An Australian Government Initiative

INNOVATION • TECHNOLOGY • IP • INVESTMENT

COMMERCIALISATION AUSTRALIA'S

value
PROPOSITION

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DOMAIN: The Regions

INNOVATION IN THE REGIONS
FINDING BUSINESS SUCCESS IN REGIONAL AUSTRALIA

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valuePROPOSITION

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Domain

The third edition of **Value Proposition** looks at the Regions.

Adding Value

Going Global

The Network

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Government Assistance

And...

ACT

14 companies and researchers in the ACT have been supported by Commercialisation Australia

$7.1 million in grants has been allocated to ACT based companies and researchers

The top three target markets for companies and researchers supported by Commercialisation Australia in the ACT:
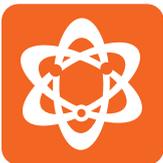
$2.4m Defence, Security and Safety

$2.1m Health and Medical

$1.2m Business and Communications

Key technologies being used by companies and researchers supported by Commercialisation Australia in the ACT:

59% Software and Web Design

33% Computer Systems and Hardware

4% Manufacturing, Engineering and Design

4% Biotechnology

Portfolio Snapshot

QuintessenceLabs Pty Ltd has gained international attention as runner up of the IBM Smart Camp and established an office in Silicon Valley.

The company developed an untappable, ultra-secure encryption technology based on quantum mechanics. Through their $1.94 million Early Stage Commercialisation and Experienced Executive grants, the company has accelerated its entry into global markets.

New South W

110 companies and researchers located in NSW have been supported by Commercialisation Australia

$56.8 million in grants has been allocated to NSW based companies and researchers

The top three target markets for companies and researchers supported by Commercialisation Australia in NSW:

$16.1m Health and Medical

$13.1m Business and Communications

$8m Energy, Mining and Resources
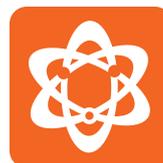
Key technologies being used by companies and researchers supported by Commercialisation Australia in NSW:

44% Software and Web Design

39% Manufacturing, Engineering and Design

12% Biotechnology

5% Computer Systems and Hardware

Sydney start-up Canva Pty Ltd has raised $3 million in seed funding from Matrix Partners, InterWest Partners, 500 Startups, and angels, including Google Maps founder Lars Rasmussen, Bill Tai (Charles River Ventures), and Ken Goldman (CFO of Yahoo).

The company has developed a collaborative cloud-based graphic design platform that is simple to use and allows everyone to create professional quality designs. It received a $1.38 million Early Stage Commercialisation grant.

Wales

Portfolio Snapshot

ingogo Pty Ltd has established itself as a leader in the taxi booking and payments industry and in April raised an additional $1.5 million in investment to fund continued rollout of its system in NSW and Victoria.

The latest round of investors includes Danie Petre and Alison Deans of NETUS, 12 members of Sydney Angels and the Sydney Angels Sidecar Fund. ingogo.mobi allows private and corporate passengers to book, communicate directly with drivers in the local area and pay for taxi journeys, using GPS and mobile technologies. A $250,000 Proof of Concept grant enabled them to undertake pilots with customers to test and develop its integrated corporate solution.

IPscape Pty Ltd has established partnerships with Telstra Global in Asia and British Telecom in Europe and signed 6 new customers this year in APAC. Telstra's Applications and Ventures Group has also invested almost $5 million. Other customers now include AAPT, MYOB, News Limited and New Zealand Post.

IPscape's 'cloud' based contact centre technology allows teams of any size to access enterprise grade features via a web browser, with no need to purchase hardware or software. Its 'Software as a Service' model means that customers are charged for usage only. Customers can also manage changes themselves without support from IT or 3rd parties.

A $825,000 Early Stage Commercialisation grant enabled IPscape to fully deploy its cloud solution and to identify, develop and put in place support infrastructure for international channel relationships. The Case Manager and Expert Network members in the UK, Hong Kong and Japan have assisted with strategic growth options and in introducing international corporate partners at senior levels.

In January 2013 Sydney based building energy management software company BuildingIQ Pty Ltd closed $9 million in venture funding from leading financial and strategic investors including Aster Capital (backed by Schneider Electric, Alstom and Solvay), the Venture Capital unit of Siemens Financial Services (SFS VC) and Paladin Capital.

Commercialisation Australia has assisted BuildingIQ scale cloud based implementation of the system. The unique technology predicts, automates and controls a building's energy use, achieving up to 30% energy savings.

The venture funding will be used to accelerate growth and execute energy efficiency projects for a growing pipeline of commercial buildings in Australia and North America.

Licella Pty Ltd has received a $5.4 million Australian Renewable Energy Agency's (ARENA) grant to undertake a feasibility study into the construction of its first pre-commercial biofuels plant.

