

# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

11 December 2017

### 4DS Enlists IMEC to Advance ReRAM

TORONTO — A resistive RAM (ReRAM) company that recently claimed its storage-class memory technology was as fast as DRAM is collaborating with IMEC to develop a production-compatible process.

[read more](#)

### GaN Chip Vendor Snags \$15 Million in Funding

High-voltage gallium nitride (GaN) semiconductor vendor Transporm has secured \$15 million in funding from Japan's Yaskawa Electric, bringing the total it has raised so far to more than \$230 million.

[read more](#)

### Infineon and Osram's Intelligent Matrix-lighting

Video from ELIV 2017 illustrates how LED vehicle headlight systems can change the game in energy consumption and safety. With solid-state lighting taking over in vehicle headlight systems, there is an opportunity to use the addressable aspects of LEDs to provide increased functionality.

[read more](#)

FutureHorizons



### TALK TO US



### Startup Takes NB-IoT to New Lows

SAN JOSE, Calif. — Move over, Qualcomm and Sequans. In the limbo dance of the Internet of Things, a startup comes out of stealth mode today, taking cellular networking to new lows in power and price.

[read more](#)

### EVENTS

#### [Silicon Chip Industry Seminar](#)

– March 2018 – London UK

#### [Industry Forecast Briefing](#)

– 16 January 2018 – London UK

**DON'T MISS OUT.-  
BOOK NOW BY CALLING**

**+44 1732 740440**

**OR EMAIL**

**[mail@futurehorizons.com](mailto:mail@futurehorizons.com)**

### Broadcom Starts Hostile Bid for Qualcomm

Broadcom officially started a hostile bid for Qualcomm in a move that one former Broadcom employee described as part of its style of financial engineering.

[read more](#)

Future Horizons Ltd, • 44 Bethel Road • Sevenoaks • Kent TN13 3UE • England

Tel: +44 1732 740440 • Fax: +44 1732 740442

e-mail: [mail@futurehorizons.com](mailto:mail@futurehorizons.com) • <http://www.futurehorizons.com/>

Affiliates in Europe, India, Israel, Japan, Russian, San Jose California, USA

## **4DS Enlists IMEC To Advance ReRAM**

TORONTO — A resistive RAM (ReRAM) company that recently claimed its storage-class memory technology was as fast as DRAM is collaborating with IMEC to develop a production-compatible process.

4DS Memory Limited announced in June it had successfully tuned its Interface Switching ReRAM cell architecture to storage class memory with read speeds comparable to DRAM without needing speed-limiting error correction. Last year, the company announced it had scaled these cells to 40nm, but until now these cells have been fabricated with R&D process tools that differ from those used for high-density, high-volume memories in production fabs.

The 4DS Interface Switching ReRAM technology is area-based as cell currents scale with cell area and the wiring therefore scales accordingly, the company says, and the technology is also based on well-understood physics and chemistry.

## **GaN Chip Vendor Snags \$15 Million in Funding**

SAN FRANCISCO —High-voltage gallium nitride (GaN) semiconductor vendor Transphorm has secured \$15 million in funding from Japan's Yaskawa Electric, bringing the total it has raised so far to more than \$230 million.

Transphorm (Goleta, Calif.), founded in 2007, said it plans to use the funding for product development. The company announced in September that Yaskawa is using Transphorm's 650V GaN chips in its  $\Sigma$ -7 F servo motor, the first servo motor to make use of high-voltage GaN technology.

In addition to servo motors, Transphorm maintains that its high-voltage GaN technology offers performance, efficiency and reliability advantages over silicon for automotive systems, data center and industrial power supplies, renewable energy and other broad industrial applications

## **Infineon and Osram's Intelligent Matrix-lighting System for Vehicles**

Video from ELIV 2017 illustrates how LED vehicle headlight systems can change the game in energy consumption and safety.

With solid-state lighting taking over in vehicle headlight systems, there is an opportunity to use the addressable aspects of LEDs to provide increased functionality. In this video, an intelligent headlight demonstration from Infineon and Osram shows how such a system can not only save energy, but increase vehicle safety.

## **Startup Takes NB-IoT to New Lows**

SAN JOSE, Calif. — Move over, Qualcomm and Sequans. In the limbo dance of the Internet of Things, a startup comes out of stealth mode today, taking cellular networking to new lows in power and price.

Riot Micro is sampling a modem tailored for the latest 4G IoT standards. It claims that its RM1000 chip draws milliamps to microamps of power and could sell for well below the industry's target of a \$5 module.

Carriers around the world are just starting to turn on various flavors of LTE-based cellular IoT networks. They aim to leapfrog an emerging crop of emerging low-power wide-area networks such as LoRa, Sigfox, 802.11ah Wi-Fi, and others.

## **Broadcom Starts Hostile Bid for Qualcomm**

Broadcom officially started a hostile bid for Qualcomm in a move that one former Broadcom employee described as part of its style of financial engineering.

Qualcomm was quick to reject Broadcom's hostile effort to replace its board of directors, but the chase is clearly on. The next big step will be a March 26 meeting wherein Qualcomm shareholders will get to vote on whether they want the takeover or not, according to a Reuters report.

Broadcom's effort is the latest and largest in a string of deals all about growing by acquisition. It's a bold approach admired by many, sometimes from a distance.

I've talked with several former Broadcom tech execs in recent weeks who left the company after it pruned R&D, including their projects. A former LSI executive was exploring opportunities in the Internet of Things at the new Broadcom when the project was cut and he decided that it was time to leave. Starts Hostile Bid for Qualcomm