



SEMICONDUCTOR BIZ INSIGHT

- *Your 5 minutes monthly e-link digest brought to you by VLSI Consultancy*

Hi,

Cloud computing, Machine learning, Artificial intelligence have been some of the hot topics this month.

Alibaba has teamed up with NVidia with a \$1B bet on cloud computing, embedded vision chip company Movidius has extended its collaboration with Google for Deep Learning, Google has created a VR arm and then some more.

.....Leaves quite a bit of opportunity facets for the semiconductor industry.

Have a good read and wish you Gong Xi Fa Cai from this part of the world.

Warm Regards
Meenu

KEY TAKEAWAY

From the Asian arena

Toshiba to sell chip operations and focus on its flash memory business, Foxconn to expand in India, Samsung, TSMC top available wafer fab capacity

Mergers & Acquisitions

Apple (Flyby Media), Sony (Altair Semiconductor), JV (Qualcomm & TDK, Qualcomm and Guizhou province in China)

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Local Asia Pacific News

Alibaba's AliCloud partners with NVidia for Artificial Intelligence

Source: NVidia – 21st January 2016

Alibaba Group's cloud computing business, AliCloud, signed a new partnership with NVIDIA to collaborate on AliCloud HPC, the first GPU-accelerated cloud platform for high performance computing (HPC) in China. The two companies will also create a joint research lab.

LSIS signs deal with sensor manufacturer for smart factory leadership

Source: Lee Min-hyung, The Korea Times – 21st January 2016

The LS Group affiliate said that it has signed a MoU with Autonics, a domestic industrial sensor maker, over mutual collaboration on building more digitalized factories

Foxconn to expand facilities, products in India

Source: EET India– 15th January 2016

At present, the contract manufacturer has facilities in Tamil Nadu and Andhra Pradesh. It has also started building a new plant in Maharashtra with a \$5-million investment.

Samsung, TSMC remain tops in available wafer fab capacity

Source: IC Insights – 6th January 2016

Collectively the top 10 leaders had installed capacity of 11,737K wafers/month at the end of the year which equates to 72% of global capacity and up slightly from 10,885K wafers/month or 71% in 2014.

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Industry Headlines

STMicro to cut 1400 jobs and quit set top box business

Source: Reuters – 27th January 2016

Set-top box business has lost \$500m in the last two years. French government criticizes decision and calls for new strategy.

Google's deep learning comes to Movidius

Source: Junko Yoshida, EE Times – 27th January 2016

Movidius, an ultra-low-power computer vision-processor startup best known for its partnership with Google on Project Tango, has extended its relationship with Google. This time, the collaboration is focused on neural network technology, with plans to accelerate the adoption of deep learning in mobile devices.

Intel tops chip R&D spending but industry research growth slowing

Source: Silicon Valley Business Journal – 26th January 2016

A record \$56.4 billion was spent on research and development in 2015 according to IC Insights. But that is just 0.5 percent higher than spending levels in 2014, the smallest rate of increase since the financial market collapse of 2009.

Western Digital buys IBM storage patents

Source: Telecom Paper – 26th January 2016

Western Digital has acquired over 100 patents from IBM in distributed storage, object storage and emerging non-volatile memory for an undisclosed amount. The companies have also entered into a patent cross-license agreement.

Google creates virtual reality arm, names executive to run it

Source: Reuters – 13th January 2016

Google has been flirting with virtual reality but never quite fully dived into it until now. In May last year, the company announced a partnership with action-camera maker GoPro to enable 360 degree view in virtual reality, using a new technology that Google had developed

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Industry Headlines

Amazon is now selling its own ARM based chips

Source: The Verge – 7th January 2016

Annapurna Labs announced its Alpine line of ARM-based processors nearly a year after Amazon acquired it for a reported \$350 million. The company says its chips are designed for Wi-Fi routers, media streaming devices, connected home products, and data storage gear, and that they've already been used in commercial products from Asus, Netgear, and Synology.

