

PERSPECTIVES BY STANLEY MYERS, *President and CEO, SEMI®*

SEMI AROUND THE WORLD

New SEMI Research Reveals Future Trends for China Fabs

Chinese semiconductor fab capital expenditures from 2006 through 2008 are expected to exceed the accumulated capital expenditures in the five years from 2001 to 2005, according to a survey of major semiconductor manufacturers in China. This is one of the significant trends found in "China Semiconductor Wafer Fab and Foundry Outlook," a new market research report available from SEMI.

Investments in 300 mm fabs and advanced process technology are becoming major drivers for capital spending in the China market, while new fab projects that lack strong government support and funding from overseas partners will see greater challenges.

"Investment trends are evolving in China, with the future more promising for new fab projects by established semiconductor manufacturers compared to new entrants," said Mark Ding, president of SEMI China. "Fab projects that bring advanced technology and significant foreign-investment will find financing and government support more readily available."

As part of the investment, at least five new 300 mm fabs are in various stages of planning, construction and equipping in China over the next three years. Spending on 300 mm equipment is expected to account for more than 70 percent of total new fab equipment spending by 2008. Fab material spending in 2007 may be as much as 58 percent higher than in 2006, as the new 300 mm capacity built in 2006 will be largely ready in 2007, according to the report.

The report is available for purchase from SEMI for \$3,000 (SEMI members/single user), and \$4,000 (non-members/single user). For more information or to order the report, call SEMI Global Sales and Services at 1.877.746.7788 (U.S. toll-free) or 1.408.943.6901. •

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Partnerships Create the Future

A TRADE ORGANIZATION HAS A fundamental responsibility to improve business for its members. In the last few years, SEMI members have dealt with difficult business cycles, new technology challenges, and shifting global production and consumption trends. SEMI members have relied on a number of techniques—like outsourcing, collaboration, and platform partnerships—to change their business strategies and tactics in order to meet these challenges.

SEMI faces similar challenges, and we are using similar approaches to change how we support SEMI members around the world. We have to communicate not just with our members, but also with our members' customers—the device manufacturers who rely on SEMI members' tools, equipment, materials and services to create the products that consumers demand. One example of this communication is what you are reading now—the "SEMI News and Views" section of *Semiconductor International*.

We have always believed that we need to keep our members apprised of the benefits of SEMI membership, the great things we accomplish for the industry, and how each member can take best advantage of the wide range of SEMI products, services and support. In the past, we have done that with our own magazine—*Semiconductor Manufacturing Magazine*—but we are following the lead of our members and changing our strategy for delivering that information. Simply put, we need to communicate with our members and with the whole semiconductor and microelectronics supply chain, but we can be extremely flexible about how that communication occurs.



We are happy to affiliate ourselves with strong partners in many areas in order to serve our members. We have done that before, and we are doing it now with Reed Business. By working with Reed Business and its extensive network of products and capabilities, we will be able to extend our global reach to serve SEMI's global membership.

The partnership also makes sense as the industry grows and changes. The challenge of identifying and communicating with the right people in the industry is a problem that SEMI and Reed Business have in common. By solving this problem only once, we can together offer the communication products, the industry insights, and the value that SEMI and Reed Business know is critical to helping the industry learn, connect, and grow—whether those products are trade shows, seminars, Web learning, magazines, white papers, or symposia.

This common platform for interaction should make it easier for SEMI members—and the semiconductor industry as a whole—to keep up on the efforts SEMI expends on improving business for members and associated interests and on our results. We have found that SEMI members—and potential SEMI members—are often unaware of the entire breadth and depth of SEMI activities and the impact SEMI has on the semiconductor business. Our work "behind the scenes"—especially with government and non-government regulatory agencies, but also with other associations and service providers—can be some of the most valuable things we do. However, without a wide-ranging communications platform, many people in this industry are

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IP: BY PETER MIKHAIL, PETER GALLAGHER AND JAMES HSUE

Intellectual Property Awareness Is Essential for the Global Market

SEMI AROUND THE WORLD

SEMICON® Japan Turns 30; Gala Features Kyocera Founder

SEMICON Japan, the world's largest exposition for semiconductor manufacturing, to be held at the Makuhari Messe, Tokyo, Japan, December 6-8, is celebrating its 30th anniversary this year. The milestone will be marked with a commemoration gala event on December 4. Proceeds from the gala will be used to fund future SEMI High Tech U programs in Japan.

A special feature of the gala dinner will be keynote addresses by two of Japan's leading high tech leaders, Kazuo Inamori, founder and chairman Emeritus of Kyocera Corporation and Nobel Prize winner Ryoji Noyori, president of Riken.

