FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Monthly Newsletter

November/December 2011

Contents Page

Industry Overview

October's WSTS blue book showed IC units down 4.1 percent versus the same period last year, 1.1 percent sequentially from the month before. Conventional industry wisdom cried "total market meltdown", the result of the European debt crisis and the potential Euro contagination. Inventory is increasing; outlook is poor; and so the chip industry descended into even deeper doom and gloom … except us! A classic example of 'not being able to see the wood for the trees'. First, quarter Month 2 units are always down on quarter Month 1; down only 1.1 percent is actually quite good! Second, the inventory calculations simply reflect the maths … inventory levels in absolute terms are still incredibly low. Thirdly, the month in question was the busiest holiday month inn the global geographic calendar … most sensible people would have been on the beach sipping cocktails! Prophesies of a disastrous Q3 and meltdown in Q4 will prove to be seriously poor vision; although for some it will be self-fulfilling. Don't blame the market for that …

A full market summary and industry capacity round up can be found each month in our Semiconductor Monthly report.

ARM's Profit Doubles

Microchip designer ARM Holdings PLC said Tuesday that its third-quarter net profit more than doubled, driven by strong demand for smartphones and tablets, and forecast that its annual revenue will be in line with market expectations.

The U.K.-based company, whose microchip blueprints can be found in most mobile devices, including Apple Inc.'s iPhone and iPad, reported net profit of £31.5 million ($50.4 million) for the quarter to Sept. 30, from £14.8 million a year earlier. Revenues rose 20% to £120.2 million, thanks to the sale of about 1.9 billion ARM technology-based chips.

Alpha And Omega Semiconductor Intends To Exercise An Option To Acquire A Wafer Fabrication Facility From Integrated Device Technology

Alpha and Omega Semiconductor Limited ("AOS") AOSL -1.92% , a designer, developer and global supplier of a broad range of power semiconductors, today announced that it intends to exercise an option to acquire certain assets associated with a 200mm wafer fabrication facility from Integrated Device Technology, Inc. ("IDT") IDTI +2.75% . Under the existing foundry service arrangement with IDT, AOS has the option to acquire these assets for $26 million, and the option is exercisable between September 1, 2011 and November 15, 2011. AOS expects to exercise this option before the November 15, 2011 deadline.

Avago Debuts First 16 Gigabit Fibre Channel Transceiver

The new module, which incorporates an 850 nm gallium arsenide based VCSEL, is claimed to increase port density and deliver twice the data bandwidth of the current generation of fibre channel devices at nearly the same power level.

Avago Technologies has announced production availability of a 16 Gigabit Fibre Channel transceiver with industry-standard signalling rates up to 14.025 GBd**.**

Fujitsu : Announces Single-Chip Solution for Automotive Hybrid Instrument Clusters

Fujitsu Semiconductor Europe announces the expansion of its scalable line-up for instrument clusters, covering the range from MCUs for traditional clusters up to 3D graphic SoCs with the capability of driving virtual or free programmable clusters.

MB9EF126 ‘Calypso’ is the first member of Fujitsu’s FCR4 family of devices to be based on the well established ARM® Cortex™-R4 core operating at up to 160MHz and offering more than 200 DMips processing power. ‘Calypso’ is designed as a cost-efficient single-chip solution for hybrid automotive instrument clusters. It contains intelligent support for up to 6 traditional gauges as well as the 2D graphics engine ‘IRIS’ to drive a colour display in the same cluster. With its 2MB of Flash, 64KB of EEFlash and 208KB of RAM – all three protected by ECC – and the 2MB of embedded graphics RAM, it fulfils next-generation cluster requirements.

Globalfoundries Says Customers Now Using Its 28nm Technology

GlobalFoundries Inc, the world's No. 3 contract chipmaker, yesterday said it has as many as 35 customers designing chips using its cutting-edge 28-nanometer (nm) process technology, paving the way for an early shipment in the first quarter of next year.

GlobalFoundries, created out of the chip manufacturing operations of Advanced Micro Devices Inc and Singapore-based Chartered Semiconductor Manufacturing Ltd said most of its customers are expected to ship their products made on 28nm technology next year.

GM And LG Team Up On Electric Vehicles

General Motors and South Korea's LG Group have announced an agreement jointly to design and engineer electric vehicles.

