree Selected by Fast Company Among the World's 50 Most Innovative Companies in 2015** - Cree, Inc. <http://creebulb.com/> announced that *Fast Company Magazine* has ranked it among the Top 50 Most Innovative Companies worldwide. In addition to that distinction, the company has also been ranked number one in *Fast Company's* annual Top 10 Most Innovative Companies in Energy list. <http://www.fastcompany.com/section/most-innovative-companies-2015>

10. 7 Tips to Brighten Your Lighting Strategies

- 1) Let Occupants Get the "Blues"
- 2) Verify Lamp and Ballast Performance
- 3) Green Your Parking Fixtures
- 4) Look Beyond Footcandle Readings
- 5) Match Bulbs for Better Results
- 6) Give Task Lighting Its Due
- 7) Make Sure You Know When There's an Issue

<http://www.buildings.com/gallery/7-Tips-to-Brighten-Your-Lighting-Strategies/1.aspx#gallery>

11. *ei, The Magazine of the Electroindustry* - NEMA's February publication is worth reading. In addition to the latest reports from Capitol Hill, what's happening in the world of standards, and industry news, each issue features an in-depth look at technical issues, international developments, and information about various new technologies and projects.

- [Human-Centric Lighting Moves beyond Energy Efficiency](#)
- [Beyond "Doing Good" Lighting Adds Value to Healthcare](#)
- [LEDs Reshape Retail Lighting](#)
- [Maximizing End User Benefits and Enhancing Safety for Outdoor Environments](#)
- [Electric Lighting Will Improve Our Quality of Life in the Future](#)
- [Zhaga Consortium Responds to Evolving Requirements of LED Industry](#)
- [What's Next for Solid-State Lighting?](#)
- [Daylight Management Champions "Occupant Friendly" Net-Zero Energy Buildings](#)
- [The Lighting Revolution: Has Incandescent Really been Overthrown?](#)

http://www.nema.org/news/Lists/ElectroIndustryMagazine/Attachments/50/EI_Feb15.pdf

12. *Smart Lighting Centers on Battle of Integrated Controls, Sensor Fusion, and IoT Connectivity* -

The next revolution is here. While we've used the term "smart lighting" for half a decade to describe what we thought would be coming, the reality is that it's going to be about a lot more than adding better intelligence into the luminaires. This revolution is about getting connected, both to the space (such as in human-centric lighting, or HCL) as well as to the IoT, with the task of delivering awareness delegating decision-making down. Smart lighting systems will quickly find themselves in demand as the host for a complete Internet of "sensor-driven" awareness. In reality, this will be about the luminaire knowing it should dim to 50%, based on the occupancy, traffic, time, and ambient light conditions — and then just doing it. The building management system (BMS) will be more about checking to see what the lights have decided, as well as providing overrides or updated decision parameters. <http://www.ledsmagazine.com>

13. *Internet of Things Expected to Quadruple in Size by 2020* - Organizations are seeing measurable benefits from Internet of Things (IoT) projects, and the number of overall IoT connections will more than quadruple between 2014 and 2020, according to a Verizon Enterprise Solutions report released Feb. 23. The report delves into adoption trends and predictions for the future of the IoT market (Verizon defines IoT as to machine-to-machine technology enabled by secure network connectivity and cloud infrastructure, to reliably transform data into useful information for people, businesses and institutions.) <http://www.govtech.com/internet/Internet-of-Things-Expected-to-Quadruple-in-Size-by-2020.html>

14. Six Vehicles with the Most Eye-Catching Lighting - Old-style filament bulbs are being replaced at a rapid rate by light-emitting diodes (LEDs), which are bringing not just better efficiency and an improved service life, as well as one other welcome benefit: tremendous flexibility for designers, both inside and outside. 2/09 The Washington Post

[Acura TLX](#)
[BMW 6-Series](#)

[Dodge Charger](#)
[Ford Mustang](#)

[Jeep Renegade](#)
[Nissan Juke](#)

