FutureHorizons
The Global Semiconductor Industry Analysts

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The Geneva
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Post Forum Summary

International Electronics 2009

18th Annual International Electronics Forum

"Where The International Electronics Community meet"

Innovation, Vision & Strategy ...
Outsmarting The Competition

Ramada Encore,
Geneva, Switzerland
30 Sept - 2 October 2009

"Probably The Best
Global Industry Networking Event Ever"®

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Delegates feedback and Forum Photographs

Contents

"It was very well done and very much worth the time to attend. You have managed to deliver a very upbeat message, underpinned by solid data, that are helpful to get our industry back into full swing."

Sophia Business Angels

"I Thank you . It was indeed one of the best conferences I have ever attended with a lot of interactive sessions. The B2B was a very good initiative, everyone met each other before the forum had even started. I place on record my heartfelt thanks to Malcolm and his entire team."

Silicon Ventures

"It is me who ought to thank you and congratulate you. Great Forum in spite of adverse market conditions."

STMicroelectronics

"What great company the Future Horizons team were. Forum content was its usual high standard."

ATEEDA Ltd.

"The forum was all very interesting, some thing for everyone"

Emerald Group Publishing

Forum Programme

Wednesday Sept 30, 2009

17:00-19:30 **Forum Registration – Event Centre**
17:30-18:30 **B2B Speed Networking**
18:30-19:30 **Welcome Cocktail Reception**
Event Centre Area A & B
19:30-22:30 **Welcome Reception Dinner**
Event Centre Area B

Thursday October 1, 2009

From 06:30 **Breakfast**
Main Breakfast Room
From 07:30 **Forum Registration (Continued)**
Event Centre Area B
08:30-17:00 **Forum Proceedings**
Event Centre Area C
08:30-08:45 **Introduction & Welcome**
Malcolm Penn, Chairman & Chief Executive Officer, *Future Horizons*
08:45-09:00 **Welcome Addresses**
Welcome Address, Daniel Loeffler, Director
Department of Economics & Health, Geneva State

Session 1 "Shifting Industry Paradigms"

09:00-09:30 **Powering Out Of The Recession Through Innovation**
Maria Marced, President Europe, *TSMC*
09:30-10:00 **Feeding The World's Insatiable Appetite For Memory**
Brian Harrison, CEO, *Numonyx*
10:00-10:30 **Agile Customer Support Models For More Moore & More Than**
Jean-Marc Chery, Exec VP & CTO, *STMicroelectronics*
10:30-11.15 **Coffee Break Networking/Informal Discussions – Event Centre C**

Session 2 "Driving The Changes"

11:15-11:45 **Wireless Communications & Broadband For The Upturn**
Alain Dutheil, CEO, *STEricsson*
11:45-12:15 **3D Stacking Technology & Its Application**
Nobuaki Miyakawa, Director *Honda Research Institute*
12:15-12:45 **High Performance Semiconductor Solutions For Cloud Computing**
Young Sohn, CEO *Inphi*
12:45-14:00 **Forum Lunch**
Event Centre Area B

Session 3 "Infrastructure Changes"

14:00-14:30 **Information & Communication Technology - Key For Global Competitiveness**
Enrico Villa, Chairman *CATRENE*
14:30-15:00 **Raising The Bar On Semi - conductor R&D Management, Execution & ROI**
Ron Collett, CEO *Numetrics Management Systems*
15:30-16:15 **Coffee Break Networking/Informal Discussions – Event Centre C**

Session 4 "Market Forecasts"

16:15-17:15 **Chip Market Outlook - Back To Normal Abnormality?**
Malcolm Penn, Chairman & Chief Executive Officer, *Future Horizons*
17:15 **Forum Adjourns**
18:30 Coach Departure – Royal Hotel

Session 5 "The CEO Interview"

19:00-19:55 Pasquale Pistorio Interview, *Honorary Chairman STMicroelectronics, Chairman of the Board Sagem Wireless*
20:00-23:00 Fiesta Dinner - Edelweiss Restaurant

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Friday May 9

From 07:00 **Breakfast**
Main Breakfast Room

08:25-13:00 Forum Proceedings
Event Centre Area C

08:25-08:30 **Opening Remarks**
Malcolm Penn, Chairman & Chief Executive Officer, *Future Horizons*