Licella Cat-HTR (Catalytic Hydrothermal Reactor) technology rapidly converts second generation biomass (non-food) feedstock into low carbon footprint, valuable Bio-Crude oil which can be potentially "dropped in" to existing refinery infrastructure to produce transport fuels. A $2 million Early Stage Commercialisation grant enabled Licella to demonstrate its technology at scale to potential investors and partners.

Case Managers
New South Wales and ACT

Topaz Conway
Strategy, capital raising, US market, biotech, devices, wine and e-commerce

Malcolm Donnell
Venture capital, corporate advisory, universities, engineering, manufacturing and ICT commercialisation

John Grew
Diverse commercialisation and senior corporate experience in the life science, agritech, renewable energy sectors

Nigel Hennessy
Entrepreneur, CEO, start-ups, ASX300, USA/UK, cybernetics, analyst, defence, ICT, water

David Mac Smith
Technologist, venture capitalist, focused on regional Australia, agriculture, water and energy

Pat Mooney
ICT and energy sectors. Specialist in growth strategy, sales, marketing and international channel management

Maureen Murphy
ICT, digital media, innovation management, strategy execution, marketing, business development

RANDOM NUMBERS

With a disruptive technology that is substantially ahead of any competition to boast about, QuintessenceLabs had a thing or two to show the world during a recent visit to the United States…

Canberra ACT

Population: 367,752

Location: 1.5 km from Canberra GPO

There are three dimensions to innovation, realised RSA Chief Security Architect Bob Griffin after visiting world-leading Commercialisation Australia Participant QuintessenceLabs' booth at the RSA Conference in San Francisco in February. (RSA is the Security Division of EMC; the annual RSA Conference drives the information security agenda worldwide.)

You can identify a problem that needs solving then build a product to address that need. You can draw on a research insight to innovate in ways that address a significant issue. Or, as Griffin blogged, you can go the QuintessenceLabs route: recognise that a capability that already exists can be applied more broadly, or to a different problem, or in different ways.

A private company founded in 2006, QuintessenceLabs Pty Ltd has transfigured frontier-of-science quantum key distribution research conducted at the Australian National University into globally competitive cyber security technologies offering major benefits to the national security, banking and insurance, health and critical infrastructure markets.

The company was the first in the world to harness the quantum properties of lasers to deliver a new generation of cryptographic protection for data. Its technology enables utterly secure and un-tappable, high-speed communications over commercial optic-fibre networks to a potential multi-billion dollar addressable market. Better still, it allows those capabilities to be seamlessly integrated into existing security infrastructure.

This capability alone is seductive enough to have attracted $1.1 million in funding from the Australian Defence Materiel Organisation, considerable interest from all leading financial institutions and an invitation (which the company gladly accepted) to become one of the very few international companies invited to set up residence at NASA's Ames research facility in Silicon Valley.

The inventiveness of founder and CEO Dr Vikram Sharma and his team have been recognised through several prestigious awards. The company was named joint winner in the 2012 IBM SmartCamp Asia-Pacific Final in September and was recognised as one of the global top-three companies, from a field of 2,500+ companies worldwide, at the IBM SmartCamp Global finals in New York in February 2013.

With such global success in its stable, QuintessenceLabs could well have been forgiven for resting on its product development laurels. But as Sharma notes, when you have a great offering, it can pay to keep an eye open to new and different ways to deploy that technology, so with assistance from Commercialisation Australia, the company has new targets in its sights.

"As Bob Griffin spoke with us, he recognised there is a third model by which innovation occurs, and that is what occurred in our case," says founder and CEO Dr Vikram Sharma. "Our initial goal was to build a Quantum Key Distribution system. But as we were doing that, we discovered that there is this other capability, which was an integral component of that Quantum Key Distribution system but which had quite significant application on its own as a stand-alone product. That is the Quantum random number generator product we now call Q-Stream and it is the world's fastest source of random numbers.

"The point Griffin made in his blog is that even as you are focussed on delivering a particular goal as a start-up, to the extent that it is possible in a small organisation, you should keep your eyes open to new directions, or new capabilities that may open up as you are making that journey, because that can reveal some very interesting and valuable commercial opportunities," Sharma says.

No Snooping Possible

QuintessenceLabs' initial breakthrough came from realising that rather than encoding information using a single photon at a time – the first generation approach to Quantum Security – one could encode a truly random secret key directly onto a continuous beam of laser light emitting billions of photons per second.

Better still, while first generation technology requires complex and expensive photo-emitting and photon-detection components, QuintessenceLabs' technology can leverage commercial off-the-shelf (COTS) telecommunications components, ensuring robustness, scalability, significantly higher capability and significantly lower costs. Any attempt to eavesdrop – whether from inside the organisation or out – causes the quantum statistics of the transmission to change and exposes the presence of the eavesdropper.

