

Chinese upstart takes lead in fast-growing drone market

By Joe McDonald
AP Business Writer

SHENZHEN, China — An amateur photographer in Portsmouth, New Hampshire drew crowds when he used a drone mini-helicopter made by China's DJI Technology Co. to capture images of historic church steeples and other sights.

"I get some amazing photos with it," said Scott Richardson, a voice teacher who bought DJI's four-rotor Phantom 2 Vision+ model in May. "With a drone, you can hover three feet above the steeple and get a picture you can't get any other way."

Founded in 2009 by an engineer with a childhood love of radio-controlled model planes, DJI has become the world's biggest supplier of civilian drones — possibly the first Chinese company to achieve that status in any consumer industry.

It has grown from 20 employees to a workforce of 2,800, including Chinese, Americans, and Koreans at its headquarters in the southern Chinese city and at outposts in Los Angeles, Tokyo, and Frankfurt, Germany.

"It's really amazing what they have managed to do," said industry analyst Maryanna Saenko of Lux Research Inc. in Boston.

From the start, DJI was "very polished, had just the right capabilities and the right price point" — less than \$1,000 when most rivals cost at least \$5,000, Saenko said. "They hit the sweet spot."

DJI's latest model, the Inspire 1, released in November, carries a camera that can send live video to a



PILOTING THE MARKET. A security guard watches a demonstration of a DJI Technology Co. Inspire 1 drone in Shenzhen, China. Founded in 2009 by an engineer with a childhood love of radio-controlled model planes, DJI has become the world's leading supplier in the fast-growing market for civilian drones — possibly the first Chinese brand to achieve No. 1 status in a global consumer product. (AP Photo/Kin Cheung)

smartphone, with a GPS system to compensate for wind and hold it still in midair.

The company is part of an emerging wave of Chinese startups in fields such as robotics, clean energy, and telecommunications. The Communist Party hopes they transform the country from the world's low-wage factory into a creator of profitable technology.

DJI and its rivals, including France's Parrot SA and 3D Robotics Inc. of the United States, foresee demand for drones to shoot movies and news footage, survey farmland or oil fields, inspect power lines and oil pipelines, and give firefighters a bird's-eye view of burning buildings.

Privately owned DJI, based in Shenzhen, on the outskirts of Hong Kong, declined to disclose sales or profit figures. But founder Frank Wang told the *South China Morning Post* in Hong Kong that revenue in 2013 was \$131 million. The company says revenue grows by 300 to 500 percent

per year.

For professional use, DJI launched its Spreading Wings series of bigger copters with up to eight rotors last year. They offer advanced steering and image-stabilizing systems and sell for up to \$10,000.

Richardson, a former news photographer, said he got on DJI's waiting list for the latest Phantom model as soon as he read about it.

"I use it mostly to take pictures from vantage points that you couldn't get any other way," he said. Portsmouth's North Church has been around since the 1600s, but he gets photos of it that "have never been taken, ever."

In February 2012, DJI released its first full-fledged drone, the spindly Flame Wheel. Later that year, it added a camera to the first Phantom after seeing customers mount Go-Pro Inc.'s wearable video cameras on their drones.

Since then, research has spread to include cameras, software for imaging, and control and stabilization systems. Expanding be-

yond drones, the company has used its know-how in stabilizing images to create the Ronin, a handheld camera mount. Priced at \$3,000, it is marketed as a lower-cost alternative to steady cam systems used by film and TV studios.

The company has opened its software-development process to outsiders to create additional tools. A Swiss software maker, Pix4D, has designed an application to transform images shot by DJI or other drones into three-dimensional maps. It says its next smartphone model will have an app to control a DJI drone and receive live video.

In October, the company briefly entered American pop culture when characters on the "South Park" cartoon used a video-equipped drone modelled on DJI's Phantom to spy paparazzi-style on their neighbors.

DJI rolls out new models as little as five months apart, a rapid pace that reflects intense competition with smaller brands promising lower prices and more features.

"The development cycle is tricky," company spokesman Michael Perry said. Referring to the Inspire 1, he said, "One of the main reasons we wanted to get this out is, we didn't want anyone else to do it first."

Unusual for a startup, DJI handles almost every step of its process itself, from research and production through worldwide sales and repairs. That has led to complaints as repair centers struggle to keep pace with sales.

Richardson had to wait two-and-a-half months for



SPENDY SUSHI. A prospective buyer inspects the quality of fresh tuna before the first auction of the year at Tsukiji fish market in Tokyo on January 5, 2015. A single bluefin tuna sold for 4.5 million yen (\$37,500) in annual celebratory bidding at the first auction of the year at Tokyo's famous fish market. (AP Photo/Eugene Hoshiko)

4.5-million yen tuna sold in Japan

TOKYO (AP) — A single bluefin tuna sold for 4.5 million yen (\$37,500) in annual celebratory bidding at the first auction of the year at Tokyo's famous fish market.

Kiyoshi Kimura, the owner of a Japanese sushi restaurant chain, bought the 400-pound fish at the re-opening of the Tsukiji market after the extended New Year's break.

He was the top bidder for the fourth year in a row.

Hundreds of tuna are sold daily at the early morning auction.

The popularity of tuna for sushi and sashimi has depleted stocks globally. In November, the International Union for Conservation of Nature designated Pacific bluefin as a species threatened by extinction.

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