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The Global Semiconductor Industry Analysts

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GM Announces \$7 Billion for Michigan Battery Plant, Renovations

In a news conference today, General Motors Co. CEO Mary Barra announced the company would invest more than \$7 billion across four of its Michigan factories in a bid to ramp up the company's electric-vehicle production.

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Redpine Founder Launches AI Processor Startup

Ceremorphic, an AI chip startup emerging from stealth mode this week, is readying a heterogeneous AI processor aimed at model training in data centers, automotive, high-performance computing, robotics and other emerging applications.

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Quantum Computing Enlisted to Improve EV Batteries

IonQ and Hyundai Motor Co. are collaborating to create new variational quantum eigensolver (VQE) methods for studying lithium compounds and chemical interactions within battery chemistry. VQE is an algorithm for determining the set of values used to solve a given optimization problem

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TALK TO US



ST Microelectronics to double investments due to chip shortage

Due to the ongoing chip shortage that is crippling parts of the supply chain, ST Microelectronics (ST) plans to double its capital spending this year, buoyed by high demand for its semiconductors.

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Allegro unveils industry's smallest 3D sine/cosine position sensor

Allegro MicroSystems Inc., a provider of sensing and power solutions for motion control and energy-efficient systems, has introduced its new A3230 3D sine/cosine Hall-effect position sensor integrated circuit (IC).

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GM Announces \$7 Billion for Michigan Battery Plant, Renovations

In a news conference today, General Motors Co. CEO Mary Barra announced the company would invest more than \$7 billion across four of its Michigan factories in a bid to ramp up the company's electric-vehicle production. The latest moves include a new battery factory and upgrades for existing plants. According to Barra, the new factory and renovations will create 4,000 new jobs and retain 1,000.

The largest items in the announcement are \$4 billion in renovations for GM's Orion Assembly plant to enable it to build the company's announced electric pickup trucks and \$2.6 billion to build a third battery plant operated by GM and LG Energy Solution's joint venture Ultium Cells LLC near Lansing, Michigan. In addition, two other plants near Lansing will each receive \$510 million for other upgrades and new production.

Redpine Founder Launches AI Processor Startup

Ceremorphic, an AI chip startup emerging from stealth mode this week, is readying a heterogeneous AI processor aimed at model training in data centers, automotive, high-performance computing, robotics and other emerging applications.

Venkat Mattela, founding CEO of Redpine Signals, launched the AI processor startup in April 2020 after selling Redpine Signals' wireless business to Silicon Labs for \$308 million. Ceremorphic's heterogeneous AI processor is based on Taiwan Semiconductor Manufacturing Co.'s (TSMC) 5-nm process technology.

Quantum Computing Enlisted to Improve EV Batteries

IonQ and Hyundai Motor Co. are collaborating to create new variational quantum eigensolver (VQE) methods for studying lithium compounds and chemical interactions within battery chemistry.

VQE is an algorithm for determining the set of values used to solve a given optimization problem. The algorithm uses the variational principle to calculate the base state energy of a Hamiltonian, or the rate of change over time in the condition of a dynamic physical system. The accuracy of conventional methods are constrained due to computational limitations.

The partners will develop a battery chemistry model that can run on a quantum computer that would be used to simulate the structure and energy of lithium oxide. The goal is enhancing the performance, cost and safety of lithium batteries.

ST Microelectronics To Double Investments Due To Chip Shortage

Due to the ongoing chip shortage that is crippling parts of the supply chain, ST Microelectronics (ST) plans to double its capital spending this year, buoyed by high demand for its semiconductors.

During ST's fourth quarter earnings announcement, the company will spend between \$3.4 billion and \$3.6 billion in capital spending in 2022, up from \$1.8 billion last year, which included a first production line at its Agrate, Italy, 300 mm fab.

ST manufactures semiconductors for a variety of industries manufacturing microelectromechanical systems (MEMS), sensors and processors for electric cars, industrial, consumer electronics and the communication industry. Its biggest clients include Tesla Motors and Apple Inc.

Allegro Unveils Industry's Smallest 3D Sine/Cosine Position Sensor

Allegro MicroSystems Inc., a provider of sensing and power solutions for motion control and energy-efficient systems, has introduced its new A33230 3D sine/cosine Hall-effect position sensor integrated circuit (IC). The A33230 is the smallest 3D sine/cosine sensor currently available in the market, and offers system designers a cost-effective solution for automotive and industrial applications with a quick time to market.

The A33230 contains two discrete analog signal paths for superior high-speed performance, and the tinySource: Allegro MicroSystems Inc.

SOT23-W package size makes it ideal for situations where PCB space is at a premium. The IC can also be used as an angle sensor, provided the system includes an electronic control unit capable of performing CORDIC calculations on the two outputs.