EnergyWatch

Attardi Marketing

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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… *Words to Live By - Mother Teresa*

- People are often unreasonable, illogical, and self-centered;
  Forgive them anyway.
- If you are kind, people may accuse you of selfish, ulterior motives;
  Be kind anyway.
- If you are successful, you will win some false friends and some true enemies;
  Succeed anyway.
- If you are honest and frank, people may cheat you;
  Be honest and frank anyway.
- What you spend years building, someone could destroy overnight;
  Build anyway.
- If you find serenity and happiness, they may be jealous;
  Be happy anyway.
- The good you do today, people will often forget tomorrow;
  Do good anyway.
- Give the world the best you have, and it may never be enough;
  Give the world the best you've got anyway
- You see, in the final analysis, it is between you and God;
  It never was between you and THEM anyway.

Attardi Marketing **www.attardimarketing.com**

Our business is changing your future…

LED EnergyWatch…

1. ***USA LED Lighting Market to Reach $30.5 Billion in 2016 and Professional Lighting Markets to See Explosive Growth*** - The penetration rate of LED lighting is projected to climb from 31% in 2015 to 36% in 2016. Lighting companies are beginning to shift their focus to professional lighting markets and hope that increases in government spending, especially in new public projects, will create new opportunities. Sectors with tremendous growth potentials include industrial lighting, commercial lighting and architectural lighting. Major U.S. lighting companies are proactively developing various LED lighting businesses and giving a greater share of their portfolios to LED lighting products. Demand growth for LED lighting products has been strong in the commercial/industrial applications, with the fastest growth found in troffers, panel lights, tunnel lights and high/low bay lights. New applications are also emerging, including smart lighting and light communication. http://www.ledinside.com/node/view/24054

2. ***Are You Ready for Li-Fi?*** - In the office of the future, the luminaires won't just provide light, they'll also provide your internet connection. A new technology called Li-Fi can encode data in the light from normal LED luminaires, turning your office lights into a high-speed data network. It's done by modulating the light in a way that's invisible to the human eye, but can be picked up by a receiver plugged into a computer. Li-Fi is faster than Wi-Fi, more energy efficient (since the lights are on anyway) and eliminates interference problems with other electronic devices. And because light doesn't go through walls, it's inherently secure. Plus, the main element of the network – the light fittings – already exists in every building. Li-Fi could solve a growing problem: we're running out of space on the radio frequency spectrum" The technology could also solve a growing problem with wireless communication systems: the radio frequency spectrum is overcrowded and we're running out of space. The visible light spectrum is 10,000 times bigger, so Li-Fi is well placed to become the next generation of wireless communications. http://luxreview.com/article/2015/11/are-you-ready-for-li-fi-

3. ***OLEDWorks Closes Philips Lumiblade Deal and Announces New OLED Panels*** - OLEDWorks has announced that it has finalized the previously reported deal to acquire the OLED-centric assets and intellectual property (IP) of Royal Philips — the Lumiblade technology, manufacturing, and product portfolio previously operated under Philips Lighting. Moreover, OLEDWorks and Lumiblade teams have been working together over the past months and that cooperation has yielded the FL300L OLED panel in a new rectangular form factor that will deliver more flexibility to SSL manufacturers seeking to deliver OLED-based general illumination products. Philips and OLEDWorks announced the Lumiblade deal back in April as Royal Philips has sought to divest itself of its LED and lighting businesses. Ironically, the OLED deal is the first to close despite the fact that the sale of the Lumileds LED business to Go Scale Capital has been delayed indefinitely due to concerns by US regulators. http://www.ledsmagazine.com

4. ***CVC, KKR, Bain, Onex, Blackstone Said to Mull $6 Billion Philips Lighting Bids*** - Royal Philips NV's lighting division is attracting interest from a number of the world's largest private-equity firms, in a deal that could value the unit at about 5.5 billion euros ($6 billion). JPMorgan Chase & Co. and Goldman Sachs Group Inc. are advising Philips on the sale. Some of the bidders would also be interested in buying the lighting components unit, Lumileds, if U.S. regulators block a previous $2.8 billion sale to a group of investors led by China's GO Scale Capital, The Amsterdam-based company is splitting its lighting division from its health-care and consumer-lifestyle units. http://www.bloomberg.com

5. ***Top 10 LED Market Trends in 2016 -*** LED manufacturers had an especially tough year in 2015. Despite rising LED lighting market demands, and large scale replacements of traditional luminaires, the oversupply situation in the market has caused average sales price of LEDs to plunge 30% to 40%. Growing number of manufacturers have incurred heavy losses and exiting the market. With 2016 just around the corner, LEDinside Research Director Roger Chu has listed ten major trends in the market including future LED industry consolidations and technology trends. http://www.ledinside.com/node/view/24123

6. ***DOE to Announce FY 2016 SBIR/STTR Phase I Release 2 Funding Opportunity -*** The U.S. Department of Energy's (DOE) Office of Science plans to announce a funding opportunity on November 30, 2015. Under this grant opportunity, DOE will seek applications for funding directed toward FY16 Phase I, Release 2 projects. Topics for this funding opportunity were released on November 2, 2015, and can be downloaded at http://science.energy.gov/sbir/funding-opportunities Applicants must submit a letter of intent by December 21, 2015, in order to be eligible to submit a full application by February 9, 2016.

