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The Global Semiconductor Industry Analysts

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Synopsys Teams With SMIC, Brite Semi on IoT Platform

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Sea-to-Air Drone Goes Stealth

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MicroLED Pits Big Apple vs. Tiny LED Chips

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TALK TO US

The U.S., China and the Chip Industry

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Synopsys Teams With SMIC, Brite Semi On IoT Platform

SAN FRANCISCO — EDA and IP vendor Synopsys Inc. has partnered with Chinese foundry Semiconductor Manufacturing International Corp. (SMIC) and ASIC design services specialist Brite Semiconductor to create a platform for Internet of Things (IoT) designs based on a Synopsys IP subsystem.

The IoT platform lowers design costs by providing customers with a starting point for creating IoT designs and enables the integration of customized functions on demand, the companies said.

The platform includes Synopsys' DesignWare ARC Data Fusion Subsystem along with an ARC EM9D processor, USB and I3C IP solutions, according to the companies. It was integrated by Brite Semi's design services using SMIC's 55-nm ultra-low power process, resulting in the development of a test chip demonstrating up to 45 percent reduction in dynamic power and 70 percent reduction in leakage power compared to SMIC's 55LL process, they said.

Sea-to-Air Drone Goes Stealth

LAKE WALES Fla. —Johns Hopkins' Applied Physics Laboratory (APL) has prototyped an unmanned aerial-aquatic vehicle, aptly dubbed the Flying Fish, that the lab says is the first UAAV to use a fixed delta wing design. Stealth fighter jets have a delta (triangular) wing shape to add structural rigidity and enable the craft to dive more easily. In the Flying Fish, the delta wing maximizes the drone's buoyant lift as it emerges from the water, enabling it to transition directly from underwater propulsion to flight, according to APL researchers.

"There are other drones that can be released underwater, float to the surface, then take off with their helicopter-like propellers, but ours is the first to use a fixed wing to fly both in air and underwater," robotics researcher Joe Moore told EE Times. APL robotics researchers Eddie Tunstel and Robert Osiander worked with Moore on the project.

MicroLED Pits Big Apple vs. Tiny LED Chips

MADISON, Wis. — Differentiating one smartphone from another is no easy feat. A display, however, is the one constant that smartphone vendors believe they can depend on to wow their customers. A new display technology with visible differences in a screen size, resolution, brightness and power consumption could scramble the market.

Apple's anxiously awaited iPhone X, unveiled just this week, is the first iPhone to feature an OLED display — long after competitors Samsung and LG brought to market smartphones with OLED. Of course, unlike Samung and LG, Apple doesn't have its own display technology. Yet.

The U.S., China And The Chip Industry

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It comes as little surprise that last week's decision by U.S. President Donald Trump to block the acquisition of Lattice Semiconductor by an equity firm funded partly by the Chinese government ruffled a few feathers in China.

According to the state run news agency Xinhua, a spokesman for China's Ministry of Commerce balked at the decision, telling reporters at a press conference that foreign governments shouldn't use government review of acquisitions to implement protectionism under the guise of protecting national security.

IBM Simulates Complex Chemistry With Quantum Computing

TORONTO — A novel algorithm developed by IBM scientists is improving the understanding of complex chemical reactions and optimizing quantum computing.

The scientists have developed a new approach to simulate molecules on a quantum computer using a seven-qubit quantum processor to address the molecular structure problem for beryllium hydride (BeH2), which is the largest molecule simulated on a quantum computer to date, according to IBM. The results are significant as they could lead to practical applications such as the creation of novel materials, development of personalized drugs and discovery of more efficient and sustainable energy sources.