

ASX RELEASE

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ASX: NVU

EMASS Accelerates 16nm ECS-DoT Chip Towards Silicon and Launches Turnkey AIoT Platform for Scalable Edge Intelligence

Pivotal milestone and product launch mark Nanoveu's transition from simulation to scalable 16nm commercial deployment

Highlights

- ECS-DoT enters 16nm synthesis phase in partnership with Centre of Nanoelectronics ("CND"), marking a major milestone in Nanoveu's transition from simulation to silicon.
- Advancing to 16nm unlocks broader commercial potential, positioning ECS-DoT for deployment in miniaturised, always-on intelligent systems.
- Modular AIoT Development Kit launched, offering plug-and-play daughter cards to accelerate prototyping in predictive maintenance, healthcare, and asset tracking.
- Ultra-low-power ECS-DoT SoC designed for real-world edge intelligence, delivering 30 GOPS/W at sub-1mW through a 32-core RISC-V AI engine and flexible I/O matrix.
- Early Access Developer Program now open, providing select partners with SDKs, hardware kits, and dedicated engineering support.
- Strategic foundation laid for ECS-DoT's commercial rollout, positioning Nanoveu as a platform leader in scalable AIoT and edge-compute markets.

Nanoveu Limited (ASX: NVU) ("Nanoveu" or the "Company"), a technology innovator across advanced semiconductor, visualisation, and materials science applications, is pleased to announce that its wholly owned subsidiary, Embedded A.I. Systems Pte. Ltd ("EMASS"), has commenced chip synthesis of its flagship ECS-DoT™ AIoT system-on-chip, following completion of a full 16nm back-end design flow in partnership with CND in Cairo¹.

This milestone leverages the advanced 16nm FinFET process node from Taiwan Semiconductor Manufacturing Company ("TSMC"), marking a significant upgrade from EMASS's current 22nm prototype. The move to 16nm delivers lower power consumption, higher performance, and smaller chip size all of which are critical attributes for deploying AI in energy-constrained edge environments. Concurrently, EMASS has launched its Modular AIoT Development Kit, aimed at accelerating integration across industrial, healthcare, and logistics applications.

Strategic Partnership with CND

EMASS's collaboration with CND plays a central role in advancing its application-specific IC (ASIC) roadmap. CND provides world-class infrastructure in nanoscale design, SoC prototyping, and AI hardware modelling. Located in Cairo, CND enhances EMASS's development capability while enabling deeper engagement with emerging markets.

As part of this collaboration, EMASS had appointed Dr. Yehia Massoud Ismail, Director of CND and a globally recognised expert in VLSI design, as a Strategic Advisor. Dr. Ismail will provide technical and strategic guidance across EMASS's semiconductor R&D efforts, bringing deep expertise from his prior roles at Northwestern University, IEEE, and Egypt's Ministry of ICT.

¹ Refer to ASX Announcement dated 3 April 2025.

Prof. Mohamed M. Sabry Aly, Founder of EMASS, commented: “Finalising our 16nm flow and starting ECS-DoT synthesis is a transformational step for EMASS. Our partnership with CND has been instrumental not only in accelerating silicon readiness but also in aligning our AI platform with real-world needs in high-growth markets.”

16nm ECS-DoT Synthesis Underway

Over the past quarter, EMASS and CND engineers have successfully implemented a complete 16nm SoC development flow, including Register-Transfer Level (“RTL”) verification, logic synthesis, place-and-route, timing closure, and sign-off.

With toolchain functionality validated on benchmark workloads, ECS-DoT synthesis has now commenced ahead of multi-project wafer (“MPW”) fabrication scheduled for Q4 2025. This MPW shuttle will serve as a critical step in hardware validation ahead of a full production tape-out anticipated in Q1 2026.