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Financial Watch

Qualcomm's fiscal 1Q16 earnings hit by softness in smartphone

Source: Yahoo Finance – 30th January 2016

Qualcomm's revenue fell 19% YoY (year-over-year) to \$5.8 billion but topped analysts' estimate of \$5.7 billion. The company's MSM (mobile station modem) chip shipments fell 10% YoY to 242 million units.

Samsung Electronics announces fourth quarter & FY 2015 results

Source: Samsung – 28th January 2016

Facing global economic headwinds, including a sharp fall in oil prices, the company's fourth quarter earnings fell QoQ, as the components side of the business was impacted by weakened prices for DRAM chips and LCD panels due to overall softer demand in the IT market and PCs.

SMIC obtains nearly \$750M investment

Source: EET Asia – 28th January 2016

According to a Moody's Investors Service report, the Shanghai Integrated Circuit Investment Fund (SICIF) has revealed its plan to put in roughly \$3 billion in Semiconductor Manufacturing International Corp. (SMIC) and two other Shanghai-based chip manufacturers.

UMC reports fourth quarter 2015 results

Source: PR Newswire – 27th January 2016

Fourth quarter consolidated revenue was NT\$33.85 billion, a 4.2% decrease from NT\$35.32 billion in 3Q15 and a YoY decline of 9.1% from NT\$37.24 billion in 4Q14.

Nissan shells out \$37.75M for UK Li-ion battery plant

Source: EET Asia – 26th January 2016

The Sunderland facility is one of three Nissan battery production sites globally and will provide battery modules for the all-electric Nissan LEAF and e-NV200 electric van, which is manufactured at Nissan's facility in Barcelona, Spain.

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Financial Watch

ASML has record revenue for 2015; will raise dividend, buy back stock

Source: Jeff Dorsch, Semiconductor Manufacturing & Design Community – 20th January 2016

It reported net income of about \$1.5 billion on revenue of \$6.855 billion for 2015. That compared with 2014's net income of \$1.3 billion on revenue of \$6.385 billion.

TSMC says 2016 capex to be at least 210 pct more than 2015's four year low

Source: Reuters – 14th January 2016

TSMC estimated capital expenditure for this year of \$9 billion to \$10 billion

Gartner says worldwide semiconductor revenue declined 1.9 percent in 2015

Source: Gartner – 7th January 2016

Worldwide semiconductor revenue totaled \$333.7 billion in 2015, a 1.9 percent decrease from 2014 revenue of \$340.3 billion. The top 25 semiconductor vendors' combined revenue increased 0.2 percent, which was more than the overall industry's growth. The top 25 vendors accounted for 73.2 percent of total market revenue, up from 71.7 percent in 2014.

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Mergers & Acquisitions, Joint Ventures, Spin-offs

Apple acquires spatial perception startup Flyby Media, reportedly has a secret VR team

Source: Jordan Novet, Venture Beat – 29th January 2016

This technology could be useful for tracking head-mounted displays in virtual reality or augmented reality systems. And that fits with Apple's current interest in virtual reality, including the recent Metaio and Faceshift acquisitions.

Second Taiwan chip firm shareholders ok plan for partial sale to Tsinghua Unigroup

Source: Reuters – 28th January 2016

Shareholders of ChipMOS Technologies approved a plan for China's state-backed Tsinghua Unigroup to take a quarter stake in the Taiwanese chip test and packaging company

Foxconn details offer for troubled Sharp, Gou steps in: source

Source: Reuters – 27th January 2016

Innovation Network Corporation of Japan (INCJ), still seen as a front runner, will go head-to-head with Foxconn in the bidding for Sharp and its third bailout in under four years.

Sony acquires Altair Semiconductor, Israeli innovator of LTE modem chip technology

Source: Sony – 26th January 2016

With the acquisition of Altair, Sony aims to not only expand Altair's existing business, but also to move forward with research on and development of new sensing technologies.

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Mergers & Acquisitions, Joint Ventures, Spin-offs

Toshiba to sell chip business

Source: Jiji Press/The Japan News – 24th January 2016

The company has decided to sell most of its semiconductor chip operations to focus on its flash memory business. The operations that will be put up for sale include the division that handles system large-scale integrated circuits, used in a wide range of products including automobiles and home appliances.

