# FutureHorizons

# **FH MONDAY**

3 July 2017



Future Horizons Ltd, • 44 Bethel Road • Sevenoaks • Kent TN13 3UE • England Tel: +44 1732 740440 • Fax: +44 1732 740442 e-mail: <u>mail@futurehorizons.com</u>• <u>http://www.futurehorizons.com/</u> Affiliates in Europe, India, Israel, Japan, Russian, San Jose California, USA

# Nanotech Turns Fabric Into Loudspeaker

After developing a heat-powered graphene chip that could replace speakers in phones, scientists at Michigan State University have found a way to turn fabrics into speakers.

In late 2016, Nelson Sepulveda, MSU associate professor of electrical and computer engineering, and his team demonstrated a sheet-like device—known as a ferroelectret nanogenerator (FENG)—by using it to power a keyboard, LED lights and an LCD touchscreen. That process worked with a finger swipe or a light pressing motion to activate the devices, converting mechanical energy to electrical energy.

Now, the team has discovered that the material can also act as a microphone by capturing the vibrations from sound and converting it to electrical energy, as well as a loudspeaker by converting electrical energy to mechanical energy.

## Ditched by Apple, Imagination is now for sale

Imagination Technologies Group has announced that the entire company is on the market. The company has been through a lot. It lost its top customer, Apple Inc., which led to Imagination selling its SoC design group and putting its MIPS processor core licensing business up for sale.

The U.K.-based company said that after receiving interest from multiple parties, its board of directors has initiated a formal sale process for the entire company and is engaged in preliminary discussions with potential bidders.

Imagination also noted that it remains in a dispute with Apple, a key GPU core licensee for years. Apple notified the company in April that it will no longer use Imagination's intellectual property in new products. In May, Imagination said that it was engaged in a "dispute resolution procedure" with Apple and that negotiations had stalled.

### 4DS ReRAM Hits DRAM Speeds

4DS Memory Limited recently announced that architectural changes to its patented Interface Switching ReRAM have improved read access so dramatically that it is now comparable to DRAM. In a telephone interview with EE Times, company CEO and Managing Director Guido Arnout said the development places the company in a hallway with a lot of doors it could potentially walk through.

The challenge for most emerging memory technologies, including ReRAM, has been inherently high bit error rates, which in most cases, he said, is caused by large random cell current fluctuations. Error TORONTO – A flavor of resistive RAM (ReRAM) has overcome a significant hurdle that has it nipping at DRAM's heels.

correction techniques have traditionally been used to reliably retrieve the data, but these are typically time consuming and negatively affect read access time and cripple read speed.

### Telit, Tele2 Develop Embedded SIM

Telit and Tele2 have worked on a cellular module-embedded technology that claims t0 replacement or complement the traditional SIM card and tray used in cellular-connected devices.

Both companies believe that the module-software embedded SIM technology is essential to the mass-rollout of cellular IoT, in particular LPWA offerings such as LTE-M and NB-IoT. They noted that manufacturers of connected products that choose to embed Telit IoT modules with the simWISE technology can expect reduced manufacturing costs and improved customer experience across all verticals and markets.

### **Nvidia Deals Tilt Robo-Car Race**

PARIS — Claiming that robo-car development by automakers has already moved from the R&D phase to production, Nvidia this week unveiled three new partnership deals — all aimed at leveraging its AI car-computing platform.

Nvidia announced Monday (June 26) that Volvo and Autoliv have selected Nvidia's Drive PX 2 for production of selfdriving cars in 2021.

Nvidia said that it also sealed a deal with ZF & Hella, who are both committed to working with Nvidia to deliver with the New Car Assessment Program (NCAP) safety certification for the mass deployment of self-driving vehicles.

But wait. There's more. Nvidia also disclosed an agreement Volkswagen, under which the German carmaker will expand deep learning "competence" throughout the enterprise and developing a number of AI apps running in the data center.