Australian Government Invests in Detection and Management of Blinding Eye Disease and Diabetes Through Intelligent High Resolution Retinal Camera Development by Vision CRC

The Associated Press

The most advanced technology for use in real-time detection and assessment of common blinding eye disease and general health disorders will soon be available to the world with stimulus funding provided for development by the Australian Government's CRC Program. The imaging technology of the breakthrough retinal camera is being developed by the Vision Cooperative Research Centre (Vision CRC) based in Sydney with international partners in Australia, US, China, India and Africa.

The world's first intelligent retinal camera will accurately and rapidly detect and eventually diagnose sight-threatening conditions such as diabetic retinopathy and glaucoma. The camera is being designed for ease of use in the most extreme environments so that it can be used by technical support staff and in the most remote and under-served locations, especially to close the gap in eye health in Australian Aboriginal communities.

CEO of Vision CRC and Brien Holden Vision Institute, Professor Brien Holden said today, "Medical devices of this nature are typically researched for use in affluent populations and aimed at high-end commercial returns. This Intelligent Retinal Camera (IRC) system will apply high resolution, multispectral imaging in an economic but high technology instrument that will be affordable and therefore accessible both in remote communities and in community health locations and professional offices throughout the world.

"Living in remote communities seriously disadvantages patients through lack of access to optometrists and ophthalmologists. The IRC will detect, measure and assess the potential for blinding disease thus preventing lengthy delay in getting treatment to those in need in marginalised communities. Aboriginal communities will be among the first to experience and benefit from this technology thanks to the funding from the Australian Government recently announced and the partnership with Aboriginal researchers and community health experts." "Having spent the last 20 years researching and bringing to market and communities around the world, solutions for correcting refractive error, we are delighted that the Australian Government is backing our plan to piggyback onto the systems developed to deliver vision correction, the capacity to simply and effectively detect and manage blinding eye disease through retinal image analysis," Professor Holden said.

The imaging technology was first designed and developed by Professor Tom Cornsweet, a medical technology veteran and icon based in Arizona, US, in a social enterprise company Quantum Catch LLC that focuses on the design, manufacture,

and sale of affordable, high-quality, user friendly automatic medical devices for detection and screening of diseases. At a crucial stage of development of the retinal camera the Fred Hollows Foundation provided funding grants.

"The Vision CRC program has done what CRCs do best - bringing Australian and world leading scientists, technologists, engineers, social scientists and business people together to advance the social and economic benefit of Australia and the world," said Professor Holden.

"In this case it is a real dream team. We have brought together Tom Cornsweet, CEO Peter Galen and the team at Quantum Catch; world leading vision technologist, Professor Ho from the Brien Holden Vision Institute; the Institute's Public Health Division led by Amanda Davis in Sydney and Professor Kovin Naidoo from Durban, South Africa; the immense database and clinical research genius of Professor Mingguang He, from China's leading ophthalmology research Institute, the Zhongshan Ophthalmic Centre; our long-standing colleagues at the LV Prasad Eye Institute in India; and the best Australia has to offer through the Centre for Eye Research Australia's Professor Jonathan Crowston; Aboriginal eye health expert Professor Hugh Taylor; Sandra Bailey, CEO the Aboriginal Health and Medical Research Council of NSW and new participant Ninti One; all in one team to help unlock the future of health diagnostics.

"This is especially exciting as it is intended that post-CRC the infrastructure and systems will be in place to develop further diagnostics for many of the most difficult and intractable general health and eye conditions," he added.

EDITORS' NOTES Vision CRC is one of Australia's most successful research organisations at taking innovations to a world market and transforming lives; the CRC and its predecessors having generated over AU$1.25 billion in research funding and earned over AU$230 million in royalties.

The Australian Government's contribution of AU$5million under the CRC program will unlock a further AU$24.5 million in CRC and partner investment towards developing this breakthrough technology, ensuring that the most socially disadvantaged benefit from its development. The investment will also put Vision CRC, Brien Holden Vision Institute and Quantum Catch at the very forefront of global medical devices research and development.

Vision CRC is comprised of Australian and international researchers engaged in cutting edge projects, working with a range of leading industry collaborators. The organisation was born from the Australian Government's CRC program, which was established to advance Australia's capacity for innovation. To learn more about the Vision CRC go to: www.visioncrc.org The Brien Holden Vision Institute is a world leading science, technology, education and licensing not-for-profit organisation. For over 25 years the Institute has worked with a global network of partners to advance eye research and translate its discoveries into breakthrough products. It has developed contact lenses that provide safer vision correction and is now focused on creating revolutionary new products for detecting and managing the most common eye conditions that affect the sight of billions globally. The Institute provides

postgraduate research opportunities for outstanding students from around the world, fights disability through education and human resource development in communities in need and delivers eye care to people in underserved communities worldwide. To learn more visit website www.brienholdenvision.org Quantum Catch is a term used to describe the process whereby photons are absorbed by pigment molecules in the retinal photoreceptors and trigger a cascade of events that lead to excitation of the next neural elements in the visual system.

Founded in 2009, Quantum Catch, LLC is a start-up limited liability company registered in Delaware with a research and prototyping laboratory located in Prescott, Arizona. Quantum Catch Corp. is a newly registered US organisation in which Brien Holden Vision Institute became the majority share holder to cement the company's on-going commitment to affordable, socially beneficial, high quality technology infrastructure for health care for all people.

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