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# THE VENTURE CAPITAL EFFECT

A Report on the Industry's  
Impact on the Australian Economy.



Australian Private Equity &  
Venture Capital Association Limited

Contributing partner



THE UNIVERSITY OF  
**SYDNEY**  
Business School

## The Venture Capital Effect: At a Glance



Venture capital is central to building a highly skilled, knowledge-driven economy with 75% of Australians believing the benefits of technology outweigh the risks.



Venture capital provides startups with capital and expertise not available anywhere else.



Venture capital funds startups, encourages the creation of firms, and leads to valuable knowledge spill-overs throughout the economy.



Startups are the largest contributor to job creation in Australia, representing 90% of net positive job creation over recent years.



Venture capital transforms old industries, and creates new ones.



Venture capital-backed global giants include Apple, Microsoft, and Alphabet (Google) and in Australia, Atlassian, Cochlear, and SEEK.

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Despite rapid growth, Australia's venture capital sector remains less than half the size of the OECD + average.



Greater superannuation investment in venture capital is pivotal to Australia's future.



Venture-capital is vital to commercialising cutting-edge research.

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## Overview of the Report

When we came to write this report, it was striking how much had changed since the last edition published in May 2013: just \$154m had been raised by Australian venture capital funds in FY2013, compared with \$568m in FY2016. Similarly, investment was a mere \$144m compared to the \$347m deployed last financial year.



Institutional capital – predominantly from Australian superannuation funds – had dried up post Global Financial Crisis, leaving venture managers struggling to raise the capital necessary to invest in the next wave of high-tech Australian startups that were beginning to emerge.

Thankfully, we are now in a much better place, with the industry enjoying a resurgence, and the innovation ecosystem rapidly maturing. But that doesn't mean that we can be complacent. Much

more can be done in order for Australia to fulfil its potential. The reality is that Australia's venture capital sector is still far too small for a country with bold ambitions to be an innovation-leader. Our venture capital sector is less than half the size of the OECD + average, while fostering business sophistication and innovation has consistently been identified by international bodies, such as the World Economic Forum, as Australia's biggest challenge.

Australia's world class education system means that we have an excellent pool of talent to draw on as we seek to re-position Australia as a knowledge-driven nation. A key ingredient is commercialising cutting-edge research, an expertise venture capital can provide.

We are pleased to have worked closely with the University of Sydney Business School on this project which outlines where we are today; how the venture capital sector is evolving; and

where it needs to get to in order to compete with our global peers.

The report will show the significant economic impact which venture capital has on nations, whether it be through funding and expertise offered to startups, stimulating the creation of new firms, or substantial knowledge spill-overs.

We have taken a holistic approach to the sector's economic contribution, noting that venture's impact is far greater than financial metrics. The report also

illustrates why venture capital must be seen as much more than a niche industry. It can transform old industries, create new ones, and allow people and resources to find new jobs and opportunities when markets turn. Australian research shows job creation is overwhelmingly driven by young

**“The reality is that Australia's venture capital sector is still far too small for a country with bold ambitions to be an innovation-leader.”**

companies, meaning that the more capital that can flow into them, the stronger, and more resilient our economy will become. Australian

market leaders such as Cochlear, SEEK and Atlassian have all benefited from venture capital, along with a host of new innovators such as Vaxxas and Safety Culture.

If we as a nation are to be truly ambitious, we must seek to emulate, and over time, eclipse, our overseas counterparts. For example, three of the five largest US public companies by market capitalisation – Apple, Alphabet (Google), and Microsoft – all received most of their early external funding from venture capital. While since 1974, one quarter of net job growth for publicly listed US corporations came from VC-backed companies.

In Australia, our future will depend on the institutional capital that has recently returned to the venture capital sector, staying the course in the knowledge that it will be investing in the nation's future. Similarly, there remains great potential for large corporates to stay ahead of the technological curve, by exploring the benefits of their own corporate venture arms. It is pleasing to see corporate Australia increasingly recognising the strategic benefits that early stage investment can yield.

We believe that with the right cooperation and long-term thinking by Government, industry, and stakeholders, venture capital can help Australians look forward to, rather than fear, the society and economy of tomorrow. I trust that you will enjoy reading this report, and look forward to continuing this important conversation.



YASSER EL-ANSARY  
CEO, AVCAL



## Message from the Dean of the University of Sydney Business School

Entrepreneurship education has undergone profound changes in recent years, both in terms of the popularity of entrepreneurship programs and in the way those programs are taught. Among students,

that is resource-based to one that is innovation-based, greater collaboration between scientific research and the ecosystem that provides funding to entrepreneurial enterprises will offer greater



**“There is now every cause for confidence that the Australian startup ecosystem will grow flourish and offer opportunities to an ever increasing number of graduates wanting to embrace the challenge of building an innovation-based economy.”**

entrepreneurship is increasingly recognized as a path to job creation and innovation and a career choice that can deliver a greater sense of self-fulfilment and autonomy. The maturation of entrepreneurship education has seen it move increasingly from the traditional classroom-based approach typical of many other university disciplines, toward a much more experiential-based approach which often features a hands-on emphasis delivered in collaboration with mentors from a variety of backgrounds with deep knowledge of the practice of startups.

These changes are to be celebrated. As the Australian economy moves progressively from one

opportunities for passionate graduates who are keen to join an existing startup or build their own.

There is now every cause for confidence that the Australian startup ecosystem will grow, flourish and offer opportunities to an ever increasing number of graduates wanting to embrace the challenge of building an innovation-based economy. We are glad to make a contribution to this AVCAL Report, which is putting these issues in the spotlight.

A handwritten signature in black ink, appearing to read 'G. Whitwell'.

GREGORY WHITWELL  
DEAN - UNIVERSITY OF SYDNEY BUSINESS SCHOOL





1/

# VENTURE CAPITAL – WHAT, WHERE AND HOW?



## Venture Capital explained

Venture Capital is responsible for investing in some of our country's most well-known brands like Seek and Cochlear, but is also behind some lesser

known but no less important companies like Global Kinetics which has completely overhauled the way patients manage Parkinson's Disease.

What these businesses have in common is the backing from firms which believe in their endeavours, support their growth journey and offer the expertise and business nous to take their ideas from notepad to global stage. With

financial and strategic support, venture capital makes ideas a reality, and along the way, creates a culture of innovation and entrepreneurship in our economy, creating the jobs and businesses of today and the future.

**VC creates a culture of innovation and entrepreneurship in our economy, creating jobs and businesses of the future.**

## Put simply Venture Capital...

**Invests in early stage companies** that are developing new and innovative technologies, therapies, systems and processes, which typically have higher risk/return profiles.

**Take equity** in the companies they invest in.

**Provide capital and commercialisation skills** to some of the country's top scientific, technical and entrepreneurial brains and often have a background in the areas they invest in to provide added insight.

In the 2016 financial year ...

**\$568m** was raised by Australian VCs, the highest number on record.

**Australia** Australia was the biggest source of VC fundraising.

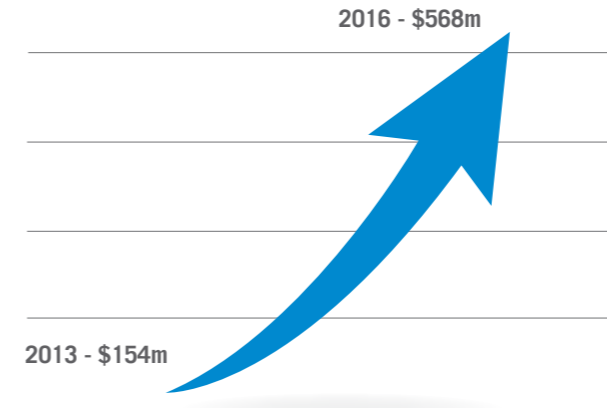
**\$347m** was invested by venture capital firms in FY2016 - a 50% increase on FY2015 - with \$300 million of this invested by domestic funds.

**33** The number of VC firms making investments also rose to an all-time high, with 33 VCs recording investments in FY2016, which is far higher than the annual average of 21 over the nine years from FY2007 to FY2015.