7. ***Do Cyber Criminals Have Their Eye On The Grid? By Jerry Plank -*** Lighting may be the platform for big data, but it's also a tempting target for hackers. The article offers the author's insights on the potential hacking of LED lighting systems by cyber criminals as a way to interrupt electrical power grid. Topics discussed include the compliance of European LED manufacturers to the electromagnetic interference (EMC) guidelines, the importance of LED safety standards, and the importance of testing radiated and conducted disturbances in LED systems. http://www.ies.org/lda/Digest/2015/September/pdf/Do_Cyber_Criminals_Have_Their_Eyes_on_the_Grid.pdf

8. ***The Amerlux and Enlighted LED Business Partnership -*** is focused on increased revenue via more functionality in SSL systems from Amerlux while delivering long-term cost savings for customers. Amerlux plans to integrate the sensors into the Linea, Gruv, Stellina, and Curvano luminaire families. The sensors include occupancy and ambient light detection, controls include dimming, and the implementation will enable data collection that can lead to more efficient buildings and even other applications such as security and space planning/utilization. http://www.ledsmagazine.com

9. ***Apple's New $5 Billion Headquarters in Cupertino, CA -*** One of the most interesting construction projects now underway. Designed by Foster + Partners, the new campus is scheduled to open in 2016 and includes many state-of-the-art green technologies (LED Lighting I would guess). This video was shot by a drone and uploaded on YouTube by Duncan Sinfield. This video is a bit unique in that the soundtrack is the voice of the late Steve Jobs, Apple's co-founder and CEO, from when he was pitching the project to Cupertino city officials. http://ewweb.com

10. ***Apple Rumored to Adopt OLED Displays in iPhone from 2018 -*** Following the announcement, South Korea LG Display has started to scale up production capacity in Paju, South Korea.. The report noted it will be difficult for Apple to secure panels to meet the demand for 200 million phones that the company ships globally every year, hence the U.S. company will offer OLED iPhones alongside with LCD screens. Apple has started to consult with display makers and suppliers of manufacturing equipment about OLED technology, and the companies will work over the next year to see whether they can eliminate OLED panels degrading brightness overtime and other drawbacks. Other reports named Samsung as the supplier of OLED screens for iPhone 8. http://www.ledinside.com/news/2015/11/apple_rumored_to_adopt_oled_displays_in_iphone_from_2018

11. ***NEMA Responds to IES TM-30-15 with NEMA LSCR-PP 1*** **-** The Illuminating Engineering Society (IES) recently published TM-30-15 *IES Method for Evaluating Light Source Color Rendition*. NEMA has produced a position paper, *Light Source Color Rendition*, in response to this document. Mark Lien, chair of NEMA Light Source Section and director of Government and Industry Relations at Osram Sylvania, Inc., said, "Our position paper addresses aspects of color quality and recommends a thorough vetting process. It also cautions about the inclusion of fidelity metrics in regulations that would limit customer options." Download at: http://www.nema.org/Standards/Pages/Light-Source-Color-Rendition.aspx

12. ***White-Tunable LED Lighting by Craig DiLouie*** **-** LED lighting can generate virtually any perceivable color as well as any shade of white light, all digitally controlled and selectable. Color output can be adjusted by mixing color LEDs, mixing white-light LEDs of different color temperatures, or a combination of the two. The key to achieving these effects is dimming. This allows, for example, white light to be tuned for mood setting, to match seasonable displays in retail, and to simulate or blend with daylight. It allows spectral output to be tuned to support plant growth, aquatic farming and wildlife sensitive to color in coastal regions. It enables the delivery of white light and color effects from the same lighting system as well as the ability to calibrate luminaire color output to a uniform standard initially and maintained over time. http://lightingcontrolsassociation.org/white-tunable-led-lighting/

13. ***Energy Use Reporting through Lighting Control Systems*** **-** CLTC, in collaboration with Sempra Utilities, developed a test methodology to evaluate the accuracy and reliability of onboard metering and system reporting features of advanced lighting control systems (ALCS). One of the features of networked lighting controls is the ability to monitor lighting energy use over time and adjust the system to achieve the best possible performance. Facility managers can match system use to expectations and adjust system settings to result in optimized user comfort while maximizing savings. Real-time energy monitoring offered by some control systems has also piqued the interest of utility program managers in locations in the U.S. where rebates assist with the accelerated adoption of emerging technologies. http://cltc.ucdavis.edu/article/energy-use-reporting-through-lighting-control-systems