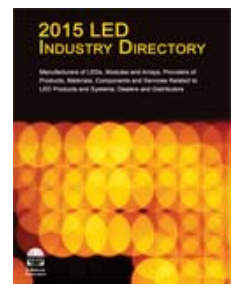
15. LED Takes on Fluorescent in Troffers by Craig DiLouie - According to the U.S. DOE, four out of five lamps in service in commercial buildings 2010 were fluorescent, with a majority used in troffer (cross between “trough” and “coffer”) luminaires. Available in standard 1’x4’, 2’x4’ and 2’x2’ sizes, these luminaires are popular in applications featuring dropped acoustical-tile ceilings. In recent years, LED technology has challenged this venerable workhorse with energy-efficient and long-life alternatives. DOE estimates the installed base of LED troffers increased from an estimated 40,000 units in 2010 to nearly 700,000 units in 2012. Manufacturers report demand has escalated over the past two years, estimating that 15+ percent of new troffer luminaires sold today employ LEDs as the light source. <http://www.lightnowblog.com/2015/02/led-takes-on-fluorescent-in-troffers/>

16. Obstruction Lighting - Global Strategic Business Report 2015 - Obstruction lights, also known as aviation lights, are lights that indicate the existence of obstacles in the aircraft flight path. Obstruction lights form an integral part of aviation lighting designed to assist pilots in navigating, especially during nights and bad weather conditions. Growth in the market is expected to remain steady driven by stringent air safety norms, and rise in the construction of tall structures such as skyscrapers, telecom/broadcast towers, and wind turbines, among others. The market also stands to gain from replacement of traditional incandescent fixtures with energy efficient LED obstruction lights. The United States represents the single largest market worldwide. Asia-Pacific ranks as the fastest growing market with a CAGR of 7.8% over the analysis period. For more information click on: http://www.researchandmarkets.com/publication/mw9auo3/obstruction_lighting_global

17. CLTC’s Lighting Design Guides Support Statewide Efficiency Standards - CTLC has completed the publication of five downloadable lighting design guides to help builders, contractors, and other lighting industry professionals meet or exceed California’s 2013 Building Energy Efficiency Standards (Title 24, Part 6). CLTC developed the five guides, which are available online at no cost to the public, as part of educational outreach efforts to encourage support and compliance with the Title 24 requirements as part of the EnergyCodeAce training program. Download the guides here:

[High-Efficacy Residential Lighting](#)
[Lighting for Office Applications](#)
[Outdoor Lighting](#)
[Residential Lighting](#)
[Retail Lighting](#)

18. Introducing the 2015 LED Industry Directory & Market Database - The LED Industry Directory is an annual reference guide to LED manufacturers and suppliers. This publication is a comprehensive, industry-wide listing of LED companies Worldwide serving all markets and platforms. With this handy reference, you will have your finger on vital company, product, personnel and contact information in this ever-changing marketplace. <http://www.ledjournal.com/main/directory-information/>



19. Five Things That Could Replace the Light Switch - LEDs may have the near future sewn up as far as light sources go, but the crystal ball is altogether murkier when it comes to the question of controls. How will they look in the future? There are several technologies seeking to usurp the humble wall rocker:

- 1) **Gestures** - The proposition of gesture-controlled lighting is a simple one: why walk up to a switch when you could simply wave at it from where you are?
- 2) **Voice control** - And Steve said, 'let there be light', and there was light.
- 3) **Presence detection** - In the commercial sector, presence detection – or more accurately motion detection – is as old as the hills.
- 4) **Apps** – Lets you take control of your lighting with a downloadable smartphone app. The idea is you can turn your lights on and off, dim them up or down, or adjust their color from the comfort of your sofa either via Bluetooth or Wi-Fi.

20. Whitepaper: Making Outdoor Lighting More Efficient, Safe & Affordable by Echelon - Modern commercial outdoor lighting systems are being asked to do more than ever before. In addition to fulfilling their primary purpose of casting light onto dark roadways, parking areas, and public spaces, outdoor lighting systems are increasingly evaluated for how well they reduce energy consumption, improve safety for both pedestrians and drivers, and serve as the foundation for a range of Internet of Things (IoT) applications. Echelon Corp., <http://echelon.com/applications/pl-outdoor-lighting> offers a sophisticated, comprehensive, open standards--based approach to outdoor lighting control that makes it easy and affordable for lighting owners to increase the efficiency, safety, and versatility of their municipal and commercial lighting systems. <http://www.echelon.com/assets/blt7389f5c3032dbbc0/Lighting-making-outdoor-streetlighting-more-efficient-whitepaper.pdf>