BMW, Viessmann form energy storage company

Source: EE Times – 18th January 2016

The decision to launch the new business is based on the consideration that with a globally increasing trend towards renewable energies, the demand for energy buffer and storage systems will rise and electromobility will play an increasing role in this scheme. Another motivation is the endeavour to reduce the overall carbon dioxide emissions per vehicle produced.

Qualcomm enters \$280m joint venture with Chinese province

Source: EE Times – 18th January 2016

Officials from Qualcomm and Guizhou provincial government signed a strategic cooperation agreement to form the Guizhou Huaxintong Semiconductor Technology Co., Ltd (GHST). The joint venture will focus on the design, development and sale of advanced server chipset technology in China.

Qualcomm, TDK form \$3B JV to make components used in wireless tech

Source: Reuters – 13th January 2016

As part of the deal, module design and manufacturing assets, plus related patents will be carved out from TDK and its subsidiaries, which will be bought by RF360 Holdings and Qualcomm's subsidiaries, valuing the transaction at about \$3 billion.

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Market Outlook

Gartner says more than half of large organizations will compete using advanced analytics and proprietary algorithms

Source: Gartner – 28th January 2016

Advanced analytics continues to be the fastest-growing segment in the business intelligence (BI) and analytics market, forecast to grow almost 14 percent to reach \$1.5 billion in 2016. By 2018, algorithm marketplaces will be combined with Platform as a Service (PaaS) to boost advanced analytics and enable secure sharing and monetization of raw data.

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Views & Opinions

Why use a package?

Source: Semiconductor Engineering – 21st January 2016

Subramanian Iyer, distinguished chancellor's professor in UCLA's Electrical Engineering Department and a former fellow and director of the systems scaling technology department at IBM sat down with Semiconductor Engineering to talk about the future of chip scaling.

Executive Insight: Sehat Sutardja

Source: Semiconductor Engineering – 11th January 2016

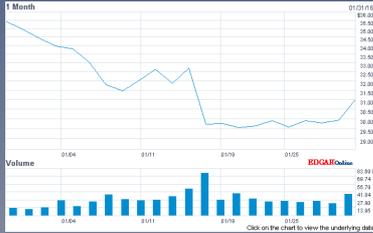
Sehat Sutardja, chairman and CEO of Marvell, sat down with Semiconductor Engineering to talk about new approaches for design and memory and why costs and time to market are forcing changes in Moore's Law

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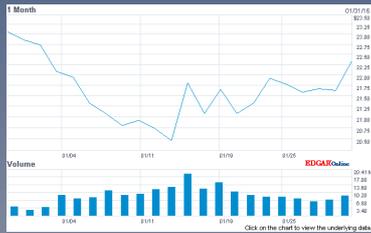
Stock Watch

Source: NASDAQ

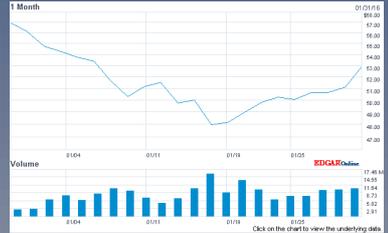
For the year just gone: 2015 year chart for Intel, TSMC, TI, Broadcom, STM, Xilinx, KLA-Tencor, Qualcomm, Avago, UMC, Applied Materials, Teradyne



INTEL



TSMC



TI



BROADCOM



STMICROELECTRONICS



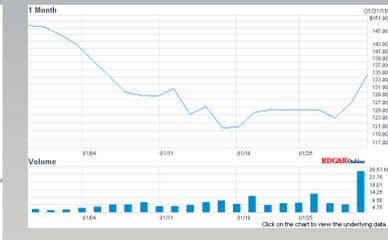
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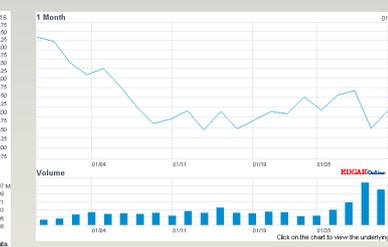
AVAGO



UMC



APPLIED MATERIALS



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