

## Can Apple Still Innovate on a Shoestring?

Apple is increasing its spending on R&D, but is still far short of its competitors.

By [Jessica Leber](#) on November 7, 2012

In 1998, Steve Jobs told *Fortune*: "Innovation has nothing to do with how many R&D dollars you have." He shut down Apple's long-term research lab division to prove it.

Last week, Apple's disclosure that it increased its annual research and development spending by nearly \$1 billion, or 39 percent, could serve to break with such a philosophy.

Few large technology companies are more stingy with their R&D spending than Apple. Focused on developing and improving a handful of products, Apple lacks the sprawling basic research divisions that, for example, recently led IBM scientists to [a breakthrough](#) that could further shrink the size and cost of computer chips. While Apple's total \$3.4 billion R&D budget in 2012 is indeed growing, it's still only a sliver of the company's vast cash reserves. Viewed as a percentage of Apple's sales revenues, its R&D spending remains steady over the last few years at 2 to 3 percent. These percentages put its spending far below its peers, including Microsoft, Google, and Samsung.

Still, there's growing pressure on Apple to keep delivering radically new and exciting products. And that might be leading the company to reconsider its frugal R&D investments. In a recent [SEC filing](#) detailing its increasing R&D expenditures, Apple wrote that "focused investments in R&D are critical to its future growth and competitive position in the marketplace and are directly related to timely development of new and enhanced products."

Apple is building a dedicated [R&D facility](#) at a new Silicon Valley campus, and is hiring more R&D staff (a sampling of open positions today include: a Siri data engineer, a low-power design engineer, a camera algorithm researcher, and an iOS "[conflation scientist](#)" to work on improving Apple's widely panned new mapping application). The company is also [rumored to be building](#) an R&D center in Israel focused on

semiconductor technologies.

Apple may face new kinds of pressure to innovate now that its mobile computing platforms are well-established, says MIT Sloan School of Management professor Jason Davis. For R&D, these pressures might mean a focus on "translational research" so that Apple can quickly integrate advances from suppliers in fundamental areas such as bandwidth and networking, processing power, and screen resolution, he says. More importantly, perhaps, it means a focus on advancing software technologies, like speech processing and 3-D imaging, and finding compelling consumer uses for them, says Davis.



**Jessica Leber** Business Editor

I'm *MIT Technology Review's* business editor, working from our San Francisco office. I'm interested in how new technologies enter and rise in the marketplace, and in how they create new businesses and affect established ones.

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