ENERGY OBSERVER
A MONTHLY NEWSLETTER FROM AMERLUX®

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Five Effective Ways to Beat the Lighting Supply-Chain Challenge -
Jan. 14, 2022 Five effective ways to beat the lighting supply-chain challenge | LEDs Magazine

In a guest blog, Amerlux executive BILL PLAGEMAN shares secrets to success in meeting lighting customer expectations and maintaining supply.

High performance, superior controllability, and simplified installation used to be part of the buzzwords needed to close a sale. Phrases such as "beautifully designed aesthetics" and "exceptional value" wouldn't hurt, either. Certainly, all five of these elements are must-haves as LED lighting manufacturers continue to look for ways to drive revenue. But they're no longer what distributors and customers need to hear first. What is the magic phrase, then? — "Shipping now."

It's the hard-to-find offering that now beats all, the new way to delight customers. Today, if an LED lighting manufacturer says it can ship on time or close to on time, that speaks volumes. That company is making a bold promise very few manufacturers can keep. Extensive delays and longer lead times are rampant across the industry, thanks to global vulnerabilities and macroeconomic shifts, including escalating shipping costs, higher material expenses, raw material deficiencies, and component shortages.

The good news is there are signs that distributors, lighting designers, and end users can look for in LED lighting manufacturers to help avert supply chain and production disruptions without compromising quality or budget.

1. **They assemble products domestically.**
To help avert supply-chain shipping snarls, work with a manufacturer that designs and assembles all its fixtures domestically. That doesn't mean the manufacturer brings in and stocks the finished product, nor does that mean it assembles products onsite before tossing them into inventory. Instead, it indicates the manufacturer has a tremendous amount of physical space on hand to store raw materials. LED lighting manufacturers are incredibly flexible when they stockpile raw materials, not finished product.

Consider what many lighting manufacturers have regretfully done during this latest supply-chain squeeze: They committed a significant amount of material into a finished product, compromising their flexibility for incoming orders. The best lighting manufacturers are a step ahead and work differently. They have ample amounts of free raw materials to integrate into whatever product is ordered on the spot quickly.

2. **They ensure quality control.**
Manufacturers that produce and assemble their product lines under one roof guarantee another critical ingredient — quality control. Having all operations under one roof ensures the quality of the product, its production, shipping, and job sites. Similarly, co-located operations guarantee that the light fixture performs the way its spec sheet promised, and that quality is maintained throughout the product's lifetime.

3. **They stay in close contact with vendors.**
Lighting manufacturers that are shipping now learned early on about the supply chain management issues that were fast approaching by remaining in continuous close contact with their key vendors.
In many instances, customers warned that their supply stock was dwindling and that three-week lead times were quickly becoming five- or six-week lead times. When one customer gives such a warning, they all start sharing it. Cognizant of looming shortages in necessities such as raw materials and commodity products, leading manufacturers got ready for a long-term bottleneck by immediately stretching their financial flexibility and investing more in their inventory to meet forecasted demand. By getting the raw materials they needed to be produced and delivered beforehand, these LED lighting manufacturers did what few competitors could: They had their orders assembled and delivered on time and budget.

4. **They have an in-house engineering team.**
Lighting manufacturers can easily streamline design and assembly with an in-house engineering team when supply chain hiccups hold up much-needed material. For instance, manufacturers can design and produce products using alternate raw materials on the fly when they have an onsite engineering team. While competitors take additional time deciding next steps when certain parts from a vendor are unavailable, an in-house engineering team allows the best manufacturers to make quick, on-the-spot decisions about alternates from their existing supply chain and inventory to ensure quality and deadlines are met.

5. **They're a full-service project provider.**
Instead of buying from several manufacturers to complete a project, consider buying all your lighting solutions from a single, full-service provider. Working with a full-service project provider is particularly advantageous following a change in design or scope that leads to value engineering or supply chain obstructions. When this happens, a commodity-grade level product is frequently chosen as a quick replacement. Unfortunately, problems often ensue. Maybe the product was shipped in pieces, and the contractors didn't know which parts went together. Perhaps the product didn't install easily or wasn't the right fit. Ultimately, you spend more to fix these easily avoidable issues. A full-service LED lighting provider can remedy these hiccups before they catch on.