"For 30 years, SEMICON Japan has been an industry-leading and highly relevant forum for global equipment and materials providers to showcase the latest and most innovative technologies," said Takashi Kumagai, president of SEMI Japan. "This longevity is a testament to Japan's leadership in, and commitment to, the global semiconductor equipment and materials industry as a whole."

Japan continues to be the largest global market for semiconductor capital equipment. Sales are expected to reach \$8.9 billion this year, and exceed \$9.2 billion in 2007. As well as being a significant market for new semiconductor production equipment, Japan is the leading consumer of wafer fab materials, accounting for 28 percent of the global market in 2005. •

SEMICON Japan 2006 At-A-Glance:

Date: December 6 (Wednesday) – December 8 (Friday), 2006

Venue: Makuhari Messe (in Chiba, Japan), <http://www.m-messe.co.jp/>

Visit the SEMICON Japan Web site at <http://www.semi.org/sj06>

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SEMI believes that intellectual property protection is becoming an increasingly important issue for SEMI member companies in all regions. Escalating R&D costs are placing greater emphasis on the need for return on investment. The inability to control IP undermines the incentive for companies to stay at the leading edge. In response to these concerns, SEMI commissioned law firm Parsons, Hsue and deRuntz to formulate an IP best practices document, excerpts of which are published here.

THE WORLD OF ELECTRONICS and semiconductors truly has no borders. In today's fully networked environment, product design, manufacturing and sales take place around the globe. Your operations may be scattered all over the world, with headquarters on one continent, product designers on another, and manufacturing on yet another, as is likely the case with many of your customers and suppliers. Your product undoubtedly incorporates components from around the world.

Unfortunately, although the marketplace has no borders, the safeguards of intellectual property are truly territorial, a patchwork of different protection levels and enforcement mechanisms. Paradoxically, a country that may be the most appealing from a business standpoint may at the same time be the least appealing due to intellectual property concerns.

It may be many years before it is truly in the best interest of many primarily manufacturing-based countries in Asia to have an intellectual property system with real teeth. Until then, while it is wise to hedge by investing in intellectual property in the nascent stages of these systems, strategies for protecting intellectual property are still largely based on the systems of developed nations, particularly the United States.

Your business is based on information

that you may consider proprietary, but is not by default protected from unencumbered use by others. Protecting the business endeavors and technical expertise of your company depends on taking the appropriate measures to be able to avail yourself of the full scope of currently available trade secret and patent protection. Both trade secret and patent laws play an important role in protecting your business, and each should be addressed with well thought-out strategies in relationships with customers, suppliers and employees.

Perhaps in tacit recognition of the problems with intellectual property enforcement on a global level, the U.S. courts have recently started to afford extra-territorial reach to U.S. patent laws regarding infringement of U.S. patents. A well-drafted U.S. patent can now be infringed by actions on the other side of the globe. This is a very interesting development for any company — your patents should be drafted to take advantage of this newly-found reach, and you should be aware of the potential new reach of patents that may be asserted against you, your suppliers, and your customers.

Intellectual property plays an integral and essential role in any semiconductor-related business. As such, an overall strategy with regards to intellectual property should

be integrated and ingrained into the fabric of your company. This means that a proactive policy for the definition, development, protection and harnessing of intellectual property should address how all company information and documents are treated.

Your company should document and implement a comprehensive document retention policy, if it has not done so already. That policy should indicate how long documents, by subject matter or type, will be retained by the company. This includes both paper and electronic documents, as well as email. Your company should also document and implement procedures for dealing with confidential information. A manual indicating how confidential information should be marked and thereafter treated will go a long way if ever the situation arises where information you consider confidential turns up where you think it ought not to be. This should address how confidential information is handled with other employees of the company, as well as outsiders. As they say, an ounce of prevention is worth a pound of cure.

While trade secret protection is always valuable, it is especially important during the early phases of product design. For example, confidential business information that cannot be protected by patents, trademarks, or copyrights can still be kept as a trade secret, and if proper safeguards are in place, unauthorized disclosure or use of the information can be halted or penalized. Your trade secrets are an integral part of your business and must be protected in dealings with employees, suppliers and customers.

The cliché that the best defense is a good offense applies equally well to the business of intellectual property. He with the best offense will follow his own game plan, without being overly worried of an attack, and will be well prepared for doing business in the modern realm of aggressive intellectual property licensing and enforcement. In addition to allowing

offensive assertions, a strong portfolio will make a company a less attractive target for others seeking to enforce their own intellectual property. Strategic patent protection calls for a deep and diversified portfolio. This means that your products should be patented not only at various levels, from system down to component, but also in the most important countries where sales, design and manufacturing take place.

Whether your company manufactures its own products, outsources manufacturing or relies on a technology licensing model, a strong and diverse portfolio will be valuable if not essential. Many well-known companies generate a large portion of their revenue from licensing royalties, including those with and without tangible products in the marketplace. Valuation of a company, whether private or public, is often highly influenced by its intellectual property position.