14. ***CLTC Collaborates with Southern California Edison*** **-** CLTC, in partnership with Southern California Edison, recently kicked off a new project portfolio to assess controls, lighting, and daylighting technologies and their potential for commercial applications. The new projects will have elements of market assessment, EM&V, and selected demonstrations. The projects will focus on the following technologies:
    - Automated demand response for small commercial spaces
    - Advanced daylight harvesting solutions
    - LED track lighting

    http://cltc.ucdavis.edu/project/energy-efficient-lighting-systems-evaluations-commercial

15. ***Hard Rock Hotel RGB LED Project by FSG*** **-** Project profile of an installation by FSG of RGB LED fixtures and controller at the Float pool deck at the Hard Rock Hotel in San Diego. https://www.youtube.com/watch?v=P4FBMq1soIA&feature=youtu.be

Global LED EnergyWatch…

16. ***Global Lighting Fixtures Market to US $215.29 Billion by 2021*** - According to a new market report published by Transparency Market Research "Lighting Fixtures Market - Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2015 - 2021" the lighting fixtures market was valued at US $136.30 bn in 2014; and is expected to reach US $215.29 bn in 2021, at a CAGR of 6.9% from 2015 to 2021. Key opportunity of the global lighting fixtures market lies in retrofitting the traditional lighting fixtures with advanced LED & OLED lighting fixtures. Key players have also been profiled on the basis of company overview, financial overview, business strategies and recent developments in the field of lighting fixtures industry. http://globenewswire.com

17. ***Global Hotlist of 'Most Exciting' Lighting Firms Unveiled*** - The annual Global Hotlist of lighting companies that are setting the pulse of the market has been unveiled at a ceremony in Hong Kong.

Opple	**Kinetura**	**Gooee**
Zumtobel	**Acuity**	**Nanoco**
Cree	**GVA**	
Dyson	**Osram**	

http://luxreview.com/article/2015/10/-global-hotlist-of-lighting-firms-unveiled-

18. ***LED There Be Light in India*** - In January this year, Indian Prime Minister Narendra Modi launched an initiative to change the way India is lit up at night. The initiative—called the National Programme for LED-based Home and Street Lighting—sought to increase India's usage of LED lamps across homes and cities. Under the new scheme, the government wants to switch all the street lamps across 100 cities to LED lamps by May 2016. Now, 10 months after the launch, the programme is finally showing results. According to the Economic Times newspaper, the production of LED lamps in India has increased 30 times to 30 million units per month compared to last year. These lamps, the government believes, can save 100 billion KwH of electricity annually if they replace some 770 million conventional bulbs that India purchases annually. 11/16 Reuters

19. ***India to Cut Half of its Energy Bill with LED Streetlights*** India's Panaji state cabinet decided to switch all conventional streetlights to LED. The conversion will cost about US $13.9 million. The project will be executed by Energy Efficiency Services Limited (EESL) within six months, reported the Times of India. Conventional lights include high pressure sodium vapor lights, CFL and tube lights will be replaced by LED ones. EESL, a joint venture of Public Sector Undertakings (PSUs) of the Power Minister will cover the expense of the project. http://www.ledinside.com

20. ***India Making Mass Purchase of LEDs to Reduce Costs*** - India has made a mass purchases of LED lights with a current order for a few hundred million over three years, considerably bringing their cost down to distribute it among the rural population, US Energy Secretary Ernest Moniz has said. www.business-standard.com

21. ***UK County to Switch 16,000 Streetlights to LED*** - The current stage (2015-2016) for collection are reported at 5,600 with a further 2,800 fixtures estimated for collection and conversion by November 2015. Thus, approximately 12,000 streetlights are expected to be collected throughout the period from 2016 to 2017. The project is scheduled to be completed by March 2017. http://www.ledinside.com/news/2015/11/uk_county_to_switch_16000_streetlights_to_led_by_2017

22. ***LED Streetlighting to Save Gloucestershire £17 Million*** - Skanska has started work to install 55,000 energy-saving LED streetlights throughout Gloucestershire. The upgrade is expected to save around £17 million over the next 12 years. As part of a pilot scheme, the first LED lights in the £41 million upgrade programme were successfully installed in the village of Hardwicke. This new rollout, which starts 16 November, will cover all towns and villages in the county. The move to LEDs will help Gloucestershire County Council to meet its carbon reduction target of 60% by 2020/21. http://luxreview.com/article/2015/11/led-streetlighting-to-save-gloucestershire-17-million

23. ***Osram's Lighting Business Average Worth About $775.4M*** - The word was out last Friday that Osram is in the process of selling its lamp business, which comprises traditional lighting businesses and LED luminaires, with Chinese manufacturers showing the greatest interest in bidding for the German company's prized luminaire businesses. Financial institutes in China estimated the total value for Osram's Classical Lamps and Ballast (CLB) and its LED Lighting Solution (LLS) business varied widely, with the estimated mean for the two business combined at US $775.4 million. http://www.ledinside.com

