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ASX: NVU

EMASS and Semtech Collaborate on Low-Power Edge AI

Joint innovation brings scalable, long-range intelligence to industrial and IoT applications

Highlights

- Strategic collaboration with Semtech (NASDAQ: SMTC) to integrate EMASS's ECS-DoT edge-AI System on Chip (SoC) with Semtech's LoRa® transceivers, bringing long-range, battery-efficient intelligence to industrial and IoT markets.
- Joint reference designs demonstrate predictive maintenance and acoustic event detection through ultra-low-power, on-device AI combined with long-range wireless connectivity.
- Together, the solutions highlight real-world potential for autonomous sensing and actionable intelligence in industrial, security and remote monitoring applications.
- The integrated ECS-DoT + LoRa® platform provides OEMs with a fast-track blueprint to develop and scale intelligent sensors across smart city, industrial, infrastructure and remote asset monitoring use cases.
- The companies will be demonstrating the technology to industry stakeholders at upcoming ecosystem events, including CES 2026 (January 6-9).

Nanoveu Limited (ASX: NVU, OTCQB: NNVUF) (Nanoveu or the Company), a technology innovator across advanced semiconductor, visualization, and material science, is pleased to announce that its wholly-owned subsidiary, Embedded A.I. Systems Pte Ltd (EMASS) is collaborating with Semtech (NASDAQ: SMTC) to integrate EMASS's ECS-DoT edge-AI System on Chip (SoC) with Semtech's LoRa® transceivers.

The integration combines EMASS's ultra-low-power AI capabilities with Semtech's proven long-range LoRa® connectivity to support a new class of battery-efficient, intelligent devices for industrial and IoT deployments. By bringing sensing, inference and communication together in a tightly integrated platform, the collaboration is designed to make it easier for OEMs to deploy AI at the extreme edge, even in power and bandwidth constrained environments.

Why This Collaboration Matters

Today, most LoRaWAN® devices are simple sensors that periodically send raw data to the cloud for analysis. This creates challenges around battery life, network loading, latency and recurring cloud costs. LoRaWAN® is a low-power, wide-area networking protocol that uses Semtech's LoRa® long-range, low-power radio technology to connect battery-operated devices over many kilometres. ECS-DoT moves the "brain" into the device itself, running machine-learning models directly on the sensor node at microwatts to milliwatts of power so only meaningful events or compressed insights are transmitted over LoRaWAN®.

For end users, this can translate into:

- **Longer battery life:** Devices wake and transmit only when local AI determines something important has happened.
- **Lower network and cloud costs:** Far fewer, higher-value messages are sent, easing congestion and reducing data and processing fees.
- **Faster, more reliable responses:** Decisions are made locally in milliseconds, even when connectivity is intermittent or backhaul is limited.
- **Smarter, more autonomous systems:** Nodes can adapt to their environment, learn patterns and support richer analytics over time.

By aligning ECS-DoT with Semtech's LoRa® platform and ecosystem, EMASS is positioning its technology where billions of low-power devices are expected to be deployed over the coming decade in industrial assets, utilities infrastructure, smart cities, agriculture, logistics and more.

Joint Reference Designs and Demonstrations

As part of their ongoing collaboration, EMASS and Semtech have developed reference designs that demonstrate practical applications such as predictive maintenance and acoustic event detection. These designs show how combining on-device intelligence with long-range wireless communication can deliver actionable insights in environments where traditional solutions are limited by power, range or cost.