Session 6 "The Strategic Imperative"

08:30-09:00 **Lowering The Cost Of SoC Design**
Steve Glaser, Corporate VP Marketing, *Cadence*

09:00-09:30 **MEMS - Successful Business Models & Differentiating Elements**
Peter Pfluger, CEO
Tronics Microsystems

09:30-10:00 **Foundry Analogue Mixed Signal-Today & Tomorrow**
Michael Lehnert, President & CEO
LFoundry

10:00-10:45 **Coffee Break Networking/Informal Discussions – Event Centre C**

10:45-11:15 **Designing For The Upturn Exploiting Industry Dynamics To Ensure Success**
Hossein Yassaie, CEO
Imagination Technologies

"The IEF 2009 turned out to be as good a conference as I had been told, so I'm glad I decided to go. I learned a lot and met many interesting people from the semiconductor industry. I'll be back!"

Incitia Partners

Session 7 "Grande Finale Executive Panel"

11:45-12:45 **New Corporate Challenges In The Post Crisis World**
Laurent Bosson, CEO,
LB Consulting
Brian Harrison, CEO,
Numonyx
Jon Hudson, Senior Vice President,
Cambridge Silicon Radio
Joe Sawicki, VP & GM D2S Division,
Mentor Graphics

12:45-12:55 **Closing Address**
Laurent Malier, CEO & Director
CEA-LETI

12:55-13:00 **Closing Remarks**
Malcolm Penn, Chairman & CEO
Future Horizons

13:00-14:15 **Grande Finale Lunch**
Event Centre Area B

14:15-19:00 **STMicroelectrics Factory Tour, Crolles**

"It was brilliantly organised and was, I think, the happiest IEF ever – people were really enjoying themselves - I think pleased to be getting together after such an awful time".

Electronics Weekly

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Keynote Presentation Summaries

(in programme presentation order)

"Powering Out Of Recession With Innovation"

Maria Marced, President, Europe
TSMC

Maria Marced emphasised both investment and collaboration as a way forward for the semiconductor industry to recover from this recession.

Based on the fact that every known recession has been followed by a strong recovery in demand the Taiwanese wafer foundry TSMC is expected to increase its earlier projected dollar investment plans substantially. Its new manufacturing GigaFab (Fab12-Phase4) will eventually be able to supply 150,000 wafers per month.

It will also being investing in people and will be adding 30 percent more R&D engineers to its existing 1200 worldwide and will also be adding 15 percent to its existing design technology engineers.

Maria stressed that it is innovation in our products and continued R&D that will improve semiconductor company margins. R&D costs and time-to-market can be reduced by processing equipment suppliers, IDMs and fabless companies collaborating with foundries for future success in finer geometries. TSMC has already announced that it has set up a development laboratory in a partnership with IMEC of Louvain, Belgium.

There were some questions about possible overcapacity as some plants in China were coming on line, but Maria thought differently as TSMC was already running at 90-95% of capacity today. There even could be a shortage of processed wafers in 2010.

"Feeding The World's Insatiable Appetite For Memory – New Technologies, New Markets, New Applications"

Brian Harrison, President & CEO
Numonyx

Brian Harrison of Numonyx, a memory company jointly owned by STMicroelectronics and Intel, made a robust case for its latest technology Phase-Change Memory (PCM). Describing the history of non-volatile memory Brian showed its dramatic growth driven by both a continuously reduced cost-per-bit and new applications that needed its ability to support firmware that could be updated 'down the wire' or 'across radio networks'.

The industries' most recent entrant, PCM, is claimed to be a disruptive technology that will enable the next wave of innovation. In the right application it will replace both DRAM and flash memories -- replacing these because of either speed, size, retention reliability or lower energy or a combination of all virtues.

Numonyx is already sampling 128Mbit 90nm product and has cost reduction 45nm process in development that is aimed at 1Gbit products. Samsung is also working on products in this field. The two companies are collaborating on package and interface standards.

