



President's Message



Dear Leader,

The past six years have been an exhilarating journey, a learning and rewarding experience. Together, we have been able to carve out a special slot for the Electronics Systems Design and Manufacturing industry on the national scene.

ISA started from scratch in 2004-05. Today, we have close to 160 members and are among the largest trade bodies for the electronics industry in the country. We had a strong foundation that was laid by our Executive Council and our members. We have always got support from our nodal ministries, which has helped the organization grow in size and eminence.

Over these years, ISA has delivered a sound value proposition to its members, thereby boosting memberships. We have worked on the principle of being a knowledge partner to the government and policy-makers. ISA Vision Summit is a must-attend conference for networking and knowledge in our industry. Alliances with global industry trade bodies have helped members forge ties across geographies. The media, too, has played a crucial role in shaping opinion on the sector.

Our industry research and high quality events have created milestones in the sector and are accepted as unique offerings from ISA.

I leave the organization with a sense of pride and fond memories. I would like to thank the past and present ISA Chairmen and EC members, present Chairman Dr. Pradip Dutta, EC members and my 'fab' team for all their support.

I am moving back to being an entrepreneur in the education space and look forward to continued interaction with the industry.

Best wishes,

Poornima Shenoy
President - ISA

Chairman's Message



Dear Member,

A year ago, ISA launched the Electronic Systems Design & Manufacturing (ESDM) focus, broadening the organization's focus to include the semiconductor end-user industry. In the following months, we distilled it further into vertical specific goals and objectives through a segment-wise focus. The foundation is now ready to take the big leap into the exciting future that electronics presents for the industry and the country.

We have given ourselves an ambitious target in the years ahead to propel the industry forward with high growth across segments. According to a report of the sub-committee of the task force set up by the Department of Information Technology (DIT), Government of India, in December 2009, there is a significant gap between the projected domestic demand and supply. In 2020, the total demand for electronics will touch US\$ 400 billion and the domestic production, going by the current Compounded Annual Growth Rate (CAGR), will be only US\$ 104 billion. According to ISA Frost & Sullivan 2010 - 2012 update released recently, the semiconductor market in India grew by 28.3 percent in 2010. The Total Semiconductor Market is estimated to grow at a CAGR of 22.7 percent from 2010 to 2012. A favorable ecosystem will push the CAGR and take the production level to US\$ 320 billion. To close the gap between the projected and expected production levels calls for an all round push towards accelerated growth with local design and manufacturing across various verticals.



ISA has adopted a multi-pronged strategy to help the industry seize the emerging opportunities. We will continue to be the knowledge partner for the Government of India and state governments to stimulate growth of the ESDM industry. We are working with the Government of India to create the National Electronics Mission and Electronics Development Fund. We are going to push for policies, incentives and infrastructure for ESDM, and the introduction of special purpose programs for fabs, Indian microprocessors, low cost computers etc.

In our efforts to grow and mentor talent, innovation and entrepreneurship, you will see increased collaboration with leading universities for knowledge-sharing and technology transfer, programs to attract talent back into the country, promote innovation and entrepreneurship, and engage with a global, voluntary network of mentors.

India is increasingly drawing global attention as a destination of semiconductor design. We want to build the momentum toward creating a unique Brand India for ESDM. This will be through conferences such as Knowledge Convention, Vision Summit, and Technovation. We are also exploring efforts to re-brand ISA to fit the ESDM agenda.

We have seen the benefits of collaborating with trade organizations from other countries to foster business growth and share best practices. We have forged alliances with High Tech Industry Association of Israel, UK Trade and Investment, and DSP Valley of Belgium. We have identified other organizations and talks are on.

We are a member-driven organization and member benefits will continue to be at the core of our initiatives. You will see a vigorous effort on our part to increase membership. We will deliver value to members through our advocacy on tax and transfer pricing with the policy-makers. Deep understanding of trends through our industry reports and white papers, knowledge-building and networking opportunities through high caliber and interactive forums, and creating a mature ecosystem through a favorable ecosystem will mark the year ahead. To make Vision 2020 a reality, your support will make a big difference. I hope to see a continuation of your support and encouragement in the year ahead.

