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**CHIPPER FORECAST:** Syndiant CEO and co-founder Mark Harward says the company's high-definition chip design, used in the ultra portable projector he is holding, has already led to significant company investment to the tune of nearly $20 million.

JAKE DEAN

**IDEAS IN ACTION**

# Chip off a new block

## TECHNOLOGY COMPANY SYNDIANT BETTING DEMAND FOR A HIGH-DEFINITION PROJECTOR CHIP MAKES A Ssplash IN COMPETITIVE SEMICONDUCTOR MARKET

BY LENA DIRBASHI | STAFF WRITER

**BIGGEST PROBLEM**

Innovating a new product that could potentially be in high demand is a mixed blessing for Syndiant, a small and relatively new technology company. With modest resources at its disposal, Syndiant is scrambling to meet the high demand it forecasts for the next year.

Mark Harward led a team of engineers to produce what they hoped to be a promising product: a high-definition chip for television projectors. Two years later, when his semiconductor company, Syndiant, went to market these chips in 2006, the demand for them was no longer there.

But as the television industry closed its doors on Syndiant, a Richardson-based company that started in 2004, a new one opened.

"We did a presentation a year later about our chips, and someone from the audience said to me that since these chips were so small, I should apply these chips in cell phones or laptops," said Harward, the company's CEO and co-founder. "So I studied the technology and the market, and seeing that 200 million laptops are sold every year, we redirected the company practically overnight."

For the next two years, Syndiant's engineering team would design chips for pico projectors, devices that project images and video footage from portable devices such as cell phones onto a larger surface, such as a wall, for easier viewing. As mobile devices increasingly host more Internet traffic, and with users constantly streaming video of news or music from Web sites such as YouTube, the future for pico projectors appears bright.

Several semiconductor companies have already introduced chips for pico projectors, as Dallas-based Texas Instruments did in 2009, and have done fairly well, according to Matt Brennesholtz, an analyst at Norwalk, Conn.-based Insight Media.

Harward is familiar with TI's digital light processing chips, or DLP chips, which use mirrors to represent the image on the screen. But he says Syndiant's technology, called liquid crystal on silicon, is superior. LCOS is a reflective technology similar to that used in DLP chips; however, Syndiant's chip designs use liquid crystal to project the image with smaller pixels to provide higher resolution. Harward believes the high resolution will appeal to consumers in what is still considered an emerging pico projector market. Syndiant does not make the chips itself but works with partners to produce the chips.

Brennesholtz says it is too early to determine whether there is strong enough consumer demand for this product. "If consumers want to use pico projectors for Web browsing, which would benefit from higher resolution in order to read text more clearly, then Syndiant is at a good place," he said. "But if consumers end up using them only for video sharing, then Texas Instruments' current technology would be more practical."

Syndiant's more direct competitor, Boise, Idaho-based Micron, also uses liquid crystal on silicon technology on its chips, effectively boiling down the decisive factor to cost. "If Syndiant can produce a high-resolution product for cheap," Brennesholtz said, "it's the end of it."

Harward, who has 14 patents, has faced rejection before. This time, he is confident that Syndiant has superior chip technology. He says many in the industry are backing him up, pointing to $19.6 million in investments, including a $3.5 million cash infusion from the Texas Emerging Technology Fund and several Asian companies.

"A lot of people have faith in us," he said. Syndiant made its first sale to a Chinese company — Shanghai Sanxin Technology Development Co. — and recorded more than $1 million in revenue for 2009. Harward projects hundreds of millions in revenue by the end of 2010.

"We've been contacted by over 120 companies worldwide — particularly by handheld device manufacturers," he said. "The phones have been ringing off the hook."

But the high number of interested companies also has become a challenge for Syndiant, which has limited resources to design chips to get manufactured in the volume required to meet that demand. This leads to the problem of customer selection. "We don't have resources to support 120 companies, so we have to select customers that are quick and can buy in high volumes," Harward said. But thanks to what Harward calls a "very good architectural team," Syndiant will meet that demand soon enough.

With four design modules, or designs for certain functions, so far, this is only the beginning for Syndiant, as the company continues looking into more possibilities.

"Our vision is to enable high-resolution pico projectors to be prevalent in millions and millions of devices in which consumers can benefit, like in helmets, robots and even on the dashboards of cars," he said. "Pico projectors can be deployed in ways we haven't even imagined yet."

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**CHIP SHOT**

**NAME:** Syndiant
**BUSINESS:** Fabless semiconductor product design
**HEADQUARTERS:** 18325 Waterview Pkwy., Ste. A101, Dallas 75252
**OWNERSHIP:** Private
**TOP EXECUTIVE:** Mark Harward, president, CEO and co-founder
**EMPLOYEES:** 30
**ANNUAL REVENUE:** $1 million (2009)
**PHONE:** 469-916-0580
**WEB:** www.syndiant.com

## SYNDIANT: *Design uses liquid crystal*