21. Breakthrough OLED Could Hit Market in November from LG Chem - South Korea's LG Chem says it will start selling an OLED panel with very LED-sounding performance ratings of 100 lumens per watt efficacy and 40,000 hours lifetime. But developers have struggled to lower the manufacturing costs and to replicate the energy efficiency of LED light sources. LG Chem's current stable of OLED products mostly range from 50 to 60 lm/w. But according to LG Chem's microsite, it will offer 100 lm/w this year, 120 lm/w next year and 140 in 2016. The company also aspires to 60,000 hours lifetime by 2016. <http://www.luxreview.com/news/395/breakthrough-oled-could-hit-market-in-november-from-lg-chem>

22. Philips Selling Off OLED Group - 'In line with our strategic direction, we announced our intention to divest our OLED activity to focus our business and resources on LED based connected systems and services,' the spokesperson said. While Philips has said it will not outright sell the lighting group that is not apparently the case for the group's OLED unit. 'The reasoning behind Philips's decision to exit the OLED market might simply be a case of priorities. After all, Philips has experienced a year-over-year 3 percent decline in their lighting business. With an industry as volatile and unpredictable as OLED lighting, it is likely being sold so they can concentrate on slowing the decline of their core lighting business and strengthening their position in their growing LED lighting business.' Lighting companies like Philips are shifting away from the conventional 'replacement bulb' business model and instead relying on selling lighting services that leverage the digital nature of LEDs. Digital connectivity opens the way to remotely control lights in all settings. <http://www.luxreview.com/news/638/philip-selling-off-oled-group>

23. *Philips Announces 500th Licensee to Its LED-Lighting IP Portfolio* - LED Luminaires and Retrofit Bulbs Licensing Program provides access to nearly 1400 patents; meanwhile, Philips has licensed LED replacement tube technology from Toggled <http://www.toggled.com> The IP licensing program was formally launched in 2008 and has accelerated in recent years in terms of new licensees as more companies enter the solid-state lighting (SSL) sector. Meanwhile, LED-fluorescent-tube-replacement specialist Toggled has announced that Philips has licensed its patent portfolio and that all litigation between the companies has been settled. The Philips IP portfolio now covers 224 inventions and 1392 patents. <http://www.ledsmagazine.com/>
24. *Osram's Smart Lights Dial In on Quality* - **The Good:** Osram's tunable Lightify LEDs offer smart color-temperature controls that you won't find with Belkin WeMo or Philips Hue Lux bulbs. They're also the most efficient connected LEDs we've ever tested, and they work with WeMo, too. **The Bad:** Osram can't offer a connected-lighting platform or app that's as well-developed as Philips, and its LEDs cost twice as much as smart bulbs from Cree and GE at \$59.99. **The Bottom Line:** These aren't the cheapest smart bulbs you can buy, but Osram's Lightify LED Starter Kit is more affordable than Philips or Belkin's, and arguably more feature-rich, too. As a legitimate competitor, it deserves consideration. <http://www.cnet.com/products/osram-lightify-led-starter-kit/>
25. *Cautionary Tale for Intelligent Lighting Users: Smart TVs are Listening in on Us* - We're all heading to a digital lighting future in which our connected LED lamps will automatically know when to turn on, switch off, brighten, dim, change hues and color temperatures, flash with alerts for stock prices, sports results, wake-up alarms, burglaries or other emergencies. Yes, it seems that our lights will be able to do anything. Including spy on us. With internet-connected smart lighting emerging in our homes, in our offices and on our streets, and with them including sensors that detect motion and take pictures, it's easy to imagine lights spying on us. Throw in voice-activated lighting – something that's sure to arrive – and the possibilities are even greater, especially as giant internet companies such as Google and Apple emerge as lighting industry forces. <http://www.luxreview.com>
26. *The Industrial Internet and the Future of Lighting* - Watch GE Lighting President & CEO Maryrose Sylvester discuss the massive transformation underway in the lighting industry as the old incandescent lightbulb is replaced with smart LED systems and cities, companies, and consumers are empowered to cut costs and energy use and improve maintenance and satisfaction. http://www.gedigitalenergy.com/youtube_vdo/watch.aspx?v=NHD7iVrMw84
27. *2015 LIGHTFAIR Keynote and Impact Speakers* - Notable keynote and impact speakers are a part of the educational experience at 2015 LIGHTFAIR, which will feature 140 presenters during its five-day program May 3-7 in NY's Javits Center: <http://www.lightfair.com/lightfair/V40/index.cvn?id=10375>
- Shuji Nakamura, Ph.D. is a 2014 Nobel Prize Winner in Physics and will present “The History of LED Technology to the Nobel Prize to Today's GaN” on May 3.
 - Inventor Chuck Hoberman will speak as the Institute keynote on May 4 about his pioneering work in “Transformable Design” with projects that range from public art to kinetic facades to dynamic sets for live entertainment.
 - Lighting designer Howard Brandston will be featured as an impact speaker and interviewed by Chip Israel, for an engaging conversation on Brandston's work and past projects on May 5
 - Mark Rea, Ph.D. will outline that great strides have been made to reduce the cost of lighting for general illumination; however, little progress has been made to increase the benefits that lighting provides to society in “Monetizing the Benefits of Lighting” on May 6.

