

executive Hengjie Wan, chief technical officer Jordan Thoms and chief operating officer Alliv Samson created the app in 2013 while they were university students. Their objective was to provide students with an effective electronic note taking system.

"We have received overwhelming positive feedback from teachers who have recognised the significant time savings and uplift in active, real-time participation in the classroom using Kami," said Wang.

Kami won the 2015 New Zealand Innovators Award and was named the American Chamber of Commerce New Zealand's 2017 Exporter of the Year.

Kami has attracted backing from Silicon Valley investors including Sam Altman of Y Combinator and Scott Nolan of the Founders Fund and Right Side Capital Management. The New Zealand angel group Flying Kiwi Angels was also an early investor.

## INVESTMENT ACTIVITY

### \$2m for global launch of heart surgery recovery app

Universities and CSIRO-backed early stage venture capital firm Uniseed has led a \$2 million investment round in Cardihab which is commercialising a mobile phone app that helps patients recover after heart surgery.

Other investors in the round, announced in December, are the Queensland Business Development Fund, the Queensland Cardiovascular Group – a chain of 15 Queensland private clinics – and Slingshot Ventures.

Cardihab was established in February 2016 based on research carried out by the Australian E-Health Research Centre, a joint venture between CSIRO and Queensland Health. The company is a graduate of accelerator programs CSIRO ON and HCF Catalyst.

Uniseed invested \$500,000 in a \$1.35 million capital raising round for Cardihab in 2017 (*APE&VCJ*, Oct 2017). Other investors in that round were Artesian Capital, which was an early investor in the company, and the Queensland Cardiovascular Group.

Uniseed investment manager, and Cardihab director, Natasha Rawlings said: "Digital health is a rapidly growing investment space and technology is generally under-utilised in the Australian health system. By providing a clinically proven method of solving a very large and growing problem, both in Australia and overseas, Cardihab's position as first in market will help grow a large and patient-centred business."

Some public hospitals and insurers have already signed up to use Cardihab but the new capital will be used to support a bid to capture a slice of the global cardiac rehabilitation market which is estimated to be worth \$2.1 billion a year.

Cardiovascular disease is the cause of death for one in three Australians, according to the Heart Foundation. About 12 per cent of the federal health budget is currently absorbed in the treatment of cardiovascular disease and this is forecast to increase to \$22 billion a year by 2033.

According to the Heart Foundation, patients who complete a rehabilitation program after a cardiovascular event are 40 per cent less likely to have

a repeat event and 25 per cent less likely to die as a result. Less than 20 per cent of patients, however, complete clinic-based rehabilitation programs. The programs usually require patients to attend two sessions a week for six weeks.

Cardihab's patient app and clinical portal enables patients to carry out rehabilitation exercises at home while still being monitored by a cardiologist. The company was formed after a randomised trial found that after being offered the Cardihab app, 29 per cent more patients enrolled in cardiac rehabilitation and 70 per cent more completed their programs. Results of the trial were published in the journal *Heart* in 2014.

Cardihab chief executive Gus Taddeo said digital health technologies were able to help more people at lower cost relieving pressure on health systems.

"We will continue to develop the platform with integrations to medical devices and other easy forms of data collection meaning more people can be looked after more easily," he added.

Uniseed is currently investing a \$50 million fund raised in 2015.

The Queensland Business Development Fund is an \$80 million fund which makes investments of \$125,000 to \$2.5 million primarily in ventures with potential to develop emerging industries in the state. Successful applicants are required to raise at least matching capital from the private sector.

Part of the state government's \$650 million Advance Queensland innovation strategy the fund has so far invested in more than 25 start-ups.



## INVESTMENT ACTIVITY

### Commercialisation fund backs wildlife drone technology

Commercialisation fund manager Uniseed has participated in a \$670,000 seed investment round for drone technology start-up Wildlife Drones.

The round also includes contributions from angel investors and is expected to enable Wildlife Drones to translate its cutting-edge technology into user-friendly alpha and beta versions of its product. The first target customers including wildlife researchers and teams working on the control of invasive species.

According to Uniseed, Wildlife Drones' technology brings radio wildlife tracking into the 21st century. Until now, the process has relied on researchers walking for hours, or even days, holding radio receivers in the air to detect signals from one radio-tagged animal at a time.

Founder Dr Debbie Saunders came up with the concept of Wildlife Drones while trying to track movements of the Swift Parrot, one of Australia's most endangered birds. A conservation ecologist at the Fenner School of Environment and Society at the Australian National University, Saunders realised drones could facilitate greatly improved tracking for fast-moving animals.

Assistance to get Wildlife Drones off the ground came from CSIRO's ON and the ACT's Innovation Connect programs both of which help develop businesses from research work.

Uniseed investment manager Natasha Rawlings said: "Wildlife Drones has the potential to radically transform animal tracking, giving the wildlife management industry vastly more confidence and ability to fulfil its important role in protecting the environment. There is nothing else like it on the market. Uniseed is proud to have backed what really is pioneering technology in such an important space."

Urbanisation and the expansion of agricultural land puts more wildlife species under threat and also increases the need for invasive species control. Research indicates that the global pest management market was more than \$125 billion in 2016 and the used of drones in agriculture is expected to see an annual compound increase in excess of 30 per cent over the next 10 years.

Wildlife Drones' technology is contained in a small device that can be clipped on to a drone.

The technology maps the movement of radio-tagged animals in real time. Advantages over current hand-held tracking technology include:

- Potential to track hundreds of animals at the same time;

- Tracking combinations of animals such as predator and prey, invasive and threatened species or livestock and farm dogs;
- Listens and locates from a distance so animals are not disturbed;
- Provides access to rugged or dangerous terrain;
- Displays all location data live on a map, even when offline.

Saunders' research on the Swift Parrot was the first time drones had been successfully used to radio track a number of small birds at the same time and see the results live on a base station device.

Saunders said: "Radio-tracking drones are in demand because traditional hand-held radio-tracking is incredibly labour-intensive and time consuming. The capability of our technology supports more robust research and empowers those tracking animal movements to undertake their work in a way that was not previously possible. Managers and researchers can now more safely, easily and quickly cover large areas without going anywhere."

Uniseed invests in research from five of Australia's leading research organisations, the University of Queensland, the University of Sydney, the University of NSW, the University of Melbourne and the CSIRO.