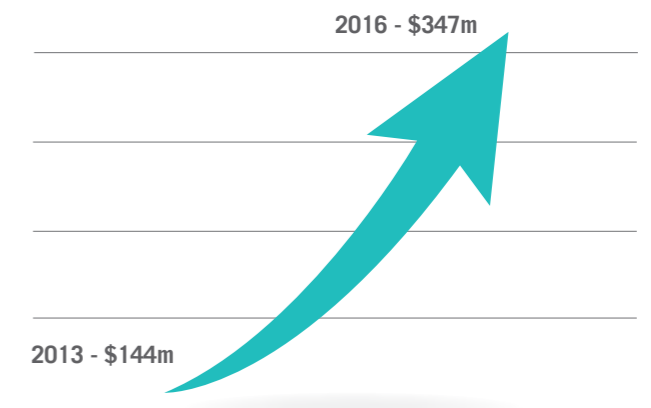
SOURCE: AVCAL YEARBOOK 2016.

2013 - 2016

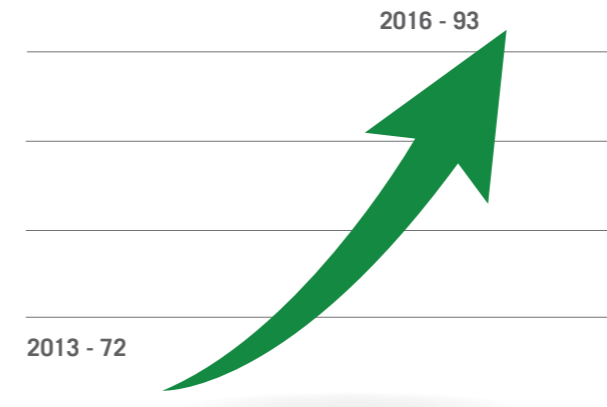
**VC fundraising**



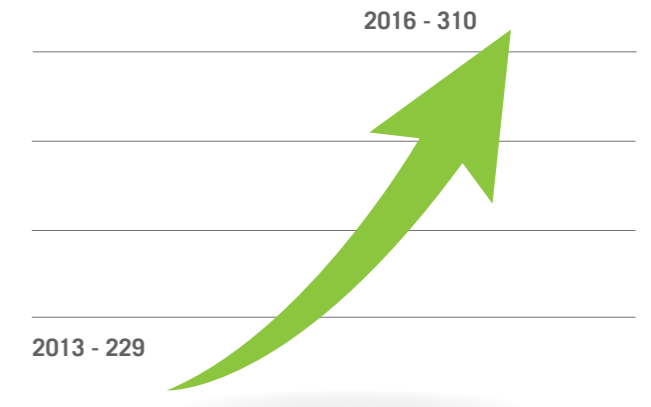
**VC investment**



**# Companies invested in**

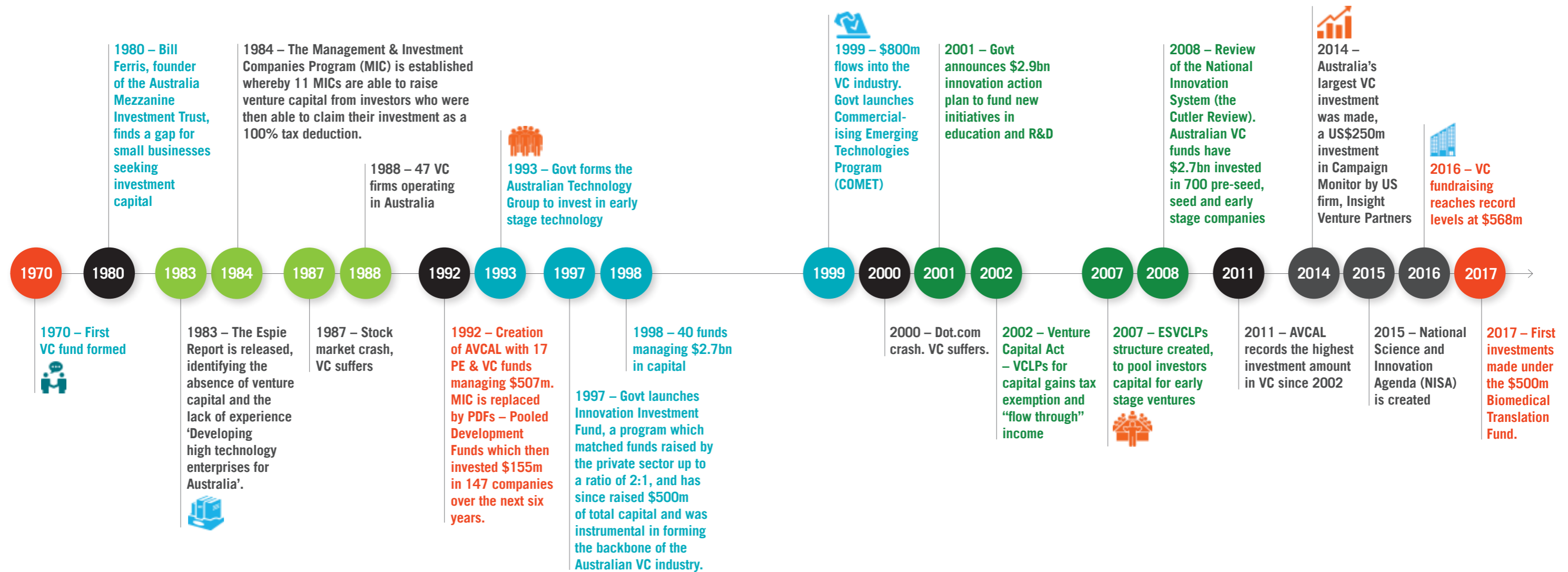


**Companies backed by VC**



SOURCE: AVCAL YEARBOOK 2013 AND 2016.

# The History of VC in Australia









## VC Investment Can Take Different Forms

ALTHOUGH ALL VENTURE CAPITAL IS FOCUSED ON INVESTMENT IN EARLY STAGE, HIGH GROWTH POTENTIAL FIRMS, THIS CAN TAKE A NUMBER OF DIFFERENT FORMS:

**1**  **Institutional venture capital:** in Australia, most venture capital investment takes place under the stewardship of a fund manager whose role is to raise funds (such as from high net worth individuals, and superannuation funds), and to invest in a diverse portfolio of companies, often with an industry focus, for example: the life sciences, digital, or clean energy. Typically, investee companies will be developing new and innovative technologies, therapies, systems or processes. Many venture capitalists come to the industry from successful careers as scientists, engineers, doctors or entrepreneurs. The funds aim to deliver an excellent financial return to investors, typically within an average ten year time-frame.

**2**  **Corporate venture capital (CVC):** involves an established corporation making investments in early stage companies, either via an independent arm of its business or a dedicated corporate division. Companies undertake CVC investment for a number of reasons including to gain exposure and technological insights from potential industry disruptors and/or as a supplement to in-house research and development. Australian CVCs include NAB Ventures, Telstra Ventures and Reinventure, while overseas, some of the most prominent include Intel Capital, Google Ventures and Samsung Ventures. Often these investments are made as part of a syndicate including institutional venture capitalists or other CVCs. Funds differ regarding the financial returns that are sought, with some corporates more focused on the strategic benefits derived from such investment, rather than the financial return.

**3**  **University funds:** to help students take their research to market, some universities have dedicated commercialisation arms. While some of the most prominent are affiliated with US universities (e.g. NYU's Innovation Venture Fund; CSU Ventures), major Australian universities also have dedicated funds, including ANU Connect Ventures which supports research from the Australian National University and the University of Canberra as well as Uniseed which is a venture fund operating at the Universities of Melbourne, Queensland, Sydney & New South Wales.

**4**  **Government funds:** In recent times, Australian federal and state governments have created dedicated venture capital funds which invest for both commercial and public interest objectives. For example, CSIRO's Innovation Fund will invest \$200m in "startup and spin off companies, and SMEs engaged in the translation of research generated in the publicly funded research sector". At the State-level, co-investment funds such as the \$50m South Australian Venture Capital Fund are aimed at accelerating the growth of innovative local startups.