28. **Renaissance Renovation: LEDs On by John Paul Quinn** - For more than 500 years, the Sistine Chapel and its artwork have been about the intricate interplay of color and light, ever since the first brushstrokes were applied to its walls and ceiling by artists such as Botticelli, Perugino, Signorelli, and, of course, Michelangelo. It is the best one-shot, one-room museum of renaissance art in Europe. On Oct. 29, 2014, a switch was thrown in the chapel, illuminating the walls and ceiling with the light from 7,000 LEDs, rendering many of the scenes in the frescoes clearly visible for the first time in centuries. How and why this happened is another one of the many stories about this remarkable room. <http://www.ecmag.com/section/lighting/renaissance-renovation-leds>



29. **Lutron's Commercial Energy Codes, Controls and LEDs Seminars** - Lutron Electronics will visit 10 major markets starting in March 2015 with a brand new seminar that will help electrical contractors and engineers better meet the increasingly diverse demands of customers, while complying with rapidly-changing energy codes. The Commercial Energy Codes, Controls and LEDs Seminar www.lutron.com will present attendees with impactful information and tools that will dramatically simplify the design, specification and installation of LED lighting controls in an increasingly energy-regulated world. The free half-day seminar will feature two workshops: (1) Codes & Standards – to clarify the core energy code requirements with real world terminology and examples (2) Controlling LEDs – to explain LED controls, how they operate, what makes them different and review best practices for delivering profitable, world-class LED control projects. For more information, email Jill Mondin jmondin@lutron.com

30. **Something for Nothing? New Invention Runs LED Lights 'For Free'** - Malcolm Wright has come up with a way for LEDs to piggyback on the power used by other devices, so they can be run 'for free'. He calls his invention Electrical Energy By-Product Lighting, or EEBL. It works by inserting a circuit in series with an AC mains-powered motor or other electrical load – ideally an appliance with a constant power requirement such as a bathroom extractor fan, vacuum cleaner, kitchen cooker hood or water pump, although it will also work with other loads such as a TV. The current requirement for the motor is passed directly through to the LEDs (there's no separate driver so there are no driver losses). In a typical motor circuit, this will result in a slight loss of power to the motor. However, at the same time, the LED circuit improves the power factor of the device, allowing that power to do more work. This frees up enough power to light up those LEDs. And the more powerful the motor, the greater the light output achievable. <http://www.luxreview.com/article/something-for-nothing-new-invention-runs-led-lights-for-free->

31. **Webinar: Can LEDs Perform in a Performing Arts Building?** - On Thursday, March 26, DOE will host this 60-minute live webinar featuring speakers Naomi Miller of Pacific Northwest National Laboratory and Professor Stan Kaye of the University of Florida. They will present an overview of DOE's [GATEWAY demonstration](#) of LED architectural and theatrical lighting in four academic/performance-related spaces within the Nadine McGuire Theatre + Dance Pavilion at the University of Florida. They discuss the demonstration that convinced the University of Florida that LEDs have arrived. The webinar will begin promptly at 1:00 p.m. Eastern Time, and will include a 45-minute presentation followed by a 15-minute Q&A session. To register, visit the [DOE website](#)

32. Top LED Scientists Predict Laser Based Lighting at DOE 2015 SSL R&D Workshop - At

January's DOE SSL R&D Workshop, three leading LED researchers predicted laser diodes will be the light source of the future. Steven P. DenBaars, James Speck, and Nobel Laureate Shuji Nakamura, all with the UCSB SSL and Energy Center spelled out the advantages of laser diodes over LEDs, including absence of droop, smaller size, and optical control factor. http://energy.gov/sites/prod/files/2015/02/f19/denbaars_led-challenges_2015.pdf

