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Consumer fever and other hot topics

IN TRENDS — BY JHESSE @ 11:11 AM



Semico's 11th annual summit, dubbed "Technology for the masses," might as well have been called "Technology for the mass consumer-driven globally competitive market" given the two main themes reiterated throughout the last day of the conference. (A tad long, but at least it's better than "Technology: Hope for American consumers" or some other schmaltzy, politically inspired title.)

The first key topic the speakers highlighted was not earth shattering in that it is a widely recognized trend in the embedded industry. Consumer devices have succeeded PCs and other traditional computing devices as the end product du jour, a fact that many semiconductor vendors have acknowledged if not fully embraced.

Former Apple CEO Gilbert Amelio described how this trend came into being, providing some historical context on the past few decades' greatest advances in technology: the microprocessor in the '70s, the PC in the '80s, and the Internet in the '90s. Now, in the early part of the 21st century, the fundamental parts of technology are moving away from computing toward consumer and communications products, particularly mobile devices of all kinds. "We have a world wherein people want to take their thing with them," Amelio pronounced.

This new world is placing a different set of demands on the chips powering these devices. Thus far, designers have packed more capabilities into chips by shrinking geometries, decreasing the additional function cost; however, at some point, the next fab will be so expensive that companies won't get a reduction in price, asserted Amelio, who currently serves as chairman and CEO of Jazz Semiconductor. He advocated using a different method for achieving functional density – hybridization, a process Jazz has implemented to fit more than one type of technology on an IC.

Speakers from Freescale, Tessera, and Silicon & Software Systems echoed this same consumer-centric refrain, emphasizing that semiconductor content is increasing in portable devices, home entertainment, gaming systems, and automotive electronics and predicting that high-speed analog design will be a large growth area as embedded systems continue to evolve. Had it occurred to me earlier, I'd have asked *Embedded Computing Design* Editorial Director Jerry Gipper to give me a penny for every time the word "consumer" was uttered. I would've made almost enough to buy myself a grande latte at Starbucks – almost.

What did occur to me was the unspoken question as to how long this consumer fever would continue, especially in the face of a possible (and some would argue probable) economic downturn. George Scalise, president of the Semiconductor Industry Association (SIA), touched on this point when he mentioned his uncertainty about how much of a hit consumers can take at the pump before it curbs their discretionary spending.

However, a recent survey conducted by the Consumer Electronics Association (CEA) suggests that one out of five U.S. households will spend at least some of their economic stimulus rebate cash on consumer electronics, totaling about \$5 billion. This finding further bolsters CEA's previous forecast that overall consumer electronics shipment revenues will jump 6.1 percent to \$171 billion this year.

So, for the time being at least, it appears U.S. consumers will go about their merry materialistic way. Never mind those delinquent mortgage payments; we must have that new 50-inch TXH display-certified plasma HDTV!



CONSUMER ELECTRONIC STIMULUS: Many Americans are expected to spend their cold, hard federal rebate cash on cool new consumer devices like the PG60 plasma HDTV from LG Electronics.

While the first main theme repeated throughout the third day of the conference generated mostly positive feelings about the health of the semiconductor industry and the overall U.S. economy (as in, we're making money), the second, slightly less prominent theme had a decidedly negative bent (as in, we could be losing money in the near future).

Scalise and LaMar Hill, director of the Workforce Consortium for Emerging Technologies and CEO of the International Alliance of Nanotechnology Regions, warned that America could slip from the ranks of the world's top industrial leaders if the country doesn't step up its efforts to attract and retain high-tech companies and skilled technical workers. And, although the most groundbreaking research is still being conducted at U.S. universities, the number of Science, Technology, Engineering, and Math (STEM) graduates is dropping off (10-15% less per capita since 1990, according to Hill).

To remedy this so-called "quiet crisis," Scalise, who serves on President Bush's Council of Advisors on Science and Technology, promotes a three-pronged public policy strategy that calls for Capitol Hill to 1) create a more favorable tax structure that would encourage companies to invest here, 2) enact the necessary immigration reform that would allow foreign nationals studying here to remain and work here after they graduate, and 3) double the funding of basic research in the physical sciences.

Hill agreed that more funding would help but believes the real problem cannot be solved with money alone. He stated that he thinks society doesn't place much priority on STEM education, nor do kids give a rip about studying algorithms, microprocessor designs, or anything else science/tech-related. "It's just not cool to be a geek," Hill lamented. In his opinion, the goal should be to "get third and fourth graders thinking that if you're not a geek, you're a freak." Possible ways to achieve this include instituting more STEM-type extracurricular activities and mentoring programs championed by a collaboration of high-tech companies, educators, regional communities, and students.

This sounds promising, but I propose extending the invitation to another power player: Hollywood. Heck, the entertainment industry is already churning out movies that make young mathematicians look glamorous ("21") and TV shows that portray computer science types as budding heroes ("Terminator: The Sarah Connor Chronicles"). The next step is producing a blockbuster hit sure to draw non-STEM career-minded Gen Zs. Here's my pitch: A crass yet heartwarming film starring

Michael Cera and Jonah Hill as brilliant electrical engineering undergrads who try to score with the ladies by posing as rock stars but don't meet with success until they admit they're geniuses. I'm thinkin' "Supersmart" would go a long way toward getting kids stoked about STEM, not to mention pump another \$150 million into Hollywood's pot.



Photo by: Melissa Moseley © 2006 Columbia Pictures Industries, Inc.

“SUPERSMART” ROLE MODELS?: Maybe Hollywood can get kids fired up about the physical sciences.

But until Judd Apatow calls and takes me up on my idea, it's probably better to stick with Scalise's and Hill's advice to write your legislator or get involved in a corporate-sponsored youth mentoring program.

And, if you're interested in the whole international tech race topic, check out what one engineering outsourcing service provider has to say about a related trend – increased R&D globalization – in the April issue of *Embedded Computing Design*.