## Venture Capital Success Stories

### Putting Australian companies on the world stage

1. In September 2015, **Hatchtech**, an Australian pharmaceutical company developing an innovative prescription head lice product, signed a commercialisation agreement with integrated pharmaceutical company Dr. Reddy's Laboratories (NYSE: RDY) worth A\$279m. The deal signified the successful exit of Hatchtech's venture capital investors including OneVentures, QIC, GBS Ventures, Uniseed and Blue Sky Ventures.
2. Another major landmark for Australian venture capital was the June 2015 sale of **Spinifex**, backed by GBS Venture Partners, Brandon Capital Partners and Uniseed. In one of the most successful exits in the history of Australian VC, the company was acquired by one of the largest pharmaceutical companies in the world, Swiss-based Novartis, for an upfront payment of US\$200m and potential milestone payments of US\$500m. Stemming from ground-breaking research out of the University of

Queensland, the company developed new chronic pain drugs with the sustained support of Australian VC as well as investment from the Australian Government. Potentially significant for the health of millions globally, Spinifex demonstrates the opportunity for universities, VC and government to partner on the commercialisation of world-leading research.

3. In May 2014, **Fibrotech**, which specialises in renal and fibrotic diseases, was acquired by Shire, a global specialty biopharmaceutical company, for an upfront of US\$75 million payment and further milestone payments of US\$482.5m, making the total deal worth US\$557.5m. Fibrotech was an investee company of the Medical Research Commercialisation Fund managed by Brandon Capital Partners, with its investors comprising Australian Super, Statewide Super, HESTA, HOSTPLUS and the Australian Government.





## Some of Australia's VC community



VC MANAGER MAP IS BASED ON CURRENT AVCAL MEMBERS

## Incubating and Commercialising Great Ideas

BY PETRA ANDREN, CEO, CICADA INNOVATIONS

Today, every company has become a technology company of sorts, as digital technologies are revamping virtually every business function and activity.

But some companies do more than apply digital technologies to existing functions or business models. Some companies are developing unique, proprietary, and hard-to-reproduce technological or scientific

### Australia's competitive edge

The driving force behind these technologies is cutting edge research. And Australia is home to some of the most world-leading universities and research institutions that exist.

Unfortunately, Australia also ranks last in the OECD for commercialising this research. But this actually represents a massive opportunity for those who

understand how to tap into these institutions and provide vehicles for commercialisation.

Which is exactly what we are about at Cicada innovations.

Owned by Australia's Big Four universities, we're the only business incubator in Australia to have direct access to their

research and insights. This allows us to identify where the next revolutions are likely to occur – medtech, agtech, advanced manufacturing, AI, and robotics – and develop programs accordingly.



**“Unfortunately, Australia also ranks last in the OECD for commercialising this research. But this actually represents a massive opportunity for those who understand how to tap into these institutions and provide vehicles for commercialisation.”**

advances that have the power to truly disrupt existing markets, or create new markets entirely.

These technologies address the most pressing societal and environmental challenges on a global level, in industries such as agtech, medtech, cleantech, energy, hardware, and robotics.

These are the companies that will drive the next industrial and information revolution, and represent the “next big thing” for venture investors.



As an example, our Medical Device Commercialisation Training Program transitions academics into entrepreneurs. In just 18 months, we've graduated 32 medical technologists who've created 9 companies and collectively raised \$15 million in funding. The next cohort will shortly be exposed to VCs and angels with \$1 billion funds under management.

### **The role of venture capital**

Digital innovation is often about speed to market and scaling up rapidly to seize first-mover advantage. In contrast, deep tech involves a strong research base, a challenging business model, and much larger, longer-term investment needs.

A global Boston Consulting Group survey found that while friends and family typically provided seed capital for deep-tech startups (40% of respondents), when it came to second-stage funding, they instead sought out VCs, business angels, and corporations.

This is likely because, in addition to being able to provide larger sums of cash, these groups could also provide business intelligence, professionalism, network access, and market credibility.

In essence, deep-tech startups are seeking patient capital that comes with business expertise. For many companies, venture capital can be the answer.





## Venturing in to the Vital Funding Gap

BY MASSIMO GARBUIO, SENIOR LECTURER ENTREPRENEURSHIP, UNIVERSITY OF SYDNEY BUSINESS SCHOOL

### The origins of venture capital

The first VC and private equity firm, American Research and Development Corporation (ARDC), was founded in 1946 by Georges Doriot, the “father of venture capitalism,” and Ralph Flanders. The first firm to provide risk capital to new and

Google, Microsoft, and Starbucks Coffee all took off with the help of VC funds.

### Market failures and venture capital

In the funding of startups, VC assumes a fundamental role in addressing both supply-side and demand-side market failures. Most businesses

**“Venture capital (VC) fills a fundamental gap in the market by providing funding for startups that might otherwise lack the necessary resources for development and growth. VC firms support startup companies that lack substantial tangible assets, expect several years of negative earnings, and have uncertain prospects providing them with the funds needed to survive and thrive.”**



rapidly growing firms, particularly those in the manufacturing and technology sectors, its earliest VC investment was US\$70,000 for a 77% equity stake in Digital Equipment Corporation (DEC). By the time the investment was sold in 1971, it was worth \$355 million, and DEC became the world’s leading supplier of microcomputers in the 1980s. Since the early days of ARDC, a trend has emerged in which VC firms back fast-growing, highly successful companies. Market giants such as Apple, Compaq, Intel, Staples, Federal Express, Cisco, Amazon,

are able to obtain the funding they need from the financial markets at affordable prices. However, market failures—imperfections that block economic efficiency—sometimes prevent potentially viable businesses, especially startups and technology-based businesses, from raising both debt and equity finance. As a result, the economy as a whole is held back from its full potential.

Imperfect information is the main market failure affecting businesses in both the debt and equity market on both the supply and demand side.

On the supply side, asymmetric information exists between lender and investors and startups on the likely viability and profitability of the business. This makes it difficult for a financial institution or an investor to distinguish between high and low-risk entrepreneurs. Potential investors incur significant transaction costs when screening proposals for quality and risks. These costs are higher for smaller rather than larger investments. Furthermore, for seed funding and very early-stage investments, there is typically almost a complete absence of information regarding the likelihood of a business’s success.

On the demand side, young entrepreneurs and smaller businesses have fewer management resources than larger businesses when seeking funding, and thus may not fully understand the potential benefits, risks, and drawbacks of doing so. Ultimately, they may delay their application for funding and restrict growth opportunities for their businesses, both in terms of debt and equity funding.

In summary, as a result of imperfect information in the equity market, a limited number of investors and high-growth startups may have difficulty finding each other at reasonable costs, resulting in a “thin” market.

In addition to the imperfect information described above, other types of market failures affect a start-up’s funding.

**Market power.** Financial institutions may exercise market power in the form of higher interest rates and costs, in addition to restricting the level of funding. However, this failure has been found to be context dependent, often affecting smaller and medium-sized firms rather than startups.

**Externalities.** In today’s economy, there is an undersupply of equity funding of innovative and high-growth startups due to a divergence between private and social benefits. Investors are primarily concerned with maximizing their own financial returns, so projects that are unprofitable from a private perspective but can potentially generate large social benefits are less likely to be financed.

**Coordination failures.** Coordination failures occur when agents have the potential to achieve desirable outcomes that would benefit all, but fail to do so because they cannot successfully coordinate needed actions. For example, there may be no mechanisms for small-loan securitisation.

**Regulatory failure.** Regulatory failure occurs when government intervention leads to an inefficient allocation of resources in the economy. For example, in response to the 2008 global financial crisis, some governments have instituted high-risk weighting of loans to smaller businesses, resulting in disproportionately high costs of capital as compared to other lending.

## CASE STUDY

### Creating a Revolution in the Delivery of Vaccines

Since receiving its first round of funding in 2011, Vaxxas has been on a long journey that is not unusual for startups operating in the biomedical space. Taking its Nanopatch™ technology from an academic setting and turning it into a commercially viable product required robust research, expertise and capital.