"Agile Customer Support-Models For 'More Moore"

Jean-Marc Chery, Executive VP & CTO
STMicroelectronics

Finer and finer geometries are still possible and there seems no immediate end, to the progress of process development. Jean-Marc needs a variety of processes to cater for broad application markets, that include automotive, industrial, medical and radio, so STMicroelectronics needs to maintain leads in low-power CMOS, smart power, analogue, discretes and MEMs markets.

To maintain this present agile supply chain and fund future development the company believes in growth in its own fabs in Crolles, Agrate, Tours and Catania, which gives it a key competitive differentiator. It then leverages these internal resources to deliver its business units the best price and foundry-like supply by using multiple sources.

As an example STMicroelectronics joins European development programmes and works closely with laboratories such as CEA/LETI and other European institutes and universities. It is also involved in process development with the International Semiconductor Development Alliance (ISDA) which involves AMD, Chartered Semiconductor, IBM, Infineon, NEC, Samsung, and Toshiba. A 28nm CMOS process is being developed, which will be ready for volume production in 2010 at four sites.

continued

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Keynote Presentation Summaries

What matters to Jean-Marc is keeping the ability to produce silicon subsystems for its chosen markets and this can be done either on-chip or by using 3-D integration techniques, such as stacking RF chips on top of digital CMOS within a single package. He finds these technologies important to keep in-house rather than going to an open-market foundry, although he does not rule out joint manufacturing plants with ISDA members.

ST ERICSSON

"Wireless Communications & Broadband For The Upturn: Opening New Horizons"

Alain Dutheil, President & CEO
ST-Ericsson

ST-Ericsson is the fabless company created from elements from semiconductor companies STMicroelectronics and NXP and communications OEM Ericcson. It has about 8,000 staff, mostly in R&D, and has sales of about $3.6B in semiconductor products and subsystems.

Alain saw the mobile handset market fall less than others in the recession and sees broadband communications as an economic stimulant in the future. Broadband communications, which includes mobile broadband, is a key enabler of a country's prosperity. It increases economic activity as it allows people to be better at their job, and allows increased learning and health.

People are moving from fixed broadband to mobile and this is good as the infrastructure is easier to maintain and upgrade. Next year mobile broadband usage (mobile handsets, PCs and other platforms) will overtake fixed as the mobile revolution moves forward and gives better performance than DSL.

The mobile phone is adapting better to consumer behaviour and market demand and is expected to take over many of the applications of the PC, GPS and TV. New consumers have grown up with the mobile phone and the Internet and use it naturally as a source of information and their social empowerment. So when LTE rolls out next year they are expected to use smart phones and other mobile connected devices as first choice over the fixed Internet option. Added to this is the quiet rise of machine–to-machine radio communication and Alain predicts 50 billion machines will be communicating in this M-to-M way in five years time.

HONDA

"3D Stacking Technology & Its Application"

Nobuaki Miyakawa, Director
Honda Research Institute

High performance trends in semiconductors not only involve process improvements, but also assembly technology. Nobuako Miyakawa proposed that because of the increased impedance of the long wires used on today's large chips and the need for mixed process technologies for RF applications 3-D stacking technologies must be brought in. This will increase frequency performance and lower power consumption.

Honda is developing a 3-D wafer-to-wafer stacking method with the low interconnection resistance of 0.7 ohm using a Through-Silicon Via (TSV) and a bump technology. Direct connectivity between the layer bumps and the TSV is now improved using only five processing steps and the yields of the chips, which are naturally smaller than using VLSI, are also higher.

3-D verses 2-D chip assembly progress in the laboratory is good and volume manufacture will be well timed for the rise in activity after the recession. All measurements on prototypes are carried out on 8-inch 180nm wafers and meet MIL STD and JEDEC reliability tests.

It is also thought that this 3-D chip technology may allow some process nodes to be skipped in the process technology roadmap.

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Keynote Presentation Summaries

"The Role Of Semiconductors In Cloud Computing"

Young Sohn, CEO
Inphi

Anytime/anywhere computing and communication is the driving force behind a number of high-growth semiconductor market segments. One of these is in the hardware required to speed and reduce power in servers and networks in the data centres used for 'cloud computing'.