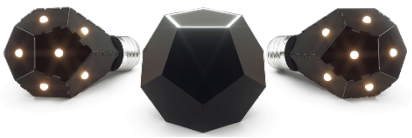
24. ***Osram to Invest Roughly $3 Billion in Future Growth Prospects*** - The shift in the lighting market toward semiconductor-based technologies is creating new growth opportunities. To this end, Osram will invest around $3.2 billion in new technologies and applications by 2020. Of this amount, approximately $2.15 billion will be spent on research and development in order to further strengthen Osram's technological leadership and to expand into new markets. Additionally, Osram has planned another $1.1 billion for the construction of a new LED chip plant in Malaysia. This is to unlock additional growth potential, in both the dynamic, technology-driven general lighting markets and niche markets, where Osram is already in a good position today. http://www.tedmag.com

25. ***Canada's Sixth Largest City Scales up LED Streetlight Replacement Budget*** - Several Canadian cities have announced plans to swap their old traditional streetlights for more energy efficient LED lights, but the country's sixth largest capital Mississauga, located in Southern Ontario underestimated the finance it would need. Initially, the Mississauga council aimed to replace 50,000 LED streetlights on a budget of US $ 20.98 million. The city council has since requested and was granted an increase of $5.25 million to finish the lighting installation, bringing the total retrofit value to $ 34.3 million. LED underpass lights were included in the latest budget increase, which was not available at the time of the tender. http://www.ledinside.com

26. ***Japan Energy-Efficiency Plan to Switch Off All Light Bulbs, Fluorescent Tubes*** - The government plans to phase out all incandescent light bulbs and fluorescent tubes by fiscal 2020 and light up the nation with highly energy-efficient LED. A rapid shift to LED light sources is expected to occur when light bulbs and fluorescent tubes are no longer imported and domestic stocks run dry. But the policy could also put a strain on households and businesses by depriving them of the option of buying inexpensive light sources.
http://ajw.asahi.com/article/behind_news/social_affairs/AJ201511260040

LED TechnologyWatch…

27. Nanoleaf's Smart Lighting You Can Control Using Your Voice. "Siri, Turn On All My Lights" - Nanoleaf puts the light-emitting diodes on the outside of the bulb. They're unlike anything else on the market, they're unabashedly nerdy.. Now, Nanoleaf's jumping in with Apple HomeKit and debuting a new, connected version of its funky-looking light. The new bulb is called the Nanoleaf Ivy, and you'll get two of them along with a hub to control them for $100 -- or $80, if you catch the early-bird pricing on Indiegogo. The Ivy LEDs communicate using built-in ZigBee radios, a common standard for connected lighting products that's also used by Philips Hue and by generic standalone smart bulbs like the GE Link LED and the Cree Connected LED. http://nanoleaf.me/



28. The BeOn Bulb Wants to Help Protect and Serve in the Event of Burglars and Power Outages - As far as smart light bulbs go, the BeOn is pretty unique, even if it doesn't change color or sync with apps to put on a show. For now, it's primarily aimed at safety and security. The bulbs' ability to turn on when their microphones pick up the sound of your doorbell is one of BeOn's security features; but of course, it doesn't have a way to differentiate between a burglar and a benign visitor. The hollowed-out bulb fits a tubular yellow module that houses a battery, microphone, and Bluetooth radio. When you slide in the module, the bulb lights up even when it's nowhere near a lamp, thanks to the battery. So if your power goes out, you should still get four hours' worth of light out of them. The microphone listens for the doorbell or smoke alarm and will light up in either case. The bulbs cost $75 each, and you can get a three-bulb starter pack for $199. http://www.digitaltrends.com/home/the-beon-bulb-uses-battery-power-during-power-outages/

29. Sylvania Automotive Lighting Adds to ZEVO LED Lighting Line Sylvania Automotive Lighting Sylvania Automotive Lighting has added to the Sylvania ZEVO® Automotive LED Lighting line. The ZEVO Automotive lighting line allows auto enthusiasts to create a more distinctive appearance on their vehicles. The latest additions to the ZEVO LED Lighting line include the PULSE and HYBRID. PULSE and HYBRID add color and interaction to headlight assemblies. PULSE and HYBRID can be controlled through Bluetooth® technology. The company also expanded its portfolio of the ZEVO mini replacement bulbs to include a larger portfolio of lighting products for the interior and exterior of a vehicle. http://www.solidstatelighting.net/sylvania-automotive-lighting-adds-to-zevo-led-lighting-line/