"It's bringing in a non-traditional partner that thinks differently from us," the Detroit carmaker said. "It will allow us to bring electric vehicles to our customers faster and more affordably than we could do alone."

HP To Put Arm Chips In Servers

Hewlett-Packard has said it will begin making servers using chip designs from Arm Holdings from next year, the first time the UK company's architecture will be used in traditional computer hardware in direct competition with Intel.

Arm's low-power designs are used in most mobile phones, and in Apple's iPad tablet computer. Until now they have not been considered powerful enough to run larger computers and servers. Intel and AMD, which use the x86 architecture for chips, have dominated the server market

KeyStone Semiconductor Selected by USmart for World's First FM/DAB/DAB+ Digital Photo Frame in Production

KeyStone Semiconductor Corp. (KeyStone), a fabless semiconductor developer of advanced digital radio technologies announced today that USmart, a leading electronics product maker in Hong Kong, powered by KeyStone's KSW8650 FM/DAB/DAB+ single-chip, has started shipment of world's first FM/DAB/DAB+ photo frames.

Magnachip Unveils 700V BCD Technology For Smartgrid And Green Energy Applications

MagnaChip Semiconductor, a South Korea-based designer and manufacturer of analog and mixed-signal semiconductor products for consumer applications, has announced that it now offers ultra high voltage 700V BCD (Bipolar CMOS-DMOS) technology targeting smartgrid and green energy applications such as AC-DC adaptors and LED lighting.

MStar Wins 3D TV Chip Order From Skyworth, Says Paper

IC design house MStar Semiconductor has landed orders of single-chip solutions for 3D TVs from China-based Skyworth, according to a Chinese-language Commercial Times report. The report did not cite its source.

MStar was quoted as saying in previous reports that shipments of its TV chips would grow substantially in the second half of 2011. Shipments went flat sequentially in the second quarter due to seasonal factors.

Precise Biometrics And NXP Semiconductors Enter Partnership

Precise Biometrics (STO:PREC) and NXP announce that they have signed a partnership agreement to enable NXP to include Precise Match-on-Card™ on their smart-card chips. The partnership enables NXP to provide Precise Biometrics' industry-leading on-card fingerprint comparison technology on the chips used on smart identification cards.

Samsung President Sees DRAM Market Worsen Due To Thai Flood

Samsung Electronics' president expected Thailand floods to further hit the computer memory chip market by hurting PC production until the first quarter of next year.

The flooding since July hit production of hard disk drives (HDD) in the world's No.2 producer of the major PC component, compounding the woes of the PC industry, already struggling with a slowing economy and a challenge from smartphones and tablets.

Spreadtrum Counts on Taiwan's Chipmakers to Win 3G Battle In China

Spreadtrum Communications Inc. of mainland China has contracted Taiwan Semiconductor Manufacturing Co. (TSMC) and Advanced Semiconductor Engineering Inc. (ASE) to make its baseband chips designed on 40nm process rule amid white-hot competition among the mainland's 3G chip vendors.

Taiwan Foundries To Benefit From New Renesas Strategy, Says Paper

The massive earthquake and resulting tsunami that struck Japan in March has encouraged Renesas Electronics to further strengthen its BCP (business continuity plan) as part of efforts to reinforce the company's risk management system, according to a Chinese-language Commercial Times report. Outsourcing production to multiple foundries overseas is also part of the policy aimed at avoiding major production disruptions and minimizing operating losses due to natural disasters.

Tata Fails To Engineer Success For Nano

How could the company that saved the UK's Jaguar Land Rover from bankruptcy fail to turn the Nano – a car sometimes dubbed a miracle of frugal engineering – into a blockbuster?

That is the question being asked by analysts and investors following a turbulent year for the Tata Group, India's second-largest industrial company, controlled by Ratan Tata.

December

4G Handset Technology Boosts Anite

The roll-out of fourth-generation mobile technology and growing demand for high speed data services has boosted interim pre-tax profits at Anite by almost 40 per cent.

First-half revenues and turnover at Anite, which sells and maintains software to test mobile devices and telecoms networks, beat analysts' consensus expectations in spite of last month's 20 per cent upgrade in full-year forecasts.

