

**PRESS PACKAGE**  
**SEMI ISS EUROPE (Industry Strategy Symposium)**

## **“How to capitalize on European strengths along the semiconductor value chain”**

February 27–March 1, 2011

Grenoble, France

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### **EVENT OVERVIEW**

**The SEMI Industry Strategy Symposium (ISS) is the high-level annual meeting of the European semiconductor industry’s leading decision-makers.** The event attracts top executives from major semiconductor corporations and representatives of smaller semiconductor equipment manufacturers.

*This year’s program featured: Carlo Bozotti, President and CEO, STMicroelectronics; Douglas Gilstrap, Senior Vice President and Head of Group Function Strategy, Ericsson; Robert E. Bruck, Vice President, Technology and Manufacturing Group, Intel; Michael Lehnert, CEO, Lfoundry; Rutger Wijburg, Senior Vice President Front End Operations, NXP; Hans-Juergen Straub, CEO, X-Fab; Jens Drews, Director Government Relations, GLOBALFOUNDRIES; Jean-Marc Chery, Executive Vice President and CTO, STMicroelectronics; and Laurent Malier, CEO of CEA-Leti.*

**ISS focuses both on strategy and technology. Participants come together to explore how to best position the unique added value of Europe’s semiconductor industry on the global market.** The conference is rich with insights into markets and applications, with speakers proffering their unique conceptions of the economic and industrial policies that will shape the future of the industry.

*ISS Europe 2011 Speakers included international-caliber analysts like Bill McClean of IC Insights, Malcolm Penn of Future Horizons, and the Nomura Research Institute’s Chief Economist Richard Koo. Amid fast-paced and profound change on the global semiconductor market, they mapped out possible future scenarios for Europe’s semiconductor industry.*

**This year, ISS has refocused the European semiconductor industry debate on two major issues inherent to electronic components: manufacturing and societal applications.**

*The key societal applications for semiconductors and related technologies—energy, telecommunications, healthcare, transportation, safety, automobiles, and industry—also have the capacity to drive economic growth, spur technological advances, and accelerate progress in Europe.*

## **ISS EUROPE 2011**

Entitled “How to capitalize on European strengths along the semiconductor value chain,” the overriding purpose of ISS Europe 2011 was to spark debate within the industry on how to most effectively leverage the full spectrum of Europe’s impressive capabilities in semiconductors and micro and nanoelectronics.

### **The European semiconductor manufacturing industry is re-emphasized.**

Grenoble, France was chosen as the venue for the 2011 edition of ISS Europe. The event brought in over 210 attendees—a five-year high. The hard work and support of the 14 event sponsors, local and national government agencies, as well as all Grenoble cluster stakeholders were largely to thank for the record turnout. The event participants—which included representatives from Infineon, Philips Medical, PSA Peugeot Citroën, GlobalFoundries, STMicroelectronics, Soitec, Philips Healthcare, Ericsson, Intel, NXP, X-Fab, Bosch Sensortec, and CEA-Leti—represented a broad range of industries such as micro and nanoelectronics, the automotive industry, healthcare, telecommunications, and energy. This diversity is evidence of just how pervasive—and crucial—the semiconductor industry is.

## **KEY GLOBAL MICROELECTRONICS INDUSTRY FIGURES OFFER NEEDED PERSPECTIVE**

Microelectronics is today a strategic global industry. Beyond its sheer size, this \$300 billion industry is one of the pillars of the global economy, funneling resources into a broad array of sectors. Microelectronics constitute a basic building block in applications cutting across telecommunications, the automotive industry, consumer electronics, industrial automation, healthcare, and the environment. The microelectronics industry is also vital to resolving some of society’s major challenges in healthcare, energy conservation, and safety.

The semiconductor industry—which interacts with virtually all sectors of the economy and is the number one technological and industrial innovation driver—is now a decisive factor in business competitiveness. Together, the microelectronics and software industries spearhead 90% of innovations on growth markets like healthcare, energy, and the automotive industry. For instance, now more than ever, electronics play a pivotal role in the automotive industry, enhancing engine performance and improving passenger safety. In 2000 electronics accounted for just 22% of a car’s sticker price. This figure is expected to rise to 35% by 2010 and to 45% by 2015.

Asia dominates the global semiconductor market with 70% of production and 55% of sales—but only 30% of semiconductor design activities. Taiwan—the global leader—produces 30% of the world’s semiconductors; Japan who just moved to second position still follows close behind with

28%. In addition, 80% of the world's new semiconductor plants will be built in Asia. (Source: IC Insights, February 2011).

