SEMICONDUCTOR BIZ INSIGHT

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

Hi,

One of the interesting news items last month was E-beam wafer inspection system maker "meeting" EUV lithography equipment manufacturer.

With the acquisition of Hermes Microvision, ASML has entered wafer inspection as well as mask inspection to support its EUV efforts. As ASML's CEO Peter Wenninck mentioned, **"The times of point solutions are gone. We need integrated solutions".**

And that's what the pure play foundries are also doing by including A&T into their portfolio.

China's semiconductor players are on a roll – see the sidebar for a snapshot

Have a good month ahead.

Cheers
Meenu

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KEY TAKEAWAY

Chinese semiconductor players on a roll

Tsinghua bets $7.5B on R&D, Half of the 19 fabs planned for this year are in China, Plan for $600M IC Science Park, new MEMS packaging line by Amkor, Acquisitions, Chip making JV with GlobalFoundries

Mergers & Acquisitions

ASML (HMI), Rambus (Inphi's memory biz), SMIC (Lfoundry), Cavium (QLogic), Silvaco (IPExtreme), A Chinese consortium (NXP's standard products division), A Chinese consortium (Exar's IML)

Local Asia Pacific News

TSMC's production capacity to be fully loaded in H2
Source: Pual Li, CTimes – 29th June 2016

The Economic Daily News pointed out the due to gradual growth in demand for chips for Apple and other cell phones, fingerprint recognition, semiconductors for automobiles, and image sensors, TSMC's 8-inch and 12-inch production capacities are at full capacity. Furthermore, clients must wait in a queue for their orders to be processed.

Amkor Technology opens MEMS packaging line in China
Source: Business Wire – 28th June 2016

This is driven by the increase in global demand for sensors from the smartphone and automotive markets.

China to build $600m IC Science Park
Source: David Manners, Electronics Weekly – 28th June 2016

China will build a park specifically for ICs near Beijing called the Zhongguancun Science Park.

China tech powerhouse Tsinghua bets $7.5 billion on R&D, urges faster reforms
Source: Elias Glenn, Reuters – 27th June 2016

As well as pledging 50 billion yuan in research and development spending over the next five years, Tsinghua will set up a 10 billion yuan fund to support commercialization of new technology.

Samsung to increase 3D NAND flash production
Source: Kishalaya Kundu, Android Headlines – 21st June 2016

With the demand for SSDs (Solid State Drives) increasing exponentially from the consumer and enterprise sectors alike, Samsung has now announced that it will reduce its DRAM production while pouring more money into its NAND flash business going forward.

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Local Asia Pacific News

China: new fab hub of Asia?
Source: Peter Clarke, EET Asia – 20th June 2016

Industry body SEMI reports that 19 wafer fabs will see construction this year as well as the next, and China will be responsible for more than half of them.

Samsung to take on TSMC on chip packaging technology
Source: Lee Min-hyung, The Korea Times – 14th June 2016

TSMC is known to hold a 50 to 60 percent yield rate to produce chips using its own FoWLP technology, according to an analyst.

Chinese investors should not get board seats on Taiwan chip firms: TSMC chief
Source: China Daily – 3rd June 2016

"I think investment (by Chinese investors) should be welcome," Taiwan Semiconductor Manufacturing Co (TSMC) chairman Morris Chang said. "But don't let the investor be able to appoint a director to the board."

GlobalFoundries partners with Chinese city Chongqing on chip-making JV
Source: Reuters – 7th June 2016

Chongqing is one of the world's largest manufacturing bases for computers, smartphones and other electronic devices, providing substantial demand for the joint venture.

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Industry Headlines

Chipmaker Micron to cut jobs after turnaround plans dashed
Source: Reuters – 30th June 2016

Micron's sales have fallen more than expected for three quarters now including the latest third quarter, and the company on Thursday forecast a steeper-than-expected drop in sales and a surprise adjusted loss for the current quarter.

Intel renews deal with Irish Research
Source: Peter Clarke, EE Times – 29th June 2016

Under the new deal Tyndall, which has conducted leading-edge research on junctionless and nanowire gate-all-around transistors, will research next-generation materials, devices and photonics technologies to make an impact on the challenges of developing future electronic devices.