'Cloud Computing' customers do not usually own the computer hardware or infrastructure they use and so 'time share' or 'pay as you go' usage from a third-party supplier, such as Amazon, Google, IBM, Microsoft or Yahoo. Cloud computing allows user companies to avoid the large initial capital expenditure and the hiring of computer experts.

This gives a low barrier of entry to new users, which can use such cloud systems and off-the-shelf applications via a web browser. The cloud infrastructure is usually interconnected servers in data centres and these have a large bandwidth and fast and large storage.

Internet traffic is growing at 44 percent even in 2009, driven by services such as YouTube and facebook. Spend on cloud computing will be 25 percent of all incremental IT spend growth by 2012. This growth means big opportunities for high-speed hardware particularly to cope for video applications and hardware and design concepts that can reduce power in memory and processor farms. As an example a major data centre has 70,000 server boards with a memory of 192 GB per server – so millions of dollars can be saved in energy and server cooling charges.

Young gave other examples on the impact of system speed. Amazon claims that every 100msec of latency costs them one percent in sales; Google claims that an extra 500msec of search time drops traffic by 20 percent; and a financial broker said that they could lose $4M per msec if their trading platform is 5msec behind the competition.

This market is ripe for a new generation of innovative semiconductor solutions in the energy efficiency, performance and security arena.

"ICT: Key For Global Competitiveness"

Enrico Villa, Chairman
CATRINE

Enrico heads up the Cluster for Application and Technology Research In Europe on NanoElectronics (CATRINE) and through his organisation Europe is preparing for our future with development projects in nanotechnology, microelectronics, photonics, biotechnology and advanced materials.

Electronic and information systems are worth $87 trillion and growing, which is about 10 percent of global GDP. Such systems have penetrated all aspects of life, created millions of jobs and has been a motor of productivity growth. Microelectronics is a key enabling technology for electronics and ICT, and as a consequence the semiconductor market grows at twice this GDP.

The role of electronics will increase in the future and will have an impact in society due to its use in healthcare, aids for an aging population, easing transportation bottlenecks and lowering energy costs. To meet these targets electronics and ICT must be affordable to the population at large - meaning that semiconductors must meet the trend of doubling performance every two years, reduce price per function by 40 percent per year and aim for R&D nearly 20 percent of sales. In an example given public lighting is 13 percent of energy costs – a change to semiconductor LEDs can save a third of this energy.

Enrico sees moving from ideas to products is one area where Europe is weak, but thankfully projects Jessi/Eureka/Catrine/Medea+ are bringing together cooperation between European players. This have enabled European companies and universities to work together and create critical masses to make global products. This is born out in the fact that Europe has several global-sized semiconductor companies and two European equipment-material suppliers that are world leaders.

continued

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Keynote Presentation Summaries

Numetrics

"Raising The Bar On Semiconductor R&D Management, Execution & ROI"

Ronald Collett, CEO
Numetrics Management Systems

Working with the company PRTM Ron is tasked to raise the management competence within the semiconductor industry so companies can compete in the global arena. The semiconductor industry is going through a profound change with the vertically chip companies disintegrating and outsourcing their manufacture. Headcount has fallen, there are fewer start-ups and everybody is cutting costs. Companies that will survive are those with well differentiated products and superior product development ability.

PRTM has produced an integrated framework of product development capabilities, which compares company actual performance against industry best practice and timescales. It is a fact that 60 percent of semiconductor projects slip in time by at least one quarter and 16 percent slip by more than one year. The system allows 'fact-based planning and decision making' and allows management to get no surprise shortfalls in revenue or margin.

At a detailed level the engineer can make a fact-based project cost estimation and can reliably make staffing requirements and schedules. It allows 'what-if' project analyses and calculates risk. The immediate impact is usually a reduction of projects, but a better time-to-market and ROI.

An industry shakeout is inevitable and demands will overwhelm all but the best.

TTP GROUP

"Building Complex Embedded Software Applications On Leading Edge Silicon"

Martin Orrell, General Manager, Multimedia Technologies, The Technology Partnership

TTP is an independent product development company involved in a wide range of products including embedded systems in medical devices, PC peripherals, MP3 players and automotive, industrial and traffic control.

