

## Stealthy Nanochip Notches \$14M

*Stealth-mode startup completes its Series C and plans assault on removable media*

By James Rogers, January 22, 2008

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Secretive semiconductor startup Nanochip has raised \$14 million in additional Series C funding to develop a high-capacity alternative to traditional Solid State Disk and USB drives.

The mezzanine round, which included Intel Capital and JK&B Capital, brings Nanochip's total funding to \$39 million and will be used to ramp up manufacturing for the startup's closely guarded chip technology.

"We will be choosing our manufacturing partners this year, and then start to get into design verification and customer sampling next year," explains Gordon Knight, the Nanochip CEO.

The Fremont, Calif.-based startup is pushing its chip technology as a cheaper, high-capacity alternative to traditional flash memory. The vendor claims to have developed a way of placing large quantities of data onto its silicon by passing electrical current through an array of tiny "tips" or needles, which write information to a layer of media on top of the silicon itself.

The CEO refused to reveal what exactly this media layer consists of, but he claims that the vendor will be able to store much more data within the same chip as is possible using traditional NAND-based flash memory. "We're about 75 times more dense than the production NAND-flash cells today," says Knight.

Nanochip is planning to launch the first prototypes of its chips later this year, with some limited beta tests scheduled for 2009. The chips are expected to be generally available sometime in 2010.

The vendor's first offerings are expected to exceed 100 Gbytes of capacity per chip, although the silicon will eventually be capable of storing more than a Tbyte, according to Knight.

"Eventually, [the chip] will go anywhere that a NAND flash drive will go," he says. "That means USBs, cellphones, PDAs, Solid State Disk Drives [and] enterprise servers."

The CEO was somewhat less forthcoming on the subject of his firm's workforce, confirming only that around 50 people are currently developing technology, both within Nanochip and at "several partners" that he is unwilling to name.

"We will be hiring some people this year, definitely," adds Knight. "We plan on hiring quite a few more engineers."

One area where traditional flash memory appears to have the edge on Nanochip is the fact that the NAND-based technology has no moving parts, which is seen as a big benefit for users on the lookout for highly reliable storage media.

EMC, for example, recently threw its weight behind NAND-based flash memory, when it revealed its plans to offer SSD technology from flash specialist STEC within the Symmetrix DX-4.

Undeterred, Knight predicts that Nanochip's silicon will also offer high levels of availability. "The parts are so small and so light and the actuators [that transfer electrical signals] are so strong that the user should not know the difference between this and a solid state chip like a NAND chip."

After today's funding announcement, Nanochip's executive team will mostly be keeping their heads down for the rest of 2008. "We will be pretty quiet for the rest of this year," explains Knight. "[But] we will probably be looking for another large round before this year is over to take us into volume production."