Best regards,

Dr. Pradip K Dutta
Chairman - ISA



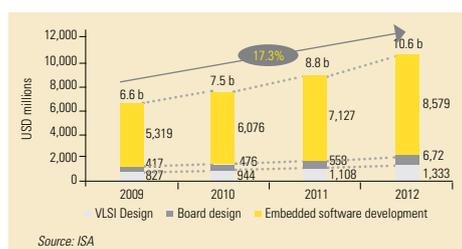
'Indian semiconductor and electronics industry is going through a very exciting time'

In the past two months, ISA has released two very important reports about the Indian semiconductor industry.

- Study on semiconductor design, embedded software and services industry. This report is a collaborative effort between ISA and Ernst & Young (E&Y).
- India Semiconductor Market Update (2010 - 2012) by ISA and Frost & Sullivan (F&S).

In this article, I want to capture the key findings of these reports and put across a simple analysis of the same. The aim is to help all of us to get an understanding of the Indian design industry as well as semiconductor market trends in India.

As per the E&Y report, the Indian semiconductor design industry, consisting of VLSI design, embedded software development and hardware/board design, was estimated at US\$ 7.5 billion in 2010. By 2012, it will reach US\$ 10.6 billion. Of that, embedded software development will constitute US\$ 8.579 billion, board design US\$ 0.672 billion and VLSI design US\$ 1.333 billion. In 2010, the Indian design industry employed 160,000 people. It is slated to grow to 234,000 by 2012. The key challenges constraining the growth of the Indian semiconductor design industry as per this report are talent availability, lack of startup ecosystem and competition from Asian countries.



The ISA-F&S Report provides market estimation and forecasts for different semiconductor product markets in India till 2012. It highlights growth areas for the period 2010-2012. The first ISA-F&S report was released in 2006. This is the fourth update. It is used by industry and government in its planning process.

The application segments studied include:

- Mobile devices
- Telecommunications
- IT&OA
- Consumer electronics
- Industrial electronics

iQ Corner

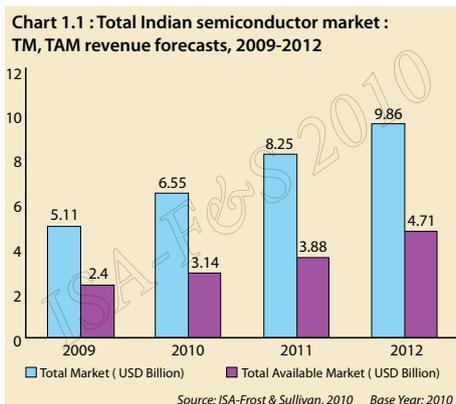


Sanjeev Keskar

Member
ISA Executive Council
and Treasurer
Managing Director -
Sales (India & SEA)
PMC-Sierra (I) Pvt. Ltd.

Keskar examines the findings of two recently released ISA reports and puts together an analysis

- Automotive electronics and
- Others (aerospace, defense, medical electronics and smart cards).



The key findings:

- The Indian semiconductor market grew by a phenomenal 28.3 percent in 2010; global semiconductor market's cyclical trends had minimal impact in India.
- Mobile devices, telecommunication and IT&OA contributed 82 percent to semiconductor TM in 2010.
- Local manufacturing of telecom equipment by OEMs and EMS companies to propel related semiconductor consumption by a massive 50 percent during 2010 to 2012.
- Influenced by regulatory norms and sharpening competition, the automotive segment to account for the highest growth in semiconductor demand at 31 percent from 2010 to 2012.
- Sustained gulf between semiconductor TM and TAM from 2010-2012 highlight the urgency to promote local manufacturing to drive higher growth in TAM.

The following are some imperatives needed to bolster growth in electronics manufacturing in the country:

- Change in strategy from 'design led manufacturing' to 'demand led manufacturing'.
- Promotion of export subsidies to create an environment for electronics exports.
- PPP initiatives to develop 'integrated electronics parks and clusters'.
- Promotion of tax holidays and incentives for EMS companies investing in the country.
- Policy to attract investment in setting up of ecosystem companies.
- Identification and promotion of 'killer application or product' segments for indigenous manufacturing – telecom equipment, mobile handsets, set top box, LCD TV, LED lighting, medical devices and auto-identification products, to name a few.

