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## IT demand pinches semicon industry

*The semiconductor industry is facing strong pressures to meet the IT demands such as power efficiency, long battery power, low heat emission, small form architecture and eco friendly*

**Pankaj Maru**

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MUMBAI, INDIA: Today, most of the IT products, devices, gadgets and technologies are entering the market with features such as power efficiency, long battery life, low heat dissipation, smaller size and shape, mobile, environment friendly and so on.

The success and market acceptance of most IT products and technologies purely hinges on delivery of features. However, it's the [semiconductors](#) inside those products and technologies that play a crucial role in making those features available and deliverable as per the requirements.

Is the semiconductor industry facing pressure to meet IT demands?

**"Certainly yes," says Nirav Shah, eInfochips' director of Marketing. "Throughout the [chip industry](#), the drumbeat of increased power concerns is steadily growing louder. Today, consumer interest and buying criteria are far more heavily weighted toward small form factor, low power, long battery life and robustness," he adds.**

**Further, "At once industry was competing on frequency/speed but not performance/watt. Consumers don't want any diminution in performance either. 'Going green' trend is very high on every chip maker/verifier company's mind. In fact, consumers look for energy star (power/eco friendly) compliant logo since they know products with this logo consumes less power and are good for an environment," Shah explains.**

**Ahmedabad-based eInfochips is a technology design services and solutions company. From customers' demand perspective, the firm is witnessing trends where the focus is on lower power, thermals and overall system design with smaller form-factor and potentially fan-less design.**

Such trends does suggest, how the semiconductor industry is put to test in meeting those IT demands. And in meeting those IT demands, the semiconductor industry has to develop newer designs, architectures and circuits.

According to Rich Kapusta, Actel Corporation's vice president - marketing and business development, the three key design requirements emerging from the rapidly increasing trend of mobile applications are low power, reliability and security.

"Today, everything fits in your hand - phone, camera, laptop, e-book, meter readers, point of sale terminals, medical diagnostic devices, games, music and video players, and it's just the beginning. Mobile apps drive innovation in the industrial, consumer, medical markets, auto, military storage and communications markets," Kapusta adds.

Actel Corporation is headquartered in Mountain View, California and has strong base in Hyderabad. The company leads in low-power and mixed-signal field programmable gate arrays (FPGAs) and offers system and power management solutions.

"Either battery driven, universal serial bus (USB) connected or plugged to wall, power is a primary driver of almost all design today. In addition, portability, environmental consciousness also makes power consumption the number one design criterion," Kapusta says.

Further Kapusta points that for keeping "systems up all the time" and making it "reliable", the designs need to be 100 per cent accurate and error immune.

"This is a critical element in most designs today," he adds. Moreover, he comments that with high market competition, design security is key to keep a competitive advantage.

Overall, the semiconductor industry is among those verticals that are highly driven by demand dynamics and technology trends. Apart from meeting those market demands and emerging technologies, the global economic slowdown has severally impacted this sector.

**"Owing to the overall economic downturn, companies are being more cautious and are delaying purchase decisions, a move that is impacting the overall semiconductor and electronics industry. Despite the lull**

**period, semiconductor companies globally are focusing on their core strengths, consolidating and realigning resources," Shah comments.**

**In the present scenario, he considers that industry's growth will come from energy and low-power related technologies but in smaller footprint.**

According to [Indian Semiconductor Association \(ISA\)](#)–Frost and Sullivan report for 2008-10, the total revenues of the Indian semiconductor market are poised to grow from \$5.9 billion in 2008 to \$7.59 billion in 2010 at a CAGR of 13.4 per cent against 26.7 per cent projected growth. The 50 percent decline is caused by low investment and sluggish manufacturing.

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