But the playing field is far from level when it comes to manufacturing conditions. **SEMI Europe members are lobbying to curb this unfair competition**, crucial for the European semiconductor industry's competitiveness.

Europe is the third-largest semiconductor producer, with 10% of global output, 14% of global sales, and 20% of the design market. The European semiconductor industry has a number of strengths, as evidenced by market leadership in several segments:

- Automotive components and telecommunications, with firms like Infineon, NXP, STMicroelectronics, and Bosch
- Lithography with ASML (The Netherlands)
- Silicon-on-Insulator (SOI) for microchips with Soitec (France)

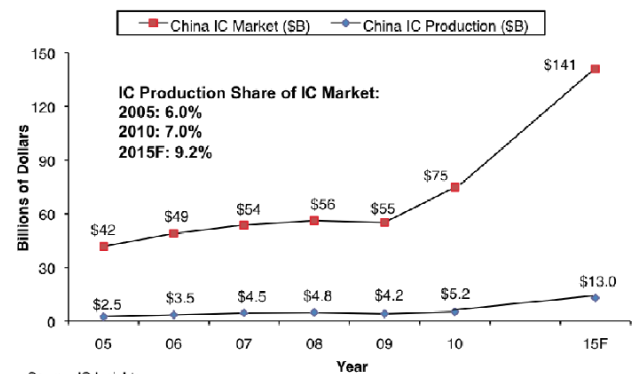
### 2010 Top 10 Semiconductor Sales Leaders (\$M)

2010F Rank	2009 Rank	Company	Headquarters	2009 Total Semi	2010 Total Semi	10/09 % Change	Business Model
1	1	Intel	U.S.	32,325	40,154	24%	IDM
2	2	Samsung	South Korea	21,273	32,455	53%	IDM
3	6	TSMC	Taiwan	8,989	13,307	48%	Foundry
4	3	TI	U.S.	9,697	13,037	34%	Fab-lite
5	5	Toshiba	Japan	9,537	13,028	37%	Fab-lite
6	4	Renesas*	Japan	9,649	11,650	21%	Fab-lite
7	9	Hynix	South Korea	6,320	10,432	65%	IDM
8	7	ST	Europe	8,466	10,212	21%	Fab-lite
9	10	Micron	U.S.	5,450	9,057	66%	IDM
10	8	Qualcomm	U.S.	6,409	7,204	12%	Fabless

\*The merged entity of Renesas and NEC

Source: IC Insights, company reports

### China IC Market vs. IC Production Trends



Source: IC Insights

## THE EUROPEAN SEMICONDUCTOR AND MICRO AND NANO ELECTRONICS INDUSTRY

Every region of the globe is involved in the semiconductor industry—the source of some amazing advances with the capacity help society achieve true progress. With firms like Germany's Siltronic, France's STMicroelectronics and Soitec, Dutch-based ASML, and Infineon, Europe is home to industry leaders along the entire semiconductor value chain.

The semiconductor industry is little-known to the general public. And yet, through our cars, mobile phones, and home appliances, we interact with semiconductors on a daily basis.

Over the past decade, the European semiconductor industry has weathered some profound transformations, and has had to adapt to some challenging new realities, both economic and technological. However, with change comes opportunity. Technology clusters have garnered both political and financial support, emerging as an effective way for the semiconductor industry to drive innovation in Europe. The cluster collaboration strategy will also pave the way for the future by helping Europe's advanced semiconductor R&D and production capabilities reach the necessary critical mass while fostering excellence in education.

One example of how Europe is leveraging clusters to bolster competitiveness is Grenoble-based Soitec. The company's Silicon-on-Insulator (SOI) substrate is used to make the processors used in many **consumer electronics**, from desktop and notebook PCs to cameras, satellites, game consoles, and HD TVs. Soitec's products today play a key role in the

microelectronics industry, and the company has partnered with the world's electronics giants—GLOBALFOUNDRIES, Freescale, IBM, Philips, Sony, and Toshiba—to help them make **chips that revolutionize our daily lives**. For instance, IBM, Sony, and Toshiba have chosen Soitec's innovative SOI substrate for their "Cell," the world's most powerful processor. SOI is also used in Microsoft's Xbox 360, Sony's PlayStation, and Nintendo's Wii.