These recommendations require a tremendous amount of strategy from manufacturers. It's well worth it, though, making life easier for customers who have heard one too many times that their orders are in supply chain limbo.

They've had enough of that. In fact, they'll pay more to not hear it. That's why the best manufacturers continue to be problem solvers. Get to know our expert

BILL PLAGEMAN is the vice president of marketing and product development at Amerlux, an award-winning design-and-manufacture lighting company that is part of the Delta Electronics family of companies.

National LED Energy Market Observer:

1. **Five Effective Ways to Beat the Lighting Supply-Chain Challenge by Bill Plageman** - High performance, superior controllability, and simplified installation used to be part of the buzzwords needed to close a sale. Phrases such as "beautifully designed aesthetics" and "exceptional value" wouldn't hurt, either. Certainly, all five of these elements are must-haves as LED lighting manufacturers continue to look for ways to drive revenue. But they're no longer what distributors and customers need to hear first. What is the magic phrase, then? — "Shipping now." The good news is there are signs to help avert supply chain and production disruptions without compromising quality or budget. Five effective ways to beat the lighting supply-chain challenge | LEDs Magazine

2. **NEMA Publishes Standard to Test Robustness of LED Drivers** - NEMA's American National Standard for Lighting Equipment—LED Drivers Robustness (ANSI C82.15-2021) applies to hardware and microcontroller and microprocessor-based LED drivers. This American National Standard describes testing methods used to evaluate LED drivers' robustness or their ability to withstand specific stresses. The scope includes LED drivers that operate from supply sources up to 600 V and 50/60 Hz or DC applications. ANSI C82.15 is the first of its type developed by the ANSI C82 committee; it includes only limited-type tests in its first edition. ANSI C82.15-2021 is available on the NEMA website for $100. https://www.nema.org

3. **WHITE PAPER: NEMA Publishes the Origin and Use of Unified Glare Rating (UGR)** - This new white paper, NEMA LS 20001-2021 White Paper on Unified Glare Rating (UGR). explains the original intent, its proper uses, and common misuses. This white paper aims to prevent such misuse through education on the context of UGR and by demonstrating how erroneous use as a luminaire-specific qualification metric can lead to glare inaccuracies for lighting designs. Unified Glare Rating (UGR) is one of the few lighting metrics that practitioners use to model and design appropriate lighting to meet application and task visual needs. In the hands of a competent lighting designer, UGR can provide insight into visual comfort expectations when included as part of a complete lighting design because it incorporates room layout, luminaire layout, the task being performed, and surface reflectances. White Paper on Unified Glare Rating (UGR) (nema.org)

4. **Endeavor Business Media Announces the Launch of LightSPEC West and LightSPEC Midwest** -Two highly-targeted regional events providing lighting education and solutions for buyers and specifiers of commercial, architectural, industrial, and high-end residential and decorative lighting products, controls, and technologies. LightSPEC West 2022 will take place September 21-22, 2022 at the Magic Box @ the Reef in Los Angeles, CA and LightSPEC MidWest 2022 will take place October 4-5, 2022 at the flagship Hyatt Regency Hotel in downtown Chicago, IL.

5. **Only a Handful of Lighting Companies Participating at CES 2022 by Randy Reid** - Your humble editor has attended CES in prior years, but not this year as there are very few companies launching lighting products. Several companies backed out of CES due to COVID, and there is very little in the way of lighting launches. We are reading reports from the show and will continue to pass on anything we learn. There are thousands of cool products being launched and if we find any more new lighting related technologies, we'll let you know. Only a Handful of Lighting Companies Participating at CES 2022 - EdisonReport

