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## Bionic Vision Technologies raises \$US18m from State Path Capital, China Huarong



Bionic Vision Technologies chief executive Julie Anne Quinn at the Royal Victorian Eye & Ear Hospital. **Stefan Postles**

by [Jessica Gardner](#)

The Australian university-owned company in the race to develop a bionic eye to restore sight has been saved from its own near plunge into darkness after raising \$US18 million (\$23.6 million) from Chinese investors including the nephew of Hong Kong's richest person Li Ka-shing.

Bionic Vision Technologies was set up in 2010 after the Rudd government, following its 2020 Summit, made a \$50 million bet on trying to make Australia the home of the bionic eye.

That special grant, which went to a consortium of university and industry research bodies and was designed to provide the spark needed to build another medical device success story in the vein of bionic ear maker Cochlear, had been stretched over six years and led to an early prototype and limited clinical testing in BVT's Melbourne laboratory.

The incredibly complex technology turns images taken by a pair of smart glasses into signals that are delivered to an electrode behind the eye that then stimulates the brain's visual processing pathway to create neurological information about what the user is 'seeing'.





Bionic Vision Technologies chief executive Julie Anne Quinn and chairman Robert Klupacs. **Stefan Postles**

But chairman Robert Klupacs and chief executive Julie Anne Quinn have been furiously pursuing potential investors for the past 18 months to ensure their progress, and the funding bet, did not fade away.

"The government taking a risk on funding for academic research institutions that had a commercial outcome [in mind] was very unusual at the time," Ms Quinn said.

After many false starts with local investors, including wealthy families who liked the idea but lacked the financial firepower BVT needed, the company has tapped the deep pockets of Alastair Lam, whose uncle Mr Li is worth \$US31 billion.

"I think between us we have met with at least 40 to 50 [potential investors]," Mr Klupacs said. "Without this capital raising we wouldn't have had the resources to be able to do the clinical trials."

Mr Lam's State Path Capital and Chinese government-backed China Huarong International Holdings will now hold equity in BVT alongside CSIRO's Data61, The Royal Victorian Eye & Ear Hospital, a handful of bionic and vision research organisations and commercialisation arms of the Universities of Melbourne, NSW and Western Sydney.

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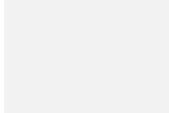
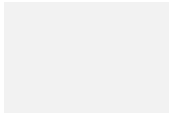
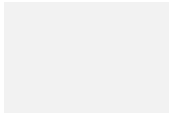
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Neither of the new Chinese backers have a particularly high profile or strong background in medical devices - Mr Lam was formerly the chief executive of green energy player Synergy, while the parent company of China Huarong is perhaps best known for its appetite for distressed debt.

However, Mr Klupacs said both investors opened up valuable networks, especially in China where the government is focused on lifting healthcare standards for its growing middle class. An initial meeting with Mr Lam, who BVT was introduced to via Melbourne firm Falcon Corporate Advisory, came as the Li family's philanthropic foundation was donating tens of millions for blindness surgery in north western China, Mr Klupacs said. "The connections of the family in medical health are very, very broad... Yes Alastair himself is not a technologist, but [his] links to the medical community and links into the finance community are very important."

Mr Lam, who introduced BVT to Huarong, said State Path, the investment vehicle he owns alongside Alan Kwan, had a strategy of "backing transformative new technology with significant global potential".

"Given BVT's commitment to developing and delivering a revolutionary solution for vision loss, we believe its 'bionic eye' technology has the potential to transform the lives of millions of people and meet a large unmet need," he said in a statement.

BVT will now recruit three patients with retinitis pigmentosa, an inherited eye condition that causes blindness, for a clinical trial. Patients will wear glasses that capture images and send light signals to an external unit, not dissimilar to a smartphone, which transforms the data and delivers it to an implant that sits just under the skin above their ear, which in turn delivers signals to an electrode placed behind their retina, which sends signals into the brain.

"The whole goal of this study is that blind people... who effectively live in darkness, we want to be able to enable them to get light signals," Mr Klupacs said.

Patients return home and their progress will be monitored over about a year. The initial trial restricted patients to moving around the lab grounds, but even then they were able to make out the shape of their guide dogs or 'see' the barista making their coffee in the hospital cafe. "She [the patient] couldn't see the barista's face, but she knew the person was standing there," Ms Quinn said. "They were all quite overwhelmed with the fact they could see shapes and understand their environments better."

The concept of brain plasticity means that, all going well, the longer patients use the technology, the better their experience will become as pathways in the brain that have lain dormant are fired up again.