33. An LED Lighting Platform in the Cloud - Terralux has launched a new product called LEDsense, which is a cloud based lighting system with a brain. It has a sense of smell, sight and touch its environment and control a building's energy usage through the cloud. LEDsense senses the temperature of a room all through the LED lights – if it is too hot or cold and can control heating and cooling systems based on weather and room occupancy levels. It can detect if anyone is present in the room as well as detect carbon dioxide and monoxide. If the LEDsense lighting system “sees” people enter a room it increase the lighting; dim the lights as people depart. Advanced sensors provide safety and security information and alerts. The technology then sends any data back to the building owner through the cloud and the safety and security can be optimized based on that data. <http://www.forbes.com/sites/jenniferhicks/2015/01/31/an-led-lighting-platform-in-the-cloud/>

34. IES Publishes Two New Outdoor Lighting Standards - The Illuminating Engineering Society of North America (IES) has published two new recommended-practice standards for outdoor lighting that are of relevance to SSL because of its growing dominance in outdoor lighting applications:

- IES RP-20-14 (“Lighting for Parking Facilities”) is intended to optimize pedestrian and vehicle safety as well as energy conservation, and also addresses light trespass. It covers outdoor lots and roofed garages and is intended to guide new installations but not to be applied to existing installations unless their lighting is updated with the latest technology.
- IES RP-33-14 (“Lighting for Exterior Environments”) focuses on such issues as light trespass and sky glow and is intended to help lighting designers and specifiers determine the proper lighting zone specifications for particular applications.

Electronic copies may be purchased online through the [IES store](#)

35. Indian LED Lighting Market Expected to Grow at a CAGR of Over 32% During 2015-2020 -

With relatively low LED light penetration and huge untapped opportunity, India has become an attractive market for both domestic as well as international LED players. The market has witnessed a phenomenal growth over the past five years and the trend is expected to continue over the next five years. Government initiatives are playing an extremely vital role in increasing LED adoption across the country. Recently, the newly formed government announced a scheme to provide LED lights at subsidized cost to the consumers. Presently, Philips continues to dominate the country's LED market, followed by Havells, Syska, Innovlite and GE. For more information click on: http://www.researchandmarkets.com/publication/mr7ec8q/india_led_lighting_market

National Energy Issues to Watch...

- 36. NEMA Publishes ANSI C78.375A-2014 - American National Standard for Electric Lamps—Fluorescent Lamps—Guide for Electrical Measures.** The 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 circuits. ANSI C78.375A may be downloaded or purchased in hard copy for \$75 on the [NEMA website](#)
- 37. NEMA Publishes ANSI C78.81-2014 - American National Standard for Electric Lamps—Double-Capped Fluorescent Lamps—Dimensional and Electrical Characteristics.** In this updated version, eight datasheet revisions, four new datasheets, and additional information for high-frequency electronic ballast design are included. The standard establishes the physical and electrical characteristics of fluorescent lamps intended for application on conventional line frequency circuits and electronic high-frequency circuits. It should be noted that only double-based lamps of the regular linear shape are included. www.nema.org
- 38. Whitepaper: NEMA Lighting Systems Division Publishes Domestic Procurement Policy and Manufacturing Efficiency for Lighting Product -** Specifically, the paper summarizes issues surrounding requirements that governments may set on the manufacturing location of final products or any product component. According to the paper, which is specifically to assist policy makers, any government decision that affects lighting products should be developed “with a consideration of the complex issues related to end user cost, supply chain logistics, production efficiencies, and international trade agreements.” The white paper is available: www.nema.org/lighting-procurement
- 39. EPA Tax Deduction Extended -** In late December 2014, the Tax Increase Prevention Act of 2014 extended the EAct Tax Deduction by one year, allowing projects that were put into service between Jan. 1, 2006 and Dec. 31, 2014 to qualify. In order to be eligible for the Commercial Building Tax Deduction, properties must meet several design criteria such as minimum lighting power density levels, correct illumination levels and control provisions. <http://www.briteswitch.com/epact.html>
- 40. Sustainability to be a Big Part of Super Bowl 50's Story -** Levi's Stadium, home of the San Francisco 49ers in Santa Clara, Calif., is set to host Super Bowl 50 in 2016. Next year's Super Bowl will aim to be net-positive and push the sustainability bar even higher for sporting events. <http://www.greenbiz.com/article/neill-duffy-sustainability-be-big-part-super-bowl-50s-story>
- 41. Global General Lighting Market 2015-2019 -** Lighting, general lighting or ambient lighting, refers to fixed light source installations that are used to provide a practical or aesthetic lighting effect. General lighting is used extensively in application segments such as Residential, Industrial, Architectural, Hospitality, Office, Outdoor, and Shops. Apart from the categorization of lighting based on its applications, lighting can also be categorized based on technology. Currently, the lighting technologies being used are traditional (CFL, halogen, HID, incandescent) and LED-based (LED and LFL). The transition in lighting technologies is trending toward energy-efficient lighting, which has led to an increase in technological innovations in the market in recent years. The analysts forecast the Global General Lighting market to grow at a CAGR of 5.33 percent and 4.42 percent in terms of revenue and unit shipment, respectively, during the period 2014-2019. For more info: http://www.researchandmarkets.com/publication/m641Ird/global_general_lighting_market