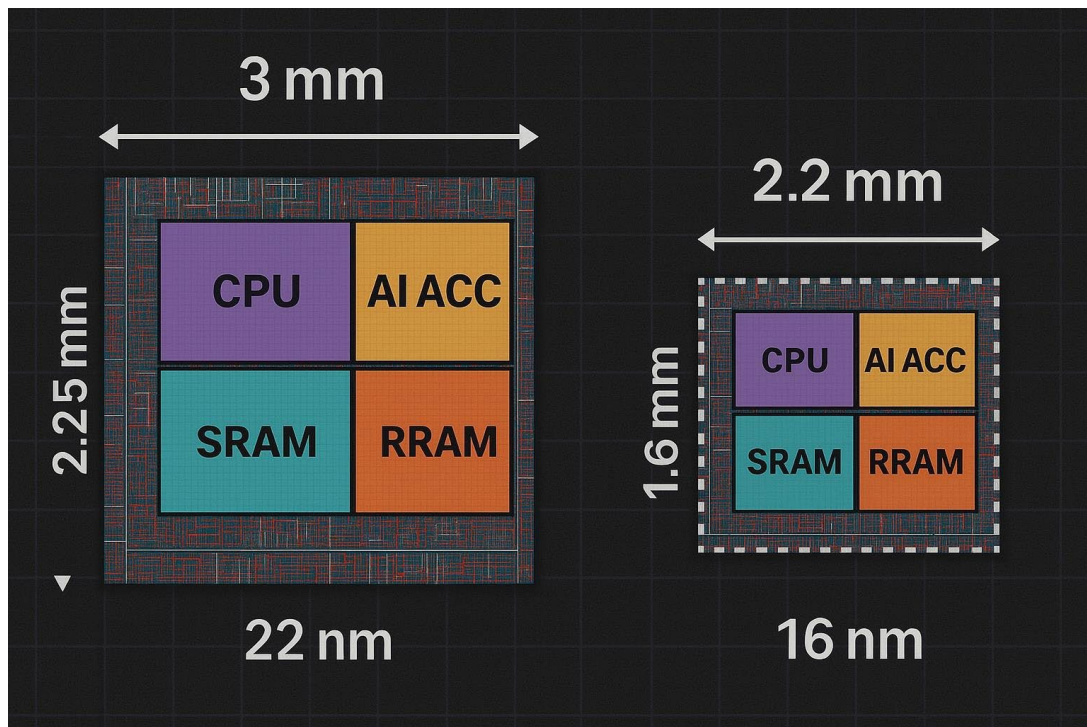


Figure 1. Schematic diagrams of a chip designed with both 22nm and 16nm technology nodes. 16nm provides 50% area benefits with simultaneous 25% power benefits

The ECS-DoT die features a 32-core RISC-V AI engine capable of 30 GOPS/W at sub-milliwatt power levels, supporting I²C, SPI, UART, CPI, and I²S interfaces through a flexible I/O matrix.

Modular Development Kit – Built for Integration and Scale

In parallel, EMASS has launched a new Modular Development Kit that combines a universal ECS-DoT baseboard with a suite of plug-and-play modules targeting immediate market needs:

- Predictive Maintenance Module: Tri-axis accelerometer, microphone array, temperature sensor, and edge-optimised anomaly detection firmware.
- Healthcare Wearables Module: PPG heart-rate sensor, SpO₂ optical sensor, and BLE-LE connectivity.
- Asset Tracking Module: GNSS receiver, NB-IoT modem, oxygen and temperature sensors, supported by a lightweight RTOS.

Each module includes full schematics, hardware abstraction libraries, and containerized pre-trained AI models to streamline application development.

Next Steps

To accelerate commercial adoption, EMASS has released a beta SDK with APIs, documentation, and engineering support through its Early Access Developer Program. Select partners will receive evaluation hardware and direct support starting this quarter, with a broader commercial rollout and pricing to follow.

In parallel, Phase 2 drone simulation testing is underway, expanding upon earlier flight endurance and efficiency results, which demonstrated a 33% increase in simulated flight time with ECS-DoT integration. This phase includes validation of AI control logic in diverse drone types, mission scenarios, and environmental conditions, further positioning ECS-DoT as a versatile control and sensing solution for intelligent unmanned systems.

Mark Goranson, CEO of Nanoveu's Semiconductor Division, added: *"Our Modular Dev Kit reflects the market's growing demand for turnkey AIoT integration at the edge. ECS-DoT offers the performance, power efficiency, and compact form factor to drive transformative applications in environments where every milliwatt counts. With the launch of this platform and our first modules in predictive maintenance, healthcare, and asset tracking, we're not just enabling smarter systems, we're empowering a new generation of developers and innovators to bring edge AI to life faster than ever before. This is a defining moment in our roadmap, and the beginning of a broader ecosystem we're excited to help shape."*

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

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Nanoveu Media

Alfred Chong, Nanoveu MD and CEO

P: +65 6557 0155

E: info@nanoveu.com

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, EyeFly3DTM 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.