October 2016 issue

SEMICONDUCTOR BIZ INSIGHT

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

Hi folks,

Automotive and Machine learning/AI are becoming the poster children of the semiconductor family. And M&A was a hot space this last month.

Graphics hardware provider NVidia announced its new SoC, Xavier as the AI super computer for cars. Renesas acquired Intersil upping its ante in power management and automotive sector. The speculated sale of NXP to Qualcomm would help diversify the latter's business and make it a bigger supplier to the automotive industry.

Intel followed up its August acquisition of Deep Learning chip company Nervana by a low power machine vision one - Movidius. Both are into neural networking. Movidius made news when Google used its vision SoC in its computer vision technology platform called Project Tango. I had cited Movidius in one of my blog posts early this year. An interesting product from Movidius is its Fathom neural compute stick which basically is a modular deep learning accelerator on a standard USB stick; brings neural networking compute to any device. Cool!

The Insights Capsule this month features Applied Materials. The strategy share at the Analysts Day last month mentioned how the semiconductor industry's major transition from lithography-based scaling to materials-enabled scaling has increased Applied's addressable opportunity. Take a peek at some of datasets shared in it especially on the adjacencies.

I leave you to mull on that and the recent speculation of a potential acquisition of NXP by Qualcomm. Have fun.

Cheers
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KEY TAKEAWAY

From the Asia-Pac arena
Expansion – Micron (Singapore), LeEco, Huawei (India), Qualcomm (China), Linde (Taiwan), LG into robotics, UMC expanding MEMS biz

Mergers & Acquisitions
Intel (Movidius), Shanhai Capital (Analogix Semiconductors), Tessera (DTS), MosChip (elitePLUS Semiconductor Technologies, Orange Semiconductor, Maven Systems)

Insights Capsule

Insights Capsule:
Have picked up Applied Materials this month. Take a look at the startups its venture capital arm, Applied Ventures, has put its money into. Also included are some interesting news on some of its markets: core and adjacent.

Want to derive insights for your informed decision-makings? Simply drop me an email

Local Asia Pacific News

Micron expands Singapore NAND flash memory fab facility
Source: Eileen Yu for By the Way/ZDNet – 26th September 2016

Chipmaker has completed expansion works on its NAND flash memory fabrication facility, estimated to cost US$4 billion "over a number of years".

Four IC industry clusters have emerged in China, TrendForce reports
Source: CTimes – 26th September 2016

Committed policy efforts and investments from the Chinese government have resulted in the formation of four IC industry clusters that are respectively located in the country's four major regions of activities – the Yangtze River Delta, the Pearl River Delta, the Beijing-Tianjin Bohai Sea region and the Central-Western region.

China's Huawei to start India smartphone production in Oct
Source: Swati Bhat and Paul Carsten, Reuters – 23rd September 2016

The plant will be operated with the Indian arm of electronics manufacturer Flextronics International Ltd in the southern Indian city of Chennai, Huawei said.

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Local Asia Pacific News

[Qualcomm opens Qualcomm Communication Technologies in Shanghai for semiconductor test manufacturing]
Source: Business Wire – 12th September 2016

Qualcomm announced the opening of Qualcomm Communication Technologies (Shanghai) Co. Ltd., a semiconductor test facility in the Waigaqiao (WGQ) free trade zone in Shanghai and its first foray into providing manufacturing services for semiconductors.

[UMC inks new deal to expand MEMS business]
Source: Peter Clarke, EET Asia – 11th September 2016

UMC has formed a partnership with another Taiwanese company, Asia Pacific Microsystems Inc., to provide MEMS manufacturing using 200mm and 300mm diameter wafers. UMC can provide 200mm and 300mm production facilities while APM can provide MEMS know-how, prototyping expertise as well as 6-inch production capacity, the companies said

[IC sector will continue to lead Taiwan's industrial growth: minister]
Source: Focus Taiwan News Channel – 7th September 2016

With its strong presence in the global market, the local IC industry is expected to develop more applications and create further business opportunities for Taiwan's industrial sector, Lee said.

[China eyes bigger share of global semiconductor market]
Source: News – 6th September 2016

China is planning to invest more than $100 billion to gain a bigger share of the semiconductor industry, a new report from Bain & Company reveals. The report suggests that the country is a long way from closing the widening gap between supply and demand.

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Local Asia Pacific News

LG Electronics says to invest in robot technology
Source: Reuters - 3rd September 2016

It said it would aggressively invest in robots, seeking to capitalize on advancing artificial intelligence that may eventually lead to sophisticated machines performing everyday human tasks.

Linde establishes new electronics R&D centre in Taiwan
Source: PRNewswire – 1st September 2016

The R&D Center is part of an ongoing expansion and investment in the Asia Pacific region for Linde Electronics. Last year Linde commissioned the world's largest on-site fluorine plant to supply SK Hynix, in addition to bringing multiple new electronics project on-stream in Asia.