Martin's view is that one of the difficulties in embedded design is to recognise that the hardware and software boundaries tend to blur. Using software rather than hardware has its advantages, particularly where the standards and specifications have not firmed up, but software often costs more than the customer planned.

Costs can be saved by the re-use of silicon and software IP, the starting platform and roadmap, trimming the specification and through innovation. TTP has a wide range of experience and can often view a customer project from a different perspective and Martin gave a number of good examples of case studies where this was the case.

To finalise two tips were given to product developers: More complex software does not mean higher project costs and silicon targeted for a different market can enable innovative opportunities in your own market.

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cadence®

"Lowering The Cost Of SoC Design"

Steve Glaser, Corporate VP Strategic Marketing, Cadence Design Systems

Steve asks: Is it only the rich that can afford IC design?'

Actual and predicted IC design costs have been rising for each process node, but many of these costs have been are due to the cost of failure and delays. Failure is mainly seen in system/software bugs rather than hardware design issues. Delayed product launches are a major issue in 89 percent of projects and many delays are due to 'changes' in specification, either due to the market requirement changing or major architectural revisions.

Design productivity must be improved to avoid delays, particularly in the area of verification. Pre-verified IP will make an improvement here particularly if the IP blocks have interfaces that allow fast integration. The number of software code lines has to be reduced as this will decrease development time and reliability (bugs). Software verification has to become automated.

Management is a big issue, particularly in distributed SoC teams, as it is so difficult get a predictable flow of design elements to the backend. Nowadays many of these issues have been overcome in EDA software. Hardware

continued

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Keynote Presentation Summaries

verification tasks have been cut by a third and computers can handle verification at the SoC level. EDA software and integration-ready IP allows design closure 3-4 months earlier and modern simulators allow the starting of software coding 3-5 months earlier. This will not only give first-time working silicon and software, but will achieve time-to-market.

Potential cost savings in the $40M SoC design costs are claimed to be $17M, plus a potential $48M savings on delay-related opportunity 'costs' gained on meeting the time-to-market issue!!

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tronics microsystems

"Custom MEMS – Business Models & Successful Differentiation"

Peter Pfluger, CEO, Tronics Microsystems

Tronics is a MEMS foundry spun off from development laboratories LETI. The market is dominated by STMicroelectronics and Texas Instruments, but there are numerous specialist smaller companies many of which are fast growing. The MEMS market is expected to grow from $6B in 2009 to $12B in 2012.

MEMS is a technology for carving 3-D microstructures into silicon to produce mechanical, electromechanical, fluidic, chemical or biomechanical components. MEMS products include miniature accelerometers, inkjet print heads, silicon microphones, pressure sensors, gyroscopes, human drug dispensers, micro fuel cells and gas analysers.

These products have very diverse functionalities, diverse packages and are made on a variety of process technologies. There is, however, a trend towards a generic standard process by making the MEMs on thick SOI, deep etching the components and using an oxide layer to stop the etching. Sandwiches are made with two to four wafers and there is difficulty in making contact through lateral and vertical wafer interconnect.

Peter said volumes of individual MEM products are still low compared to basic ICs and the unit costs are relatively high because of high NREs, test methods, packaging and interfacing (amplifiers must be good), so suppliers find it important to add value by having an optimum performance or special

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LFoundry

"Analogue Mixed Foundry – Today & Tomorrow"

Michael Lehnert, CEO, Landshut Silicon Foundry

The semiconductor foundry market is expected to rise to $40B per annum by 2013 growing at about 25 percent today, but slowing to five percent by the end of the forecast. The bulk of the growth is by 'pure-play' foundries and in process geometries finer than 90nm, although the coarser geometry revenue does not shrink. The first ever Future Horizons Business To Business Speed Networking opened this year's forum. This fast paced networking session really set the scene for the rest of the forum, helping delegates to establish relationships from theoutset, as well as putting delegates in high spirits.

Opportunities for LFoundry are in 350nm, 250nm, 180nm, and 130nm geometries, where prices are stable and unit volumes are up. Europe depends heavily on the automotive and wireless markets and these are driven by increased customer requirements and system integration in these technologies.

