Celebrating 50 Years of Made in the UK

It is a landmark year for Leviton Network Solutions. Our Glenrothes, Scotland factory and European headquarters has reached its Golden Anniversary. In 1972, Brand-Rex Limited was founded as a joint venture between the US-based Brand-Rex Corporation and British Enkalon to manufacture computer-based cabling. Several locations were evaluated before Glenrothes was selected as the platform upon which to grow a European business.

The computer industry was still in its infancy in those days and the "new town" of Glenrothes was part of what was then referred to as Silicon Glen, attracting many global high-tech companies to invest in Scotland.

50 YEARS MADE IN SCOTLAND

IN THIS **ISSUE**

## Connecting Smart Buildings
for Health and Wellness

Study after study shows a correlation between healthy work environments and less sick leave, higher productivity, and greater overall employee satisfaction. For these reasons, healthy building applications have become an integral part of today's smart building initiatives.

Building owners are continuing to make changes to workspaces that incorporate health and wellness initiatives — not only as a response to the Covid-19 pandemic, but as part of an ongoing long-term strategy to improve efficiencies, safety, and employee well-being. A 2021 survey of 400 firms by Johnson Controls found nearly 60% planned to invest more in healthy building initiatives. These initiatives include clean air efforts and facility systems for remote monitoring, safe access, and building automation.

LEVITON **POLL**

Which category rating cabling do you install for wireless networks?

CAT **6A** 73%

CAT **6** 24%

CAT **5e** 3%
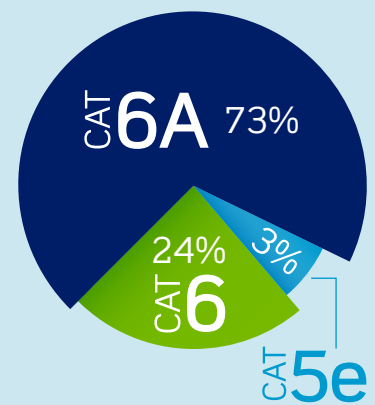
From a March 2022 survey of 200+ network professionals.

Celebrating 50 Years of Made in the UK

There have been many changes in the past 50 years, but today, Leviton Network Solutions continues to produce innovative cabling solutions for data centers, businesses, hospitals, schools, and government agencies from the expanded Glenrothes facility.

- **In 2011, the Scotland facility became the first data communications factory to achieve carbon neutrality,** with BSI PAS 2060 verification. We continue to improve our sustainability efforts, as environmental impact is considered at every step of our product development process, from material sourcing to final packaging and logistics.

- **In 2017, Leviton opened a new Data Center Factory** at the facility to make custom configurable pre-terminated cables and cassettes for rapid delivery, while further investing in staff and equipment to support the EMEA region.

As part of the 50th-anniversary celebrations, Leviton will be working charities to give back to the local community and thank the local workforce who have contributed to Leviton's success throughout the years.

With a rich legacy of stability and innovation, we are proud of our 50 years of connecting European networks and we look forward to serving you in the 50 years to come. Learn more about the Leviton Network Solutions UK manufacturing history and capabilities at **Levitonemea.com/en/50-years.**

Striving for Sustainability

We caught up with **Chloe Barnard, business development manager for Leviton Network Solutions**, to learn about what positive changes are happening in the industry to improve sustainability and reduce carbon emissions. Chloe builds and maintains client relationships in the UK from Leviton's London office.

Has sustainability become a bigger priority with customers for their network projects?

Absolutely. Sustainability is a huge focus for clients. This is particularly true for the London market, where there is a strong emphasis on more carbon conscious buildings. These efforts have been gaining momentum for some time, but the UN Climate Change Conference held in Glasgow in 2021 really put a spotlight on the UK for sustainability. Many UK companies are trying to lead the way in this area, and this kind of change has been really great to see.

What are some of the requirements you are seeing from customers?

Nearly every company I support today has sustainability goals, and each are unique. Many have requirements to understand their carbon footprint in an effort to reach net zero carbon emissions.

Additionally, there is a large focus on sustainable packaging and removing single use plastics. Some companies have stipulations for zero plastic packaging on the jobsite.

Ending plastic pollution is one of the major issues, as plastic production has risen exponentially in the recent decades, and nearly 11 million tons of plastic waste now in ends up in our oceans.

