

Ganapathy Subramaniam



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Member IESA Executive Council

CEO Cosmic Circuits Pvt. Ltd.

1. How does India fare with regard to innovation in the semiconductor domain?

The semiconductor industry in India has come a long way. In the last decade, we have seen several global semiconductor companies set shop in India. Not only has this led to remarkable growth in the industry, but has also led to significant increase in product and design innovation in the domestic market. Rapid changes in technology, increasing complexity of equipment and falling prices have made innovation vital to reduce cost of production and increase ROI. In India, most of the R&D labs working in the semiconductor domain are located in premier technical institutes such as the IITs, IISc and BITS Pilani. These institutes, with access to funding, quality infrastructure and a large talent pool, account for 70–75% of semiconductor research activities in the country. Of all the research undertaken here, almost 43% of the activities are in the area of chip design. India also ranks favorably in terms of the number of IEEE papers filed in fields related to semiconductor design.

In the recently conducted study, India, with a global rank of 30, ranks seventh in the sample set of countries in terms of quality of scientific research institutes. Although quite encouraging, there is definitely scope for improvement here.

2. What role is the industry playing in promoting innovation?

The innovation environment in India is evolving rapidly and we are recognized as one of the prime destinations for companies seeking to establish R&D centers outside their home country. Availability of skilled talent and high-quality scientific research institutes are primary drivers for the establishment of such R&D centers. A number of Indian captives of global semiconductor companies file patents every year. This is a good indicator of the amount of IP being created in the country.

However, in a study on company spend on R&D, India, with a global rank of 37, ranks last among the sample set of countries. This definitely calls for intervention from our policy makers. The announcement of the NPE draft policy is a step in the right direction to encourage innovation in the ESDM industry.

3. What are the IESA Technovation Awards 2011 December? How do you see this initiative promoting innovation in the semicon and electronics industry?

As we all in the industry have come to realize, innovation is the key driver for success in the years to come. Specifically in the Indian context where we are aiming to reach a target industry turnover of USD 400 billion by 2020, innovation must happen, and fast. Technovation aims to proliferate innovation by recognizing the people and organizations that are leading us from the forefront. Technovation 2011 carries awards in three categories - intellectual property created in India, the best individual contributor in the semiconductor domain and the ecosystem award for companies that are promoting innovation in India. We also have a category called the TechnoVisionary award, lifetime achievement award to be given away to an individual for their seminal contributions to the Indian electronics and semiconductor industry.

Awardees will have a chance to showcase their achievements and product successes during the upcoming IESA Vision Summit scheduled to be held in February 2012. The aim is to not only recognize the work of these leaders but also to encourage more members of our fraternity to go ahead, take the risk and innovate for the betterment of the entire Indian semiconductor industry.

4. As the founder of an Indian IP company, Cosmic Circuits, how has innovation impacted the company and your customers?

Innovation is extremely important to us as a company. In fact innovation is one of our strongest differentiators. For example, Cosmic was the first IP company to prove on silicon, several data-converter and power-management cores in the 40nm process node. We partner with all the leading foundries worldwide to offer the broadest analog IP portfolio in the world outside the interface space. We were awarded our first patent way back in 2009; today, with an IP portfolio of 300 cores across 7 technology families, we hold several patents and have many more in the pipeline. As a company that values innovation, we are very happy with IESA's effort to promote innovation through the Technovation Awards.

About the author

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CEO Cosmic Circuits Pvt. Ltd

Ganapathy Subramaniam has over 21 years of experience in the analog IC design industry. Prior to Cosmic Circuits, Subramaniam has held senior management roles in analog and mixed signal organizations of Texas Instruments, including as the Director - Mixed Signal Technology Center, where he managed a large team of analog engineers. He was also the worldwide silicon development manager for WLAN chipsets. He has managed design teams worldwide for mixed signal and SoC product development and pioneered key strategic initiatives, such as CMOS wireless LAN RF development and power management integration on system-on-chips.

Subramaniam is a senior member of the Institute of Electrical and Electronics Engineers (IEEE) and holds a bachelor's degree in engineering from the National Institute of Technology, Trichy.

About CEO Cosmic Circuits Pvt. Ltd

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