It is in system integration and multi-chip designs where there is a high demand for analogue solutions. Analogue foundries differ from their digital counterparts in that the specifications have more parameters to meet and this means that the process has to be more characterised. Analogue foundries often have coarser geometries and 6-inch or 8-inch wafers rather than the digital 12-inch and these specialised foundries are moreflexible to customer requests, although this means they are more expensive.

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Keynote Presentation Summaries

Michael believes that specialised foundries have a competitive advantage in assisting time-to-market. Being more flexible and allowing smaller development wafer batches or multiple product wafers means the customer can start delivering ahead of the competition and thus benefiting on early

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Imagination Technologies

"Designing For The Upturn: Exploiting Industry Dynamics To Ensure Success"

Hossein Yassaie, CEO, Imagination Technologies

Imagination Technologies is a supplier of semiconductor IP into the graphics, mobile phone and internet markets. Hossein points out that in this age 'you either win big or lose big' in these huge Internet and mobile connectivity markets.

Companies have to keep on top of changing business models and changing supply chains to have a successful business. Every two to three years you have to have new products, new philosophies, new markets and new customers. Technology evolves and what could be done on four chips, MPEG decoding, say, can now be done on one, and the new single chip has improved also to have high definition!

Consumers are involving. They want everything effortless. They want to have entertainment and communications everywhere at anytime. The 'Apple effect' has raised every consumer's expectations – users want easier to use product interfaces. The mobile phone world order is changing. Instead of Nokia, Ericsson and Motorola people are saying iPhone, Blackberry and Android. These are the new platforms for which suppliers are developing software and hardware, replacing the original PC universal platform development activity. Video is everywhere and YouTube has generated user-supplied content. TV broadcasters, such as the BBC, are now generating content available everywhere/anytime.

Designing IC products for the upturn must include connectivity, multimedia and these in lower-power SoC form. Connectivity is not an option but a must have it integrated into the chip. The same about low-power so with an SoC IC design a small power consumption must be part of the specification from day one.

For the SoC designer many functions are available in IP form so for small start-up companies the important issue is 'domain knowledge'. This specialist expertise plus available mature and proven IP is the way ahead for the next generation of companies as long as they do not shy away from partnerships and be open and realistic about their abilities.

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Mentor Graphics

"Don't Fear The Exponential"

Joe Sawicki, Vice President D2S Division, Mentor Graphics

Over and over again industry commentators has said that chip makers cannot afford the cost of the next generation of IC design or the fabs needed to build them. In 2007 ITRS forecast that SoC chips would cost $40M in 2009 and $100M in 2012, but this did and will not happen. In 1798 Malthus forecast the world's population growth completely wrong. In 1968 Paul Ehrlich said that we would all starve by 1990, but food resources coped. Why we get these predictions wrong is because of human innovation triggered by fear that something needs to change.

For the same reason Joe explained that mask design costs for 32nm are already less expensive than 45nm in 2007. Innovations in system design will offset the predictions in this area. Innovations in EDA software will allow improvements in chip architectural design and computer exploration of hardware/software options will lead to shorter timescales. More use of higher-level synthesis will reduce verification and debugging, and virtual prototyping and graphics automation tools will reduce engineering costs.

The semiconductor world was horrified looking forward at design costs, but should now see it as an opportunity to make organisational changes, and work to embrace rather than fear the exponential.

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Forum Sponsors

Sponsorship is not just a vote of confidence in the Forum it also allows us to present an even more value-added programme. We would like to formally acknowledge and express our sincere thanks to the following organisations for their invaluable support.

"Many thanks to you and the Future Horizon team for the excellent activity this year. In all I have probably developed 5-6 different opportunities for business continuation from this conference in addition to meeting a number of new people. So this was good!"

Proveho Advisory

Business To Business Speed Networking Hosted By Cadence Design Systems

The first ever Future Horizons Business To Business Speed Networking opened this year's forum. This fast paced networking session really set the scene for the rest of the forum, helping delegates to establish relationships from the outset, as well as putting delegates in high spirits.

"Well done for your nice organisation last week! From the participants' viewpoint it all seemed very smooth and well oiled. The speed networking was a lot of fun."
Kensington Consulting

"Speed Networking was a great start to the forum! Perfect for small companies to establish a network."