That amount is expected to triple by 2040, according to the United Nations Environment Program. The UN has introduced resolutions for reducing plastic pollution and initiatives with individual countries

How is Leviton specifically helping to support customer sustainability efforts?

Leviton's UK manufacturing plant is a carbon neutral facility and has been for more than 10 years. This allows clients to make more sustainable procurement choices. Environmental impact is considered at every step of Leviton's ISO 9001 certified product development process—from initial material sourcing to final packaging. We even produce our cable locally in Europe, reducing the associated carbon footprint with transport and logistics to our European customers.

We are able to provide detailed information on the embodied carbon of our products. This allows clients to understand the carbon impact of their infrastructure, providing the data required to help correctly offset emissions.

Leviton also has several green packaging options, including bulk pack jacks, brown plain cardboard, reduced ink content and recyclable cable box inserts. This is an important initiative for us, and we are always looking for ways to improve.

Learn more about Leviton's sustainability efforts at **Levitonemea.com/en/sustainability**.

Healthy Building Solutions

Occupancy

Occupancy sensors can measure flow of people and alleviate congested areas, or pinpoint areas that require more regular cleaning. Occupancy technology can also improve energy efficiency by controlling unused areas of a building — an increasingly important priority for office buildings with new work-from-home or hybrid workforce policies.

Occupancy analytics may leverage everything from passive infrared sensors to recognize there are people in a room, to Bluetooth low energy (LE) sensors that can actually count the number of people present. These solutions can monitor occupancy trends over time or create alerts in the case of overcrowding.

HVAC Controls

One of the biggest areas of focus for a healthy building is ventilation. It is important to remember that 87% of our time is spent in enclosed buildings, and numerous studies have found that poor ventilation rates directly lead to more instances of sick leave and absenteeism among building occupants. On the flipside, people in well-ventilated offices have double the cognitive function of those in offices with average levels of pollutants, according to a 2015 study by the Harvard School of Public Health.

HVAC controls can monitor air pressure to optimize airflow. They can also ensure there is no ingress of outside air to a specific area that is not filtered or controlled. In addition, humidity and temperature controls can optimize the environment for employees and improve productivity.

Intelligent Lighting

Lighting sensors can be programmed to adjust light levels depending on the time of day or use daylight harvesting to dim areas receiving sufficient natural light. This not only saves energy but has been shown to improve occupant comfort. Similarly, shade controls are also an intelligent solution that lets in more or less light through windows for a healthier working environment and better climate control.

Smart Monitoring of Air Quality

Indoor air quality sensors are being used to monitor CO_2 concentration as well as levels of volatile organic compounds (VOCs). Some gases from paints or chemicals used in factories can be carcinogenic to humans, and monitoring VOCs has become an important function in factory facilities.