The Nanopatch™ is a needle-free, pain free vaccine delivery solution that has been shown in models to induce a potent immune response using as little as 1/10th of a normal dose of vaccine without the need for refrigeration or a conventional needle and syringe. First invented by Professor Mark Kendall at the University of Queensland in the mid 2000s, it took a further 5-6 years of research in the academic setting before it was ready to enter its next stage; the capital intensive path to clinical development.

In 2011, a consortium of investors including OneVentures and Brandon Capital invested \$15 million in Vaxxas to advance the patented Nanopatch™ toward human studies and prepare for large scale commercial production. In 2016 Vaxxas raised a further \$27 million establishing it as a recipient of one of the largest investments made in a startup biotech company. Vaxxas has now completed its first human clinical trials and is working with leading pharmaceutical companies such as Merck, as well as global leaders in

developing-world health such as the WHO and the Gates Foundation. The Nanopatch™ is poised to revolutionize vaccination.

“For us it has been incredibly valuable to have investors with strong operating backgrounds in bioscience. When conducting research at this scale and over this time-period, it’s important to maintain focus and make as few mistakes as possible. We have the benefit of having investors with deep bioscience and clinical experience that can help us maximize progress and minimize risk. That’s a huge advantage.”

“Our VC backers haven’t made a single major decision to change our business direction, instead, it’s their influence on the thousands of small decisions over time that have created such a positive impact on our journey to-date.”

“They keep us focused on the end goal of having a successful, clinically proven product in the marketplace. They often challenge our thinking about the way we’re planning to get there and this helps us to find solutions early. The benefit is far beyond the dollars,” says David Hoey, CEO of Vaxxas.

Looking to the future, Vaxxas hopes to take its technology to the developing world where it has the potential to impact millions of lives, taking away the need for refrigeration and skilled resources to administer vaccines via syringe and needle.



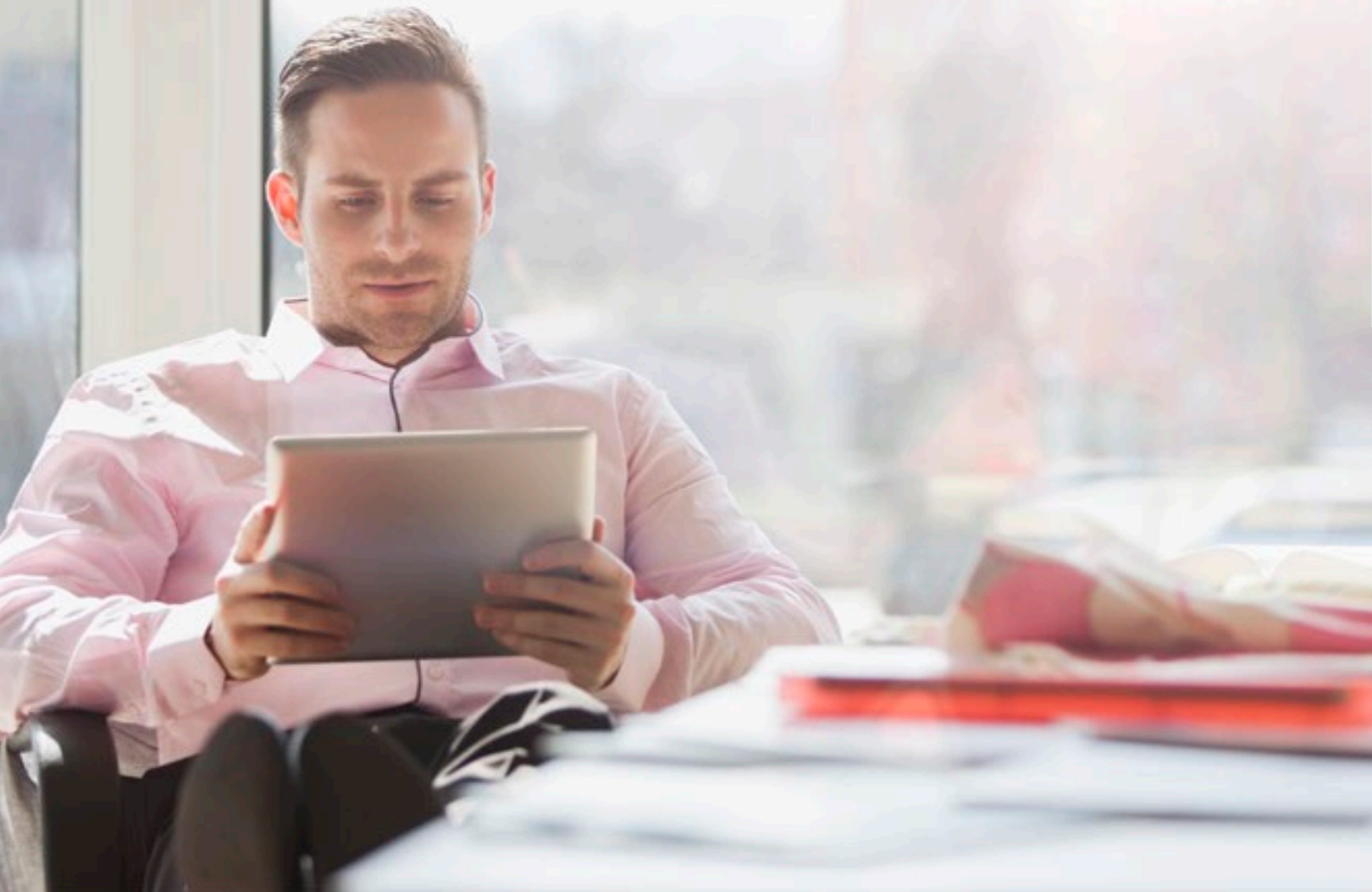
*“In 2015, Vaxxas was named the World Economic Forum Technology Pioneer - one of 24 emerging technology companies (globally and from any industry) to be recognised for its potential to transform the future of business and society.”*

David Hoey, CEO, Vaxxas



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# VENTURE CAPITAL FUELS ENTREPRENEURSHIP



## VCs Bring Broad, Unique Experience to Startups

BY MASSIMO GARBUIO, SENIOR LECTURER ENTREPRENEURSHIP,  
UNIVERSITY OF SYDNEY BUSINESS SCHOOL

Not only is it difficult to raise new VC funds without a track record, but the skills needed for successful VC investing are difficult and time-consuming to

acquire. Unlike traditional financial intermediaries, venture capitalists provide organisational, managerial, and industry advice, assisting entrepreneurs in mitigating complications such as uncertainty, knowledge gaps, inexperience, and volatile market conditions.

Venture capitalists tend to be experienced with managing risky investments and

usually possess specialised industry knowledge and access to networks of experts who can evaluate people, markets, and technology. Their knowledge and competence, which cannot be acquired in short order and is not easily transferable, helps speed up innovation and growth.

**“The development of the venture capital industry is considered an important framework condition to stimulate innovative entrepreneurship.”**

ENTREPRENEURSHIP  
AT A GLANCE, OECD 2016.

Value added area	Examples of VC contributions
<b>Finance</b>	<b>VC firms help young, innovative enterprises overcome credit constraints and raise more capital in the future capital raising rounds. They also help with capital budgeting, financial planning and successful exits.</b>
<b>Strategy</b>	<b>A VC firm's strategic involvement is perhaps its most important role. VC firms provide analyses that can benefit business and sales strategy, engagement with consultancies, and business plans.</b>
<b>Governance</b>	<b>VC firms provide improvements in governance, such as contracting, reporting, and milestones. They use their networks to recruit specialised independent directors with industry experience.</b>
<b>Operations</b>	<b>VC firms bring expertise in operational recommendations that lead to process or organisational optimization, cost management, and support in marketing and legal issues.</b>
<b>Access to networks</b>	<b>The provision of networks is one of the most value-adding activities of VC firms. VC firms use their networks to recruit specialised independent directors with industry experience and provide knowledge spillovers. VCs' support through their networks has the potential to provide startups with new investors, potential customers, sales partners, M&amp;A advisors, and portfolio firms.</b>
<b>Human capital</b>	<b>VC firms can aid in a firm's recruiting, coaching, consulting, salaries and remuneration, talent retention, and promotions.</b>

## VC has a Positive Impact on Innovation, Job Creation, and Economic Growth

Venture-backed firms are responsible for a disproportionate number of patents (a proxy for innovation) and new technologies, and they bring more radical innovations to the market faster than lower-growth businesses that rely on other types of funding, research shows. VC investments speed the development of companies, enabling them to rapidly transform ideas into marketable products and become industry leaders through first-mover advantages.