6. **CASE STUDY: FSG's New York City Team Puts the Sparkle in The Summit at One Vanderbilt** -To complete the job on New York City's latest must-see destination, the project electrician, Fred Geller Electrical, turned to FSG's New York City team to handle the mission-critical lighting fixtures and state-of-the-art controls that would combine with towering ceilings and mirrored surfaces to create an unforgettable experience for visitors to The Summit at One Vanderbilt. Lighting fixtures and controls for everything at The Summit, including interior and exterior elevators, were provided by FSG. Even as additional lighting work was provided for other floors and showcase areas at One Vanderbilt, the primary focus for FSG was on elevating the design of The Summit with unbelievable lighting and effects. When The Summit opened to the general public on October 21, 2021, visitors were amazed by the design of the space, by the incomparable view, by the power of the art installation there, and by the lighting design and execution that ensured any visit to The Summit was one to remember. The Summit at One Vanderbilt - FSG Electric & Lighting

7. T**he Bulb Is Dead! Long Live the Bulb! GE Introduces Fancy New Ones** - At CES, new owner Savant continues to spruce up the old GE Lighting with connected smart products. GE Lighting this week announced 11 new ones, part of a raft of new smart products it rolled out at the annual CES consumer electronics show in Las Vegas. In keeping with the IT theme that now drives lighting vendors, the 11 LED bulbs were, of course, all of the intelligent variety, designed to change brightness and in some cases color in response to app controls. At its core, Savant is a software and controls firm but one with a flair for design. With that, GE has poshed up the look of Cync (C by GE is now Cync) with the 11 new LED bulbs, six of which fit the "decorative" category emulating filament bulbs with clear glass, and two of which are designed as recessed lighting for stylish fitting into ceilings. The bulb is dead! Long live the bulb! GE introduces fancy new ones | LEDs Magazine

8. **GE Current: Layoffs and Potential Relocation** - Since mid-2021, Current has been exploring various new office locations in the Cleveland, Ohio metro area. The company is currently headquartered at historic Nela Park in East Cleveland. A Current spokesperson informed us in August that the plan would be to keep some staff at Nela Park, including the training center, and find other office space in the metro area. In August, the nearby suburb of Beachwood reportedly approved incentives in the forms of grants and rebates when Current was eyeing a move to the Commerce Park section. Current tells us that they are "still on track" to close on the acquisition of Hubbell Lighting in the first quarter of 2022. GE Current: Layoffs & Potential Relocation (inside.lighting)

9. **Versalume, the World's First Laser Light Charge & Sync Cable** - Charge your Apple, Andriod, and Windows devices with a USB cable as seen on Kickstarter that pulses with vibrant laser light. Feature Versalume Laser Light Charge & Sync Cables in any low-light environment or take it with you at night as a decorative and safety accessory. Use it on the go with a USB battery charger or in your car charging outlet; this cable works with any AC adapter. You're sure to dazzle and impress with this expertly designed technology. Laser Light Charge & Sync Cable – Versalume

- Cable uses a "breathing feature" to show that the device is charging.
- Cable light stays on for 30 minutes while not actively connected to device.
- Cable blinks 5 times when device is charged or disconnected from power.
  Video: https://www.youtube.com/watch?v=Ev3_j2HYlx4

10. **What is LiFi?** - LiFi, also known as "Light Fidelity" is a wireless optical networking technology, which uses light-emitting diodes (LEDs) to transmit data. In 2011, professor Harald Haas made a LiFi demonstration at the TED (Technology, Entertainment, Design) Global Talk on Visible Light Communication (VLC). VLC uses light as a medium to deliver high-speed communication like Wi-Fi. LiFi is a high speed, bidirectional, and fully networked wireless communication of data using light. LiFi constitutes of several light bulbs that form a wireless network. When an electrical current goes through to a LED light bulb, a stream of light (photons) emits from the lamp. LED bulbs are semiconductor devices, which means that the brightness of the light flowing through them can change at extremely high speeds. The signal is sent by modulating the light at different rates. The signal can then be received by a detector that interprets the changes in light intensity (the signal) as data. Also when the LED is ON, you transmit a digital 1, and when it is OFF, you transmit a 0. https://www.youtube.com/watch?v=NaoSp4NpkGg

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2. They ensure quality control.
3. They stay in close contact with vendors.
4. They have an in-house engineering team.
5. They're a full-service project provider.