Disinfectant Technology

Automated disinfectant technology has been introduced that uses ultraviolet light to disinfect surfaces of bacteria or germs. These UV light irradiation systems require areas to be unoccupied, and often work with a building's occupancy sensors to only activate when no one is in the area. While once targeted mainly for healthcare facilities, interest in UV disinfectant technology has expanded to other types of buildings environments as a result of the pandemic. In HVAC ducting, UV lighting or "fogging" disinfectant systems can be used to combat airborne illnesses.
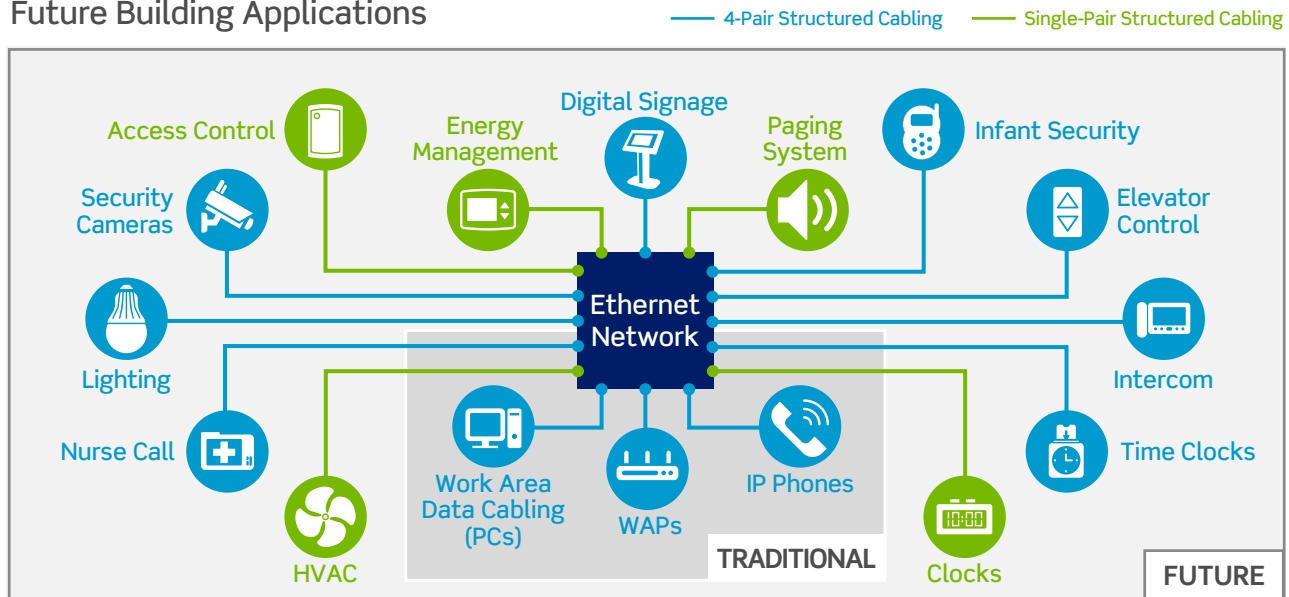
Connectivity for Smart and Healthy Buildings

Connectivity is an essential part of a smart building: No intelligent system can be controlled or optimized without the right connectivity in place, as it is critical for delivering all the information from data input devices to the actuators, switches, system controls, and system software.

Today, 4-pair Ethernet cable is ubiquitous in traditional enterprise networks for Voice over IP phones, wireless access points, and desktop computers. It will continue to be used in the future to connect smart and healthy building technologies, and many of the core applications that connect to the LAN. While 4-pair Ethernet can be found in some building management systems today, historically many of these systems have relied on non-Ethernet protocols such as RS485, Fieldbus, or BACnet. These protocols may be replaced by Ethernet in the future with the introduction of single-pair Ethernet (SPE).

SPE is still in the developmental stage, but it shows potential for use with building automation and IoT devices that require lower data rates. It is likely that SPE cabling will not replace existing 4-pair Ethernet-based devices for applications such as Wireless Access Points or IP cameras but will provide supplemental Ethernet-based connections to systems and devices that were previously proprietary or stand-alone. Similarly, it will create a much easier and cost-effective integration of Fieldbus building automation devices, which currently require proprietary gateways and proprietary cabling systems.

Future Building Applications

—— 4-Pair Structured Cabling   —— Single-Pair Structured Cabling

Access Control · Security Cameras · Lighting · Nurse Call · HVAC · Work Area Data Cabling (PCs) · WAPs · IP Phones · Energy Management · Digital Signage · Paging System · Clocks · Infant Security · Elevator Control · Intercom · Time Clocks · Ethernet Network · TRADITIONAL · FUTURE

Get Guidance

With so many considerations, network cabling specification and technical experts are more important than ever when undertaking infrastructure upgrades. They can provide guidance on the right network designs, intelligent building standards, and appropriate cabling and connectivity for specific PoE enabled smart devices.

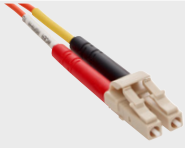Learn more about this topic in the Leviton White Paper **Networked for Wellness**.
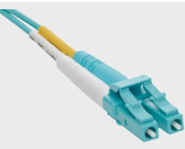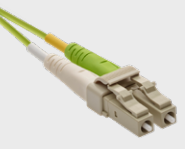
Recognizing Fiber Type By Color

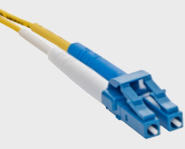**Color-coding is a big help when identifying individual fibers, cable, and connectors.** For example, cable jacket color typically defines the fiber type, and can differ based on mode and performance level. These colors are typically chosen by industry standards bodies. The chart below designates fiber types for multimode and single-mode.

