

FINANCIAL TIMES

Yamaha aims to unlock US and EU markets with agricultural drone

Mon, 2015-07-06 10:10

Location: Tokyo, Japan



Until Amazon secures regulatory approval to deliver parcels to our homes using drones, one of the hottest battlegrounds in the fast-evolving market for unmanned aerial vehicles is where you might least expect a technology revolution — agriculture.

And that is where Japanese drone technology, dating back to the late 1980s, comes in.

High quality global journalism requires investment. Please share this article with others using the link below, do not cut & paste the article.

In May, Yamaha Motor became the first company to secure permission to fly a crop-spraying drone in the US that resembles a helicopter and is called RMax. It was the largest commercial drone to win approval from the Federation Aviation Administration, with a body that is 2.7m long, 1.1m tall and weighs 64kg.

Currently, unmanned aerial vehicles used for commercial purposes are banned in the US unless a special exemption is obtained from the FAA. Yamaha, which already sells agricultural drones in Japan, South Korea and Australia, hopes the FAA exemption for the RMax in the US will not only unlock this market but also those in European countries.

“Our drones work well in spraying pesticides and fertilisers on slopes so we’re aiming for vineyards at Napa Valley in the US and Champagne in France,” says Osamu Ishioka, Yamaha’s senior general manager.

Yamaha, the world's second largest motorcycle maker, has been developing drones for about three decades, prompted by a request from the Japanese government.

These have quietly become embedded in Japanese agriculture. Their use is now so widespread that about one in three bowls of rice consumed by Japanese households has been sprayed with agricultural chemicals by Yamaha drones.

As Japan grapples with a rapidly ageing population, these drones help to ease the back-breaking work of the country's elderly rice farmers.

High quality global journalism requires investment. Please share this article with others using the link below, do not cut & paste the article

Yasuyoshi Kasama, a 36-year-old rice farmer and a regular user of Yamaha's latest drone called the Fazer, says he and his parents used to take about 10 days to complete one of their most important tasks — the planting of rice seedlings and the spraying of pesticides. Using the drone, it takes just two days at most, he adds.

But the investment is not small. Mr Kasama spent more than \$200,000 to purchase two of Yamaha's drones, but he says they are worth the price considering the amount of manpower and time they save.

Mr Kasama, who obtained a licence to operate the drones, believes the technology will help to ease the backward image of farming. "I want to change the image of agriculture," he says. "Unless it's cool, we won't be able to attract young people."

With annual revenue of just Y5bn (\$41m), Yamaha's drone business was a tiny portion of the group's total sales of Y1.5tn last year. But the company hopes to increase sales from an anticipated 320 drones this year to at least 500 by 2020.

Analysts say the potential for agricultural drones is huge. The market for commercial drones is expected to reach \$1.7bn in 2025, of which \$350m will be generated from unmanned aerial vehicles focused on agriculture, according to data group Lux Research.

The economic benefits of commercial drones in the US should be \$13.6bn in the first three years after they gain permission to fly, of which agriculture and public safety will account for 90 per cent, according to the Association for Unmanned Vehicle Systems International.

High quality global journalism requires investment. Please share this article with others using the link below, do not cut & paste the article

The FAA in February released long-awaited draft rules governing the use of commercial drones, permitting flying alongside other aircraft but requiring operators to keep them in their line of sight.

These rules have not been finalised, but the FAA decision on Yamaha's drone highlights "the tremendous potential unmanned vehicle systems have in agriculture, helping farmers to more safely, effectively and efficiently manage their crops and improve yields", says Brian Wynne, chief executive of AUVSI.

High quality global journalism requires investment. Please share this article with others using the link below, do not cut & paste the article

Still, competition in the commercial drone market is fierce. Globally, there are already hundreds of companies that claim to make agricultural drones with "little technical differentiation", says Maryanna Saenko, analyst at Lux Research. "Yamaha is sure to see an insurgence of competition over the next year as companies vie to be the next system approved by the FAA."

In the area of consumer-focused unmanned aerial vehicles, DJI, the Chinese maker of remote-controlled "quadcopters", has become a market leader with its Phantom range of camera-bearing drones. California-based 3D Robotics in April launched its \$1,000 Solo drone to compete with the Phantom.

Industrial drones have a higher barrier for market entry as rules on safety and durability are stringent.

One of Yamaha's strengths is the group's engine expertise and safety record, but Mr Ishioka says: "Cheaper drones in agriculture will pose a threat for us. For now, we hope other players don't come in since [crop spraying] is a niche market."