One thing is very clear from both the reports: the Indian semiconductor and electronics industry is going through a very exciting time. The Indian semiconductor design industry is expected to grow at a CAGR of 17.3 percent to US\$ 10.6 billion by 2012, as per the ISA E&Y report. The total semiconductor market (TM) is estimated at US\$ 6.55 billion in 2010 and is expected to be US\$ 9.86 billion in 2011. This is estimated to grow at a CAGR of 22.7 percent from 2010 to 2012, as per ISA F&S report.

Both these growth rates are much higher than the global average. It is upon each of us to see how we can take advantage of this opportunity in our respective organizations, while at the same time contributing to the growth of the Indian electronics design and manufacturing ecosystem.



Industry Research

ISA-Frost & Sullivan 2010 – 2012: India semiconductor market update



ISA released the fourth edition of the annual Indian semiconductor market report. In its analysis, this report provides market estimation and forecast for the semiconductor market in India till 2012. The report was released on May 4, 2011 by Dr. Ajay Kumar, IAS, Joint Secretary, Department of Information Technology, Ministry of Communications & Information Technology, Government of India in New Delhi. Refer to iQ Corner on Page 2 for the key findings of the report.

ISA-DIT Study on Semiconductor Design, Embedded Software and Services Industry 2011



ISA published the ISA-DIT study on semiconductor design, embedded software and services industry that complements ISA's vision for the coming few years. The report was released by Kapil Sibal, Honorable Minister, Communications and Information Technology, Government of India at the Electronics and Information Technology Exhibition 2011 in New Delhi on April 4.

Taiwan delegation

As a part of the Fabstudy initiative, ISA delegates, along with senior DIT officials, went on a fact-finding mission to Taiwan and met 17 companies. The study team observed keen interest among leading companies in Taiwan to set up manufacturing operations in India in the ESDM segment, including semiconductor fab for LED, flat panel displays and solar PV.

There is a global need of reducing geographic risks in semiconductor manufacturing. India's domestic demand for semiconductor, which is expected to reach around US\$ 40 billion by 2020, and a large base of chip designers are expected to play a critical role in turning the country into a preferred destination for setting up semiconductor fabs.

DIT-ISA Fabstudy Initiative

The Government of India is working on multiple initiatives to develop an ecosystem to propel India into a global leadership position in Electronic Systems Design and Manufacturing (ESDM). ISA is working as a knowledge partner with DIT to recommend favorable policies and framework for this sector. Semiconductor fab is at the core of the ESDM ecosystem and its development is critical for the overall growth and self-reliance of the Indian industry.

The Department of Information Technology, Government of India, initiated a study with ISA to come up with recommendations that would create the right ecosystem to set up semiconductor fabs in India. ISA launched the exercise on February 8, 2011 with an expert committee convened by ISA Executive Council Member Rajesh Ram Mishra. Keystone Strategy is the consulting firm for the study. The study period is 10-weeks and it is nearing completion. The report will provide recommendations for policy changes to the Special Incentive Package announced by the Government of India in 2007 to attract semiconductor manufacturing in the country.



Group site:

Members are invited to log on to www.isaonline.org to interact with ISA core groups.

For any clarifications / queries, please contact ISA coordinator Suriya Kala at suriya@isaonline.org

ISA Executive Council 2011



Standing Left to Right

- Guru Ganesan**
MD, ARM Embedded Technologies Pvt. Ltd.
- Rajesh Ram Mishra**
VP - Product Engineering Solution
Wipro Technologies Ltd.
- Dr. Praveen Vishakantaiah**
President, Intel India Technology (I) Pvt. Ltd.
- Sanjeev Keskar**
Treasurer-ISA
MD - Sales, India & SEA
PMC-Sierra (I) Pvt. Ltd.
- Sanjay Nayak**
CEO & MD
Tejas Networks Ltd.