11. **Wholesale Prices Jumped Record 9.7 Percent in Past 12 Months** - Prices at the wholesale level surged by a record 9.7% in December from a year earlier, with inflation evident at all levels of the U.S. economy. The Labor Department reported Thursday that its producer price index, which measures inflation before it reaches consumers. Thursday's report came a day after the government reported that consumer inflation jumped 7% in December from a year earlier, the highest such inflation rate since 1982. The price increases at both the wholesale and retail levels have been attributed in large part to snarled supply chains at a time of surging demand. Wholesale Prices Jumped Record 9.7 Percent in Past 12 Months | Newsmax.com

12. **Hunter Fan Company Expands into Lighting** - Last month, Griffon Corporation announced that it was acquiring Hunter Fan Company from MidOcean Partners for $845 million. The transaction is expected to close this month. Hunter markets fans under the Casablanca and Hunter brands. This month, the company has formally introduced its new product platform, Hunter Lighting™. The company currently cites five Hunter Lighting™ product categories at: https://www.hunterfan.com/ 1)Chandeliers 2)Pendants 3)Flush Mounts 4)Bathroom Vanity Lights 5)Wall Sconces Hunter Fan Company Expands Into Lighting (inside.lighting)

13. **Vermont Weighs Banning Lamps Containing Mercury** - On the to-do list for the Department of Environmental Conservation in Vermont in 2022 is deciding whether or not to ban light bulbs that contain mercury (i.e. compact fluorescent, fluorescent, HID, non-LED UV). What makes the decision significant is, if it goes through, Vermont will become the first state in the country to ban lamps containing mercury; California's long-standing Proposition 65 is a "warning" on such lights, but not a ban. NEMA's response was that the only mercury-containing lamps with LED alternatives that "cost equal to or better" are screw-in CFLs. Linear fluorescent lamps, NEMA countered, would be too expensive to replace. The decision will then remain open for 30 days of public comment before taking effect. https://dec.vermont.gov/

14. **TRAINING: GE Current Renovates Its Institute Lighting Training Center** - GE Current, a Daintree company, opened its newly expanded Institute for lighting education in Hendersonville, NC. The learning center is designed to provide attendees with an educational experience that includes the latest in hands-on teaching tools and a large display of installed lighting and controls products. The Institute training classes will cover the full range of Current's product portfolios, including indoor, outdoor and roadway lighting and Daintree Wireless Controls. The Institute | Current (gecurrent.com)

15. **Long Island School Supplements Wi-Fi with Infrared Li-Fi** - Lawrence Woodmere Academy has installed Signify Trulifi 6002 LED infrared (IR) transceivers, but has not installed the luminaires that can be part of Signify's Li-Fi package. Woodmere worked through Elmont, NY-based June Lite, which served as the integrator on the project. June Lite said the school is using the Li-Fi at its new STEM (science, technology, engineering, and math) center, first in a robotics and gaming area, with the main computing room to follow. Li-Fi is the technology that transmits data to devices by modulating either light or IR waves rather than using the radio waves of Wi-Fi. Long Island school supplements Wi-Fi with infrared Li-Fi | LEDs Magazine

16. **New NEMA Standard for Street & Area Light Internal Energy Metering** -The NEMA published ANSI C136.52-2021. This new standard establishes acceptable metering performance criteria for LED drivers with built-in (integral to the driver) energy consumption measurement functionality for use in outdoor luminaire applications. It describes two metering device performance levels for roadway and area lighting applications: 2% Accuracy Class and 5% Accuracy Class. This standard is written for use by roadway and area lighting component manufacturers, municipal and regional governments specifying outdoor lighting solutions, and street lighting offices / bureaus. ANSI C136.52-2021 is available on the NEMA website for $70. New NEMA Standard For Street & Area Light Internal Energy Metering | LightNOW (lightnowblog.com)

17. **Lumileds Raises Efficacy for CrispWhite COBs, Adds New Cyan Rubix LED** - New white and color LED offerings address color rendering across applications from retail lighting to entertainment. Blue-green gap is filled for greater skin-tone fidelity. Lumileds recently added new chip-on-board (COB) LEDs in the Luxeon family that utilizes a patented technology to enhance brightness of whites and color contrast. The Luxeon 90- and 95-CRI COB LEDs improve upon the previous generations' output and efficacy. Just today, the LED manufacturer also released an eighth component in its Luxeon Rubix family of high-power LEDs — a cyan emitter in the tiny 1.4×1.4-mm form factor. Lumileds raises efficacy for CrispWhite COBs, adds new cyan Rubix LED | LEDs Magazine

