Joint Press Release

RAM Group and IGaN partnership aims to advance Singapore's digital healthcare with commercialisation of world's first Single-point Quantum Sensor for Continuous Full-Body monitoring

Artificial General Intelligence (AGI) and niche semiconductor technologies extend sensor applications into US$23B multi-sector opportunity in 2020

Singapore, October 23, 2019 – Locally-based technology providers RAM Group in multi-parametric, single-point bio-electro-mechanical quantum sensor technology and IGSS GAN Pte Ltd (IGaN) fabrication experts in 8" gallium nitride on silicon (GaN-on-Si) announces today the world's most advanced clinically-validated Quantum Device Sensor (QDS) providing non-invasive, continuous whole-body organ system monitoring.

Demonstrated at an exclusive technology preview held in the city centre, the QDS is billed as one of the most advanced sensors of its kind for an array of healthcare applications and wearables. Integrating proprietary Artificial General Intelligence (AGI) engine to produce a new level of actionable data, it is poised to transform the way critical diseases and health problems are detected, diagnosed and understood, sooner with less stress and cost.

"Traditional sensors have reached the peak of their capacity to perform and only look at one parameter at a time. This necessitates a spectrum of costly, separate tests that are often too invasive, too specific or require frequent recalibration to produce accurate results. And none are capable of full-body, continuous monitoring," began Ayal Ram, CEO and Founder, RAM Group, at the event.

"QDS addresses the need for small, ultra-low power, non-invasive sensor that can simultaneously and continuously detect electrical and mechanical data from the human body. In commercialising with IGaN, we aim to be a key player in furthering Singapore's AI-based healthcare goals by tapping into the Internet of Things, big data and quantum sensing for more equitable access to innovative medical care," said Ram.

QDS' advanced sensing platform utilises GaN-on-Si compound semiconductors alongside a set of proprietary materials to create a sensor that reportedly is over ten thousand times more sensitive in signal-to-noise ratio than anything currently in the market. Backed by IGaN's proprietary 8" (200mm) fabrication technologies, QDS leverages existing silicon infrastructure to deliver superior performance that is at least comparable if not at a significantly reduced total cost, allowing global production at scale.

Raj Kumar, Founder and Group CEO of IGSS Ventures Pte Ltd, of which IGaN is a subsidiary, explained, "Successful clinical trialling and QDS' market-readiness is case in point for the untapped opportunities in niche semiconductors like GaN-on-Si, particularly as a superior replacement for silicon chips. We are excited as this partnership demonstrates IGaN's in-depth know-how in cost-competitive commercialising and accelerating time-to-market of GaN-on-Si-based technologies. It additionally cements our strategic value-add as A*Star's official licensee in this space and in advancing Singapore's potential as a global innovation hub in emerging semiconductor applications."

Among the first commercially-ready healthcare application is the quantum Cardio-respiratory Monitor, or qCRM™. It includes the QDS inside a comfortable wearable device to generate comprehensive full-body diagnosis and analysis by converting signals into unified waveforms to represent comprehensive bodily functions and processes. Powered by AGI capabilities in quantum bio-signal analytics, it produces more data sets with the potential to aid immediate and hyper-accurate diagnosis of illness or disorder in the heart, lungs and other organs.

In enabling more robust machine learning by providing a range and depth of data previously inaccessible, QDS creates an ecosystem to deliver patients the best odds, cost savings from unnecessary procedures, lessen emergency room visits and hospital readmissions. RAM Group also aims to advance the potential in expediting clinical trials, allowing new therapies to reach patients faster. It is expected to be commercially available in the fourth quarter of 2020.

With the ability to measure the smallest interactions in many different mediums, QDS leapfrogs quantum sensing technologies that tap into US$23B multi-sector opportunity in 2020 spanning the broadest of applications ranging from health and wellness, food safety, oil and gas, defence, communications, smart cities and homes and automotive.

Both RAM Group and IGaN are already headquartered in Singapore and combined, the companies are set to grow the nation's infrastructure, capabilities and delivery of cutting-edge solutions in digital health and other key sectors backed by proprietary manufacturing technologies in niche semiconductors - the backbone to enabling many future-ready end-applications.

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About RAM Group
The RAM Group is a leading provider of multi-parametric, single-point bio-electro-mechanical quantum sensor technology that is transforming the way critical problems, such as diseases, are detected and diagnosed. They have developed the most advanced IoT enabled quantum sensor technology - significantly smaller, non-invasive and more sensitive than anything on the market. Powered by an industry-leading Artificial General Intelligence (AGI) engine, their clinically and commercially validated technology delivers a new level of actionable insights and is poised to make people, processes and the planet healthier.

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About IGSS GaN Pte Ltd
IGaN is a Singapore-based company focusing in gallium nitride on silicon (GaN-on-Si) epitaxial wafers and proprietary 8" (200mm) GaN fabrication technologies for niche power, RF, and sensor applications. Our solutions drive global technology adoption and customers' commercialisation goals in cutting-edge applications spanning AV/EV, renewable energy, LiDAR, 5G, high-performance sensors and IoT. Apart from its own IPs and know-how, IGaN has exclusivity of Singapore's A-STAR's GaN-on-Si intellectual properties. In offering a "one-stop" approach to GaN-on-Si technologies, its ecosystem includes partnerships with research institutions and leading foundry.

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