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Tevel raises US\$20m for harvest solution

Latest round of investment includes backing from two major Asian ag equipment manufacturers for fruit harvesting drones



Image credit: Tevel

Tevel Aerobotics Technologies, which is developing autonomous flying robots that can pick fruit, has raised US\$20 million in fresh funding, reports AgFunder News (AFN).

Among the investors in this round were two major Asian agriculture equipment manufacturers; Japan's Kubota and China's Forbon.

Participating alongside them were a host of venture capitalist firms including Maverick Ventures Israel, its compatriot OurCrowd, and US-based AgFunder.

Ziv Aviram — co-founder of self-driving car startup Mobileye, which was acquired by Intel for US\$15.3bn in 2017 — and Amichai Steimberg, former chief executive of electronics manufacturer Orbotech, also invested.

Tevel has designed a system of small, interconnected drones that can harvest orchard-grown fruits and carry out other tasks, such as pruning, trimming, and thinning, that would typically require

Harvest labour is in increasingly short supply due to Covid-19 restrictions. The UN's Food and Agriculture Organisation (FAO) has estimated the availability of orchard workers to have dropped by 50 per cent over the past two decades – while agricultural fruit output has doubled over the same period.

"Farmers are struggling today with recruiting fruit pickers, a situation that puts the whole industry at risk," explained Tevel founder and chief executive, Yaniv Maor.

"The situation in orchards is worse than in greenhouses, for a few reasons. Fruit season in the orchard is shorter than for greenhouses and orchards are mostly located in remote villages [where] the local labour is not available, and the imported labour is not sufficient," he told AFN.

"Tevel supplies autonomous harvesting on demand – anytime, anywhere, any capacity. Our flying robots gently pick the fruit without bruising it [and] they almost don't leave any fruit on the trees."

Tevel's solution — named Flying Autonomous Robot (FAR) — is a mobile hive of drones, each equipped with a meter-long mechanical claw and AI-powered 'eyes.'

Beyond picking, this potentially allows FAR to perform "any intensive selective task that requires accuracy," according to Moav.

"Our robots have excellent manoeuvrability – they can manoeuvre with six degrees of freedom. This enables us to pick almost all the fruit from trees, work with different orchard architecture — such as thick and thin trees, trellis systems, and round trees — and to pick many kinds of fruit with the same hardware."

Tevel's Wellsian creations also offer farmers the prospect of growing taller trees, as they can overcome "the limiting factor to access treetops," Moav claimed.

"This can bring extra 10 to 20 per cent of fruit to the same farm – which is not only

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human labour.

Tevel will use this latest funding to complete product validation, commence production, and launch its commercial service.

Some of the capital will also go towards the establishment of operational bases in Israel, Europe, and North America. Moav believes FAR will be fully available to farmers by the end of 2021.

“For the average orchard, harvesting can represent 50 per cent of the operating costs, a figure that increases in correlation with farm labour scarcity. The versatility and efficacy of Tevel’s FAR will change

the way orchards operate globally,” AgFunder founding partner Michael Dean told AFN.

Forbon chairman and chief executive Renzong Wang said in a statement that “the market opportunity [for FAR] in China is enormous.”

“China is the largest fruit producer in the whole world [but the] agriculture labour shortage already puts China in a very difficult situation, and it will become even more severe over time,” he said. “The industry desperately needs a feasible solution like Tevel’s.”

more revenue, but extra profit to the farm.”

This latest US\$20m round is the third that Tevel has raised following its US\$10m Series A in 2019 and a US\$1.4m seed round in 2017. It has also banked a US\$2.5m grant from the Israel Innovation Authority.

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