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Financial Watch

Samsung doubles down on IoT with $1.2 billion US investment
Source: Brian Heater, TechCrunch – 21st June 2016

The investment will cover some 15,000 Samsung employees across the US. According to Forbes, the money will be split between startups in the space and Samsung's own operations, including a chip fabrication lab in Austin and a research center in Palo Alto.

TSMC May sales up 10%; market cap hits new high
Source: Focus Taiwan – 8th June 2016

Analysts said that with inventory adjustments in the global semiconductor industry coming to an end, many of TSMC's clients resumed buying to replenish their stocks. In addition, the firm benefited from deferred orders from some other clients during the month, which also pushed up its revenue, the analysts said.

Global semiconductor sales decrease in April; annual sales projected to dip slightly in 2016, rebound in 2017, 2018
Source: Dan Rosso, SIA – 7th June 2016

Regionally, year-to-year sales increased in Japan (2.2 percent) and China (0.3 percent), but decreased in Asia Pacific/All Other (-8.2 percent), Europe (-8.6 percent), and the Americas (-14.8 percent).

Fab tool billings fall 13% in Q1
Source: Dylan McGrath, EE Times – 7th June 2016

Global semiconductor capital equipment billings posted a year-over-year decline of 13% in the fourth quarter, led by precipitous declines of nearly 50% in Europe and more than 30% in the U.S. and South Korea, according to the fab tool vendor trade group SEMI.

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Mergers & Acquisitions, Joint Ventures, Spin-offs

Rambus to buy Inphi's memory business
Source: Dylan, McGrath, EE Times - 30th June 2016

Rambus said the deal would strengthen its position in the memory buffer chip market. The acquisition includes product inventory, customer contracts, supply chain agreements and IP.

SMIC acquires Lfoundry and enters into global automotive electronics market
Source: SMIC - 24th June 2016

This also represents the Mainland China IC foundry industry's first successful acquisition of an overseas-based manufacturer, which marks a major step forward in internationalizing SMIC.

Cavium to acquire QLogic
Source: Scientific Computing World - 20th June 2016

This acquisition is aimed at driving significant growth in the datacentre and storage markets as QLogic's portfolio of connectivity and storage solutions complements Cavium's portfolio of networking, compute, and security solutions.

ASML to buy Taiwan's Hermes Microvision for $3.1 billion in chip sector shake-up
Source: J.R. Wu and Shalini Nagarajan, Reuters - 16th June 2016

ASML has entered into an agreement to acquire e-beam wafer inspection specialist Hermes Microvision.

Samsung to acquire Joyent
Source: Richard Chirgwin, The Register – 16th June 2016

Container pioneer and Sun alumni lair Joyent has been bought by Samsung.

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Mergers & Acquisitions, Joint Ventures, Spin-offs

NXP sells standard products division to China
Source: David Manners, Electronics Weekly – 14th June 2016

The buyer is a Chinese consortium including Jianguang Asset Management Co (JAC) and Wise Road Capital. When the deal is finalised in Q1 2017, the unit will be re-named 'Nexperia' and will be headquartered in Nijmegen, The Netherlands

Exar to sell display IC subsidiary to Chinese firm
Source: Dylan McGrath, EE Times – 3rd June 2016

Analog and mixed-signal chip vendor Exar Corp. said it signed a deal to sell its Integrated Memory Logic Ltd. (IML) subsidiary to a consortium led by a Beijing-based fabless chip firm for $136 million.

Silvaco enters IP market with acquisition of IPExtreme
Source: Market Wired – 3rd June 2016

Silvaco enters the IP market with an initial focus on enabling large semiconductor companies and small to midsize IP development companies to monetize their captive IP assets and bring high quality, production-proven IP to the global semiconductor market.

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Market Outlook

[Semiconductor sales to drop by 2.4% in 2016: SIA]
Source: Dylan McGrath, EE Times – 10th June 2016

The Semiconductor Industry Association (SIA) trade group has joined the chorus of market watchers who expect semiconductor sales to decline in 2016.