ARM Holdings: Strong 'Arming' Market Share From Intel

"Design wins" drive semiconductor sales. In technology, companies fight hard to get design wins that have some meaningful shelf life. And in the semiconductor industry, the competition is fierce.

For over 30 years, Intel (NASDAQ:INTC) has dominated the microprocessor industry. This 800-lb. gorilla holds 80% of the share of microprocessors used in desktops, laptops and servers (Advanced Micro Devices (NYSE:AMD) has the other 20%.) Intel's x86 architecture of the central processing unit (CPU) dates back to Intel's 8086 that was released in 1978.

Freescale Makes 200 Mhz Operating ARM Cortex-M Based Mcus

The new Kinetis X series MCUs from Freescale Semiconductor based on ARM Cortex-M4 core (with DSP and floating point instructions) operate at operating frequency up to 200 MHz - the fastest of any Cortex-M-class MCU, claims Freescale. Kinetis X series internal memories include 1-4 Mbyte of flash and 0.5 Mbyte of SRAM, with multiple off-chip memory options also available for expansion headroom.

Fujitsu Semi Enhances Soc Design Productivity

Fujitsu Semiconductor Ltd selects chip design software provider, Magma Design Automation's Titan Analog Design Accelerator (Titan ADX) to optimise and port a variety of analogue IP circuits to new design specifications and processes.

According to Fujitsu Semiconductor, Titan ADX enhanced designer productivity, to accelerate turnaround time on systems on chip (SoCs) and to reduce the cost of analogue design and reuse.

IBM, Micron To Produce 3D Memory Chips

IBM and Micron Technology announced that Micron will begin production of new hybrid memory cube (HMC) device built using the first commercial CMOS manufacturing technology to employ through-silicon vias (TSVs)—IBM's 3D chip-making process.

The TSV process will be used in Micron's Hybrid Memory Cube. "IBM's advanced TSV chip-making process enables Micron's HMC to achieve speeds 15 times faster than today's technology."

Renesas Electronics And Renesas Mobile License Imagination Technologies' Powervr Series6 Graphics Technologies

London, UK and TOKYO, Japan, November 14, 2011 -- Imagination Technologies Group plc (LSE: IMG; "Imagination"), a leader in System-on-Chip Intellectual Property (SoC IP), Renesas Electronics Corporation (TSE: 6723; "Renesas"), a premier provider of advanced semiconductor solutions, and Renesas Mobile Corporation ("Renesas Mobile"), a wholly owned subsidiary of Renesas Electronics and an innovative supplier of advanced cellular semiconductor solutions and platforms, today announced that Imagination and Renesas Electronics have signed a multiuse license agreement for IP from Imagination's PowerVR Series6 ‘Rogue' graphics family.

Sharp To Supply LCD Panels To Apple For Next Ipad

TOKYO—Apple Inc. is adding Sharp Corp. as a maker of screens used in the next-generation iPad, people familiar with the situation said Thursday, as the U.S. consumer electronics company moves to diversify component suppliers for its products.

One of the people familiar with the matter said Apple's next iPad is expected to launch next year, and Sharp's Kameyama No. 2 plant in central Japan will manufacture LCD panels for the device.

Speeding Up Materials Design

A chemical compound designed with the aid of a Harvard-created computer program has turned out to be one of the best organic electronic materials to date. This new material, an organic semiconductor, could be used to make new electronics such as colorful displays that roll up. It's an important proof of principle for using computers to aid materials design.

Photons Serve Double Duty

Furnaces are a critical step in the manufacturing of billions of solar cells annually, but they demand significant resources to operate. After two decades of research on optical processing technologies, which has included 12 related patents, researchers at National Renewable Energy Laboratory, Golden, Colo., have learned that greater precision in the manufacturing process occurs by taking double advantage of photons. The photons can be used not only to heat the semiconductor wafer; the photonic effects that occur within the structure of the semiconductor can control mass transport within the semiconductor device.

Hybrid Solar Cell By-Passes Organic Dead-End

A European project aims to demonstrate robust solar cells that combine dye-sensitised and organic technologies.

For power generation, it is generally accepted that, however cheap it is, any solar cell technology will have to be at least 10% efficient to be successful, and will have to be robust for years under sunlight.