## **GRENOBLE, A STRATEGIC VENUE FOR ISS EUROPE**

SEMI ISS Europe is held in a different city each year. The 2010 edition took place at Intel in Ireland; the 2009 edition in Dresden, Germany; the 2008 edition in Malta; the 2007 edition in Switzerland; and the 2006 edition in Amsterdam. Bringing SEMI ISS to Grenoble-Isère this year was a natural choice.

Grenoble-Isère—like 2009 SEMI ISS Europe host city Dresden—is one of Europe's premier clusters and has built a world-class reputation for creating synergies between research, industry (the city is home to high-volume production capacities and advanced technology development), and higher education.

Furthermore, Dresden and Grenoble-Isère recently signed a far-reaching partnership covering five key issues: education and training; advanced technology; R&D; industry and the environment; and SMEs and public policy. Together, the clusters provide 80,000 jobs, are home to 9,500 researchers, and garner investments of €1.5 billion per year—providing fertile ground for Europe's many SMEs.

In addition to being one of Europe's most vibrant centers for innovation in micro and nanoelectronics and software, Grenoble-Isère is also France's second-leading hub for research after the Greater Paris area. With a solid base of manufacturing companies and top-flight educational programs, Grenoble-Isère possesses a unique combination of advanced technologies, manufacturing expertise, and a world-class scientific community, leaving the cluster well-poised to meet upcoming challenges in the fields of miniaturization, nanoelectronics, and software-hardware convergence.

**Over the past decade, Grenoble-Isère has seen billions of euros in investment** in the microelectronics industry—on a par with France's Flamanville nuclear power plant, which cost €5 billion, and the Channel Tunnel, which cost €12 billion. Grenoble-Isère is also home to a vast array of high-level projects—such as the Crolles2 Alliance and Nano2012—designed to generate synergies across the education-research-industry spectrum.

The Crolles2 Alliance between STMicroelectronics, Freescale, and NXP represented \$2 billion in investment over five years (2002–2007) and included the construction of a new production facility for the fabrication of future generations of CMOS 90 nm and 45 nm technologies on 300 mm wafers. According to a study by Reverdy Associés, the project created 1,200 direct jobs and twice that number of indirect jobs.

In the same vein, the five-year (2008–2012) Nano2012 project was the logical next step in a joint initiative launched in 2007 by STMicroelectronics, CEA-Leti, and IBM. The project has set the ambitious goal of developing breakthrough 32 nm and 22 nm etching technologies and is similar to the Crolles2 Alliance in terms of investment, with \$1.25 billion in capital expenditures and €2.3 billion in R&D spending, to which the French government and local government agencies contributed €457 million. This colossal project is by far Europe's largest microelectronics-industry initiative in terms of investment.

Since its inception in 2005, global competitive cluster Minalogic, dedicated to micro and nanotechnologies and embedded systems, has certified 143 projects representing total financing of **€1.7 billion**, €515.1 million of which was secured from public sources like ANR, FUI, Oséo, and local governments.

In the space of a decade (1999–2009) the number of jobs in the microelectronics industry doubled in Grenoble-Isère; the microelectronics industry’s contribution to overall industrial employment in the region increased from 6% to 13% over the same period. Grenoble-Isère today accounts for one-third of all microelectronics component manufacturing jobs in France, not counting software and equipment makers, which provide a substantial number of additional jobs.

In short, Grenoble-Isère—home to massive investment in the semiconductor industry—is a place where local government shows strong support for economic development.

**Key semiconductor industry employment trends in Grenoble-Isère:**

	<b>2009</b>	<b>1999</b>		
<b>ELECTRONICS</b>	<b>10,100</b>	<b>11,300</b>	<b>- 1,200 jobs</b>	<b>- 11%</b>
<b>MICROELECTRONICS</b>	<b>12,100</b>	<b>5,250</b>	<b>+ 6,850 jobs</b>	<b>+ 130 %</b>
<b>IT &amp; SOFTWARE</b>	<b>12,050</b>	<b>8,200</b>	<b>+ 3,850 jobs</b>	<b>+ 46%</b>
<b>TOTAL</b>	<b>34,250</b>	<b>24,750</b>	<b>+ 9,500 jobs</b>	<b>+ 38%</b>

These statistics were provided by the economic observatory of the Grenoble-Isère Economic Development Agency (AEPI), which is currently compiling key employment data for the semiconductor industry for 2009–2010. Despite the 2009 economic crisis and the wave of restructuring plans that rocked the microelectronics industry in Grenoble-Isère, the vast majority of the industry’s businesses, regardless of size, are reporting growth for 2010 as compared to 2009. Microelectronics thus remains a key economic driver in Grenoble-Isère.