30. ***Acuity Brands Mainstream Dynamic*** **-** a simplified, holistic dynamic solution that brings features once reserved for theatrical and architainment lighting to mainstream applications. This new Mainstream Dynamic system integrates exciting dynamic features with traditional forms and scalable control networks, enabling designers and architects to transform everyday spaces. Features include: Warm Dimming, which recreates the inviting feeling of incandescent sources that warm as they are dimmed; Tunable White, white light that shifts seamlessly between color temperatures; and Architainment Color, which takes the classic dynamic lighting effects so often seen in themed or theatrical settings and makes them accessible for commercial applications. Acuity has made it simple by offering you a complete solution that is easy to install, configure and maintain in mainstream applications. http://www.acuitybrands.com/products/lighting/featured-technology/mainstream-dynamic https://www.youtube.com/watch?v=x1FNHCEeots

31. ***Forest LightingT8 LED Lamp*** **-** The Forest Lighting T8 LED Lamp is designed to perform efficiently in places where old-fashioned fluorescent lamps had been used and may now be installed in sanitary locations including food products manufacturing facilities, food preparation kitchens, and food serving areas. The T8 LED tubes incorporate integral drivers, so out-moded failure-prone fluorescent ballasts are eliminated. Lighting systems are simplified. Forest Lighting T8 LED Lamps connect directly to line voltage for easy installation and are offered in two lengths and four color temperatures. Specs: 2 & 4 feet; 3000K, 4100K, 5000K, 6000K; 80+ CRI; 100 LPW; 50,000 hrs; 12W (2'), 19W (4'). http://forestlighting.com

32. ***Sylvania Automotive Lighting Adds to ZEVO LED Lighting Line Sylvania Automotive Lighting*** Sylvania Automotive Lighting has added to the Sylvania ZEVO® Automotive LED Lighting line. The ZEVO Automotive lighting line allows auto enthusiasts to create a more distinctive appearance on their vehicles. The latest additions to the ZEVO LED Lighting line include the PULSE and HYBRID. PULSE and HYBRID add color and interaction to headlight assemblies. PULSE and HYBRID can be controlled through Bluetooth® technology. The company also expanded its portfolio of the ZEVO mini replacement bulbs to include a larger portfolio of lighting products for the interior and exterior of a vehicle. http://www.solidstatelighting.net/sylvania-automotive-lighting-adds-to-zevo-led-lighting-line/

33. ***New RXT Series of Xicato LEDs from Times Square Lighting*** **-** Constant advancements in driver technology allow us to refine our housings by making them smaller and sleeker than ever. http://tslight.com/?s=RXT

    - 1300 & 2000 Lumen available now
    - 50,000 Hour LED life
    - Dimmable options
    - Integral electronic driver
    - Snap-in reflectors 20º, 40º & 60º available
    - Choice of color temperature: 2700, 3000, 3500 or 4000

34. Green Creative PAR38 HID Replacement - This TITANIUM LED SERIES PAR38 HO has been designed and engineered for demanding commercial applications and to run on universal voltage 120-277V. At just 19W, this LED lamp replaces a 250W halogen and 39W CMH; emits 1775 lumens in warm white and over 10,000 candela in a Warm White CCT. Featuring a sleek body and full face lens, this high-performance lamp is ideal for track and downlighting applications. http://gc-lighting.com

35. The Smart Ario Lamp Will Keep Your Brain On Schedule and Make Your Day - According to Ario, our daily light exposure has serious implications for "sleep, mood, immune system, weight management, and overall well-being." Basically, certain light temperatures trigger our brains to release certain hormones -- a cool biological trick that helps us wake up or prepare for sleep. But the artificial lights that so many of us work under every day can pose a serious problem by sending misinformation to our brains' sensors. The Ario Lamp is different from other lamps, though, in that it learns your daily schedule using algorithms much like the Nest Learning Thermostat's. It uses this information to light your home in a way that keeps your brain working to the right time. The Ario Lamp will have about three times the brightness of a 60-watt bulb, emitting up to 2,400 Lumens, all for $400 with many smart light bulbs clocking in well above $50. https://www.kickstarter.com/projects/arioliving/ario-smart-lighting-better-health?ref=discovery

36. Amerlux Chaperone LED Indirect Luminaire for Garage Applications - The new Amerlux Chaperone is transforming dark, uncomfortable parking environments into safe, pedestrian-friendly venues with high levels of visibility and safety in an elegant style. Crisp and attractive, Chaperone LED Indirect Garage Luminaire greatly reduces glare, giving the comfort of indirect lighting and incorporating significant cost efficiencies for building owners. "Chaperone is a game changer in not only style but in performance within the garage luminaire category, rendering the older sodium, fluorescent and metal halide luminaires obsolete," explains Amerlux CEO and President Chuck Campagna. "This new, attractive LED fixture provides substantial levels of safety, security and visibility that building owners, pedestrians and motorists require at top-level parking facilities." http://www.amerlux.com/products/exterior/garage-lighting