18. **WHITE PAPER: NEMA LED Driver Measurements Ensures Customers Benefit from Smart-Enabled LED Driver Features** - NEMA LS 20003-2021 Standby Power Measurements for LED Drivers—Recommended Allowances for Feature Sets Other Than Lighting. This new white paper recommends standby power allowances, based on available features, for regulators to consider when setting limits on LED driver standby power. It was developed along with the test procedures contained in ANSI C82.16 and should be read together with it. This white paper was written for LED driver manufacturers and testing laboratories. NEMA LS 20003-2021 is available on the NEMA website at no cost as an electronic download.

19. **Five Trends Shaping the Residential Lighting & Control Industry by Joe Guellinitz** - In the residential market, homes evolved from places to live and relax to where we work, study, learn, watch first-run movies, and more. It appears this trend will continue even as the pandemic evolves. Electrical contractors have an opportunity to expand their business into the residential market – or to grow their residential business if they're already in it. Here are the top residential lighting trends for electrical contractors to watch in the new year and beyond in order to stay on top of the growing smart home market:

1. **Wireless Lighting Solutions**
2. **Labor Shortages**
3. **Smart Lighting**
4. **Vacation Homes**
5. **Landscape lighting**

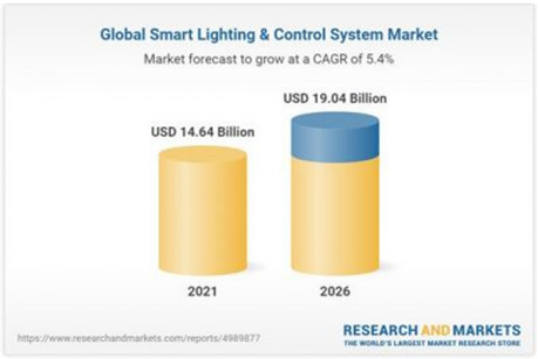
Five Trends Shaping the Residential Lighting & Control Industry | EC&M (ecmweb.com)

20. **Energy Efficient Commercial Buildings Deduction (179D) Made Permanent** - With everything going on with the pandemic in late 2020 and early 2021, few in the lighting industry noticed a major change to the Energy Efficient Commercial Buildings Tax Deduction, aka Section 179D. The Consolidated Appropriations Act, 2021 made the Energy Efficient Commercial Buildings Deduction a permanent part of the Internal Revenue Code while also raising the bar on energy efficiency standards. Section 179D deductions are now indexed for inflation for taxable years beginning after 2020. Baseline standards were raised to the most recently published ASHRAE standards. The CAA 2021 inserted a provision that provides an inflation adjustment for this deduction for years after 2020. This adjustment uses the C-CPI-U (Chained Consumer Price Index for All Urban Consumers), with the base year of 2019. Adjustments of the $0.60 or $1.80 per square foot deduction are rounded to the nearest cent. Energy Efficient Commercial Buildings Deduction (179D) Made Permanent | LightNOW (lightnowblog.com)

Global LED Energy Market Observer:

21. **NGOs Applaud Commission's Move to Turn the Mercury Lights Out in the EU** - The EEB and CLASP welcome the decision to adopt provisions that will phase-out compact and linear fluorescent lamps. Already by end 2019, a study by CLASP and the Swedish Energy Council proved that "91-93% of fluorescent light fixtures in Europe can accept LED retrofits". The European Parliament must now follow through this big step forward and allow rapid final adoption of a ban on these mercury inefficient lamps. at the next session of the Minamata Convention's Conference of the Parties in March 2022, to prohibit the manufacture and export of most fluorescent lights by 2025." To the regret of NGOs, progress towards phasing out other mercury added lamps, such as high-pressure sodium (orange streetlights) and metal halide lamps, has not yet been made. The amendments to the RoHS Directive will still allow these mercury-containing lamps to remain on the market for the next 3-5 years at a minimum. NGOs applaud Commission's move to turn the mercury lights out in the EU | LEDs Magazine

