



### FH MONDAY

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#### Cambridge chemists make super-battery breakthrough

A breakthrough in electrochemistry at Cambridge university could lead the way to rechargeable super-batteries that pack five times more energy into a given space than today's best batteries, greatly extending the range of electric vehicles and potentially transforming the economics of electricity storage

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#### MediaTek confident on shipping 150M LTE chips

MediaTek has revealed that it will meet its target set earlier this year to ship 150 million long-term evolution (LTE) chips. The company announced this bullish forecast amid the declining smartphone market and increased competition from rivals such as Spreadtrum in China.

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#### IoT, 3D printing will drive computing forward

Even with PC market's historic decline, HP chief technologist Shane Wall believes innovations in wearables, the Internet of Things and 3D printing will boost the computing industry.

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#### Smartphone-quality graphics to wearables

ARM has announced a low power GPU for wearables and the Internet of Things (IoT). According to the company, the 32bit Mali 470 offers smartphone-quality graphics and requires half the power of ARM's previous graphics processor generation using the same process geometry.

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#### WiLAN Announces Patent Acquisition

WiLAN (TSX:WIN)(NASDAQ:WILN) announces that it has acquired more than 3,300 patents from Freescale Semiconductor ("Freescale"), a leader in processing and sensing solutions

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## **Cambridge chemists make super-battery breakthrough**

A breakthrough in electrochemistry at Cambridge university could lead the way to rechargeable super-batteries that pack five times more energy into a given space than today's best batteries, greatly extending the range of electric vehicles and potentially transforming the economics of electricity storage.

Chemistry professor Clare Grey and her team have overcome technical challenges in the development of lithium-air batteries — the only cells theoretically capable of giving electric cars the range of petrol and diesel vehicles without having to carry excessively bulky and heavy battery packs.

If the technology can be turned from a laboratory demonstrator into a commercial product, it will enable a car to drive from London to Edinburgh on a single charge, with batteries that cost and weigh one-fifth of the lithium-ion cells that power today's electric cars.

"What we've achieved is a significant advance for this technology and suggests whole new areas for research," said Prof Grey. "We haven't solved all the problems inherent to this chemistry but our results do show routes forward."

## **MediaTek confident on shipping 150M LTE chips this year**

MediaTek has revealed that it will meet its target set earlier this year to ship 150 million long-term evolution (LTE) chips. The company announced this bullish forecast amid the declining smartphone market and increased competition from rivals such as Spreadtrum in China.

Global smartphone growth is expected to slow to 10.4 per cent this year, down from 27.5 per cent in 2014, according to market research firm IDC. Reaching the 150 million unit target "should be no problem," said MediaTek CFO David Ku. During the current Q4, MediaTek will probably ship 95 million to 105 million smartphone chips, of which more than half will be LTE products, he said.

## **IoT, 3D printing will drive computing forward**

Even with PC market's historic decline, HP chief technologist Shane Wall believes innovations in wearables, the Internet of Things and 3D printing will boost the computing industry. Wall is set to take on his role next month when the company starts working as a stand-alone PC and printer maker.

Analysts have mixed views about the future of the PC and the prospects for dividing into two companies Hewlett Packard, an icon of Silicon Valley. But Wall was upbeat in an interview with EE Times, sharing his ideas of the future and a few colourful stories from his past.

There's plenty of room for innovation in conventional PCs, said Wall who has spent most of his career in the PC industry, much of it at HP. He described new computing markets in which HP Inc. will play, although it's not clear whether the company has clearly defined platforms for many of them.

## **ARM GPU to bring smartphone-quality graphics to wearables**

ARM has announced a low power GPU for wearables and the Internet of Things (IoT). According to the company, the 32bit Mali 470 offers smartphone-quality graphics and requires half the power of ARM's previous graphics processor generation using the same process geometry.

"Every company that contributes IP or components into [IoT] devices needs to do their bit to reduce the amount of power needed by those electronics," said ARM product manager Dan Wilson. "We've made a range of micro-architectural optimisations to power Mali 470," he said.

ARM targeted three areas to cut power in Mali. The company updated most of the chip's processing blocks within the scheduling pipeline to operate on quads, while reducing the frequency of control and state-update operations. ARM also increased the amount of clock gating in areas including L1 caches and completed bypassed blocks.

## **WiLAN Announces Patent Acquisition From Freescale Semiconductor**

WiLAN (TSX:WIN)(NASDAQ:WILN) announces that it has acquired more than 3,300 patents from Freescale Semiconductor ("Freescale"), a leader in processing and sensing solutions. The portfolio was acquired under WiLAN's partnership model. Financial terms were not disclosed.

"Our strategy to grow WiLAN is based in large part on acquiring high quality patents, monetizing our expanding patent portfolio and defending that portfolio," said Jim Skippen, CEO. "Between the recently acquired Qimonda patent portfolio and now the Freescale portfolio, we have added more than 10,000 high quality patents in just the last two

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quarters. With the Freescale portfolio, we have already documented over 77 examples of patent use in various companies' products and we believe this portfolio will be a key driver for revenues in the future."

The acquired portfolio includes U.S. and foreign patents across a range of technologies, including processors, memory, semiconductor packaging, wireless, and the Internet of Things, among others. WiLAN believes this portfolio is complementary to its existing portfolios and presents new growth opportunities. Several companies have been identified as potential licensees and WiLAN has begun efforts to launch a licensing campaign.