37. ***Universal's EVERLINE® LED Retrofit Kit*** **-** Simplifies the transition from fluorescent to LED. Linear fluorescent technology represents an estimated 80% of the installed equipment and 72% of total annual energy consumption for commercial lighting making it the perfect candidate to upgrade to LED with a retrofit. Universal's energy-saving and cost-effective EVERLINE® Retrofit Kit converts a 2', 4', or 8' fixture to LED lighting. Each EVERLINE Retrofit Kit consists of: (2) or (3) LED EVERLINE® Lensed Modules / Light Bars; (1) LED EVERLINE® Driver (0-10V dimming); Wiring Harness; Installation Hardware. http://unvlt.com/pdf/literature/brochures/EVERLINE-Retrofit-Kit.pdf

38. ***GE's Intelligent Streetlight Comes to NYC*** **-** Connecting a city to the Industrial Internet drives the change that can help turn challenges into opportunities. From parking optimization to more efficient emergency responses and more, the possibilities are endless. Imagine if your street light could do more than just provide light… if it could identify hazards in the roadway and deploy city crews… if it could help sense an entire environment and create the data a community needs. Your community's streetlights are the real key to creating a wide-ranging, low-cost communications system. Imagine this: You head out for dinner at a popular new restaurant in a hip part of downtown on a busy Saturday night. Before you leave home, you know the fastest route there and find an open parking spot immediately. Brilliant lighting from Current, powered by GE can lead to a more informed community. Learn about intelligent cities here: http://www.currentbyge.com/brainycity Watch the video: https://www.youtube.com/watch?v=rWcffadDNdM

National EnergyWatch…

39. ***IES Publishes 2015 Edition of Fundamentals of Lighting*** **-** The Illuminating Engineering Society has updated "Fundamentals of Lighting," its core knowledge course, with a new 2015 edition. It is now a set of ten modules in PDF format for use by instructors to develop an introductory course on lighting. Each module includes textual material (text and slides with instructor notes), student slide handout note-taking pages, quizzes, answers to quizzes, administrative guidelines, and additional references. Previously seven modules, the course includes expanded material including new technical and design updates. http://www.ies.org/store/product/fundamentals-of-lighting-instructor-version-now-in-pdf-5367.cfm

40. ***Disintermediation Strategy: A Fact of Our New Lighting Life by Chris Brown*** **-** The recent discussions regarding disintermediation should be stirring conversation on how distribution deals with a fact of our new lighting life: Some manufacturers will choose to (or feel forced to) deal directly with our end users. Disintermediation is here, and we need to deal with it. There is some inevitability at play here. Some users demand it and some manufacturers offer it. And more will feel forced to sell direct in the future. Planning for this creates an opportunity to focus on the two key distribution relationships, our vendors and our clients. **Distribution must constantly search for new ways to add value (and be prepared to prove it).** But what does "adding value" actually mean… http://www.tedmag.com/News/features/Disintermediation-Strategy-A-Fact-Of-Our-New-Lighting-Life.aspx

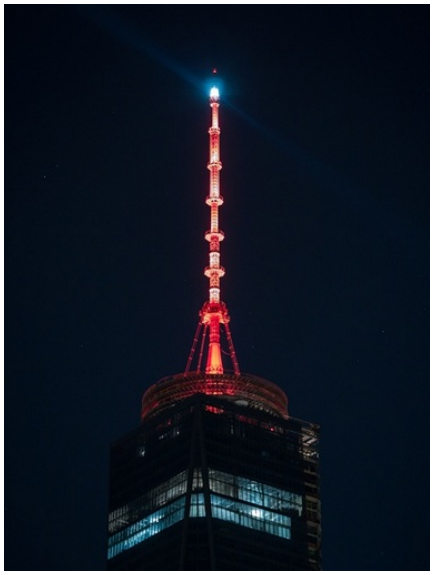
41. ***Channels and Complexity By Ted Konnerth, Egret Consulting Group*** **-** There's a lot of buzz about disintermediation lately and most of it is directed towards Lighting. And there is a very good reason why Lighting takes the brunt of it…. It's the most complex electrical product vertical. I've often said that Lighting is the only product that has 300M individual US specifiers. The breadth of the vertical is also massive: lamps, controls, ballasts and fixtures lead to multiple channels of buying influences. The future of lighting will require a new look at the category of meaningful buying influences, and hence the establishment of new rules of engagement for industry partnerships. Distributors aren't going away; they have a meaningful and impactful role in the efficient transfer of goods in the country. But distributors have to adapt to the changes. In short, I propose that we throw away the discussion of disintermediation and replace it with a discussion on establishing the new definition of lighting distribution. Let's talk about lighting solution providers and create support for innovative approaches to selling lighting, profitably. http://www.lightnowblog.com/2015/11/konnerth-on-channels-and-complexity/

City & State EnergyWatch…

42. ***EPA's ENERGY STAR Announces Top Cities List*** **-** The U.S. Environmental Protection Agency (EPA) released its seventh-annual list of the top 25 U.S. metropolitan areas with the most Energy Star certified buildings in 2014. EPA's Energy Star Top Cities list shows how cities across America, with help from Energy Star, are embracing energy efficiency as an effective way to save money and reduce greenhouse gas emissions that fuel climate change. The top 5 cities: http://www.energyvortex.com