The Q-Stream technology builds on that by offering major benefits to a broad market; providing a high-speed source of true random numbers – a critical component of effective data encryption.

With such world-beating products potentially opening the doors to a massive global market, the other temptation for the company might have been to spread itself too thin as it sought to make its name and
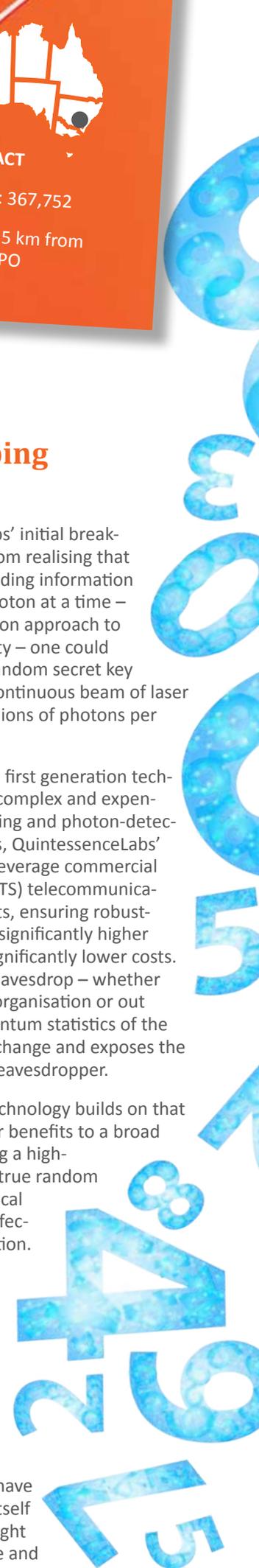
"On the surface it looks fantastic to have these amazing opportunities available, but when you try to develop a plan that you can execute successfully, with the resources that are available to a small start-up based in Australia, the wisdom of focussing very clearly on only selected geographies and market sectors, is clear.

"As the US is very much an early adopter of cyber security technology, and by virtue of its size, we have elected in the first instance to focus on the United States and of course Australia, being our home base. That in turn has to some extent dictated our choice of strategic partners, because we have narrowed it down to the leading players in those specific geographies," he says.

"Even then, if you look at those geographies they are still very large markets, so we selected two sectors as our initial market focus: Defence and classified agencies, and banking and financial services.

"In our experience you will often see companies start with one focus, but the ones that ultimately become successful are those that can change focus when necessary. You need to have enough confidence and determination to carry you through the period where people don't see the potential that you are seeing, but at the same time, you have to keep your mind open to where new possibilities may arise."

Important Transition

Sharma says QuintessenceLabs could never have reached the point it is currently at without the benefit of the Commercialisation Australia grant and Mooney's advice as it progressively transitions out of the scientific domain into the commercial world with a product suite addressing real customer pain points.

capture market share. Fortunately Commercialisation Australia Case Manager Pat Mooney was on hand to disabuse them of the wisdom of that approach.

"Our technology has global application, with the particular segment of the global cyber security market that we consider our addressable market - the Network and Data Security segment - forecast to reach about $10 billion by 2015," Sharma says.

For one thing, the start-up has benefited greatly from introductions to Mooney's extensive range of local and overseas contacts. Some of those they have met have gone on to advise the company on matters like IP protection or how to set up and structure a products company. Mooney also brokered the relationship with IBM which led to the IBM Smart-Camp global finals ranking gong, and is involving the company in projects to integrate some of its technology into IBM products and solutions.

"We have had a fantastic relationship with Pat and he has gone well beyond what the position description requires," Sharma says. "He is a fantastic advisor as we fashion our value proposition; helping us articulate it in a way that is now resonating well with the customers with whom we are dealing.

"He has also been a great sounding board as we have structured our team to become a product company, in terms of looking at the composition of the skills that we would need as we operate as a more commercially focussed entity.

"As for the Commercialisation Australia program, in one word, it is invaluable. We would not be anywhere near where we are today, had we not had the kinds of support we have received, both financial, and from our Case Manager, as we have been making this journey.

"Our technology is complex, and it's a deep technology, and typically those kinds of technologies are difficult to get funded anywhere in the world, but I think particularly so in Australia. Not only has the Commercialisation Australia grant enabled us to get to this point, it has also enabled our technology to stay Australian. That is just an amazing delight for us and it has been one of our major strategic goals.

"Too often, promising Australian technologies disappear off overseas, before the real value has been created in those organisations. And through Commercialisation Australia we have managed to build one of the world's strongest teams in the field of quantum security, in Australia. And that is just fantastic," he says.

For more information go to www.qlabsusa.com

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