- 42. *Lighting Applications for Mobile Devices*** - See the complete list at:
<http://www.lightsearch.com/resources/mobileapps/index.html>
- 43. *Global Lighting Product Market to 2019 - Market Size, Growth, and Forecasts in Nearly 70 Countries*** - This comprehensive publication enables readers the critical perspectives to be able to evaluate the world market for lighting products. The publication provides the market size, growth and forecasts at the global level. For more information please click on:
http://www.researchandmarkets.com/publication/m2sjk5i/global_lighting_product_market
- 44. *Call for Speakers for the 2015 IES Annual Conference*** - The IES is seeking experts to present at the [2015 Annual Conference](#) being held in Indianapolis, Indiana this November 8-10. Professionals from diverse disciplines will come together to explore, present, discuss, debate and exchange best practices in the art and science lighting. Individual presenters, groups and panels are all encouraged to submit topics that fit within the list of tracks: Art & Design; Science & Research; Education & Practice. <http://iesac2015seminar.exordo.com/login>
- 45. *The Rosen Law Firm Announces Investigation of Potential Securities Fraud Claims against TCPI*** - The Rosen Law Firm, P.A., a global investor rights firm, announces it is investigating potential civil securities claims against TCP International Holdings Ltd. (NYSE:TCPI) resulting from allegations that the Company may have issued materially inaccurate statements about the Company's true financial condition and prospects. On February 27, 2015, TCP announced that claims were filed in an Ohio court by a Company executive asserting corporate misconduct by the Company and its CEO Ellis Yan. This adverse news caused to Company's stock to fall over 50% in intraday trading on February 27, 2015. The Rosen Law Firm is preparing a securities class action lawsuit on behalf of TCP International investors. 2/27 BUSINESSWIRE
- 46. *A Device that Follows You by Day and Zaps You with Corrective Light by Night*** - According to a [story by the BBC](#), Rensselaer Polytechnic Institute has come up with the Daysimeter, a means to ensure that the denizens of far northern climes in Sweden and similar latitudes expose themselves to enough proper light to maintain their mental and physical well-being during the dreary days of winter. The premise is that people need exposure to a certain amount of sunlight to keep their circadian rhythms in order, lest nasty things set in such as depression. Slung around your neck, the Daysimeter records how much sunlight has hit you over the course of your day (circadian light-dark patterns). Arrive at home that night, and that information transmits to a hub, which ascertains exactly what you need: No, not a stiff drink, but an extra dose of light, which the hub then instructs your home's smart lamps to deliver. <http://www.luxreview.com>
- 47. *Innovari Signs MOU with RInfra to Expand Automated Demand Side Management (ADSM)*** - In 2014, RInfra (Reliance Energy) partnered with Innovari to implement a pilot project in Mumbai to validate the customer and grid benefits of the ADSM. ADSM is a win-win situation for both utilities, customers as well as the environment: it helps the utilities to improve the system utilization by reducing its peak demand and it allows the customers to curb their power consumption during peak hours. 2/17 AP

City & State Energy Issues to Watch...