Sitting Left to Right

- Parag Mehta**
MD & GM, QLogic (I) Pvt. Ltd.
- Dr. Satya Gupta**
Vice Chairman - ISA
President & CEO
Concept2Silicon Systems Pvt. Ltd.
- Dr. Pradip K Dutta**
Chairman - ISA
Corporate VP & MD, Synopsys (I) Pvt. Ltd.
- Neeraj Paliwal**
VP and NXP India Country Manager
NXP Semiconductors
- Ganapathy Subramaniam**
CEO, Cosmic Circuits Pvt. Ltd.
- Poornima Shenoy**
President - ISA



Events

ISA member meeting



The annual ISA member meet took place in Bangalore on March 28. The agenda for the meeting was to welcome the new ISA Executive Council (EC) and felicitate the outgoing EC. During this occasion, conveners of ISA F&S task force, ISA DIT report and ISA constitution were also felicitated. Dr. Bobby Mitra, ISA Chairman for 2010-11, addressed the gathering, followed by a talk from Dr. Pradip Dutta, Chairman for the current year. The session concluded with a networking dinner.

Seminar on women in technology



A panel discussion on Women in Technology was held on March 22 in Bangalore. This was the first seminar organized by the ISA Women in Technology Forum. The theme of the seminar was 'Women in Technology – Success, Challenges and Strategies for Growth'.

Shukla Bose, Founder and CEO, Parikrma Humanity Foundation, delivered the keynote address. Dr. Anand Anandkumar, Chairman & Managing Director, Cellworks Research India was the moderator of the panel discussion. The panelists included S Balajee, Director, Wireless IC Engineering, Texas Instruments India; Nirmala Kamath, Executive Vice President, Tata Sky; Anita M Biddappa, General Manager, ASICs & IP development, IBM India Systems & Technology Group; and Dr. Kiranmai Pendyala, Head - HR, AMD India. The speakers presented case studies to support their views on the challenges and strategies for growth of women in the field of technology. The discussion was followed by an absorbing Q&A session. More than 80 delegates attended the seminar.

The event started with a welcome address by ISA President Poornima Shenoy. ISA Women in Technology Forum convener Sharada Satrasala briefed the audience about the forum. Chitra Hariharan, Vice President Silicon Engineering, Concept2Silicon is the co-convener of the forum. AMD was the sponsor for the event.

CXO Conclave with Matt Grob



ISA organized a CXO Conclave with Matt Grob, Senior Vice President-Engineering & Head, Corporate Research & Development, Qualcomm on May 17 in Bangalore. Grob discussed the evolution of the wireless market and key trends in wireless, with particular reference to 'augmented reality' as an emerging trend. He highlighted Qualcomm's efforts in augmented reality across multiple, global R&D centers. He also shared opportunities and business implications for the wireless ecosystem, including content creators, application developers and handset OEMs in India. Over 40 decision-makers from the industry participated at this breakfast session.

i2 meet in NCR



An ISA Interactive i2 member meet was held on May 5 at Freescale Semiconductors (I) Pvt. Ltd., Noida. ISA NCR member companies, along with a few key prospective members, participated in the event. The session started with a welcome address by Ganesh Guruswamy, Vice President and Country Manager, Freescale Semiconductors. This was followed by a presentation on the ISA F&S report by Deepa Doraiswamy, Industry Manager, F&S. Dr. Pradip K. Dutta, ISA Chairman, shared the ISA Vision for the year. He highlighted the role of the various core groups and their initiatives. Following the Chairman's presentation, Gulshan Dua, Country Finance Controller, Freescale Semiconductors and Convener, ISA Regulatory/Legal CIG, spoke about the objectives of the core group and invited more participants to support this initiative. The session concluded with Dr. Dutta thanking the host company and presenting a memento to Mr. Guruswamy. The occasion also presented members an opportunity to network during a lunch that followed the meeting.



Segment Insights



Arun Jain

Convener, ISA Industrial Segment &
Director - Sales & Marketing
Texas Instruments (I) Pvt. Ltd.

• *What is the impact of the Japan disaster on the industrial segment?*

There has not been much of an impact on the industrial segment due to the Japan disaster as manufacturing in other places met the requirement. However, some customers will be affected for a short period. Many of the manufacturers are on a fast pace recovery mode at their manufacturing sites. Some of them are also using alternative manufacturing sites.