A patent allows you to stop someone from making, using and selling a product or process it covers. It follows that patent protection should focus on a group of countries where such activities may take place. In addition to Europe and the U.S., patents are often filed and enforced in Japan, Korea, Taiwan and increasingly

in China. While many nuances exist between the various national patent systems, with skilled patent counsel a patent drafted for one system can generally be obtained and then subsequently enforced in other nations.

In the United States, infringement can be addressed by both the federal court system and the International Trade Commission. While monetary damages as well as injunctive relief can be attained from the federal court system, the International Trade Commission restricts importation of infringing goods. An action brought to the Commission may result in an exclusion order that will be enforced by U.S. Customs agents at the border.

While patent protection in China is not currently up to international standards, with the rapid pace of development in China that may quickly change. With patent duration in China at 20 years (from the date of application), it may well be that enforcement of a patent procured within the next few years will be the norm, rather than the news. Further, there are already positive signs that enforcement is available and on the upswing. While enforcement in China is a new development and somewhat limited, it is clear

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unaware of how this work can benefit them and their companies. As an example, SEMI is intensely involved with intellectual property protection (see the SEMI-commissioned white paper in this issue), with export controls, and with the emerging industry discussions on productivity and measurement. If you want to know more about these and other efforts, check out our Web site at www.semi.org.

We look forward to extending our global reach, and in using this partnership to advance the goals of SEMI by

improving the industry, the business of SEMI members and the opportunities for employees of our members. This partnership with Reed Business and *Semiconductor International* will have many benefits and we anticipate that the synergies will only add to our industry value.

Our members use partnerships to strengthen themselves and to meet the challenges of the future. We are doing the same thing with this affiliation and we expect many good things to result. •

— Stan Myers

CALENDAR OF EVENTS

DECEMBER 2006

December 6–8
SEMICON Japan 2006
Makuhari Messe
 Tokyo, Japan
www.semi.org/semiconjapan

JANUARY 2007

January 7–10
Industry Strategy Symposium (ISS) US
The Ritz-Carlton
 Half Moon Bay, California
www.semi.org/issus

January 10–12
Strategic Materials Conference (SMC)
The Ritz-Carlton
 Half Moon Bay, California
www.semi.org/smc

January 31–February 2
SEMICON Korea 2007
COEX
 Seoul, Korea
www.semi.org/semiconkorea

FEBRUARY 2007

February 4–6
ISS Europe
Kongresshaus
 Zurich, Switzerland
www.semi.org/isseurope

MARCH 2007

March 13–15
FPD China
Shanghai International Exhibition Center (INTEX)
 Shanghai, China
www.semi.org/fpdchina

March 21–23
SEMICON China
Shanghai New International Exhibition Centre (SNIEC)
 Shanghai, China
www.semi.org/semiconchina

Intellectual Property Awareness Is Essential for the Global Market

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that without first obtaining a patent there is no recourse for counterfeiting.

In an example of successful enforcement, Chinese home appliance giant Haier was held liable for patent infringement. A patent infringement case involving Haier and Shuaikang, two large Chinese home appliance manufacturers, concluded with a finding of infringement. In its final judgment, the Zhejiang Higher Peoples' Court ordered the Defendant Haier to cease production of the infringing products, destroy relevant molds, and pay monetary damages.

Some judicial precedent should be taken into account to maximize the licensing and enforcement potential of your future patents. The difference in potential damages between a narrowly described or hastily drafted patent and a well thought-out and broadly described patent can be substantial.

The entire market value rule recognizes that the economic value of a patent may be greater than the value of the sales of the patented part alone. Under this rule, courts have allowed recovery of lost profits or a reasonable royalty based not only on the profit from the patented part, but also on non-patented parts. Under this rule, damages can include lost

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profits for both sales of non-patented machines, and for non-patented spare parts for those machines.

In today's aggressive landscape it is essential to develop a comprehensive intellectual property policy that protects your confidential information from the initial stages of product development through manufacturing and sales. Safeguarding your trade secrets and creating a strong international patent portfolio will serve you well in both offensive and defensive encounters. •

About the Authors

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New China Hazardous Materials Rules Affect Industry, SEMI Members

AS PART OF SEMI'S ONGOING efforts to understand current EHS regulations and disseminate compliance help to its members, a team of SEMI executives and high-level EHS engineers from leading SEMI member companies went to Beijing, China for a face-to-face clarification meeting to discuss upcoming Chinese

hazardous materials reduction regulations with China's Ministry of Information Industry (MII).

SEMI's recently released Regulatory Alert on China RoHS that will affect products sold in China from March 1, 2007, is on the SEMI Web site (www.semi.org/ehs), then click on the China RoHS link). •