- 48. LEDucation 9 Pre-Registration Discount to End on March 4th** - The industry-leading event on LED Technology is set to take place on March 5 - 6th at the Sheraton NY Times Square Hotel in the heart of Midtown. The exhibitor show floor is completely sold out with more than 230+ manufacturers from across the world. Event organizers report that record numbers for advance registration have already been reported and is expected to draw a crowd of more than 3,000 lighting and design professionals from across the country. Online registration will remain open until March 4th at <http://www.leducation.org>
- 49. In-depth Introduction to Electricity Markets at Rutgers University** - Two-day Professional Short Course, March 17-18, 2015, 33 Livingston Avenue, New Brunswick, NJ. This in-depth introductory course is designed for those with a limited knowledge of the electric power system and restructured electricity markets. It provides an overview of the industry, focusing on the linkages among power system engineering, markets, regulatory policy, and business strategies. Specific examples and actual market data are used to illustrate basic principles and ideas. The instructor **Frank Felder PhD** is an expert on the economics and reliability of restructured electric power systems and employs group exercises and an electricity market simulation in which participants bid a portfolio of generation resources over the course of the seminar under various market rules and conditions. **For more information about the course and how to register including setting up a secure account**, visit <https://ce-catalog.rutgers.edu/coursedisplay.cfm?schID=56174>
- 50. ComEd Takes Major Step Toward Smarter, Greener Energy Future with LED Streetlights Pilot** – ComEd, Chicago announced today that it has begun a pilot program to deploy 800 ComEd-owned smart, energy-efficient LED streetlights in two Chicago suburbs, Bensenville and Lombard. The smart streetlights use the communications network ComEd installed as part of its smart grid investments. Like smart meters, the energy efficient street lights tap into a wireless network that allows for two-way communication with grid operators. Via a web portal, municipalities will be able to control the dimming and daily scheduling of the lights, and receive immediate notification if a lamp is in need of maintenance. Additionally, control can be given to first responders to manage streetlights on-demand during emergency situations. These fixtures are also equipped with a digital node that keeps precise track of each light fixture's energy usage. This could eventually allow the utility to bill for the actual energy used by the streetlights. 2/04 AP
- 51. Connecticut LED Street Light Program Launches Municipal ESCO Purchases** - ESCO Energy Services is set to receive its first LED street light conversion orders under the Connecticut Conference of Municipalities' Street Light Conversion Program. In a five-year partnership, it will enable municipalities to both purchase existing utility-owned street lights and convert those poles to LED-based fixtures. The ESCO Energy Services program goes beyond the typical retrofit project because it will allow municipalities that don't own their street light inventory to purchase those lights from the local utility. Moreover, the offer includes the option to install networked controls and the management software and tools needed to manage the inventory both in terms of maintenance operations and in dimming the lights when appropriate for maximum energy savings. ESCO Energy Services said it is in negotiations with 20 of the 153 municipalities that comprise the CCM membership and the company projects the potential to close to \$25-\$30 million in CCM LED street light projects during the next five years. <http://www.ledsmagazine.com>

52. *City Skyline a Hint of Lights' Bright Future by Daniel P. Finney* - Folks driving past downtown Des Moines at night might notice a dash of color in the city skyline. The Financial Center is glowing a bright teal these days. The building could illuminate any of 16 million colors, using the 72 LED light fixtures around the base of the building. The Empire State Building in New York City gets a lot of attention for different lighting tricks. One of KCL Engineering's <http://www.kclengineering.com/> most exciting lighting plans may have the potential to improve student performance. A future in which room lights are controlled with the same precision as digital thermostats, with even greater options. The idea is to use the controllable features of LED bulbs to create lighting that mimics sunlight. Research shows the natural changes of daylight help regulate body rhythms and brain chemistry and helps the brain stay awake and perform better compared with light from fluorescent lights or tungsten bulbs. <http://www.desmoinesregister.com/story/news/local/daniel-finney/2015/01/29/downtown-lights-financial-center-kcl-engineering/22556377/>

53. *City of San Diego Partners with GE to Improve Traffic, Reduce Energy Use and Costs* - The Intelligent Cities partnership will explore enhanced sensors and Predix® -- GE's software platform for the Industrial Internet which allows for advanced lighting control, traffic and parking optimization, and environmental monitoring and analysis. The work on the project, expected to begin in the spring, will focus on an assessment of a portion of LED street lights and sensors located throughout the city. <http://www.tedmag.com>

54. *Title 24 Part 6 Essentials - Standards & Technology Classes by CLTC* - Here are upcoming Title 24 classes that CLTC staff is scheduled to teach. Information about registering for the classes can be found [here](#):

