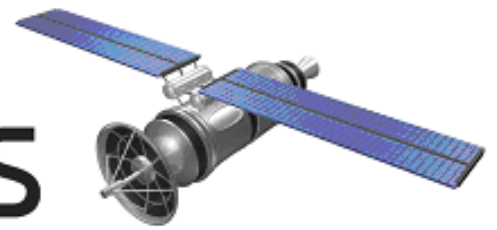


# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

17 September 2018

### Japan's Renesas to acquire IDT in \$7.2bn deal

Japanese chipmaker Renesas Electronics has agreed to buy US rival Integrated Device Technology for an enterprise value of \$7.2bn in a bid to cement its position in the growing automotive semiconductor market.

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Qualcomm added an ultra-low-power co-processor running a bare-bones RTOS to its latest chipset for smartwatches to extend battery life. The new 3100 chipset debuts two days before Apple is expected to announce a new version of its Apple Watch, the current leader in smartwatches and wearables generally

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### BrainChip Announces Computer Vision Chip

SAN JOSE, Calif. — BrainChip described what it claims will be the first commercial accelerator for spiking neural networks (SNNs). Akida should sample in fall 2019, delivering nearly an order of magnitude more throughput/watt than a Movidius Myriad 2 at about the same price and accuracy.

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## TALK TO US



### IIT Bombay and IBM Team Up to Accelerate AI Research in India

BENGALURU — India's leading university, Indian Institute of Technology – Bombay (IIT-B) and tech giant IBM announced on Wednesday that the university will join the 'AI Horizons Network', as part of a multi-year collaboration to advance AI research.

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## EVENTS

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– 12 Nov 2018 – London UK

### [Industry Forecast Briefing](#)

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### Apple's 7nm A12 Enables 512GB of Memory

SAN JOSE, Calif. — Apple announced a family of three iPhones powered by a 7nm SoC enabling up to 512 GBytes of memory. The handsets range in price from \$749 to \$1,099, increase battery life by 30 to 90 minutes, and ship within two to six weeks.

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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

## Japan's Renesas To Acquire IDT In \$7.2bn Deal

Japanese chipmaker Renesas Electronics has agreed to buy US rival Integrated Device Technology for an enterprise value of \$7.2bn in a bid to cement its position in the growing automotive semiconductor market.

Shares in Renesas, which had expressed its interest in IDT two weeks ago, rose as much as 7.8 per cent.

On Tuesday, Renesas said it will pay \$49 a share, which represents a 16 per cent premium to IDT's closing price on Monday. The deal, which follows Renesas's \$3.2bn acquisition of US chipmaker Intersil last year, will increase the Japanese group's net debt level to ¥757bn (\$6.8bn)

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Qualcomm claims that its Snapdragon Wear 3100 can deliver four to 12 hours longer battery life than its prior chipset. It can work for a month on a typical smartwatch battery if Google's Wear OS is turned off, said the chip vendor.

Power savings come mainly from hosting basic watch functions on a new 40-MHz Arm M0 chip running at 0.6 V in a homegrown software environment described as a basic scheduler. In sleep mode, the 21-mm<sup>2</sup> QC1110 draws just 130 µA, compared to about 1.2 mA for a typical Cortex-A7 used to run Wear OS

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In imaging applications, the chip is expected to process as many as 1,400 frames/second/watt using an 11-layer SNN. It will consume less than a watt and cost about \$10, targeting computer vision as well as financial and cybersecurity analysis.

SNNs are a form of machine learning, related but different from the convolutional neural nets now widely used by web giants for jobs like voice and image recognition. SNNs use a simpler, one-shot training method and are well-suited to tasks such as face recognition in low-resolution and noisy environments such as surveillance video.

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'AI Horizons Network' is an international consortium of leading universities working with the software major to develop technologies needed to help fulfil the promise of AI.

As part of a multi-year collaboration, the department of Computer Science and Engineering at IIT-B will pair graduate students with scientists from IBM Research-India to accelerate the application of AI, machine learning, natural language processing and related technologies for business and industry.

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The smartphones, and two new models of the Apple Watch, generally packed larger screens and upgraded chips in slightly smaller devices. None of the devices support 5G cellular networks, expected to start switching on later this year, but the handsets support Gbit/s data rates, an LTE capability that Qualcomm was early to support.

Apple's 7nm A12 Bionic chip packs 6.9 billion transistors and is "the most powerful chip in a smartphone," said chief executive Tim Cook.