Wireless Infrastructure Seen As Growing Market For Gaas Ics

SAN FRANCISCO—The global market for gallium arsenide (GaAs) semiconductors used in wireless network infrastructure is projected to grow to reach about $320 million in 2015 from roughly $205 million in 2011, according to market research firm Strategy Analytics Inc.

With mobile data consumption continuing to skyrocket, operators are refining their wireless infrastructure network architecture to support the increasing data demand, according to Strategy Analytics (Boston). The firm's recent report on the GaAs and compound semiconductor market forecasts that developments like multiple input/multiple output (MIMO) antennas, heterogeneous networks, remote radio heads and small cells will increase the number of base station sectors, but reduce the transmit power required from each sector

Indian-American Develops Next-Generation Computer Chip

Indian-American Raj Dutt, an IIT-Kharagpur alumnus, has developed a next-generation energy-efficient computer chip that has caught the attention of the Pentagon, which is testing its application in the ambitious F-35 Joint Strike Fighters.

The breakthrough technology by Dutt, Chairman and CEO of privately-held APIC Corp and Photonic Corp, helps computer processors consume up to 90 per cent less energy and run up to 60 per cent faster.

Mexico Second Largest Supplier Of Electronics To The U.S.

Mexico is quickly becoming a world leader in the consumer electronics industry. Currently, the country is the second largest supplier of electronic products to the U.S. market. The electronics industry, which focuses on the manufacturing of audio and video devices, telecommunications and computer equipment and its parts, is one of the fastest growing industrial sectors in Mexico regarding its employment generation and export potential. Celestica is a clear example of this positive growth. This Canadian electronics designer and manufacturer created 2,000 new jobs in Monterrey in July 2011.

Transition To 450mm Semiconductor Wafers Finaly Gains Traction

For several years now, 450mm wafer processing has been under discussion, but apart from work on setting standards, little has actually emerged. Much discussion focused on whether the industry could actually afford to make this transition and whether it actually needs it. With the joint efforts of leading semiconductor manufactures as well as some support from governmental organizations, the transition of 450mm semiconductor wafers now looks inevitable.

Nordic EMS Industry To Provide Growth Opportunities

Overall electronic production, excluding components, in the Nordic countries (Norway, Sweden, Denmark and Finland) is expected to increase from EUR 13.88 billion in 2010 to EUR 14.53 billion in 2014, according to figures released by Reed Electronics Research (RER).

Communications equipment, both fixed line and wireless is the key sector primarily due to the dominant positions held by Ericsson and Nokia and also a high number of small to medium sized companies serving niche segments of the market. Communications accounted for 65% of the market in 2010 at EUR 9.06 billion with Industrial electronic equipment (including Medical, control & instrumentation and rail/traffic signalling) taking 31% or EUR 4.27 billion.

Mobile Tech Vet Pioneers DNA Analysis Methods

Semiconductor technology has been at the heart of multiple DNA sequencing systems under development. Chris Toumazou, a veteran of the mobile phone industry, has been one of the forces behind biomedical applications of silicon chips and other mainstays of the IT realm.

Bio-IT World's Kevin Davies chronicles Toumazou's progression from the mobile phone industry to the DNA analysis game in a recent article. The story brings us up to speed with Toumazou's company, DNA Electronics, which has developed a handheld diagnostic device called the SNP-DR that couples semiconductor techology with biochemistry.

Semiconductors For Femtocells And Picocells To Grow Tenfold By 2016

Multi-core processors, transceivers, amplifiers, filters, and TCXOs will see unprecedented growth in HetNet small cells, with market size growing at more than 50% per year, according to a new report released by Mobile Experts.

"The small-cell market is shifting from coverage applications to capacity applications," explained Joe Madden, Principal Analyst at Mobile Experts. "The average selling prices of semiconductors such as processors and power amplifiers will be increasing over the next few years, due to rapid growth in high-capacity, carrier-class small cells."

IBM And ARM Lead Way For Very Low Power SOI Chips

IBM and ARM are leading a group of semiconductor companies developing plans to port bulk CMOS designs to fabricate ICs on fully depleted silicon-on-insulator (FD-SOI) substrates.

With ultra-thin buried oxide layers, these devices will offer improved performance and lower operating power.