Rank	Metro Area	2014 Building Count
1	Washington, DC	480
2	Los Angeles	475
3	Atlanta	328
4	New York	299
5	San Francisco	292

43. ***One World Trade Center Wins 2015 Lighting Controls Innovation Award*** **-** The massive spire atop 1WTC is illuminated along its full 408-foot span, culminating in a rotating beacon at the top. That beacon, designed to be reminiscent of a light house, was originally anticipated to feature xenon lighting, as LED technology of the time was insufficient. However, the lighting team ultimately collaborated with manufacturers to develop an LED solution that increased energy efficiency and allowed for safer, more cost effective maintenance. Together they delivered a custom beacon array featuring 50w LED modules designed to fit inside a glass capsule sitting at the top of the 1776-foot spire. The slew bearing motor assembly within the capsule allows the mirror to rotate 1.5 times per minute and output over 300,000 lumens on two opposing directions. Along the spire as a whole, the final uplight design includes (124) state of the art LED color-changing fixtures. http://lightingcontrolsassociation.org/



44. ***Binghamton, New York Kicks Off 7K LED Streetlights Switch*** - Several test LED lights were installed in the city earlier in mid- 2015. The project will cost US $4 million but the energy and maintenance savings will offset the expense in the long run. The project is expected to be completed in early 2016. Johnson Controls is managing installation of LED bulbs. The firm is completing its review and study of all municipal lighting, which includes GPS mapping of all municipal street lights, calculations and analysis to determine energy savings and LED replacement review, including new fixtures or retrofits. In addition to converting street lights, Johnson Controls is exploring LED technology for the City's parking garages and bridges. http://www.binghamton-ny.gov/mayor-david-kicks-led-street-light-installations

45. ***Horseheads, NY to Buy Street Lighting from NYSEG*** - The NY State Public Service Commission (Commission), as part of its continuing effort to lower municipal energy costs across the State, today said it had approved separate requests to sell utility-owned streetlights to three municipalities: Town of West Seneca (Erie County); the Village of Horseheads (Chemung County); and the Town of Clarkstown (Rockland County). With the change in ownership, the municipalities take control of the lighting on their own streets and have the opportunity to install their own state-of-the-art LED energy efficient lights to lower costs to taxpayers and protect the environment, if they so choose Approximately 1.4 million municipal streetlights across the State have the potential to be addressed by a strategic street lighting strategy. http://www.mytwintiers.com/news/local-news/horseheads-to-buy-street-lighting-from-nyseg

46. ***DOE Publishes GATEWAY Report on High-Mast Lighting at Philadelphia International Airport*** - This report documents a trial installation of LED apron lighting that replaced the existing high-pressure sodium luminaires at Philadelphia International Airport. Such high-mast applications remain challenging for LED technology, and the lessons learned from this project may help facility managers and LED product manufacturers better meet those challenges. Energy savings between 24.5% and 51.5% were calculated. http://energy.gov/eere/ssl/gateway-demonstration-outdoor-projects

47. ***Pittsburgh-Based TEN Takes Client-Centered Approach in Energy Efficiency*** - When municipal leaders in Harrisburg decided to replace the financially ailing city's network of inefficient streetlights with LEDs -- all 6,127 of them -- international firms came to town offering their name-brand services and products. The team from The Efficiency Network (TEN), the least-known candidate for the contract, was the only bidder that offered options, including samples from different manufacturers that city workers could try out and choices in equipment. In addition to the Harrisburg job and a five-year master contract with Temple, TEN is finishing a $3.7 million project at Community College of Allegheny County South that could lead to work at its other campus. 10/27 The Pittsburgh Tribune-Review

48. ***Alabama University's Stadium to Be Upgraded with LED Lighting*** - The University of Alabama's Sewell – Thomas Stadium will soon make history as one of the first NCAA baseball fields lit with an LED light source. Familiar with Musco's innovative lighting solutions, the University of Alabama has installed Musco's lighting systems at several venues on campus including its tennis facility and the Sam Bailey Track Stadium. Musco's Light-Structure Green™ system using an LED light source provides many benefits for players, spectators, and television broadcasts. 10/30 AP

49. ***Georgia Power Lighting Initiates LED Streetlighting Project in Ohio City*** **-** Georgia Power announced it has rolled out a LED lighting upgrade for approximately 12,500 high pressure sodium lights in City of Columbus in Ohio. The upgrades are part of Georgia Power's statewide initiative to upgrade 400,000 streetlights with LEDs in the future. Georgia Power Lighting service will manage the lighting project, which specializes in commercial, industrial and residential outdoor lighting. 10/30 AP

