

# FutureHorizons



The Global Semiconductor Industry Analysts

## FH MONDAY

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### Siemens' Digital Factory Strategy Dissected

Siemens closed the acquisition of Mentor Graphics in March 2017. How's that working out for the electronics industry? This marriage — an EDA business bought by a powerhouse of infrastructure solutions — initially inspired skepticism among investors, the EDA community and media.

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### EDA Startup Rises From Ashes of ATopTech

SAN FRANCISCO — A startup, formed from the auctioned assets of ATopTech, showed up at the Design Automation Conference (DAC) here this week open for business and with two well-respected EDA veterans newly added to its leadership team

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### Semiconductor Nanomaterials Offer New

It is crucial that we prevent the Earth from warming by more than two degrees Celsius compared with the pre-industrial era. This is a key aim of the 2015 Paris Climate Agreement. To achieve this goal, greenhouse gas emissions have to be drastically reduced.

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### TALK TO US



### ST Offers eSIMs at Wafer Level

STMicroelectronics has become the first chip maker to be accredited by the GSMA for loading embedded SIM (eSIM) chips with connection credentials such as certificates and operator profiles before shipping.

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– 12 Nov 2018 – London UK

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

– 18 Sept 2018 – London UK

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### NOR in for Automotive Ride

As cars get smarter and demand more memory, many technologies are angling for the driver's seat, but it's safe to say NOR flash at least gets to ride shotgun.

As a successor to EEPROM in many applications thanks to its programmability capabilities, NOR flash is finding new opportunities in application areas that need fast, non-volatile memory, including communications, industrial and automotive

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## **Siemens' Digital Factory Strategy Dissected**

SAN FRANCISCO — Siemens closed the acquisition of Mentor Graphics in March 2017. How's that working out for the electronics industry?

This marriage — an EDA business bought by a powerhouse of infrastructure solutions — initially inspired skepticism among investors, the EDA community and media. However, one year later, speaking of Siemens' "Digital Factory" strategy in an investors' conference in New York last month, Siemens AG CEO and President Joe Kaeser laid out facts and made a compelling case for the Mentor acquisition:

Siemens' digital factory initiative is paying off nicely, according to Kaeser, particularly after the Mentor deal. Siemens' 4 percent share in the digital factory market in the first quarter of fiscal 2017 jumped to 20 percent in the second quarter of fiscal 2018.

## **EDA Startup Rises From Ashes of ATopTech**

SAN FRANCISCO — A startup, formed from the auctioned assets of ATopTech, showed up at the Design Automation Conference (DAC) here this week open for business and with two well-respected EDA veterans newly added to its leadership team.

Avatar Integrated Systems features substantially all of the technology of ATopTech, including the popular Aprisa and Apogee place-and-route tools used by a number of chip companies. The company also features most of the former employees of ATopTech — including ATopTech co-founder and chief architect Ping San Tzeng — as well as former Cadence Design Systems executives Chi-Ping Hsu and Charlie Huang.

ATopTech filed for bankruptcy last year and put its assets up for sale after losing a long-running legal battle with No. 1 EDA vendor Synopsys. ATopTech's assets were quietly scooped up in bankruptcy court by Avatar's Chairman, Jingyuan Han, a Hong Kong businessman and steel magnate who has been listed by Forbes magazine as the 136th richest person in China.

## **Semiconductor Nanomaterials Offer New Solar Technology**

It is crucial that we prevent the Earth from warming by more than two degrees Celsius compared with the pre-industrial era. This is a key aim of the 2015 Paris Climate Agreement. To achieve this goal, greenhouse gas emissions have to be drastically reduced. And for this to happen, we need a global energy revolution, with fossil fuels such as oil, gas and coal being largely replaced by renewable energy sources.

So far, so obvious. However, it is well known that difficulties are being experienced in reaching these climate goals, and Dr. Michael Zürich is certain that this is not just due a lack of political will.

"It would definitely be possible to accelerate the energy transition if, for example, we had better solar technology," says Zürich, a physicist who obtained his PhD at Friedrich Schiller University in Jena and has been doing research at the renowned University of California at Berkeley since 2015. He points out that the silicon-based solar modules currently in use have an efficiency of at most 20 per cent. In other words: with current modules, more than three-quarters of the solar energy cannot be used. "We need alternatives to silicon that enable a more efficient conversion of solar energy into electricity," adds Zürich.

## **ST Offers eSIMs at Wafer Level**

STMicroelectronics has become the first chip maker to be accredited by the GSMA for loading embedded SIM (eSIM) chips with connection credentials such as certificates and operator profiles before shipping.

The eSIMs, customized with connection credentials, enable smaller form factors, greater security, and increased flexibility. Chip-scale, permanently embedded, and electronically reprogrammable, eSIMs save space inside smartphones for extra features or battery capacity, while enabling different types of connected devices in tiny form factors for an expanding range of markets and applications, such as smart watches and internet-of-things (IoT) devices including smart meters, remote sensors, or gateways.

## **NOR in for Automotive Ride**

TORONTO — As cars get smarter and demand more memory, many technologies are angling for the driver's seat, but it's safe to say NOR flash at least gets to ride shotgun.

As a successor to EEPROM in many applications thanks to its programmability capabilities, NOR flash is finding new opportunities in application areas that need fast, non-volatile memory, including communications, industrial and automotive. The latter, of course, is getting a lot of attention thanks to autonomous vehicle development.

Macronix International, which describes itself as the leading supplier of NOR flash overall, find itself in the third position for automotive. But Anthony Le, senior director of marketing, ecosystem partnership and North America automotive, said the company is confident it will lead that segment in the next two to three years.