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TALK TO US

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Lattice Bolsters Security with Secured FPGA

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Leti Designs GaN MicroLEDs For Smartwatches, TVs

At Display Week 2019 in San Jose, California, research institute Leti described a new technology for fabricating gallium nitride (GaN) microLED displays on a CMOS process that significantly reduces transfer steps and eliminates the size limit for applications ranging from smartwatches to large televisions.

The new approach fabricates elementary units of all-in-one red, green, and blue (RGB) microLEDs on a complementary metal-oxide-semiconductor (CMOS) driving circuit and transfers the devices to a simple receiving substrate. The units can then be fabricated with a full-semiconductor, wafer-scale approach.

While microLED displays promise exceptional image quality and better energy efficiency than existing liquid crystal display (LCD) and organic light-emitting diode (OLED) technologies, there are currently significant barriers to commercialization, according to Leti. One of the biggest challenges is improving the driving electronics performance, which requires more power to deliver brighter images and more speed to support continuously increasing demands for ever higher resolution. Faster electronics are required to power millions of pixels in a fixed-frame time in microLED displays, but existing thin-film transistor (TFT) active matrix display technology cannot provide the necessary current and speed.

Siemens Aims To Lessen The Headache Of SoC Design

The development and validation of complex SoCs for robocars and advanced driver assistance systems (ADAS) is territory littered with landmines.

Every little anticipated or unanticipated variable – either inside a vehicle or resulting from an infinity of road conditions — poses a conundrum. Often after completing an intricate automotive SoC design, chip designers realize they must go back and re-spin it – sometimes repeatedly – before they get it right.

This kind of iterative design process is every SoC designer's worst nightmare.

"In developing and validating an automotive SoC," David Fritz, global technology manager, Autonomous and ADAS at Siemens AG, explained, "The input [designers must deal with] is 'the whole world' – including whatever weather and road conditions a vehicle must operate in. And the output that must be verified is that their new SoC/vehicle is not running over anyone."

Tensilica's New DSP Targets SLAM

Vision and AI applications in smartphones are evolving as rambunctiously as AI in drones, AR/VR (augmented & virtual reality), robotics and surveillance markets.

System designers are no longer just talking about adding face detection or face recognition. They've been there and done that. Increasingly listed as "must-have" new features in vision and AI apps are depth sensing, image stitching, de-warping, eye-tracking, HDR (high-dynamic range) processing and simultaneous localization and mapping (SLAM).

Against this backdrop of ever-expanding vision and AI applications, Cadence Design Systems, Inc., this week rolled out its Q7, a new member of its Tensilica Vision DSP product family."

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A reported leaked internal memo at Arm has instructed all employees, including in its China subsidiary, to stop working with and supporting Huawei. It would be one of the biggest blows to date in the US-China trade war.

The UK's BBC said it has seen an internal memo issued on 16th May 2019 telling employees to stop "all active contracts, support entitlements, and any pending engagements" with Huawei and its subsidiaries to comply with the US trade clampdown on Huawei. We contacted Arm for comment, and a spokesperson told us it was taking this action to "comply with all of the latest restrictions set forth by the U.S. government".

It advised staff to send a note informing Huawei (or related) employees that due to an "unfortunate situation" they were not allowed to "provide support, delivery technology (whether software, code, or other updates), engage in technical discussions, or otherwise discuss technical matters with Huawei, HiSilicon or any of the other named entities".

Lattice Bolsters Security With Secured FPGA

In a double announcement, Lattice Semiconductor unveiled a new control FPGA with enhanced security features, and updated its SensAI stack to improve artificial intelligence (AI) performance on its low power FPGAs by a factor of ten.

This is the company's first silicon release since new CEO Jim Anderson took over last August, at which point most of the senior leadership team also changed. At the company's financial analyst day in New York today, Anderson made reference to "remodelling" the company, completely revamping almost every element of the business, said Patrick Moorhead, president and principal analyst at Moor Insights & Strategy