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Scientists Develop Biodegradable Plastic From Marine Seaweed

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TALK TO US

3D NAND Flash Takes a Big Step Forward

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Startup Exploits Synergy Between 5G and AI

Silicon Valley startup EdgeQ has emerged from stealth, with a plan to make a RISC-V SoC that exploits mathematical similarities between 5G and AI processing workloads. The company's first market will be telecom infrastructure, where AI is used in 5G network functionality such as by detecting unusual behavior that could signal a malicious attack.

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Scientists Develop Biodegradable Plastic From Marine Seaweed

The National Institute of Ocean Technology (NIOT) has developed a bio-plastic film using marine seaweed and PEG-3000 which could have a huge impact on limiting the usage of non-biodegradable plastics and a game-changer in the plastic industry. Bio-plastic films safely breakdown in the environment without leaving any toxicity. The physical and mechanical properties of bio-plastic film meet the properties of conventional plastics.

Conventional plastics are posing a grave threat due to their interaction with water resulting in the formation of hazardous chemicals that ultimately leach into the environment. Again, other bio-plastics such as those made from plant materials like corn starch and sugarcane, though sold as eco-friendly and renewable, are found to be equivalent to seaweed based bio-plastic. Conventional plastic takes hundreds of years to break down. In their bid to find viable alternatives without hampering the land-based edible plants used for human consumption, scientists have now directed their research to find marine biomass as an alternative to producing biodegradable plastics more sustainably so that biomass used for feedstocks are not disturbed.

Why Qualcomm Is Set for Auto DMS Dominance

CES 2021 revealed in-cabin AI as the hottest trend in automotive. This has profound implications for the driver monitoring system (DMS) market, potentially setting Qualcomm up for its DMS dominance.

For a technology which most people know very little about and that many experts have already written-off as obsolete, the DMS market is experiencing a period of intense activity, although hardly any of it gets reported.

There are four clear strategies that I have identified for automotive-grade DMS: digital cockpit/in-vehicle Infotainment (IVI), highway assist, China and NCAP. This is the first of two articles in which I shall take each of those four strategies and offer my assessment of the developments, key issues and leading DMS vendors.

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Edge AI chip startup Kneron has signed up two Taiwan-based companies, Foxconn and Winbond, as strategic investors. As well as an undisclosed amount of funding, the two new investors will also work closely with Kneron on strategic partnerships.

Taiwanese contract electronics manufacturer Foxconn will work with Kneron on AI use cases for Industry 4.0 and the automotive market, through Foxconn's MIH open platform for electric vehicles (EVs). MIH is a software and hardware platform which is intended to lower barriers to entry into the EV industry.

Taiwanese memory manufacturer Winbond will work with Kneron on developing AI solutions on microcontrollers and compute-in-memory solutions. The two companies already have a relationship: Kneron's latest SoC, the KL720, includes Winbond's 1Gb LPDDR3 DRAM die, while the earlier product KL520 uses a Winbond 512Mb LPDDR2 die.

3D NAND Flash Takes a Big Step Forward

The global storage market is witnessing a growing demand for NAND flash. This technology has been met through many developments, not only in the capabilities of today's flash controllers but especially through the 3D NAND architecture. As the Industrial Internet of Things (IIoT), smart factories, autonomous vehicles, and other data-intensive applications continue to gain traction, the data storage requirements for these demanding applications have become more challenging.

In an interview, Lena Harman, marketing communications manager at Hyperstone, acknowledged that 3D NAND flash is taking a big step forward. The new memory technology has made tremendous progress in recent years and offers an interesting alternative to the established 2D NAND memory technologies used in SSDs.

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Silicon Valley startup EdgeQ has emerged from stealth, with a plan to make a RISC-V SoC that exploits mathematical similarities between 5G and AI processing workloads. The company's first market will be telecom infrastructure, where AI is used in 5G network functionality such as by detecting unusual behavior that could signal a malicious attack. Client-side applications, such as industrial robots, vehicles and drones where the primary application is AI acceleration and the SoC also enables 5G connectivity, will follow.

EdgeQ's SoC, still under development, will be a multi-core RISC-V design with custom extensions added to the instruction set for compute efficiency. The same chip will serve all markets, but firmware changes will allow it to be optimized for different applications, whether that's network infrastructure or client-side devices.