Based on feedback from the initial three patients the company will expand its trial, possibly with newer software, before seeking regulatory approval. Mr Klupacs said in a best-case scenario this could occur in three to four years, but "more realistically four to five".

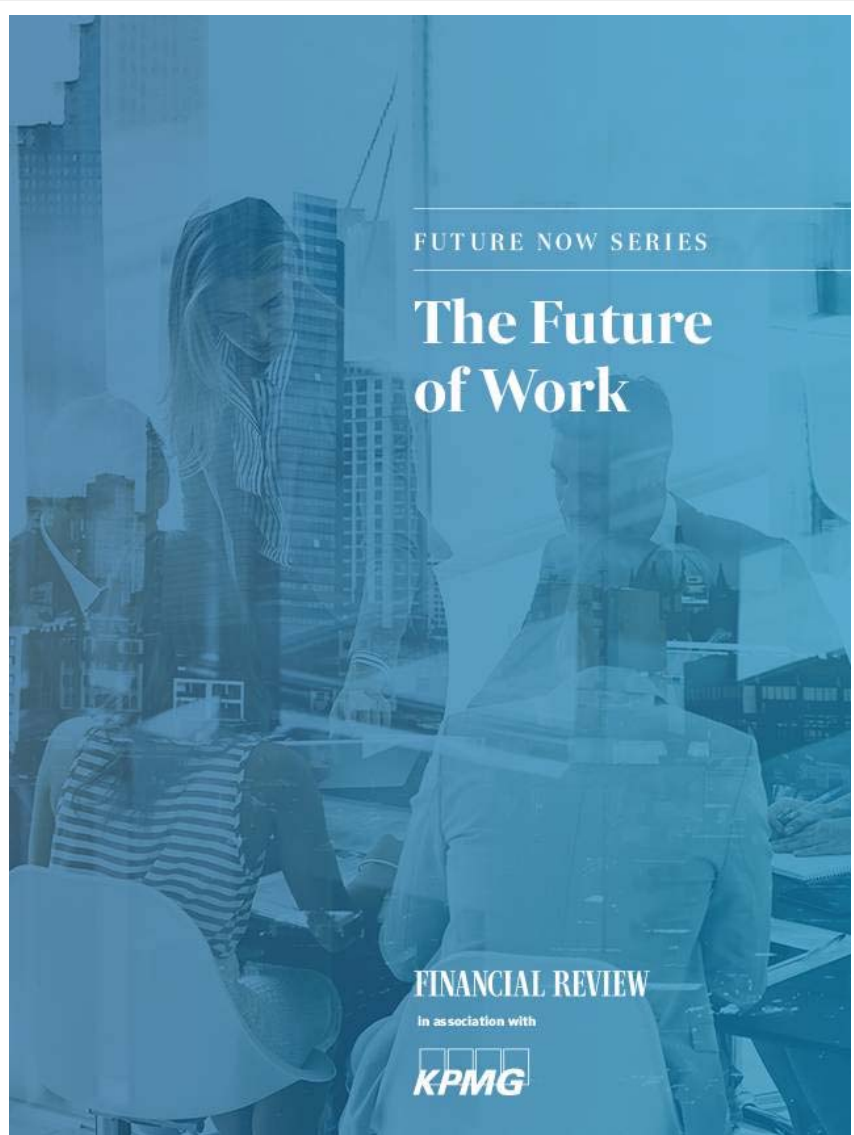
BVT will likely need more capital in about two to three years, he said, at which point the company will consider pursuing further private investment or possibly an initial public offering.

Mr Klupacs said he is wary of tapping public capital markets too early in BVT's lifecycle but "having said that an IPO of something like this ... with the people that are behind it, with what we're trying to achieve, could be quite attractive".

Alongside the trial, BVT will invest in further research and development for next generation devices and will also dedicate some money into developing other technology that seeks to stop vision degeneration, as opposed to working with already blind patients. "The preventative aspect of our technology is going to be very appealing," Mr Klupacs said.

There are two other global groups working on a bionic eye, California's Second Sight with a market value of \$US65 million, and France's Pixium Vision (worth) \$US82 million. Both of which are already listed and are progressing ahead of BVT, including having attained some early regulatory approvals.

However BVT claims it has a technological advantage, especially in relation to the placement of the electrode, which for the other companies sits on the retina, but for BVT sits behind the structure in the supra choroidal space. This means future versions of the electrodes could be replaced, which is more difficult in the case of a retinal attachment.



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