22. **RESEARCH: Global Smart Lighting Market to Reach $19 Billion by 2026** - A new report by Research and Markets estimated the size of the global smart lighting and control system market at US$13.95 billion in 2020 and projected it to reach US$14.64 billion in 2021 and US$19.04 billion by 2026, a CAGR of 5.31%. https://www.researchandmarkets.com/reports/4989877/smart-lighting-and-control-system-market-research#src-pos-1 The report answers questions such as:



1. What is the market size and forecast of the Global Smart Lighting & Control System Market?
2. What are the inhibiting factors and impact of COVID-19 shaping the Global Smart Lighting & Control System Market during the forecast period?
3. Which are the products/segments/applications/ areas to invest in over the forecast period in the Global Smart Lighting & Control System Market?
4. What is the competitive strategic window for opportunities in the Global Smart Lighting & Control System Market?
5. What are the technology trends and regulatory frameworks in the Global Smart Lighting & Control System Market?
6. What is the market share of the leading vendors in the Global Smart Lighting & Control System Market?
7. What modes and strategic moves are considered suitable for entering the Global Smart Lighting & Control System Market?

23. **Signify Unveils ONCE NatureDynamics** - The first dynamic lighting system to improve well-being, production of poultry. Gradual shifts in light color and intensity throughout the day optimize the chickens' circadian rhythm and reduce stress in chickens, improving their health and farmers' yields. The new lighting systems are brought to market under the name ONCE, Signify's animal lighting specialty brand. ONCE NatureDynamics helps farmers to adjust intensity, photoperiod, and spectrum in response to birds' needs, bringing nature's power to your growing facility. Based on research, these recipes provide the light levels, spectra, and timing parameters necessary for top-quality poultry production. They provide flawless daytime lighting and ramp-up and ramp-down periods that mimic dawn and dusk. Growers profit from perfectly calibrated lighting, hassle free. https://www.ledinside.com/node/32497

24. **Atrius® Building Insights Now Available Throughout Europe** - Atrius®, part of Acuity Brands, Inc., announced today Building Insights, a cloud-based solution energy management information system, is now available to organizations across Europe. Building Insights helps facility teams reach ambitious sustainability goals by design. The application streamlines access to energy consumption metrics, automates manual data management processes, and enhances visibility into overall building performance. Atrius customers in France, Germany, Norway, Spain, and the United Kingdom can now take full advantage of Building Insights capabilities, including the ability to integrate with local utility providers, personalize language within the platform, display local currency and costs, and specify metric or imperial as units of measurement. Atrius | Acuity Brands

25. **Kyocera SLD Laser Pumps Up the Li-Fi Speed** - Li-Fi's future looks increasingly headed away from LEDs and toward those other "light-emitting diodes" — lasers. The LED industry has had a tough time establishing its wares for Li-Fi — a Wi-Fi alternative that uses light rather than radio frequencies to transmit. Now, things just got more challenging, as a major vendor from the laser industry demonstrated a system that transmits 100 times faster than any LED demo. Kyocera SLD Laser (KSLD) showed a laser Li-Fi system at the recent CES exhibition in Las Vegas in which a transmitter delivered data at 100 gigabits per second. That trounces the 1 Gbps that LED Li-Fi pioneer pureLiFi has shown. While that's potentially good news in general for Li-Fi, it could help hasten the end of the LED approach. Kyocera SLD Laser pumps up the Li-Fi speed | LEDs Magazine

26. **A Review on Top 9 Ag-Tech Businesses Globally 2021** - With hopes of revolutionizing agriculture, the plant factory sector has recently thrived. An increasing number of its vegetable products have entered the consumer market. However, several problems facing plant factories, such as high costs, poor crop quality and a low level of smartification, have remained unsolved. Thanks to the rising demand for cannabis cultivation and establishment of plant factories, the horticultural LED lighting sector has grown year by year. In 2020, its global market size was worth $1.3 billion, 49% up from the year before, and it is expected to hit $4.7 billion in 2025 with a 2020-2025 CAGR of 30%. To explore the development status and trends of plant factories worldwide, LEDinside has summarized information on the top 9 plant factories in 2021, which can serve as a reference for related businesses. A Review on Top 9 Ag-Tech Businesses Globally 2021 - LEDinside