VC funding is also associated with job creation and economic growth. Smaller businesses and startups often hire people downsized elsewhere in the economy, thus contributing to national and local competitiveness. VCs' role in job creation has aided the economic recovery from the global financial crisis, particularly by reducing unemployment.

**VC funding increases the number of firms launched**  
An increase in the supply of VC positively affects firm launches. Nascent entrepreneurs establish new entities only if they perceive that the odds

for obtaining funding are favourable. In fact, VC stimulates the creation of more firms than it actually funds. VC-funded firms encourage others to engage

in entrepreneurial activities through two mechanisms: the demonstration effect and the training effect. First, would-be entrepreneurs get inspired by others' success, whether in the same or different industries. Second, because employees of entrepreneurial firms often engage in a range of activities, and implicitly and explicitly absorb knowledge from founders and VCs, it is not unusual for employees to leave and start their own ventures.

**In times of crisis, VC firms shift labour to smaller, more dynamic companies**

As result of VC investment, teams of engineers and other key staff may shift from larger to younger and more innovative firms,

especially in periods of crisis. While employees might need to take pay cuts in the short term, they also have the opportunity to accumulate equity stakes, which could become substantial over time. Concurrently, this lowers cash costs for startups.

**Evidence from 20 industries in the United States suggests that VC is 3-4 times more effective than corporate research and development at fostering innovation.**

**VCs' role in job creation has aided the economic recovery from the global financial crisis, particularly by reducing unemployment.**



**VC managers facilitate the transfer of knowledge and technology across firms**

VC managers' expertise and access to networks can benefit venture-backed firms. Recent studies have highlighted that VC-financed firms generate positive

knowledge spillovers into other firms' patent production. A spillover, or non-rival knowledge accessed by a firm, diminishes the firm's need to invest in research and development. More recent studies estimate that, per dollar of investment, knowledge spillovers from VC firms are nine times larger than spillovers from corporate research and development.

Spillovers are highly useful in industries that use complex product technology, such as computers, that require the input of numerous separately patentable elements.

**VC firms need to be geographically concentrated to achieve the greatest impact**

About 40% of all U.S. VCs are concentrated in Silicon Valley, and about two-thirds of all VCs

worldwide are concentrated in the United States. This is likely due in part to the fact that VC investing depends on considerable information sharing between venture capitalists, entrepreneurs, and other actors, such as bankers and advisors. Given that venture capitalists often invest in syndicates, having one venture capitalist onboard increases the likelihood that others will be interested in a deal. In addition, the availability of technologies tends to be geographically concentrated in regions with a strong university presence.

**Companies backed by VC firms spend more on R&D, including high labour costs**

Venture-backed firms typically spend more on R&D than other firms, with a large percentage angled toward labour costs, research suggests. According to the previous AVCAL VC report released in 2013, ten of the largest VC-backed Australian companies alone spent \$1.4 billion on R&D from 2005 to 2011. In the same period, Australia's business expenditure on R&D was \$108.4 billion.

A 2016 study found that VC-backed firms in Canada experience higher growth in scale, wages, and hiring than comparable non-VC-backed firms. The higher wages growth suggest that VC-backed firms are more successful in adding more high-value-added employment than non-VC-backed firms. Furthermore, VC-backed firms increase their R&D expenditures more rapidly than comparable non-VC backed firms immediately following VC funding, suggesting that VC involvement accelerates the commercialisation process through quicker product development based on R&D.

**Startups (0-2 years) are the largest contributor to job creation in Australia. From 2004 to 2011 they created more than 1.2 million jobs. In the same period they contributed \$164 billion to the Australian economy out of a total of \$440 billion that was added to the economy. This represented 90% of net positive job creation.**

**SOURCE: THE AUSTRALIAN INNOVATION SYSTEM REPORT 2016**







## Innovation in Regional Australia

BY MATT BRAND, CEO, NSW FARMERS



A key growth driver for the Australian economy is agriculture. It is the one pillar of Australia's economy that can realistically double by 2030. The National Farmers' Federation (which the NSW Farmers Association is a member of) predicts the value of Australia's agriculture sector will almost double over the next 15 years, resulting in Australian agriculture becoming a \$100bn industry by 2030.

The emerging middle class across Asia and the recognition of the high quality food and fibre Australia produces positions Australian agriculture well for the future, perhaps not the food bowl of Asia but definitely the specialty delicatessen.

Consumers are demanding more and more information about where their food and fibre comes from and agritech will play an increasingly important role in driving this consumer trend, often referred to as "provenance".

Most new entrants to the digital agricultural sector see the market as a "greenfield" space to be transformed by whatever capacity they are bringing. The truth is that many long term mature participants exist, including technology companies and commercial service providers. Ag Funder recorded globally \$3.23 bn of venture capital invested across 580 deals in 2016, around 40% more than the 2010-2013 combined totals.

Investment is coming from not only the public and private sector but also self-funded startups, large corporates and angel investors. Research suggests that tech startups could add up to \$109bn to GDP as well as creating 540,000 jobs by 2033. The key to these investments in agritech will be the ability to create on farm value not only to assist

**23% of Australian startups are based outside capital cities.**

SOURCE: STARTUP MUSTER 2016 ANNUAL REPORT

in driving efficiency (more efficient use of inputs such as fertilizers, water usage etc.) but to help with Australia's competitive advantages such as high quality food and fibre that consumers both domestically and internationally recognise.

**Australian regional businesses are innovating at a faster rate than their metropolitan counterparts – according to OECD measures, 49% were innovation active compared to 43% in metropolitan centres. Regional businesses were also more advanced in their implementation, with 42% of regional businesses having already implemented innovations, compared to 29% of metro firms. With regional businesses estimating the financial return from their investment in innovation to be an average of \$279,000, contributing \$19 billion to the economy each year, Australia’s regional economy could grow by \$44 billion every year if every regional business across Australia achieved the same return.**

**SOURCE: REGIONAL BUSINESS INSIGHTS REPORT: UNLOCKING EVERYDAY INNOVATION, NATIONAL REPORT FY17, COMMONWEALTH BANK OF AUSTRALIA**

The NSW Farmers’ Association has a strategic partnership with CISCO, CSIRO Data61, UNSW and NSW DPI involving agritech, an incubator – Innovation Central. This initiative provides world class facilities for entrepreneurs developing internet of things (IoT) solutions for agriculture. Although based in Sydney, the projects that have already commenced are being tested and trialled in regional NSW.

The development of an innovation ecosystem in regional and rural Australia is underway and although numerous incubators and accelerators

are based in capital cities funded by private and public investment, there are many projects that are regionally based. This cross pollination occurring between regional entrepreneurs and metropolitan based agritech incubators is something that we believe will continue. However, the real opportunity will be the development of incubators and accelerators in regional centres such as Wagga Wagga, Orange, Dubbo, Lismore and Moree. These would provide in situ opportunities for agritech to help the digital transformation of the agricultural sector. Organisations like the NSW

Farmers’ Association and the national peak farmer body National Farmers’ Federation will continue to work with investors looking to capture value from technological innovation and ensure that the agritech solutions being considered actually create value not only beyond the farm gate but within it.