• *What challenges and opportunities do you foresee in 2011-2012 in the areas of technology trends, business environment, new standards, and government policies?*

India is making important strides in legislative and regulatory policy in order to

attract capital investment and create employment opportunities. This is a positive step that will encourage the semiconductor industry in India. We see electronics design being increasingly carried out from India today both for the global and local markets. India has emerged as a strong base for design activity across the world. Electronics manufacturing has also gained ground in the country over the past few years.

Infrastructure growth will drive semiconductor consumption, led by telecom and industrial domains. New standards can be expected in the areas of smart energy measurement, lighting, inverter/UPS, and solar. Star rating for energy-efficient appliances/EE will get further acceptance in the market as the cost of energy goes up. More compact and energy-efficient designs are expected to be introduced in the current year based on SoCs. Low cost LED products - for both display and general lighting—will gain greater acceptance for corporate, industrial, and street light applications.

• *How do you place the competency of Indian product companies as compared with MNCs?*

Until now, in the industrial domain, Indian companies fared better than their MNC counterparts. This is due to the experience in designing 'just right' products to meet local specifications, environment, local power conditions, and most importantly, at a competitive cost. Now, MNCs too have started developing products in India, for India. Some of them have designed innovative products to meet local requirements and are finding market elsewhere too.



Ganesh Guruswamy

Convener, ISA Automotive Segment &
Vice President & Country Manager
Freescale Semiconductor (I) Pvt. Ltd.

• *What is the impact of the Japan disaster on the automotive industry?*

When a natural calamity of such a magnitude strikes, it delivers a huge blow to not just 1-2 industries in that region, but also to the economic fabric of the entire world.

As per reports, about one in every five microprocessor is made in Japan and when the calamity struck the country, it impacted the global automotive industry. The rolling blackouts and aftershocks made it difficult to resume production, thus hurting the auto parts supply chain and resulting in temporary shutdowns and lower production rates. Reports predicted that automakers could lose production of up to five million vehicles in the following four month post the disaster. Almost all the automakers formed a crisis team to find alternative suppliers.

Despite the grim situation, many Japanese auto firms have already started planning their future course of action to lead them to the path of recovery. The industry is confident that operations will start to normalize as early as July.

• *What challenges and opportunities do you foresee in 2011-2012 in the areas of technology trends, business environment, new standards, and government policies?*

Of late, more and more companies are focusing on 'green technologies' as the world is facing a severe shortage of renewable resources. Recent technological innovations have seen cars in the 'economy' mode, wherein features are active

when required and can be disabled when not required. This not only saves fuel but also increases the shell life of the vehicle. With governments worldwide pressing increasingly for eco-friendly solutions, the bulk of R&D work is dedicated to green technologies.

Technology has been evolving at such a rapid speed that each year something new and indigenous hits the stores and takes us by surprise. And the more successful a technology, the higher are its chances of branching out to other domains. User-friendly features built on GPS and Bluetooth technologies were developed for other platforms, but have been leveraged by other sectors too.

• *How do you place the competency of Indian product companies as compared with MNCs?*

India has moved up the value chain and is now no longer providing products just to serve the global market. In fact, indigenous companies are now developing products to serve the growing local market. Indian companies have emerged as the biggest beneficiaries of the globalized economy. Competent R&D centers and a rising middle-class with higher purchasing power have been leveraged by Indian companies to great effect.

Taking a cue from local players, more and more MNCs are now going local in their bid to capture the hugely lucrative, albeit a very competitive, Indian market.

ISA new members

The following companies have joined ISA in the past quarter:

Disha Education Society

Truechip Solutions Pvt. Ltd.

Global Edge Software Ltd.

WPG Electronics (I) Pvt. Ltd.

Posedge Technologies (I) Pvt. Ltd.



ISA in the News

E-manufacturing clusters to rein in import bills on cards

Existing clusters to be given option to con...

Gautam Das

Bangalore, Feb 6: The Centre is putting together a proposal to promote electronic manufacturing clusters as part of its modified Special Incentive Package Scheme (SIPS) aimed to invest in hi-tech manufacturing — a move that reflects growing concern in government circles about the rising import bills of electronics.



