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## The Global Semiconductor Industry Analysts

# FH MONDAY

### IBM Bets on Cognitive Computing

IBM is putting all its chips into the cognitive computing pot at its PartnerWorld Leadership Conference here this week. "Cognitive computing, and Watson in particular, are becoming the essence of transformation at IBM," IBM CEO Ginni Rometty said during her keynote address here.

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### Altair Readies Cellular IoT IC with GPS Inside

Is this the year for service providers to take the plunge into cellular IoT networks? Cellular IoT chip suppliers certainly hope so.In that optimistic spirit, Altair Semiconductor, now a Sony company,announced Wednesday (Feb. 15) a narrow-band CAT-M1 and NB1-based cellular IoT chip, dubbed ALT1250.

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### US adds MEMS, sensors to military ordnance

Several works have been made by the U.S. Army Armament Research, Development and Engineering Centre (ARDEC) based at Picatinny Arsenal, New Jersey. These include the Small Arms Deployable Sensor Network that allows intelligence gathering from inside a building without entering a building

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### Nvidia to power Japan's petascale computer for AI

Nvidia has teamed up with the Tokyo Institute of Technology to build what could be Japan's fastest AI supercomputer, Tsubame 3.0.
Built on Nvidia's accelerated computing platform, Tsubame 3.0 is expected to deliver more than twice the performance of its predecessor, Tsubame 2.5.

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### NanoLEDs double as light detectors

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A research group from the United States and South Korea has presented a type of nanoLEDs with brightness levels exceeding 80,000cd/m², and capable of operating as light emitters and detectors.
In their study entitled "Double-heterojunction nanorod light-responsive LEDs for display applications," the dual-mode LEDs enable types of interactive displays

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## IBM Bets On Cognitive Computing

LAS VEGAS—IBM is putting all its chips into the cognitive computing pot at its PartnerWorld Leadership Conference here this week.

"Cognitive computing, and Watson in particular, are becoming the essence of transformation at IBM," IBM CEO Ginni Rometty said during her keynote address here.

According to Rometty, IBM is betting the company on cognitive computing in the cloud, dedicating its 54 cloud data centers to support Bluemix—the dashboard for Watson's cognitive computing capabilities and application programmer interfaces (APIs).

Rometty said the architectural changes made by Bluemix at IBM would trickle-down to influence everything downstream in computing.

## Altair Readies Cellular IoT IC With GPS Inside

MADISON, Wis. – Is this the year for service providers to take the plunge into cellular IoT networks?

Cellular IoT chip suppliers certainly hope so.

In that optimistic spirit, Altair Semiconductor, now a Sony company, announced Wednesday (Feb. 15) a narrow-band CAT-M1 and NB1-based cellular IoT chip, dubbed ALT1250.

Although Altair is late coming to the CAT-M1/NB1 market compared to rivals such as Sequans (Paris, France) and Intel, it's set to leapfrog the others with the new ALT1250, boasted Eran Eshed, Altair's co-founder and vice president of worldwide sales and marketing. The ALT1250 is more advanced "in terms of cost, ease of integration and service provisioning," he said in a phone interview with EE Times. "We believe our chip is at least a generation ahead of any other CAT-1/NB1 chips on the market today

## US Adds MEMS, Sensors To Military Ordnance

Several works have been made by the U.S. Army Armament Research, Development and Engineering Centre (ARDEC) based at Picatinny Arsenal, New Jersey. These include the Small Arms Deployable Sensor Network that allows intelligence gathering from inside a building without entering. ARDEC has developed wireless sensor nodes (WSNs) that fit into a small-arms round and be fired into a building. The WSN includes microphones, magnetometer, still image camera, GPS and a mesh radio network that is capable to sense and report the presence of the people in the building.

In addition to their work is the development of proximity sensors small enough to fit into 30mm calibre ammunition, guidance and control systems that fit into 40mm projectiles, miniature laser igniters for small calibre ammunition and small, high-density power sources.

## Nvidia To Power Japan's Petascale Computer For AI

Nvidia has teamed up with the Tokyo Institute of Technology to build what could be Japan's fastest AI supercomputer, Tsubame 3.0.

Built on Nvidia's accelerated computing platform, Tsubame 3.0 is expected to deliver more than twice the performance of its predecessor, Tsubame 2.5. It will use Pascal-based Tesla P100 GPUs, which are nearly three times as efficient as their predecessors, to reach an expected 12.2 petaflops of double precision performance, according to Nvidia. That would rank it among the world's 10 fastest systems according to the latest TOP500 list, which was released in November.

The system is expected to deliver more than 47 petaflops of AI horsepower. A combination of Tsubame 3.0 and Tsubame 2.5 will pack a performance of 64.3 petaflops, making it Japan's highest performing AI supercomputer, according to Tokyo Tech.

## NanoLEDS Double As Light Detectors

A research group from the United States and South Korea has presented a type of nanoLEDs with brightness levels exceeding 80,000cd/m², and capable of operating as light emitters and detectors.

In their study entitled "Double-heterojunction nanorod light-responsive LEDs for display applications," the dual-mode LEDs enable types of interactive displays. About 50nm long and 6nm in diameter, the all-solution-processed DHNR light-responsive LEDs include QD directly in contact with two different semiconductor materials within the nanorod. In this configuration and depending on the voltage bias, the quantum dots can improve radiative recombinations or lead to efficient separation of photo-generated carriers.