Evatronix

"Congratulations for a very smooth running and successful forum"

Independent Analyst

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IEF2009 Post Forum Summary

Global Semiconductor Update Report

http://www.futurehorizons.com/page/18/global-semi

A CEO favourite, this report is all a busy executive needs to keep in touch with industry trends. E-mailed monthly, the report provides a useful industry momentum indicator by compiling 12-monthly rolling charts for Units, Average Selling Prices (ASP) and Revenues broken down by total SC, IC, Optoelectronics and Discretes. Also included is a review of the world economy, broken out by region, plus a monthly feature on a key semiconductor market driver. The link between the economy and the semiconductor industry is not perfect but by measuring and understanding the impact of wafer fab capacity on lead-times and prices, and by monitoring the level of system OEM, distribution and semiconductor company inventory, more sense can be made of this fundamentally unstable industry. The report focus is on in-depth analysis and the underlying industry trends.

Annual Semiconductor Report

http://www.futurehorizons.com/page/15/annual-semi

This two-volume report provides market analyses and forecasts of the worldwide and European semiconductor market (Volume 1), as well as a detailed analysis of the 27 key semiconductor end-user applications and industry market drivers, collectively accounting for three quarters of the total IC market (Volume 2). This value-added bundle is a must-have for anyone interested in the global semiconductor market and European detail.

Semiconductor Application Markets Report

(Previously called the Key Market Drivers Report)

http://www.futurehorizons.com/page/16/semi-app-market

Volume 2 of the Annual Semiconductor report is available separately as the Semiconductor Application Markets Report. Individual chapters describe how each application works, the technology used, the unit sales history and forecast, the semiconductor content and the associated semiconductor market size. This vital research resource volume is a proven industry favourite. Individual applications are also available as separate reports; please call for details.

European Fabless Semiconductor Report

(Previously called the European Chipless & Fabless IC Design House Report)

http://www.futurehorizons.com/page/17/euro-fabless

This 300-page report covers the European and Israeli, chipless, fabless and independent IC design house community, and is essential for those planning the resources of subcontracting new product design, both in the semiconductor industry and the final system end product. It will also prove invaluable for authorities and government departments, planning and directing economic growth, as well as companies seeking investments, potential partners or acquisitions. As an added user benefit, the 280 strong chipless and fabless IC design house company database is available in Excel format as an optional CD extra (not available separately), with both pre-organised sorts (by country, design skill and application) and in raw data format allowing customised searches and analyses. This best-selling report has a proven track record as an invaluable research resource.

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Concerned About The Industry Outlook for 2010 and Beyond? Then Attend:

2010 Industry Forecast Seminar

Tuesday January 26, 2010

Hilton London Olympia Hotel, London,UK

Seminar Programme Includes:

- **2009 Market Update ...**

  The Key Factors Analysed
- **2010 Industry Outlook ...**

  Blue Skys Or Continuing Stormy?
- **Industry Application Drivers ...**

  IC Content & Forecast
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Strategically timed at the beginning of the year, the Annual Industry Forecast Seminar summarises and presents the extensive research capability of Future Horizons industry analysts. Now in its eleventh year, the annual forecast seminars are a vital link in our charter to provide industry with high quality, cost effective, market research. Whether a seasoned veteran or industry newcomer, this seminar is invaluable to executives from the semiconductor, electronics and related industries.

10.00	Coffee & Registration
10.30	Welcome & Introduction
10.45	Economic Outlook
11.15	Semiconductor Industry Outlook
12.00	Industry Capacity
12.30	Seminar Lunch
1.30	Key Application Markets
2.45	European Semiconductor Market
3.15	Japanese IC Industry Outlook
3.30	Russia/CIS & Eastern Europe
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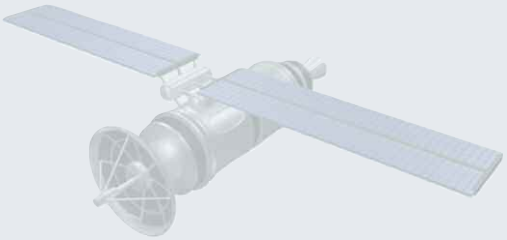

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