"*LoRa® transceivers extend the reach of always-on edge AI sensors to environments where traditional connectivity solutions can't operate or scale effectively,*" said Shahar Feldman, Semtech's senior director of wireless ICs product marketing. "*By working with EMASS, we're delivering practical solutions that give engineers the tools to deploy autonomous sensing at scale—whether monitoring remote industrial assets or enabling next-generation security systems.*"

"*These reference designs show how on-device intelligence can drive faster, smarter decisions in real-world settings,*" said Mark Goranson, NVU's CEO, Semiconductor Technologies. "*By pairing ECS-DoT with LoRaWAN®, we're exploring new ways to deploy AI at scale in environments where traditional solutions simply can't reach.*"

EMASS and Semtech are showcasing the reference designs at CES 2026 (January 6-9):

- **Predictive Maintenance Demo:** ECS-DoT edge AI, paired with Semtech's LR1121 LoRa® transceiver, analyzes vibration and environmental sensor data on-device to detect early signs of equipment degradation. Only health indicators and alerts are transmitted over LoRaWAN® to a centralized dashboard. This demonstrates ultra-efficient, scalable monitoring for industrial environments such as factories, utilities and remote infrastructure.
- **Security and Acoustic Detection Demo:** ECS-DoT performs real-time audio classification such as glass breaks, gunshots, or abnormal impact events and, together with Semtech's LR1121, transmit targeted alerts over LoRaWAN®. By processing audio locally, the system reduces false alarms and avoids streaming raw audio, supporting privacy preserving, next generation security devices.

These demonstrations are intended as starting points for OEMs and solution providers. The underlying ECS-DoT + LoRa® platform can be extended to a wide range of use cases, including structural health monitoring, environmental sensing, asset tracking, perimeter security and smart-city infrastructure.

Attendees can view these demonstrations at CES 2026 (January 6 to 9) in select locations, including:

- The **Semtech Suite** (Murano 3201A, Venetian);
- The **LoRa® Alliance Booth** (North Hall, Stand 10349); and
- **EMASS's Venetian and Palazzo Hospitality Suites.**

What this means for Nanoveu / EMASS

- **Accelerated adoption:** Joint reference designs give developers, OEMs and partners an early view of ECS-DoT's capabilities, supporting evaluation and integration.
- **Expanded use cases:** Predictive maintenance and acoustic sensing highlight opportunities across industrial IoT, security and remote monitoring, enabled by always-on, low-power AI.

This announcement has been authorised for release by the Board of Directors.

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About Nanoveu Limited

Further details on the Company can be found at https://nanoveu.com/.

EMASS is a pioneering technology company specialising in the design and development of advanced systems-on-chip (SoC) solutions. These SoCs enable ultra-low-power, AI-driven processing for smart devices, IoT applications, and 3D content transformation. With its industry-leading technology, EMASS will enhance Nanoveu's portfolio, empowering a wide range of industries with efficient, scalable AI capabilities, further positioning Nanoveu as a key player in the rapidly growing 3D content, AI and edge computing markets.

EyeFly3D™ is a comprehensive platform solution for delivering glasses-free 3D experiences across a range of devices and industries. At its core, EyeFly3D™ combines advanced screen technology, sophisticated software for content processing, and now, with the integration of EMASS's ultra-low-power SoC, powerful hardware.

Nanoshield™ is a self-disinfecting film that uses a patented polymer of embedded Cuprous nanoparticles to provide antiviral and antimicrobial protection for a range of applications, from mobile covers to industrial surfaces. Applications include *Nanoshield™ Marine*, which prevents the growth of aquatic organisms on submerged surfaces like ship hulls, and *Nanoshield™ Solar*, designed to prevent surface debris on solar panels, thereby maintaining optimal power output.

Forward Looking Statements This announcement contains 'forward-looking information' that is based on the Company's expectations, estimates and projections as of the date on which the statements were made. This forward-looking information includes, among other things, statements with respect to the Company's business strategy, plans, development, objectives, performance, outlook, growth, cash flow, projections, targets and expectations and related expenses. Generally, this forward-looking information can be identified by the use of forward-looking terminology such as 'outlook', 'ambition', 'anticipate', 'project', 'target', 'potential', 'likely', 'believe', 'estimate', 'expect', 'intend', 'may', 'mission', 'would', 'could', 'should', 'scheduled', 'will', 'plan', 'forecast', 'evolve' and similar expressions. Persons reading this announcement are cautioned that such statements are only predictions, and that the Company's actual future results or performance may be materially different. Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the Company's actual results, level of activity, performance, or achievements to be materially different from those expressed or implied by such forward looking information.