

# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

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### USB-C Is Increasingly the Answer

Energy consumption is one of the biggest challenges for the mobile technology sector. USB-C was supposed to be primarily a connectivity option, but it is increasingly finding favor because it is also a useful means of managing power in portable devices.

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### The Edge AI Battle Is Just Beginning

In the past two years, artificial intelligence has morphed from academic marvel to global megatrend. Machine learning in some form is set to revolutionize almost everything — consumer, automotive, industrial, every area of electronics — and, beyond that, to affect society and our lives in ways we don't yet know about.

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### Nvidia Reveals World's Smallest AI 'Supercomputer'

Nvidia has launched the Jetson Xavier NX, a new board which features the computing power of the AGX Xavier in the form factor of the Jetson Nano (70 x 45mm). The Xavier NX board can achieve 14 to 21 TOPS INT8 performance at power budgets between 10W and 15W, respectively.

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### TALK TO US



### VW Pits its New Golf Against the 5G Lobby

Volkswagen last week unveiled the eighth generation of its iconic Golf hatchback, sporting not just a fresh look but also V2X (vehicle-to-vehicle, vehicle-to-infrastructure) communication skills.

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### EVENTS

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

10 June - 2019 – London UK

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

– 17 Sept 2019 – London UK

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### Energy Harvesting is The Future of Power Supply

Energy-saving initiatives are a key driver in the growth of the energy harvesting equipment market. Companies are considering a whole series of tools necessary for energy harvesting to satisfy the growing demand for energy.

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## **USB-C Is Increasingly The Answer**

Energy consumption is one of the biggest challenges for the mobile technology sector. USB-C was supposed to be primarily a connectivity option, but it is increasingly finding favor because it is also a useful means of managing power in portable devices.

In this ever-evolving mobile ecosystem, devices become more and more intelligent and powerful, which means that they all require more energy to work. Although manufacturers strive to reduce battery consumption, the common problem with smartphones, wearable devices, fitness bracelets, tablets, and laptops is the high energy consumption after a couple of hours of use at full capacity, necessitating a session with power supply to recharge the battery. Therefore, one of the many challenges for designers is assessing the energy factor, estimating the energy needed, and designing very efficient power management configuration.

## **The Edge AI Battle Is Just Beginning**

In the past two years, artificial intelligence has morphed from academic marvel to global megatrend. Machine learning in some form is set to revolutionize almost everything — consumer, automotive, industrial, every area of electronics — and, beyond that, to affect society and our lives in ways we don't yet know about.

What this means for the industry is that practically every processor vendor has identified machine learning as a goose that will lay golden eggs. The race is on to position one's own approach as the right solution to accelerate specific workloads in the area that holds the most potential: machine learning outside the data center, or AI at the edge.

## **Nvidia Reveals World's Smallest AI 'Supercomputer'**

Nvidia has launched the Jetson Xavier NX, a new board which features the computing power of the AGX Xavier in the form factor of the Jetson Nano (70 x 45mm). The Xavier NX board can achieve 14 to 21 TOPS INT8 performance at power budgets between 10W and 15W, respectively. This amount of processing power would enable running multiple neural networks in parallel, and processing data from multiple high-resolution image sensors simultaneously, according to the company.

The Jetson Xavier NX board features an Nvidia Volta GPU AI accelerator with 384 CUDA cores and 48 tensor cores, with two Nvidia deep learning accelerators. Its CPU is a 6-core Nvidia Carmel Arm 64-bit CPU.

## **VW Pits Its New Golf Against The 5G Lobby**

Describing the new Golf as “digitalized, connected, and intuitive to operate,” the German carmaker boasted it is “the first Volkswagen to use swarm intelligence from traffic via Car2X.” As Volkswagen explains it, Car2X (or V2X) “can warn against hazards on an anticipatory basis.”

Translation: It can see what's coming and duck.

Wireless connectivity can get the new vehicle such information as changing weather, signs, nearby accidents, hazardous road conditions, and the erratic behavior of nearby cars. That's the promise of V2X.

Despite a socially conscious goal established more than 20 years ago to dramatically reduce fatalities by building wireless infrastructure dedicated for road safety, V2X has become one of the most politically charged tech battles of all time.

## **Energy Harvesting is The Future of Power Supply**

Energy-saving initiatives are a key driver in the growth of the energy harvesting equipment market. Companies are considering a whole series of tools necessary for energy harvesting to satisfy the growing demand for energy.

Growing concerns about the environment and the desire to save energy are some of the factors that are supporting the acceptance of technology at a deeper level in society. Applications related to IoT, building automation, and the strong demand for energy savings will be the driving forces of the energy harvesting market. The automotive industry will be another pivotal market, given the growing demand for clean energy in vehicles.

Several countries from different regions offer incentives and investments for research and development in energy harvesting. The development of Smart Factory and IoT technologies and the desire to replace batteries less frequently (or to not use any at all) are among the other key factors that should drive the global market.