## QUOTES FROM THE SEMI ISS PRESS LUNCH 1 MARCH 2011



### **Moderator: Heinz Kundert, President, SEMI Europe**

For the past several years, SEMI has been actively lobbying the European Commission and the EU Member States to officially acknowledge the semiconductor industry as strategic to European industry and to make the semiconductor industry a priority in maintaining Europe's competitiveness. I am pleased to say that we have made progress, and that we will continue to defend the industry's interests through the European Commission Key Enabling Technologies High-Level Group.

### **Alain Astier, Group Vice President, Industrial Strategy, STMicroelectronics. Member of the SEMI Europe Advisory Board**

I would like to talk about Europe's current strengths. Europe today possesses proven expertise and leadership in technological research, with organizations like IMEC, CEA-Leti, and Fraunhofer. Europe is also a leader in MEMS and analog technologies. In terms of production, Europe boasts industry giants like Intel, GlobalFoundries, and STMicroelectronics that invest here in Europe.

Europe has something else that is particularly important and that I would like to emphasize. That is the capacity to work together, in partnership. Europe is home to several clusters where all members work together, in partnership, across the entire value chain. This is a distinctly European approach, but it is also one that we can successfully export. The ISDA Alliance is a prime example. IBM and STMicroelectronics run the alliance's R&D, working side-by-side with other alliance members around the globe. Partnership is crucial, and it is something that truly sets Europe apart.

### **Jens Drews, Director Government Relations, GlobalFoundries**

GlobalFoundries is substantially increasing investment in Dresden, Germany. We are currently hiring 80 new employees a month. This is proof that Europe can be competitive. In the microelectronics industry, production—which is extremely automated, specialized, and sophisticated—requires highly qualified engineers. Fortunately, in Europe we have world-class universities capable of training the production staff our plants will need tomorrow.

### **André-Jacques Auberton-Hervé, President and CEO, Soitec. Chairman of the SEMI Europe Advisory Board**

The interim report just submitted to EU Member State leaders by the European-Commission-appointed High-Level Group on Key Enabling Technologies emphasizes the need to support

those European businesses capable of creating and mass-producing new products in order to create a virtuous circle of growth in their ecosystems.

The report establishes three competitiveness pillars for Europe, without which new ideas cannot effectively reach the marketplace:

- Applied research to set up the required technology platforms
- Industry consortiums to build pilot demonstrator production lines
- Competitive, solidly-anchored local businesses with mass production capabilities

Production attracts R&D; innovation in turn supports production. Creating this virtuous circle of growth around the KETs identified by the European Commission is now urgent. Access to these KETs is just as vital as access to natural resources. It is absolutely strategic to Europe and to our society at large.

### **Dirk Hilbert, Deputy Mayor, Dresden, Germany**

Both Grenoble and Dresden have invested in and supported education. In Dresden, for instance, we set up math, biotechnology, and microelectronics “lab schools.” We also have summer schools and other programs to attract young people to careers in engineering. The goal is to get students to enroll in highly-specialized science and technology programs and, hopefully, careers.

A German government study revealed that from 2002 to 2008, public investment in the industry achieved returns in excess of 100%. This means that the tax revenues generated actually outstripped the initial investments. The government invested €1.67 billion in project funding from 2002 to 2008. The return on that investment—in tax revenues only—was €1.78 billion. Once you factor in personal and institutional taxes, the return on investment is actually closer to 200%.

### **ABOUT SEMI EUROPE**

SEMI represents the interests of the semiconductor industry, lobbying government officials to obtain recognition for the industry as a key contributor to society. SEMI lobbying spurred the European Commission to set up a working group on Key Enabling Technologies with the support of three European Commissioners. This flagship initiative resulted in the creation of a High-Level Group tasked with charting a long-term strategy for these Key Enabling Technologies. The Group is chaired by Jean Therme, who heads the CEA Technological Research Division and CEA-Grenoble.

For more information on Key Enabling Technologies and the High-Level Group, visit the European Commission website: [http://ec.europa.eu/enterprise/sectors/ict/key\\_technologies/kets\\_high\\_level\\_group\\_en.htm](http://ec.europa.eu/enterprise/sectors/ict/key_technologies/kets_high_level_group_en.htm)



**Heinz Kundert, President of SEMI Europe, presents silicon wafer to European Commissioner Neelie Kroes**

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