

# INNOVATION

A look at innovative organizations, concepts, products and people

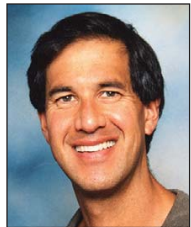
## Ink Co. Plans to Make Its Mark With Many Blank Pieces of Paper

### GREEN: Fading Ink Gives Paper New Life Without Recycling

■ By BRAD GRAVES

Carl Yee's invention is both blue and green.

The 47-year-old engineer is developing inkjet printer ink that eventually fades away. As a result, a person using Yee's ink can reuse office paper, again and again.



Carl Yee

The ink comes out of the printer blue, stays legible for about three days, and then it slowly begins to fade.

After three weeks, the ink has gone completely white.

Yee says he has printed over the same sheets of paper as many as 10 times.

The process has the potential to save trees, and preserve the environment from the paper-making process (even making recycled paper creates waste).

#### Still in R&D

Yee has not yet commercialized his product; he is still involved in the R&D. His business, **Blue Planet Ink**, is a one-man operation.

But government types have taken notice. Yee received U.S. patent No. 8,328,317 for his ink in 2012. More recently, the **National Science Foundation** provided the inventor with a \$150,000 grant.

He's thinking about a **Kickstarter** campaign next summer to help with funding. The campaign could also be a valuable tool to collect market research.

Yee lives in South Park. For a long time, the business was in his garage. Now he pedals his Elliptigo bicycle a few miles to the industrial space he rents at 33<sup>rd</sup> and Market Street.

Blue Planet's ink fades with exposure to carbon dioxide.

He is still working out the chemistry of his product. Among the issues he is weighing is just how much time he should allow for the ink to fade. The ink spends part of its time in an awkward middle state — not quite dark enough to be legible, but not transparent enough to warrant sending the paper through the printer for a fresh print.

Yee also lacks the deep pockets of the computer industry, which develops its inks hand in hand with its printer technology.

At one point he was talking to a big player in the printer industry. It eventually told him it was not interested.

#### San Diego Via Saturn

Carl Yee came to San Diego by a

### BLUE PLANET INK

**CEO:** Carl Yee

**Revenue:** Pre-revenue

**No. of local employees:** 1

**Investors:** Carl Yee

**Headquarters:** Southeastern San Diego

**Year founded:** 2010

**What makes the company innovative:**

Blue Planet Ink is developing computer printer ink that eventually fades away, letting people re-use printer paper

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circuitous route. He received a degree in mechanical engineering at **Stanford University**, and then went to work in the auto industry, for Saturn Corp.

"I never thought I could outlive a whole car company," he said with a laugh.

After working in Detroit, he went to work for **Boston Scientific**, spending time in Massachusetts and San Diego. He's received 13 patents for medical devices.

More recently he's been a stay-at-home dad. He started his printer ink project in 2009.

Yee said he had to educate himself about the inkjet printer business, and about the process of dealing with the patent office.

He had to work as his own lawyer.

Fortunately, he said, he could go to the Internet to find how other people successfully made their way through the patent labyrinth.

Yee's initial attempt to get a federal Small Business Innovation Research grant got him nothing, but he persisted and got the grant on his second attempt.

If all goes well, he can apply for a follow-on grant of up to \$750,000, but anything more would be icing on the cake. "I'm just grateful for what I've got," he said.

As of Sept. 14, when he hosted a reporter in his office, Yee was about halfway through his six-month SBIR grant period.

The inventor is discovering, however, that the grant comes with some financial risk.

#### Strings Attached

The government advanced him \$100,000, with the promise of \$50,000 later, but the deal calls for him to spend all \$150,000 by Dec. 31.

There is a chance that lawmakers may shut down the federal government without a budget at the start of the 2016 fiscal year on Oct. 1. If that happens, Yee's final \$50,000 check may be delayed as the machinery of government grinds to a halt and gets going again.

If that happens, Yee said he might manage cash flow by simply not paying himself a salary until later.