Singapore Plans Fabless Chip Firm Haven

The Singapore Semiconductor Industry Association (SSIA) has announced that it plans to support the formation and growth of fabless semiconductor companies in the city state, joining a number of other industry groups with similar goals.

The SSIA is the third group in recent days to propose an initiative that can provide support to fabless chip companies and to argue that help is needed from the supply-chain ecosystem because the traditional source of investment – venture capital firms in Silicon Valley – have largely turned their backs on semiconductor startups in recent years.

Ultrabooks To Account For 43 Percent Of Notebooks In 2015

Ultrabooks may have had a slow start, but they are now predicted to quickly capture market share and offer an opportunity of unexpected growth for the semiconductor industry.

ZoomIHS forecasts that 2 percent of notebooks will be ultrabooks in 2011, while the share will expand to 28 percent in 2013, to 38 percent in 2014 and 43 percent in 2015.

Silicon Labs Jumps Into 'New' Market: Car Radios

At a downtown audio laboratory last week, three engineers listened to their company's latest product.

It was the best car radio tuner chip ever invented, they agreed.

They weren't totally unbiased — their team at Silicon Laboratories Inc. did the inventing.

Silicon Labs has jumped full-force into a market your grandfather would have loved: car radios. While they've been around for decades, the car radio market is changing fast, in part because the radio has been incorporated into auto "infotainment" systems that have become selling features for many new cars. And the push is on to improve audio quality, which means better tuners.

Li-Ion Battery Charges 10x Faster

Imagine a cell phone battery that stayed charged for more than a week and recharged in just 15 minutes. That dream battery could be closer to reality thanks to Northwestern University research. A team of engineers from Northwestern University has created an electrode for lithium-ion batteries—rechargeable batteries such as those found in cell phones and iPods—that allows the batteries to hold a charge up to 10x greater than current technology. "Batteries with the new electrode also can charge 10 times faster than current batteries," according to the research

World's First Multi-Function Solar Charger

Singapore-based company Third Wave Power Pte Ltd has launched mPowerpad – which is claimed as the world's first multi-function, portable solar device that can power up digital devices; and packed with functions indispensable for users operating away from the power grid, like AM/FM/SW radio, reading light, flashlight and ultrasonic insect repellent.

Intricate 3D silicon crystals act as semiconductors for light

Dutch researchers have found a way to make large silicon crystals with a true three-dimensional internal architecture.

This substrate platform could be used in both faster conventional complementary metal-oxide semiconductor (CMOS) electronics, as well as the emerging field of optoelectronics.

The computer industry is currently awaiting the next generation of microprocessors, which are likely to incorporate 3D elements, with so-called ‘fin’ structures.

Wireless Contact Lens Soon A Reality

Researchers from Aalto University, Finland and the University of Washington have created a prototype contact lens that could provide hands-free information updates to the wearer. In-fact, the researchers have constructed a computerised contact lens and demonstrated its safety by testing it on live eyes. "There were no signs of adverse side effects."

At the moment, the contact lens device contains only a single pixel but the researchers see this as a "proof-of-concept" for producing lenses with multiple pixels which, in their hundreds, could be used to display short emails and text messages right before your eyes.

Giant Piezoelectric Effect To Improve MEMS Devices News

Researchers in the department of materials science and engineering and the Materials Research Institute at Penn State University, Pennsylvania, are part of a multidisciplinary team of researchers from universities and national laboratories across the US who have fabricated piezoelectric thin films with record-setting properties.

Estonian Start Up Takes On Giants Of Retail

A European start up that offers small shops cheap and easy to use retail software is extending its service by offering an NFC and magnetic credit card reader that integrates into its existing cloud-based suite.

Erply, based in London and Tallinn, specializes in point of sale and inventory management software for small shops. Its credit card reader, which officially launches today, costs $50 with a 1.9% transaction fee; less than fees charged by competing technologies offered by Square and Verifone.

Open Technologies Partners With Bright Computing To Serve The Russian HPC Market

(openPR) - Moscow, Russia and San Jose, California — Bright Computing, a leader in cluster management software, announced that Open Technologies, a leading systems integrator in Russia, has become a partner for the Russian HPC market. Providing Bright Cluster Manager® as an integral element of their HPC solutions will enable Open Technologies to offer customers powerful CPU and GPU clusters with a complete, user-friendly operating environment for high performance computing.