- 1) March 31 - Retail Lighting, Pipe Trades Training Center, San Jose
- 2) April 15 - Office Lighting, Pacific Energy Center, San Francisco
- 3) April 22 - Office Lighting, CLTC, Davis
- 4) April 30 - Residential Lighting, Pacific Gas and Electric Company's Energy Training Center, Stockton

55. *Notice of Proposed Revisions to the California Building Energy Efficiency Code of Regulations, Title 24* - The proposed language (45-Day Language Express Terms) is posted on the Energy Commission's website at: www.energy.ca.gov/title24/2016standards/rulemaking/ **The public comment period for the 2016 Building Energy Efficiency Standards will begin February 13, 2015, and end at 5:00 p.m. on March 30, 2015.** Any interested person may submit written comments on the proposed amendments. Written comments may be emailed to Docket@energy.ca.gov Per Stan Walerczyk stan@lightingwizards.com "current California Title 24 is decimating the lighting retrofit industry and also significantly harming other energy efficient industries in California." Your comments are encouraged.....



Notice Of Proposed
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Monthly Special Feature... *Top 20 LEDs Magazine Stories of 2014:*

1. LEDs get more control options, innovation advances in SSL designs

The exhibit floor at LightFair International (LFI) 2014 indicated trends, some familiar and some new, in LED lighting: mobile devices as the interface of choice for smart lighting; in-store communication platforms based on LED lights; plastics used as light guides; and LED linear lights as replacements for fluorescent linear lighting.

2. Proper driver design eliminates LED light strobe flicker

LED driver architectures determine SSL flicker, but techniques that suppress ripple can prove cost effective and deliver comfortable LED-based lighting.

3. Philips Lighting demonstrates LED-based indoor location detection technology

A supermarket demonstration scenario at the EuroShop trade fair utilizes Philips Lighting indoor luminaires that transmit data to customer smartphones, thereby enhancing the shopping experience.

4. How do plug-and-play T8s stack up against ballast-bypass LED lamps?

This feature evaluates the photometric, electrical, and financial hurdles to retrofitting linear fluorescent lamps with LED-based tubes, including both plug-and-play products and tubes that require rewiring.

5. Samsung introduces flip-chip mid- and high-power LEDs and COB module

Samsung Electronics has introduced mid- and high-power LEDs built using a flip-chip architecture and is also using the new LEDs in a modular form factor that the company calls flip chip on module.

6. Driverless LED light engines deliver up to 93% efficiency and no perceptible flicker

This feature describes an AC-LED light engine that connects directly to the AC mains while delivering photometric and electrical performance similar to that achieved by DC-driven designs.

7. GaN on silicon: A breakthrough technology for LED lighting

With silicon-based LEDs overcoming issues such as lattice-mismatch and refractive-index problems, John Ellis, chief engineer at Plessey Semiconductors, predicts that the LED industry will move to take advantage of the lower-cost substrate used in the broad IC industry.

8. LEDs at LightFair: Cree, Luminus Devices, Philips Lumileds, and Samsung

LED manufacturers show innovations from nano-scale epitaxial advancements to LED architectural features based on color science in pursuing component designs that can advance SSL.

9. Properties of LED light can boost poultry production and profits

The energy-efficient, narrow-band emission of LED sources makes the lighting technology valuable in life science applications. This feature examines how solid-state lighting is being deployed in poultry-rearing applications to both reduce electrical expenses and boost production.

10. Cree launches autonomous controls technology for LED luminaire portfolio

Cree SmartCast technology relies on a wireless mesh network and automated configuration scheme to allow for simple and affordable installation of autonomous occupancy and daylight controls in commercial spaces.

11. LED advancements drive quality of light gains

12. Philips Lighting reveals Ethernet-powered SSL project at L+B

13. Simplifying the sophisticated: LED driver selection made easy

14. Cree announces next-generation LED retrofit lamps with legacy looks

15. Strategies Unlimited projects packaged LED market to hit \$25.9B in 2018

16. GE Lighting unveils wireless Link LED lamp family and starter kit

17. Ephesus LED fixtures break into NFL at Phoenix football stadium

18. Philips plans spinout of Lumileds and automotive lighting business

19. Cree launches XB-H LED family tripling output in small footprint

20. Philips delivers brighter OLED panels, drives cost down

<http://www.ledsmagazine.com>