

# Business Standard

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## Embedded software: Chip off the new block

Shivani Shinde / Mumbai July 10, 2007

The domestic embedded systems market in India is geared to generate exports worth Rs 41,000 cr.

Embedded software development has been a strength of Indian software firms. Having created a name for themselves in this field, companies are now looking to move up the value chain.

This requires an integration of chip-design and software so that so that the client can get his solutions from a single source point.

Chip-designing is not new to India. There are close to 200 semiconductor companies operating in India and 120 of these are into chip-designing.

These companies are now focusing on creating intellectual property (IP). This will become an integral part of embedded chips. Embedded chip-design means designing chips that add intelligence to devices such as mobile phones, consumer electronics and medical equipments, effectively making them smart devices.

The companies create IP and focus on getting business from these products—thus creating an end-to-end solutions environment.

Companies with expertise in embedded software and having created an IP around it are able to create an environment, where manufacturers can get the complex software and hardware integration done.

The Indian design organisations are moving beyond the simple labour cost arbitrage to becoming true contributors to product innovation, say analysts. Many multinationals have already invested in new design operations in India or have expanded existing facilities. A recent Nasscom-Mckinsey study said the domestic embedded systems market was geared to generate exports worth Rs 41,000 crore by 2008.

Ganesh Ramamoorthy, principal research analyst, Gartner, says, "There are very few Indian companies that are doing large chip-designing. Nevertheless, there is definitely a shift towards serious chip designing work." He added, "What will help these companies in creating a niche is the IP that they are creating in the process."

For instance, Elven Micro Circuits, a subsidiary of Aftek Infosystems, has created two IPs—SMIA (Standardised mobile integrated architecture) and MIPI (mobile industry process interface)—which are fast becoming parts of mobile platforms. Shrikant Inamdar, director, Elven Micro Circuits, says: "On the operational front, the trend is driven by lower costs, a good talent pool and global recognition of the ability to make complex and end-to-end product designs."

The potential of the IP can be gauged from the revenues that the company has been generating. "We started a year back and within that time we have crossed revenues of \$2 million (around Rs 8 crore). We expect to touch at least \$6 million," says Inamdar. Though the company also gets work from other companies, moving ahead it wants to concentrate on increasing revenues from its IPs. The company has close to 11 customers from the US and Japan. Many of these are already using its products in the mobile space.

IT majors in India, too, are eyeing this market. Wipro acquired NewLogic Technologies last year. The Australian firm is a wireless IP developer of bluetooth and wireless local area network. TCS through its innovation labs has been doing some work in the embedded technology segment.

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Sasken is another company that has been growing fast in the embedded systems market. Though the company's focus is the services segment, it too is spending considerable time in creating IPs. It has created IPs in audio-video segment which has become a part of many well known handset manufacturers' mobile platforms like Motorola and NTTDoCoMo.

Vilas Bhade, chief architect, semiconductor business unit, Sasken Communication Technologies, says: "Embedded technology is everywhere. Though the cost of this technology is coming down, the expertise and technicality is equally increasing."

The \$3.25 billion semiconductor design services market in India is expected to reach \$14.4 billion by 2010 according to a report by ISA-Frost and Sullivan.

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