

Dracula Technologies Unveils LAYER®Vault at CES 2024, Redefining Energy Autonomy in IoT Electronics

*A Groundbreaking Alternative to Batteries
Combining Low-light Energy Harvesting
and Electrical Storage*

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[/EINPresswire.com/](https://www.einpresswire.com/) -- Dracula

Technologies, a pioneer in harvesting energy from indoor light, is introducing LAYER®Vault at CES in Las Vegas. This groundbreaking technology, the world's first of its kind, seamlessly combines low-light Organic Photovoltaic (OPV) energy harvesting and electrical storage on a single flexible film. LAYER®Vault is set to revolutionize the electronics industry by providing a sustainable and cost-effective alternative to traditional batteries, enabling unprecedented energy-autonomy for IoT and ultra-low-

power products. This marks a significant milestone for Original Equipment Manufacturers (OEMs), device makers, integrators, and IoT solution providers, simplifying design processes and reducing the Total Cost of Ownership (TCO).

Many electronic device manufacturers are confronted with the imperative to eliminate batteries from their product design due to both environmental challenges and time-consuming battery replacement costs. The primary challenges in deploying large-scale battery-powered operations and solutions can be summarized in terms of integration, operational scale, and regulation, each of which can incur substantial costs. This situation is particularly pressing for real estate companies and building servicing firms, as they grapple with the challenge of ensuring the longevity of devices and the need to reduce the overall TCO for devices like presence sensors, temperature sensors, and humidity sensors.



LAYER®Vault combines low-light OPV energy harvesting and electrical storage on a single flexible film

Brice Cruchon, CEO and founder of Dracula Technologies, expresses the company's vision, stating, "At Dracula Technologies, we're dedicated to revolutionizing battery-based electronics with a 100% sustainable energy source. LAYER®Vault provides a genuine solution for eco-friendly energy autonomy, already proving its worth in IoT deployments where eliminating batteries is crucial for large-scale success." Cruchon further emphasized, "With our new [Green MicroPower Factory](#), the largest in Europe, a fully automated facility equipped with inkjet printing technology, we are set to produce up to 150 million cm² of OPV devices annually and positioned to serve high-volume IoT customers."



Dracula Technologies' organic photovoltaic technology is an excellent complement to sensors based on the LoRa® communication protocol. Recognized as the de facto wireless platform for IoT, [Semtech's](#) LoRa® stands out for its long-range capabilities and low-power features. Semtech Corporation is a high-performance semiconductor, IoT systems, and cloud connectivity service provider, and a strategic partner and investor in Dracula Technologies. Robert Comanescu, Semtech's Wireless ICs Marketing and Applications Senior Director, expressed his enthusiasm, stating, "With this technological breakthrough, fitting perfectly the low power intrinsic key customer benefit of LoRa technology, we are very keen to see the birth of innovative IoT products and solutions combining LAYER®Vault from Dracula Technologies and the wireless connectivity chips supplied by Semtech, enabling a smarter, more connected and more sustainable planet."

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*Brice Cruchon, CEO, and
founder of Dracula
Technologies*

LAYER®Vault is a patented solution produced with OPV inkjet technology, tailored for ultra-low-power electronics, and designed to excel in low-light conditions (sub 500 lux). This innovation offers an unlimited, 100% energy supply and storage based on organic materials without using rare earths or toxic materials. This very innovative product will reduce the reliance on conventional batteries and circumventing related production and use regulations. The energy

storage layer in LAYER®Vault complements Dracula Technologies' existing OPV harvesting product line, transforming it into a 2-in-1 product. The OPV LAYER harvests ambient light for low-power devices, while the energy storage layer ensures autonomy by storing energy for power consumption during periods without ambient light. LAYER®Vault is tailored for ultra-low-power devices, and efficiently powers LPWAN (Low Power Wide Area Networks) devices, in sectors such as ESL (Electronic Shelf Labels), Remote Controls, Indoor Industrial IoT (Smart Building), Smart Asset Tracking (cold chain monitoring), and Indoor Consumer IoT (Smart Home).



Green Power Factory

According to [EnABLES](#), a European Union-funded Research Infrastructure project dedicated to exploring sustainable approaches for extending the battery life of IoT devices, a staggering 78 million batteries are projected to be discarded globally every day by 2025 if we do not enhance the lifespan of IoT device power sources. With an estimated one billion IoT devices expected worldwide by 2025, all requiring power, the project aims to eradicate the necessity for battery replacements whenever feasible through the implementation of Energy Harvesting solutions and to find ways to significantly reduce device power consumption.

Note: Dracula Technologies will be exhibiting at CES-Eureka Park in the Business in France area (Hall G booth # 60711) and present at the CES Unveiled event on January 7. Attendees will have the opportunity to see live demonstrations at the Dracula Technologies booth and in various partner booths, gaining insights into the technology that drives indoor devices. For those interested, Dracula Technologies offers demo kits for product designers to order and build prototypes.

About LAYER: Dracula Technologies' LAYER® is the only energy harvesting solution that combines solution processed OPV, high indoor performance, and high stability in a small, freely shaped form factor. Developers can easily try out the technology with the company's fast method for depositing thin films, enabling rapid prototyping and quick scaling in production capacity worldwide. LAYER® is customizable to fit various shapes and sizes, meeting the power requirements of a range of applications, and is compatible with a wide range of communications protocols. Applications range from Smart Building, Smart Home, and Connected Supermarkets

to Industry 4.0 and Autonomous Vehicles.

About Dracula Technologies: Dracula Technologies, based in Valence, France, is a pioneer in energy harvesting through light in living spaces. With over 10 years of research and development, Dracula Technologies' LAYER® technology provides flexible and customizable modules that support the small and variable shaped objects required for IoT at a very low cost. The technology addresses challenges in the Internet of Things industry, including limited battery life, excessive power consumption, and e-waste.

About Semtech: Semtech Corporation (Nasdaq: SMTC) is a high-performance semiconductor, IoT systems, and cloud connectivity service provider dedicated to delivering high-quality technology solutions that enable a smarter, more connected, and sustainable planet. Our global teams are committed to empowering solution architects and application developers to develop breakthrough products for the infrastructure, industrial, and consumer markets. To learn more about Semtech technology, visit us at [Semtech.com](https://www.semtech.com) or follow us on LinkedIn or Twitter. Semtech, and the Semtech logo are registered trademarks or service marks of Semtech Corporation or its subsidiaries.

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