- **The global AgTech opportunity from the private sector is estimated to be up to US \$189 billion between 2013 and 2022**
- **50% of Australia’s land is used for agriculture, with the sector contributing more than \$57bn to the Australian economy, and approximately 13% of export revenue**
- **By 2050, the Earth’s population is projected to reach 9 billion, with the FAO predicting food supply will need to increase 60% to meet global demands, with 85% of this production increase to be driven by increased yields and cropping intensity**

**SOURCE: POWERING GROWTH: REALISING THE POTENTIAL OF AGTECH FOR AUSTRALIA, SEPTEMBER 2016, STARTUPAUS, KPMG AUSTRALIA**



## CASE STUDY

### Playing it Safe

As a private investigator, Luke Anear was spending much of his time looking at workplace injury cases and decided rather than just observe the problem, he wanted to be part of a solution.

In 2004, Luke and his business partner created a simple document of safety procedures for use by the construction industry. Sold online, the documents were soon being used by 50,000 businesses looking for a cheap, simple compliance tool.

When researching the effectiveness and cross-industry relevance of a “checklist”, Luke and his partner created SafetyCulture’s breakthrough app, iAuditor. This empowers employees to maintain quality standards using their own smartphone, taking a bottom-up approach to workplace safety.

Launched in 2012, iAuditor had 10,000 downloads in its first eight weeks with global companies citing the huge cost and time savings made to their workforce. Inspections were being done in minutes rather than hours, insurance claims were reduced and companies were able to do 32% more inspections.

“We received calls from large multinationals who couldn’t understand how they weren’t paying for something that was halving their inspection times and saving millions of dollars annually,” said SafetyCulture CEO, Luke Anear.

After being seen on TV show “The Project”, Luke was approached by Blackbird Ventures who wanted

to make its biggest single investment of \$1 million and take SafetyCulture to the next level.

Having raised \$2.35 million from Blackbird and others, Luke was able to bring on a team and open an office in Townsville in just eight weeks.

“Early on, Blackbird was integral to our decision-making around our operations, staffing and reporting. Their experience from working with other portfolio companies was a great help as a young company,” said Anear.

Since its first funding round, SafetyCulture has received \$41 million of investment from various sources including VCs in Silicon Valley.

“Aside from capital, Blackbird linked us in with an incredible network. We’ve been introduced to people who are at the top of the game, globally, and have been willing to give us advice for nothing,” said Anear.

In 2016, SafetyCulture expanded globally with offices in San Francisco, Kansas City and Manchester and now employs over 120 people.

“The aim is to empower employees and make workplace safety part of a company’s culture; we’re changing the way businesses approach risk in an overall effort to prevent workplace injuries.”

“We’re looking to create a standard of safety and quality for every worker in the world regardless of their industry or location,” said Anear.



*Today, SafetyCulture iAuditor has had over one million downloads and is the most used checklist inspection app in the world.*



LUKE ANEAR, CEO, SAFETY CULTURE

# 3/ HOW VENTURE CAPITAL CREATES & TRANSFORMS INDUSTRIES



## VC Helps Drive Innovation in Old Industries



### WATER RECYCLING

#### Turning grey water into saved water

Recycling water may be something we associate with big industry but with an innovative system co-founded by two Australian National University engineering graduates - and funding from ANU Connect Ventures - it could become a reality for households on a mass scale.

The Nexus eWater system uses separate pipes to collect the outflow of soapy water from laundries, sinks, etc and runs it into an underground collection tank, which is pumped to a treatment appliance outside the home to separate soaps and solids. The filtered water is then sent to another underground tank to provide water for irrigation and toilet water flushing.

It promises to reduce annual water and wastewater usage by 40 per cent and electric energy usage by 12 per cent.

The product was developed in Australia over four years but is now being sold in drought-ridden parts of the US west coast with plans to take it global as water recycling becomes a greater priority for households wanting to reduce wastage and save money.

BACKED BY ANU CONNECT VENTURES



UNITED BY WINE.

### WINE SALES

#### From garage to fine vintage

The story of VinomofO begins like many other startup stories: the company was started in a garage by a couple of friends. Since its birth in Adelaide in 2011, the online wine retail company has grown to over 500,000 members and over \$50m in revenue.

Most wine consumers don't look far beyond the shelves of the local bottle shop to find wine that they can appreciate and recommend to others. VinomofO's platform gives its users access to quality wines at discount prices, leveraging the power of its community to find the best wine producers around the globe.

The company curates the wines and helps educate its wine loving subscribers who then receive top drops on their door step each month.

The company now operates from Melbourne with close to 100 staff. It was awarded the fastest growth tech company in 2013 by Deloitte, and has won a host of startup and web awards for their website, growth, and company culture. In April 2016, it raised \$25m in venture funding from Blue Sky Ventures.

BACKED BY BLUE SKY VENTURE CAPITAL





BEN & TOBY HEAP OF H2 VENTURES.

## VC Creates New Industries

In 2013 H2 Ventures founding partners, Ben and Toby Heap, observed that consumers were beginning to trust transactions over the internet in a new way, meaning the financial services industry - that had remained largely untouched by the internet

**According to KPMG International's *The Pulse of Fintech* – a report on global fintech investment - Australian fintech investment in 2016 remained strong, despite a 47.2 percent slide in fintech investment globally.**

disruption faced by many other industries - now confronted fundamental structural change. In response to this, Ben and Toby decided to start a financial services technology (fintech) focused venture capital firm.

Ben, who had been working in financial services for over 20 years and at the time was the Managing Director of UBS and a Non-Executive Director of the Financial Services Council, saw the coming disruption as particularly concerning for the Australian economy. Financial Services is one of Australia's largest and fastest growing employers, it is our largest tax paying sector<sup>1</sup> and accounts for 36%<sup>2</sup> of the market capitalisation of the ASX

(making it the largest contributor to most Australians' superannuation).

"Our fear is that if Australia does not create the next generation of technology driven financial services companies here, then VC backed fintech

startups will come from overseas and export the most profitable parts of our financial services industry, just like what we have seen play out in the media industry." said Ben Heap.

At the time there were not many fintech startups to invest in, so Ben and Toby started a fintech focused startup accelerator (a startup accelerator invests in cohorts of startups and provides mentoring and co-location as the startups establish themselves) to create their

own deal flow. This was only the second fintech accelerator in the world. In 2014 in conjunction with Simon Cant and Danny Gilligan from the Reinventure VC fund, Ben Perham from Macquarie, Ian Pollari and James

Mabbott from KPMG and others, they began working to establish the not-for-profit fintech hub,

**Australia now has hundreds of fintech startups that employ thousands of people and represent the future of financial services.**

Stone & Chalk, to give the emerging fintech ecosystem a physical centre of gravity in Sydney.

Since then H2 Ventures has funded and helped launch 25 fintech startups and is on track to launch another 30 startups in the next 12 months. Stone & Chalk now houses over 100 fintech startups and a second fintech hub (the Tyro fintech hub) has also been established in Sydney.

## 15.9% of startup founders work in fintech.

SOURCE: STARTUP MUSTER 2016 ANNUAL REPORT.

Australia now has hundreds of fintech startups that employ thousands of people and represent the future of financial services. As a result, Australia now has a more secure and promising economic future in the face of the growth of fintech

in other centres such as New York, London, Hong Kong and Singapore.

## According to a recent Deloitte Report, Sydney has been listed eighth on a list of 44 top global fintech hubs driven by its innovation culture, proximity to expertise and proximity to customers.

SOURCE: A TALE OF 44 CITIES CONNECTING GLOBAL FINTECH: INTERIM HUB REVIEW 2017  
PUBLISHED BY DELOITTE APRIL 2017

### SOURCES:

1. [HTTP://WWW.FSC.ORG.AU/ DOWNLOADSFILERESearchREPORTSFILE /2014\\_1117\\_ FSCUBSSTATEOFTHEINDUSTRYREPORT2014LR.PDF](http://www.fsc.org.au/downloads/fileresearchreportsfile/2014_1117_fscubsstateoftheindustryreport2014lr.pdf)
2. [HTTP://WWW.MARKETINDEX.COM.AU/ASX-SECTORS](http://www.marketindex.com.au/asx-sectors)

## Data Points to Bright Future for Australian Venture Capital

BY BENJAMIN CHONG, PARTNER, RIGHT CLICK CAPITAL

Just a few years ago there were dire predictions about the future of Australian venture capital. Startup founders mourned the lack of local



funding for their businesses as they attempted to attract funding from international sources. Things have clearly changed.