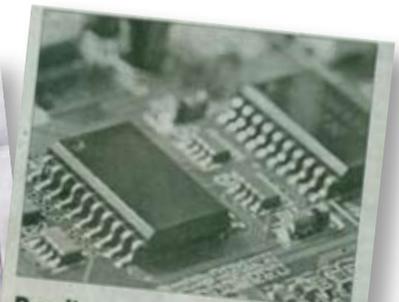
THE MANUFACTURING AND TRADE AHEAD MANU-EYEBRO ON INDIAN COUNTRY ELECTRI...

China and Taiwan have moved far ahead in technology business manufacturing and exporters are being encouraged to relocate their manufacturing for high-end electronic components. Some industry watchers estimate the current gap between the domestic electronic market and the local production of a whopping \$20-25 billion.

India has no such cluster, though far to promote high-tech investment. Taiwan's most popular cluster, the Hsinchu Science Park, has become a nerve centre for semiconductor manufacturing and has over 400 companies. China has been promoting technology cluster, the Suzhou...

Electronic manufacturing clusters (EMCs) are expected to be set up in various states and union territories, and its cost advantages of electronic components would cut a company's handling and shipping costs. In...

Indian Chip Industry to Touch \$10.2 B by 2012: ISA



Pradip Dutta new ISA head
Pradip K Dutta, corporate VP and MD of Synopsys, is the new chairman of India Semiconductor Association (ISA).

ISA calls for policy push to prop fab firms

Subrahmanyam Viswanath

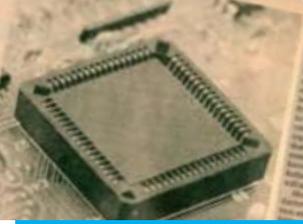
BANGALORE: Stating that the total semiconductor available market (TAM), is expected to clock a phenomenal growth of 35 per cent with TAM revenues anticipated to climb to \$4.84 billion in 2011 from \$3.63 billion in 2010, the Indian Semiconductor Association (ISA) has urged the Centre to put in place policies and incentives favourable for assembly and manufacturing through appropriate interventions.

ISA Industry tax exemption and R&D grants to encourage fabless semiconductor companies for next 10 years. Further, the recognition design is value-add is future to be drafted with this in mind since SEZ concept is not financially viable for fabless start-ups.

On the issue of government tenders, the ISA says, this should include a certain percentage of mandatory local IP content in order to encourage equipment manufacturers to...

The way forward for electronic design

Indian semiconductor companies are adopting an application-driven approach to system design, where hardware is designed and developed for a given application such as mobile computing.



Women lag in race for tech jobs

ISA forum discusses increasing the role of women in the electronics industry

Kumar Srinivas Reddy

WOMEN have traditionally been underrepresented in science and technology fields the world over. In India too, women scientists and technologists are a minority. In fact, women comprise less than 10 per cent of the workforce in the electronics sector in the country.



regulate 24x7 developer support. That's a myth. Instead of gender stereotyping, the approach looks at whether the person is the right choice for the work. We have encouraged such examples that a lady support has helped us as a company achieve big results.

With women applying for key positions in technology companies, it is important for organisations to support women so that they evolve in roles previously dominated by men and not let go of their careers after marriage or motherhood.

Reflects Nirula Kaushal, executive VP Tata S&A. "After 19 months into S&A, Pradip K Dutta, the...

India chip design market grew 28.3% in 2010: ISA

S RENEHINDRA SINGH

According to a report by Semiconductor Association (ISA), domestic handset companies graduated from tradecraft to indigenous manufacturers. "We need local manufacturing to reduce the import bill of electronic components and are optimistic about government's efforts to encourage local manufacturers," said chairman, ISA, Pradip K Dutta.

Indian semicon body gets new team

Synopsis Corporate Vice-President & Managing Director Pradip K Dutta is the new Chairman of India Semiconductor Association. Satya Narayan Gupta, Chief Executive Officer and President, Concept2Silicon Systems, has been elected Vice Chairman of ISA for the year 2011-12. Poornima Shenoy will continue as ISA President.

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