50. ***Avista to Replace 30,000 Streetlights with LED Lights in Washington and Idaho*** **-** Avista is on track to upgrade 3,000 of its streetlights in Washington by the end of 2015 and expects to launch the program in Idaho in 2016. In addition, the company is also participating in the Relight Washington program which was recently launched by Washington State's Transportation Improvement Board (TIB). Through the Relight Washington program, funding is provided directly to small cities owning their own streetlights, helping them convert to LED lights and benefit from the energy saving technology. As part of the program, Avista will help administer a portion of the $6 million in statewide TIB grants that will help qualifying small cities using Avista-owned streetlights benefit from LED technology. 11/04 MarketLine

51. ***Los Angeles Deploys Smart LED Streetlights with 4G LTE Wireless Broadband Coverage Capacity*** **-** Royal Philips announced that the City of Los Angeles (LA) will be the first city in the world to deploy 100 Philips SmartPoles – connected LED street lighting that includes fully integrated 4G LTE wireless telecommunications technology by Ericsson. The collaboration between Philips and Ericsson delivers on the latest Internet of Things (IoT) innovation and provides a double benefit to LA citizens: high quality, public lighting that is energy efficient as well as improved network performance in dense urban areas. http://www.ledinside.com

52. ***California Energy Commission Proposes New Regulations for LED Lamps*** **–** The CEC is holding a webcast on the new rules today, November 18, and will accept public comments on the proposed regulations through November 30. Under the new rules, MR16 and other small-diameter directional lamps will get heightened efficacy requirements while omnidirectional lamps will get new beam-distribution guidelines, and standby power limits for smart lamps. For both types of LED lamps, the CEC plans to offer the option of lower efficacy for high-CRI products. The new regulations for directional LED lamps will require efficacy of 80 lm/W by January of 2018. Or alternatively, the sum of efficacy and CRI must be 165 or greater. That means a 95-CRI lamp would meet the guidelines at 70 lm/W. http://www.energy.ca.gov/calendar/index.php?com=detail&eID=2502

53. ***Walmart Great Value 10W LED Light Bulb*** LED light bulbs hit a new milestone this year, with 60W replacements selling for less than $5, no rebates necessary. One of those low-cost options can be found on the shelf at Walmart. Sold under the "Great Value" brand name, the bulb is a dimmable, costs just $4.88 apiece and it promises a longer lifespan of 25,000 hours. Yes, it dims, but it doesn't dim particularly well, and failed to go much lower than 20 percent brightness. It also flickered a fair amount at those lowest settings, which might be another deal breaker if you like the lights down low. http://www.cnet.com/products/walmart-great-value-10w-led-light-bulb-60w-equivalent/

Monthly Special Feature… *CONNECTED LIGHTING SYSTEMS -*

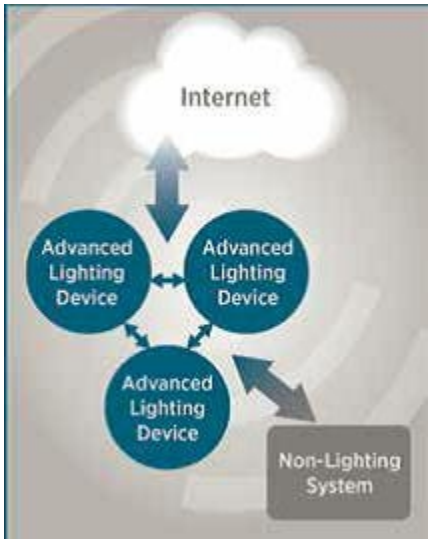
SSL technology is evolving from sources focused on a one-dimensional commodity (i.e. producing light) into multi-function devices that also produce and exchange data. SSL's microelectronic nature makes it possible to integrate one or more sensors and network interfaces and leverage increasing levels of integral intelligence to drastically improve the energy performance of lighting and other building systems. Such connected lighting systems have the potential to also impact human productivity, health and well-being, as well as create new sources of revenue.

As SSL technology matures, maximizing the energy savings from connected SSL systems will become increasingly dependent on successful integration into the built environment. A number of barriers must be overcome to realize the full potential of future lighting systems:

- Installation, start-up, and commissioning complexity
- Lack of interoperability between system components
- Limited ability to quantify and report performance and energy consumption

The DOE SSL Program is working closely with industry to identify the technology development needs of connected lighting systems, and collaboratively and efficiently address them.

LIGHTING SYSTEMS INTEGRATION



How a lighting system performs depends on how the devices that comprise it interact with one another, which in turn depends on their compatibility, interoperability, and interchangeability. These three characteristics are not the same.

- **Compatibility:** *The ability of two or more devices, applications, networks, or systems to coexist in the same physical environment – that is, operate without corrupting, interfering with, or hindering the operation of the other entity.*
- **Interoperability:** *The ability of two or more devices, applications, networks, or systems to reliably and securely exchange and readily use data with a common shared meaning.*
- **Interchangeability:** *The ability of two or more devices, applications, networks, or systems to be physically exchanged for each other and provide a defined level of identical operation without additional configuration.*

http://energy.gov/eere/ssl/connected-lighting-systems