Since 2011, Right Click Capital has been tracking publicly announced deals of technology

companies receiving investment or being acquired through our Internet DealBook (IDB) publication. Over time, it has revealed an increasing amount of exits of, and investments into, Australian technology companies, particularly in Transactions and Software & Services sectors.

The number of Australian businesses attracting international investment has clearly sparked the interest of local investors including VCs such as Blackbird Ventures, Square Peg Capital and our own firm.

### Aussies going global

One of the reasons for the increasing interest in Australian startups is their global potential. BigCommerce is an Australian company providing ecommerce software that allows over 90,000 merchants worldwide to sell their products online. Employing over 350 staff in Australia and the US, they have secured multiple rounds of funding (mainly from US sources).

SimPRO is another Australian company providing software to a global market. Its job management software allows tens of thousands of field workers to be connected with their head offices, improving response times and ensuring all tasks are completed and tracked. In 2016 SimPRO raised \$40 million from Level Equity, a US-based growth equity firm.

BigCommerce and SimPRO have demonstrated international investors are attracted by highly-scalable Australian businesses pursuing global markets and an increasing number of Australian investors have seen these opportunities as well.

Venture firms are interested in Australian ideas that will succeed both here and overseas. As the domestic venture sector grows we will see more Australian tech companies receiving local capital.



**Software and transaction businesses are Australian strengths**

IDB reveals out of eight identified technology sectors, Software & Services and Transactions

**“Recent technology-based startups are focussing on computer vision, virtual reality, augmented reality, mixed reality, machine learning and Internet of things (IoT).”**

companies have received the highest levels of investment in Australia. In 2014, the average deal value (ADV) of an investment into a company was USD5.6m. In 2015, IDB

recorded more than 78 new investments with an ADV of USD5.3m. Tyro Payments scored the largest

investment of USD72.0m. In 2016, ADV increased further to USD5.7m, due to larger investment rounds in Software & Services companies such as simPRO (USD31m) and BigCommerce (USD30m).

It is important to note these companies have been operating since the early 2000s proving that it sometimes takes patience to build a global business.

**Looking forward**

Recent technology-based startups are focussing on computer vision, virtual reality, augmented reality, mixed reality, machine learning and Internet of things (IoT). Each of these technologies will have significant impacts on traditional sectors such as Software & Services, Hardware & Infrastructure, and Ecommerce. We're going to see more software companies employ computer vision to more accurately perform tasks in a shorter period of time.

Virtual, augmented and mixed reality offers significant opportunities beyond traditional gaming. Providing immersive life-like experiences may well transform many aspects of our lives from reducing the need to travel to far flung locations to allowing surgeons to perform life-saving procedures remotely.

Thanks to the proliferation of software development libraries and the advance of cloud-based computing,

we believe the lowering costs of creating and running a new startup will see many new startups ride this wave of technology, and our wish is for more Australian entrepreneurs to leverage this and take advantage of increasingly accessible international markets.

**A 2017 ANUpoll, has shown strong Australian community support for science and innovation. Key survey findings include:**

- **68% of respondents are more excited than concerned about new technology.**
- **84% of respondents believe more people should be working in research and technological development in Australia;**
- **75% of respondents believe the benefits of technology outweigh the risks;**

**SOURCE: AUSTRALIAN NATIONAL UNIVERSITY CENTRE FOR SOCIAL RESEARCH AND METHODS, INNOVATION, SCIENCE AND BUSINESS: AUSTRALIAN ATTITUDES TO GOVERNMENT SUPPORT, REPORT NO.23, APRIL 2017**



**ROKT** 

*In 2016 the ROKT platform helped one US advertiser generate 500,000 new customers in one month.*

BRUCE BUCHANAN, CEO, ROKT

## CASE STUDY

### Rocking the World of Marketing and E-Commerce

After ten years in the airline industry as CEO of Jetstar, Bruce Buchanan discovered a business opportunity by bringing the worlds of marketing and e-commerce together in a faster, smarter way.

In 2012, Buchanan joined Justin Viles & Ben Voltz in purchasing a business called Rocklive and re-focused the new business on marketing tech for e-commerce to create ROKT. Its proprietary technology directly targets consumers at the point of sale stage of an e-commerce transaction with highly targeted, personalised and therefore relevant, offers from another brands.

After experiencing 10-20 fold growth in its first year, in 2013 ROKT raised \$8.5 million from investors, including Square Peg Capital, to get serious about building some of its core products and hire the specialists it needed to grow its offshore capability.

“A huge part of this initial investment was introducing us to networks in the US which was a key growth area for us and now the US is 55% of our total business.”

“Beyond the dollars, our investors were integral to some major strategic decisions because they have

an independent voice - offering an outside, yet experienced, perspective given they work with other businesses, making similar decisions, all the time.”

“They were able to offer advice on staff issues, how to manage shareholders and offered their outlook on particular global markets,” said Bruce Buchanan, ROKT CEO.

Now, ROKT has expanded into six countries and is working with the likes of Live Nation, eBay, Groupon, Kogan and Domino’s to connect their brands to new audiences in new formats.

In January 2017, ROKT raised a further \$26 million from new and original investors to take them in to the next phase of growth which includes the acquisition of calendar marketing software company, CalReply and launching ROKT in France, Germany and Japan.

“I’m passionate about working with great people who are motivated around a fantastic, disruptive idea and who do things differently,” said Buchanan.



A man in a striped shirt is pointing at a whiteboard with sticky notes. Other people are visible in the background, also looking at the whiteboard. The scene is a collaborative meeting or workshop.

4/

# BIG BUSINESS AND INNOVATION

## Staying Ahead of the Curve – how corporates are innovating

BY MASSIMO GARBUIO, SENIOR LECTURER  
ENTREPRENEURSHIP, UNIVERSITY OF SYDNEY  
BUSINESS SCHOOL

In Australia, VC has helped create and grow many innovative firms, including Austral (the world's leading manufacturer of fast ferries and passenger watercraft), Cochlear, and Internet job-advertising service Seek. However, relative to other countries, it is clear that VC can have a much larger impact on innovation, job creation, and economic growth. For example, available data shows that from 1999-2013, excluding mining and resource exploration companies, there have been 117 VC-backed IPOs on the ASX as compared to 637 by non-VC-backed companies.

One critical difference between the Australian and the U.S. market relates to the sectors in which VC firms invest. In Australia, information media, telecommunication, health care and social assistance had the highest number of investments in the period 2014-2015. Activity in the U.S. spans many more sectors, truly contributing to fuelling the country's economic growth.

Prospects for the future appear promising. The Australian VC market raised \$568m in FY16, according to AVCAL data, while since July 2016, around another \$1bn of funding has been raised,

including \$500m for the Biomedical Translation Fund (to be managed by Brandon Capital, Bioscience Managers, and One Ventures), \$250m by Airtree Ventures, \$100m allocated by the Government to the CSIRO Innovation Fund (with another \$100m expected from private investors), and \$75m by IAG Ventures (a new corporate venture capital fund), all of which we can expect to be deployed in the next few years.

In addition to increases in available capital, there has been an increase in the establishment of corporate VC as well as corporate accelerators and incubators that nurture and invest in startups. Qantas, Seek, NRMA, HCF, and many others all have an arm that engages with startups and scale-ups, providing fresh opportunities for the Australian ecosystem.

Corporate engagement with new ideas and startups has been found to benefit from longer investment horizons and less performance-driven compensation as compared to typical VC funding. Companies also bring very specialised industry and technology expertise to startups.

However, there is still some way to go. Research on the ASX50 companies, using publicly available information from 2015, showed that only 38% of the listed companies are participating in startup ecosystems through direct investments or other fluid forms of collaboration through incubators, accelerators, and co-working spaces. Further, these activities are largely concentrated in three industries (telecom, banking, and insurance), accounting for

67% of all activities by the ASX50. Telstra alone accounted for 18 per cent of this activity. When comparing this data to the situation in Singapore (STI Top 30 companies), we see the amount of activity is somewhat similar in 2015 (38% of the companies in the ASX50 versus 43% of those on the STI), but the market cap of Australian companies is 3.7 times higher than that of their counterparts in Singapore. Companies in Singapore are doing much more with fewer resources.