LeEco opens manufacturing facility in Greater Noida
Source: EET India – 1st September 2016

After Xiaomi, Vivo and Gionee, another Chinese company is setting up shop in India. LeEco, a Chinese internet ecosystem company, has partnered with Taiwan's Compal Electronics to open a smartphone manufacturing facility in Greater Noida with an initial investment of ☐33.53 crore ($5 million), with an additional ☐13.41 crore ($2 million) earmarked for the automation process, local media outlets have reported.

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Industry Headlines

NVidia's new Xavier SoC is an AI supercomputer for cars
Source: Darrell Etherington, Techcrunch – 29th September 2016

NVidia's work in reinventing itself as a leader in automated-car technology continues with the launch of a new system-on-a-chip called Xavier and launched today at the GPU Technology Conference Europe.

Chip designer ARM launches processor fit for driverless cars
Source: Kate Holton, Reuters – 20th September 2016

The Cortex-R52 processor, which has been under construction for between 3 and 5 years, has been licensed to Franco-Italian chipmaker and partner STMicroelectronics in its first deal.

GlobalFoundries plans multibillion dollar investment at Fab 8
Source: Larry Rulison, timesunion – 16th September 2016

It plans a multibillion-dollar investment at its Fab 8 computer chip factory in Malta to start making next generation 7-nanometer chips for customers.

WD picks 3D stacked ReRAM for storage class memory
Source: Peter Clarke, EET Asia – 5th September 2016

Western Digital's plan is to release storage-class memory products based on 3D ReRAM within a couple of years manufactured in the same wafer fab that produces stacked NAND flash memory.

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Financial Watch

Samsung narrows gap with Intel in Q2 chip segment
Source: Kim Han-joo, Yonhap News Agency – 19th September 2016

Samsung Electronics saw its chip sales reach US$9.45 billion in the April-June period to account for 11.3 percent of the global chip market, while Intel's shipments stood at $12.27 billion with a 14.7 percent market share, according to the data compiled by industry tracker IHS.

Samsung Electronics says sold shares in four companies
Source: Reuters – 18th September 2016

Samsung said in a statement it sold about half of its shares in ASML while selling its entire 4.2 percent stake in Seagate. The company also sold its 0.7 percent stake in Sharp Corp and its 4.5 percent stake in Rambus Inc.

Chinese chipmaking equipment billings more than double in April-June quarter
Source: Nikkei Asian Review – 14th September 2016

China's chipmaking equipment billings in the April-June period grew 118% from a year earlier to $2.27 billion, the highest-ever level for the country and second only to Taiwan.

Nanya posts best revenue of year as demand lingers
Source: Lisa Wang, The Taipei Times – 7th September 2016

Revenue climbed 6.46 percent to NT$3.46 billion (US$110.15 million) from July's NT$3.25 billion, the chipmaker said, attributing the growth to a price rebound of 3 percent and a 5 percent increase in shipments.

Fab equipment spending ascending
Source: SEMI – 6th September 2016

The SEMI report indicates that the two industry segments leading to the biggest increase in 2H16 are Foundry (29 percent) and Memory (21 percent). Growth in Memory is driven by a significant increase in 3D NAND spending in 2016.

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Mergers & Acquisitions, Joint Ventures, Spin-offs

NXP semiconductors explores sale to Qualcomm: sources
Source: Reuters – 29th September 2016

The deal would help diversify Qualcomm's business and make it a bigger supplier to the automotive industry. Talks are in the early stages and NXP may entertain other offers, should they emerge, according to one of the sources.

M&A agreements reach $55.3B in 2016
Source: Vivek Nanda, EET Asia – 26th September 2016

IC Insights points out a major difference between M&A activity this year and the last: many of the nearly 20 deals struck in 2016 are for parts of businesses, divisions, product lines, technologies or certain assets of companies. This year has seen a surge in the agreements in which semiconductor companies are divesting or filling out product lines and technologies for newly honed strategies in the second half of this decade.

Shanhai Capital acquires Analogix Semiconductor for $500 million
Source: Dean Takahashi, Venture Beat – 20th September 2016

Shanhai Capital has led a consortium to acquire Analogix Semiconductor for more than $500 million. The chip company makes semiconductors that enable high-resolution displays China Integrated Circuit Industry Investment Fund (China IC Fund) also joined Shanhai Capital’s fund as a limited partner.

Tessera Technologies to acquire DTS
Source: Business Wire – 22nd September 2016

Tessera Technologies is a leader in developing innovative imaging and semiconductor packaging and bonding technologies and DTS is a premier audio solutions provider. The all cash transaction is valued at approximately $850M.

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Mergers & Acquisitions, Joint Ventures, Spin-offs

Applied Materials and A*STAR's IME to advance R&D in Fan-out Wafer level Packaging
Source: Globe Newswire – 20th September 2016

With an anticipated additional S$188 million of combined investment, the Centre will expand to a second location at Fusionopolis 2, in addition to the existing facility at Singapore's Science Park II.