27. **Making the LED Switch: The Rise and Maturation of Sustainable LED Lighting by Jim Romeo** - Global management consulting firm McKinsey & Co., placed energy-efficient LED lighting technology as one of its top nine technological innovations for sustainability as we turn a corner into 2022. According to the forecast, "replacing traditional incandescent bulbs in American homes is expected to achieve 84% market share by 2030. According to Indian research firm Prescient and Strategic Intelligence Pvt. Ltd., the global LED lighting market was $55.2 million in 2020. They forecast the market will reach a whopping $152.4 million by 2030, with a compound annual growth rate of 10.7% from 2020 to 2030. Making the LED Switch: The rise and maturation of sustainable LED lighting | Electrical Contractor Magazine (ecmag.com)

28. **Four Belgian Schools Deliver Internet Via Infrared Li-Fi** - Signify providing IR transmitters for data service at all four. It has also installed luminaires for illumination in some of the locations. For the second time this month, Li-Fi has landed in the classroom, transmitting internet to pupils via infrared rather than via Wi-Fi's radio frequencies. This time, four elementary schools in Belgium have gone for it, and in so doing, have provided the industry some lessons on Li-Fi practicalities. In all four instances, the schools are dispensing with transmitting via visible light from luminaires. Instead, all four are using infrared (IR), part of the nonvisible spectrum of longer wavelength frequencies beyond visible red. Although visible light is indeed one way to transmit Li-Fi to computers and gadgets, Signify for one has now switched exclusively to offering IR only, the company told LEDs Magazine. Four Belgian schools deliver internet via infrared Li-Fi | LEDs Magazine

Monthly Feature:

Will Laser Li-Fi Leave LED in the Dust? by Carrie Meadows - That's a provocative question considering the lack of large-scale adoption of the communications technology thus far. But new projects and market intelligence indicate a growing interest.

While a combination of advances in LED optics, phosphor formulations, and architectures has enabled the steady uptake of solid-state lighting (SSL) with improved light quality, one of the key areas we have been watching is the application of light-emitting technology to scenarios that don't involve general illumination.

As many readers know, our Mark Halper has kept an eye on Li-Fi technology leveraging visible-light communications devices to transmit data and provide Internet or network connectivity, rather than the radio waves delivered by Wi-Fi.

Proponents say Li-Fi has the potential to increase data speeds, reduce the load on Wi-Fi networks, and implement more secure and consistent communications transmissions in transportation applications such as mass transit systems or passenger airplanes. According to market research firm Mordor Intelligence, the compound annual growth rate (CAGR) of wireless traffic has been 60% over the past 10 years. And the analysts forecast the Li-Fi market to grow at a CAGR of nearly 70% over the period from 2021–2026.

Although its emergence has been slow, it seems there is more room for optimism that Li-Fi will prove worth the investment. We may in fact see it become more aligned with connected systems in smart buildings, too, as ageing infrastructure is replaced and low-voltage power technology becomes more widespread. There's a convergence here between communications and energy efficiency needs we're going to keep watching.

Lots to learn in Li-Fi.....This past week, Mark tracked a school installation that uses infrared (IR)-based Li-Fi tech to supplement its conventional Wi-Fi connectivity. Integrator June Lite installed Signify Trulifi LED transceivers into luminaires at Lawrence Woodmere Academy but did not opt for visible-light SSL fixtures as part of the project scope.

Later in the week, Mark reported on a development from CES —a demonstration by Kyocera SLD Laser (KSLD) that transmitted data at 100 Gbps via a laser-based Li-Fi system. Now of course that was during a demo and not necessarily indicative of real-world results. But it's compelling; we could see laser technology take off in the long term instead of LED in this application, which is an idea that has legs with the likes of LED veteran Shuji Nakamura and Li-Fi pioneer Harald Haas exploring those avenues at KSLD.

CARRIE MEADOWS is managing editor of LEDs Magazine, with 20 years' experience in business-to-business publishing across technology markets including solid-state technology manufacturing, fiberoptic communications, machine vision, lasers and photonics, and LEDs and lighting.