- OM1 cable jackets are orange, but some legacy OM1 cable for military applications may be slate (gray) in color.

- As shown in the table below, you may encounter two colors for OM4. Industry standards specified OM4 as aqua — the same color as OM3. Many manufacturers came up with their own designation color of erika violet (known as heather violet in Europe) to avoid confusion when OM3 and OM4 fiber cabling is used in the same environment.

- Identifying single-mode is easier, as there are less generations of fiber to identify. However, you may encounter green single-mode connectors that designate Angled Physical Contact (APC), where the endface is polished at an eight-degree angle.

Learn more about fiber cabling and connectivity in our **Data Center Interactive Handbook**.

Cable Type	Jacket Color		Connector / Adapter Color		Example
OM1		Orange		Beige	
OM3		Aqua		Aqua	
OM4		Aqua		Aqua	
		Heather Violet		Heather Violet	
OM5		Lime Green		Beige	
OS1a / OS2		Yellow		Blue	
OS1a / OS2 (APC)		Yellow		Green	

INDUSTRY

IN APRIL 2022, the International WELL Building Institute launched the WELL Performance Rating, which helps building owners create a roadmap for using intelligence to improve well-being and building performance. You can learn about a number of assessment programs available for smart buildings in the Leviton webinar **Smooth Sailing: Best Practices for Planning a Smart Building**.

PRODUCT
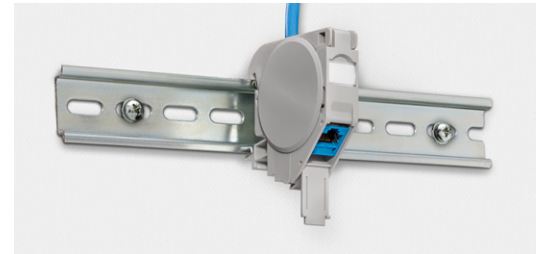
The new **Universal QuickPort® DIN Rail Module** is an economical and compact option for deploying QuickPort® data jacks and adapters in industrial cabinets and telecommunication rooms. This single-port space saving solution increases flexibility, eases network deployment, and reduces space required in telecommunications rooms. The module is sold in paper-based and fully recyclable packaging to reduce job site and landfill waste.

YESTERDAY'S NEWS

2002 – 20 years ago, 10 Gigabit Ethernet Fiber for LAN was introduced in IEEE 802.3ae-2002. It took just four years for 10 GbE speeds to reach the market after 1 GbE introduced in 1998.
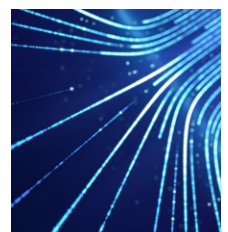
TECH TIPS

Use Color-Coding to Improve Network ID

Color-coding is an effective method for network identification. It helps reduce errors during moves, adds, or changes, and can also add character when used to match corporate or school colors. Leviton offers a range of color-coding options, including new Patch Cord Color Clips. The clips attach to Leviton Cat 6A patch cord boots without impacting patching density and can be used with Leviton Atlas-X1® jack icons to provide an additional option for network identification.

- Patch Cord Color Clips are available in four colors and accept Atlas-X1 Icons

- Clips attach to Leviton Cat 6A patch cords with a compact plug and boot design (H6A10, 6AS10, AC6PCF)

- Icons are available in 13 colors, with markings for Voice, Data, and AV

- Atlas-X1 jacks are available in 13 colors and accept Atlas-X1 Icons

Learn more about your **color coding options**.

ASK THE EXPERTS

Wi-Fi 6 vs. 6E

Q: What are the main differences between Wi-Fi 6 and Wi-Fi 6E?

A: The main difference between the two is an additional frequency band of 6 GHz available with Wi-Fi 6E. Wi-Fi 6 is the latest 802.11ax standard and operates in the 2.4 GHz and 5 GHz bands, and Wi-Fi 6E adds 6 GHz for improved speed and capacity. Learn more about Wi-Fi 6E in our **recent webinar**.

Questions? Comments? Ideas?

We want to hear from you! Email: crosstalk@leviton.com