MosChip acquires 3 companies , eyes IoT space
Source: EET India – 14th September 2016

Hyderabad-based MosChip Semiconductor Technology has signed final agreements to acquire elitePLUS Semiconductor Technologies, Orange Semiconductors and Pune-based Maven Systems.

Japan's Renesas pushes into autos with $3.2 billion Intersil buy
Source: Makiko Yamazaki, Reuters – 13th September 2016

The all-cash deal bolsters the Japanese group's efforts to refocus the company around automotive chips.

Intel is buying Movidius, a startup that makes vision chips for drones and VR
Source: Ina Fried, recode – 6th September 2016

Intel hopes to pair Movidius' technology with its own RealSense depth-sensing camera technology.

UMC forges strategic partnership with APM to enhance MEMS service capabilities
Source: Business Wire – 5th September 2016

UMC will leverage its 8" and 12" production capabilities with APM's 6" fab and extensive MEMS know-how and prototyping experience to provide chip designers with a flexible and scalable end-to-end MEMS manufacturing solution.

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Market Outlook

Intel raises revenue forecast as PC market improves
Source: Narottam Medhora, Reuters – 16th September 2016

Intel said on Friday it expected third-quarter revenue to be $15.6 billion, plus or minus $300 million, compared with its prior forecast of $14.9 billion, plus or minus $500 million.

Asia-Pacific to top 2016 regional IC sales in major system categories
Source: IC Insights – 14th September 2016

The Asia-Pacific region is particularly dominant with regard to IC market share in the communications and computer categories, and to a lesser extent in the consumer and industrial categories

TSMC expects 10% in revenue growth
Source: Lisa Wang, Taipei Times – 8th September 2016

TSMC predicted a composite annual growth rate of between 5 percent and 10 percent in the company's revenue in the period from last year through 2020. Half of the company's growth will still come from the smartphone segment, company's co-CEO Mark Liu said.

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Views & Opinions

Executive Insight: Jack Harding
Source: Ed Sperling, Semiconductor Engineering – 3rd August 2016

eSilicon's CEO looks at industry consolidation, competition, China's impact, and what's changing in chip design.

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Stock Watch

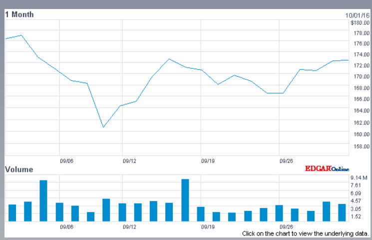
Source: NASDAQ

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

INTEL

TSMC

TI



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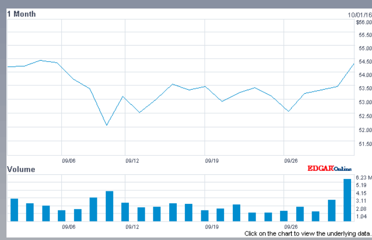

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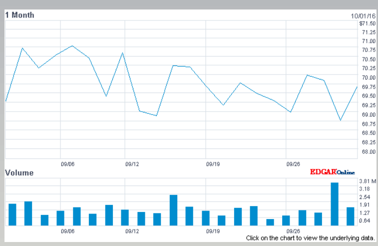

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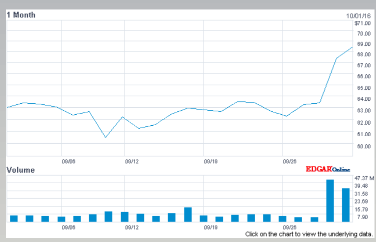
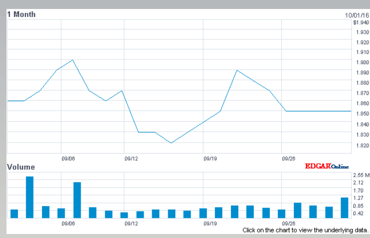
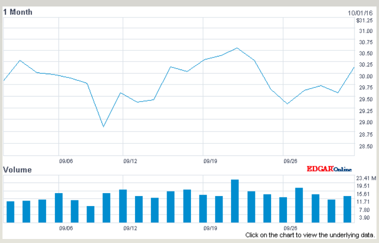


QUALCOMM



UMC



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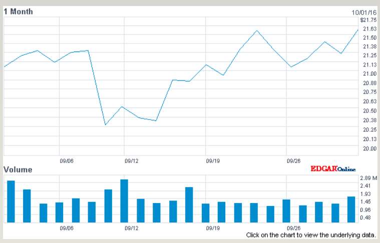

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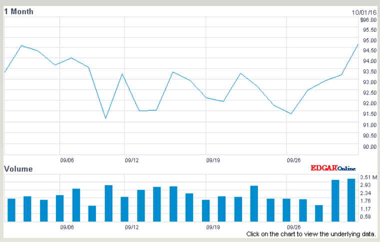

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