Muscling Into The Russian Computer Market

With the Russian computer market heating up as major global players focus on its rapid growth, Business RT spoke with Bai Yuli, VP, GM, Lenovo Russia and CIS, about the trends the major manufacturers see, and how they are leveraging this in Russia.

RT:What is the major trend in the Russian personal computer market, and how does this compare internationally?

BY: "Technological and product trends are more or less the same around the world. In Russia we see increasing importance of slates and tablets, notebooks consistently taking higher market shares than desktops, etc.But the most interesting and exciting part is Russia’s growth rate. Russia is one of the most actively growing markets in the world. It’s becoming one of the most important territories for Lenovo. Russia is already Lenovo’s fastest growing country in emerging markets group in terms of shipment growth rates (up 88% in Q4FY10/11

Honda Eyeing First Russian Car Plant

TOKYO (Reuters) - Honda Motor <7267.T> plans to set up its first assembly plant in Russia, the Nikkei business daily reported on Sunday, as Japan's No.3 automaker looks to lift its competitiveness in the fast-growing auto market.

The company is looking to invest several billion yen (tens of millions of dollars) to produce 30,000 to 50,000 cars annually, the Nikkei said, adding Honda has submitted the plans to the Russian government and had started talks with officials.

Siemens Unveils $1.37 Billion Investment Plan Over Three Years

Siemens will spend 1 billion euros ($1.37 billion) on projects in Russia over the next three years, company chief Peter Löscher said Monday.

He spoke after joining other major international chief executives and Prime Minister Vladimir Putin to discuss setting up state-of-the-art production facilities throughout Russia.

Yandex Partners Samsung For Russian Smart Tvs

Yandex, the search engine giant that dominates the Russian market, has announced a deal with Samsung to provide services for smart TVs inside the Commonwealth of Independent States, our sister site MarketWatch reports Tuesday.

Samsung Smart TV in these countries now features Yandex's TV widget with access to the company's online services. Samsung's Smart TV for users in the CIS now has Yandex as the default search engine with the portal's front page set up as the default homepage. Additionally, Yandex's services will also be available on bada 2.0 powered smartphones in the near future.

Russian Tech Veteran Launches US Fund

High quality global journalism requires investment. The investor behind some of Russia's best-known internet success stories, including Yandex and Ozon, is launching a $100m venture-capital fund in the US.

Leonid Boguslavsky, president and chief executive of Ru-Net, plans to invest in early-stage software, cloud computing and, in time, eCommerce and internet services, through a new office in New York.

Eastern Europe To Become EMS Global Hub : F & S

Electronics manufacturing activity in Eastern Europe will account for more than half of the overall European market, according to a new Frost & Sullivan report. The report has provided further support to Eastern Europe's anticipated march to becoming a new global hub for electronics manufacturing services (EMS).

The "Growth of Eastern Europe as a Electronics Manufacturing Services Hub" report said cheap labour cost, rising foreign direct investments and production networks growth will help fuel the trend.

It noted, however, that the region's market expansion chiefly rests on the availability of a skilled labour force.

World Economic Round Up

The International Monetary Fund (IMF) has cut its forecast for global growth to 4 percent and warned of severe repercussions to the global economy unless the euro-nations strengthen their banking systems and the US gets its fiscal affairs in order. They also cuts their growth forecast for Asian economies and said stronger currencies are needed to keep inflation under control. A projected 8.2 percent Gross Domestic Product growth this year and 8 percent in 2012 has been made for emerging Asian economies.

The travails of the developed world are beginning to hit fast growing countries like China, Brazil and Indonesia who are bracing themselves to offset any economic and financial damage.

The latest economic news by country to include USA, Europe, UK, Japan, China, Asia Pacific and India can be found each month in our Semiconductor Monthly Report.

Industry Events

Future Horizons Events

- Industry Forecast Briefing, London – 24th January 2012

To book your place on any of our events please contact us on:

Telephone: +44 1732 740440
Email: mail@futurehorizons.com

- Download Future Horizons Full Events Calendar Here

Industry Events

- 2011 IEEE International Electron Devices Meeting 5th – 7th December
- 2012 SPIE Photonics West 2012 - 21 - 26 January

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