# FutureHorizons

The Global Semiconductor Industry Analysts

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## Finwave Semiconductor Addresses the 5G Challenge with Breakthrough 3DGaN™ FinFET Technology

Lightning-fast mobile video streaming. Truly autonomous vehicles. A healthcare ecosystem connected in real time. While the upside of 5G networks is almost unlimited, these life-changing benefits will never be fully realized without a critical missing component – high power, high linearity mmWave power amplifier technology.

Current approaches are throttling 5G due to their inability to deliver the higher linearity and efficiency needed to solve uplink issues facing mmWave frequencies, which do not propagate nearly as far as microwave signals. Looking to serve as a catalyst of change, one company has emerged from stealth mode to unlock the true potential of what's been hailed as the infrastructure of the future. Founded in 2012 by MIT researchers as Cambridge Electronics, 2022 sees the company reborn with a new moniker – Finwave Semiconductor, Inc. – and a focused mission: to revolutionize the future of 5G communications with next-generation 3D Gallium Nitride (GaN) technology.

#### u-blox Unveils MAYA-W2 Tri-Radio Module for IoT Applications

U-blox, a Swiss positioning and wireless technology provider, announced it has launched MAYA-W2 to solve the integration problem caused by the presence of multiple protocols. The product is a compact tri-radio module capable of supporting Wi-Fi 6, Bluetooth, and the IEEE 802.15.4 (Thread and Zigbee). The module supports both Bluetooth classic and Bluetooth Low Energy (LE).

Wireless communication technologies, including satellite Wi-Fi, Zigbee, Thread, and Bluetooth communication, have demonstrated their potential as a catalyst for the digital transformation of our companies and organizations across all sectors. While satellite communication is still used for long-distance transmission, others have been significantly adopted by the industry for near-field communication between devices.

#### BrainChip, Edge Impulse Team to Develop Low-Cost Embedded ML Systems

BrainChip, a neuromorphic computing IP vendor, and Edge Impulse, an embedded machine-learning (ML) development platform vendor, have partnered to address the growing demand for large-scale edge AI deployment. The collaboration aims to strengthen the training AI workloads and inference deployment of computer vision and natural-language processing models on the edge network. Customers will now be able to develop integrated hardware and software solutions, which will help accelerate the adoption of ML at the edge.

The collaboration aims to deliver platforms to customers looking to develop products that utilize the companies' ML capabilities, partners said in a statement. This announcement will help enterprise edge-computing deployment at scale gain traction in a wide range of industries, including health care, automotive, and military and aerospace. Resource-constrained edge devices introduce increased complexity in data processing at the edge network, which will be an important challenge to address. BrainChip and Edge Impulse will help developers and engineers achieve broader adoption in potential edge-computing use cases.

#### Samsung invests in Israeli AI systems and semiconductor startup

NeuReality, an Israeli AI systems and semiconductor company, announced Monday that Samsung Ventures has made an investment in the company. NeuReality makes inference technologies, such as computer vision, natural language processing, and recommendation engines easier to implement for a broader set of less technical companies.

NeuReality's solution includes hardware, software and tools that work together to simplify and accelerate AI deployment. The company currently employs more than 30 employees and plans to double its size and recruit talent in VLSI chip design, AI, software, and hardware.

#### NextNav Partners with GCT Semiconductor to Integrate TerraPoiNT Technology

MCLEAN, Va., June 21, 2022 /PRNewswire/ -- NextNav, a leader in next generation GPS, announced the successful integration of its TerraPoiNT advanced location technology into GCT's LTE chipset. GCT, a leading designer and supplier of advanced 4G and 5G solutions, will offer resilient 3D GPS equivalent performance into its GDM7243i chip. This integration enables NextNav's TerraPoiNT capability to be brought into mass market applications such as timing for critical infrastructure, position/navigation for cars, IoT, and drone/eVTOL markets in GPS-challenged environments.

"As a leader in multi-system chipset systems, GCT is uniquely positioned to drive innovation in the increasingly important mass market applications for indoor and urban environments," said Jeemee Kim, GCT Chief Technology Officer. "We are pleased to bring our best-in-class technologies together and to support the NextNav TerraPoiNT network with GCT's GDM7243i chipset, which offers flexible architecture, a high fidelity wide area indoor/urban location capability with low power consumption, and connectivity suited for mass market devices."