[Equipment spending up: 19 new fabs and lines to start construction]
Source: SEMI – 9th June 2016

While semiconductor fab equipment spending is off to a slow start in 2016, it is expected to gain momentum through the end of the year. For 2016, 1.5 percent growth over 2015 is expected while 13 percent growth is forecast in 2017.

[Autonomous car sales will hit 21 million by 2035, IHS says]
Source: Kirsten Korosec, Fortune – 7th June 2016

The research firm says while the U.S. leads the world in initial deployment, Japan will be responsible for ramping up industry coordination and investment ahead of the Summer Olympics in Tokyo in 2020.

[Semiconductor market to “grow slightly” by 2018, says WSTS]
Source: New Electronics - 7th June 2016

Global sales of semiconductors in 2016 are predicted to amount to $327billion in 2016, slightly down from 2015, with growth returning in 2017 and 2018.

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Views & Opinions

Executive Insight: Simon Segars
Source: Ed Sperling, Semiconductor Engineering – 8th June 2016

Simon Segars, CEO of ARM, examines the future of mobile computing, how it intersects with the IoT, why ecosystems are vital, and how computing is evolving.

Executive Insight: Lip-Bu Tan
Source: Ed Sperling, Semiconductor Engineering – 6th June 2016

Cadence's CEO looks at what comes after mobile and where the real innovation is happening

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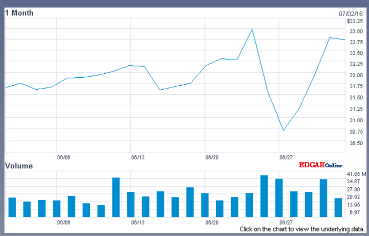
Stock Watch

Source: NASDAQ

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



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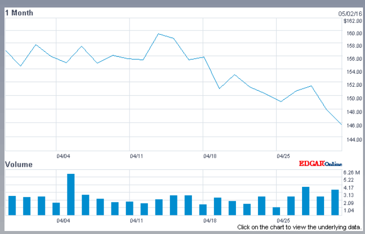

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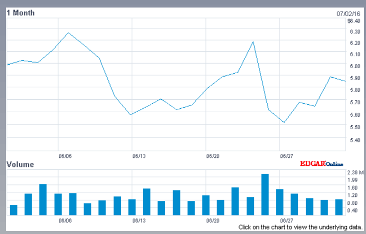

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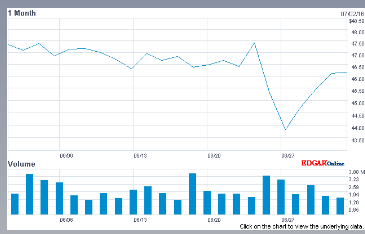

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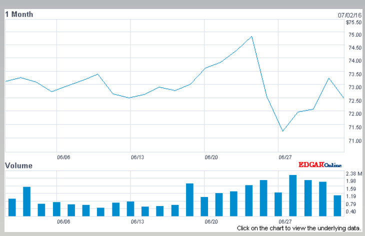

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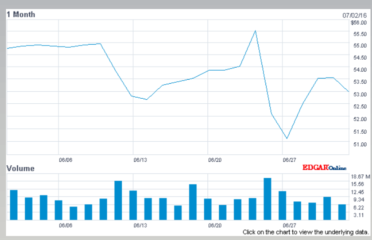

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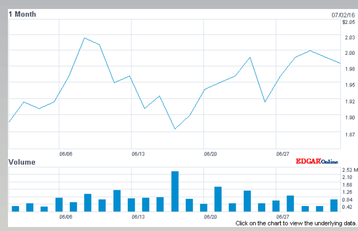

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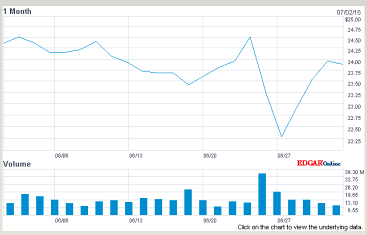
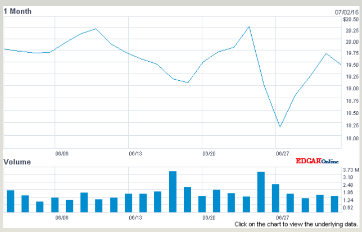


APPLIED MATERIALS



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