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The Global Semiconductor Industry Analysts

## FH MONDAY

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### Turning Tyres into Graphene

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### TALK TO US



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NIO and NXP Collaborate on 4D Imaging Radar Deployment

Electric vehicle (EV) maker NIO Inc. will leverage NXP Semiconductors' automotive radar technology, including its ground-breaking 4D imaging radar solution, to enable significant improvements in front radar performance.

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## **VNA Software Runs On Raspberry Pi**

Pico Technology has re-written the software for its USB-connected vector network analysis (VNA) tester to run on a wider range of new technologies including the Raspberry Pi single board computer.

The PicoVNA 5 software is designed for modern hardware including Linux on a PC, Mac, AArch64 and the Raspberry Pi 3 and up to unlock new processing and feature possibilities as well as maintaining compatibility with older computer hardware, while making efficient use of

PicoVNA 5 allows developers to customise an unlimited array of frequency domain and time domain viewports display channels for the PicoVNA 106 or 108, as well as add and group limitless markers with comprehensive user configurable readouts. It also allows limitless cross references of memory traces with a modern, multi-port User Interface.

## **Qualcomm swallows V2X rival Autotalks**

Qualcomm has been pushing into the automotive market for some time – with some success. Now it is taking over the chip manufacturer Autotalks. In doing so, it intends to significantly expand its position in V2X communication.

Electronic, automated communication between vehicles and between vehicles and an intelligent infrastructure plays an important role in the digital transformation of the automotive industry. It represents one of the foundations for next-generation software-defined vehicles that will enable new business models while transforming the driving experience through new services, personalisation and, above all, safety. Vehicle-to-everything (V2X) communication technologies have been developed to enable vehicles to communicate with each other and their environment, and are playing an increasingly important role as they become critical sensors for vehicle safety systems.

## **Turning Tyres into Graphene**

Nanografen, a Graphene Flagship partner based in Turkey, is producing graphene from waste tyres with the goal of improving recycling systems and making automotive vehicles more eco-friendly

By producing graphene in this way, Nanografen lowers the cost of graphene. Using waste tyres as a starting material – and applying recycling and upcycling technology for mass production in the plastic industry – is cheaper than many other forms of graphene production. For these reasons among others, Nanografen's innovative work shows both high market and environmental potential.

There currently exist significant problems in recycling waste tyres or 'end-of-life' tyres – meaning tyres from cars and other vehicles and devices that can no longer be used.

Indeed, waste tyres are one of the world's most problematic sources of waste due to their large volume and the fact that they also contain a range of ecologically hazardous components. Burning waste tyres as a means of disposal generates a lot of smoke that carries toxic chemicals, like carbon monoxide and sulphur oxides.

## **NXP, Infineon reported to be in TSMC, Bosch wafer fab team**

NXP Semiconductors and Infineon Technologies AG are part of a TSMC-led venture planning to spend up to €10 billion on a 28nm wafer fab in Dresden, Germany, according to Bloomberg

The two European chip giants are part of an initiative from TSMC and Robert Bosch that was first reported on last month (see TSMC could partner with Bosch for 28nm fab in Germany). At that time it was reported that TSMC had not yet committed to the plan. The latest report said that TSMC could make a decision in August.

The fab would be eligible to receive up to a 40 percent subsidy from the German government and European authorities although such terms could present a sticking point in negotiations.

## **NIO and NXP Collaborate on 4D Imaging Radar Deployment**

Electric vehicle (EV) maker NIO Inc. will leverage NXP Semiconductors' automotive radar technology, including its ground-breaking 4D imaging radar solution, to enable significant improvements in front radar performance. The cars will be able to detect and classify objects such as other vehicles and vulnerable road users in high-way and complex urban scenarios and at distances of up to 300m, bringing more safety to the roads and driving comfort for end users.

OEMs increasingly focus on the introduction of safety and convenience features to take autonomous driving services to the next level. NXP's imaging radar technology expands radar's capabilities from measuring range and speed, to include direction, angle of arrival, and elevation measurement. Fine-resolution point clouds enhance environmental mapping and scene understanding, enabling the detection and classification of objects beyond the range of human eyesight while measuring the objects' velocity under almost all weather and light conditions. The technology is a key step in improving road safety and saving lives, it allows the car to 'see' a motorcycle driving close to a large delivery truck or a child entering a roadway between parked cars.