One aspect that needs improvement in Australia is greater diversity, a key driver of innovation and effective decision-making. This refers to gender diversity as well as background diversity (e.g., university degrees and career histories) of key executives and directors of incubators, accelerators, and co-working spaces. For example, only 26% of these key individuals at the board and executive level in accelerators, incubators and similar institutions are women, only 22% have at least one degree from overseas, and only 28% have a degree in a STEM field. Experience affects the type of innovation executives will pay attention to and the shape that the startup ecosystem will take in Australia.

## Australian Corporate Innovation Index

Based on ASX 50 companies' investments in corporate ventures, accelerators, incubators, internal innovation labs, co-working spaces and startups.

PREPARED BY MASSIMO GARBUIO

Ranking	Code	ASX Company Name	Industry	Innovation Score 2015
1	TLS	Telstra Corporation Limited	Telecommunication Services	100.00
2	NAB	National Australia Bank Limited	Banks	51.72
3	CBA	Commonwealth Bank of Australia	Banks	49.82
4	SUN	Suncorp Group Limited	Insurance	40.05
5	WBC	Westpac Banking Corporation	Banks	30.82
6	MQG	Macquarie Group Limited	Diversified Financials	30.38
7	ANZ	Australia And New Zealand Banking Group Limited	Banks	29.04
8	ASX	ASX Limited	Diversified Financials	27.98
9	SHL	Sonic Healthcare Limited	Health Care Equipment & Services	25.18
10	AMP	AMP Limited	Insurance	23.67
11	SCG	Scentre Group Stapled	Real Estate	23.65
12	MGR	Mirvac Group Stapled	Real Estate	20.82
13	S32	SOUTH32 Limited	Materials	20.22
14	GPT	GPT Group Stapled	Real Estate	19.37
15	WOW	Woolworths Limited	Food & Staples Retailing	11.03
16	WFD	Westfield Corporation Stapled	Real Estate	10.22
17	BHP	BHP Billiton Limited	Materials	5.15
18	IAG	Insurance Australia Group Limited	Insurance	4.68
19	AGL	AGL Energy Limited	Utilities	3.55
20	DXS	Dexus Property Group Stapled	Real Estate	3.07
21	AZJ	Aurizon Holdings Limited	Transportation	1.94
21	OSH	Oil Search Limited 10T	Energy	1.94
23	SEK	Seek Limited	Commercial Services & Supplies	1.76
24	APA	APA Group Stapled	Utilities	1.02
24	GMG	Goodman Group Stapled	Real Estate	1.02



Ranking	Code	ASX Company Name	Industry	Innovation Score 2015
24	ORG	Origin Energy Limited	Energy	1.02
24	WPL	Woodside Petroleum Limited	Energy	1.02
28	CCL	Coca-cola Amatil Limited	Food, Beverage & Tobacco	0.83
28	RIO	RIO Tinto Limited	Materials	0.83
28	VCX	Vicinity Centres Stapled	Real Estate	0.83
31	LLC	Lendlease Group Stapled	Real Estate	0.80
31	RHC	Ramsay Health Care Limited	Health Care Equipment & Services	0.80
33	NCM	Newcrest Mining Limited	Materials	0.63
33	SGP	Stockland Stapled	Real Estate	0.63
34	CTX	Caltex Australia Limited	Energy	0.57
34	AIO	Asciano Limited	Transportation	0.57
34	CPU	Computershare Limited	Software & Services	0.57
34	MPL	Medibank Private Limited	Insurance	0.57
38	AMC	Amcor Limited	Materials	0.50
38	CSL	CSL Limited	Pharmaceuticals & Biotechnology	0.50
38	WES	Wesfarmers Limited	Food & Staples Retailing	0.50
41	BXB	Brambles Limited	Commercial Services & Supplies	0.40
41	JHX	James Hardie Industries	Materials	0.40
41	QBE	QBE Insurance Group Limited	Insurance	0.40
41	TCL	Transurban Group Stapled	Transportation	0.00
45	ORI	Orica Limited	Materials	0.00
45	STO	Santos Limited	Energy	0.00
45	IPL	Incitec Pivot Limited	Materials	0.00
45	QAN	Qantas Airways Limited	Transportation	0.00
45	SYD	Sydney Airport Holding	Transportation	0.00

Data was collected on ASX50 companies' investments in corporate ventures, accelerators, incubators, internal innovation labs, co-working spaces and startups and similar initiatives from publicly available information. Then, for each company, an Innovation Score is created using a mix of statistical procedures which considers the type of initiatives. From this, the obtained score is normalized between 0-100 to make that score comparable across years and countries. So, the company that has the greatest number of weighted initiatives has a score of 100, whereas companies with no initiative have a score of 0.

## NAB Ventures in to New Territory

### A conversation with Jon Davey, Executive General Manager, NAB Labs, Product & Markets, and Melissa Widner, General Partner, NAB Ventures

**Q: NAB Ventures was created in 2015, what were the motivations behind the move?**

**Davey:** “Back in 2014, the financial services industry was undergoing major change. We were seeing shifts in terms of technology, customer behaviour and regulation, and realised that we needed to be better prepared to respond. The new CEO, Andrew Thorburn, created a working group to come up with ideas for how NAB could continue to thrive in this dynamic environment. The end result was the creation of NAB Labs – an in-house incubator – and NAB Ventures, our own corporate venture arm”.

**Q: What do you hope NAB Ventures will achieve in the long term?**

**Davey:** “From the outset, our objective was to make investments in early stage companies pursuing scalable ideas that could have a significant impact on NAB’s business. NAB Ventures offers us the opportunity to gain access to cutting-edge innovation through companies that are disrupting traditional financial services. More broadly, we hope that NAB Ventures will help embed a “test and learn” mindset within NAB, with a greater emphasis on experimentation.

While the financial rate of return can’t be ignored, our core focus is on the strategic benefits that can be gained by early stage investing through our corporate venture arm”.

**Q: What kind of companies are NAB Ventures looking to invest in?**

**Davey:** “We look for companies with innovation at the heart of their product, service or model. We want to see how they could improve our customers’ experience or which may be disruptors to our current systems. Essentially, our aim is to leverage and learn from these startups. We don’t take a controlling stake as we want to ensure the entrepreneur feels empowered and remains invested”.

**Widner:** “NAB Ventures focuses on companies in the fintech and adjacent sectors, whether in Australia or overseas. We don’t focus on any particular stage of venture investing, having made seed investments all the way through to larger co-investments with other corporate venture capital firms or external institutional venture capitalists. We are different to some other corporate ventures as we are comfortable leading an investment round, and don’t always need to have the funding already secured from other venture capital channels”.



**Q: What can NAB Ventures offer the startups it invests in?**

**Widner:** “In addition to capital, we offer expertise and entrepreneurial experience, having been founders and early stage investors ourselves. Most importantly, a startup will also gain access to the organisational capability of one of Australia’s largest corporates, as well as the ability to test their product with a major potential customer. The startups NAB

**In the US, corporate venture is a major part of the venture landscape, across many different sectors, and there is huge potential to see it grow further in Australia.**

Ventures’ invest in receive access to the capabilities of one of the largest banks globally, with a huge customer network and internal resources across product, marketing and distribution.

Our investee companies can also work with NAB Labs which will really help them hone their ideas into marketable products”.

**Q: What are some examples of companies that NAB Ventures has backed?**

**Davey:** “We seeded Medipass with funding as it was a company seeking to solve the problem of patients not knowing what the fee “gap” (not covered by Medicare or private health insurance) will be when they see a health care professional. The app empowers patients to research health professionals

and get a better understanding of what care will cost them. Through our ownership of HICAPS – a health claims billing product – Medipass will be able to be rolled out to NAB’s extensive network of health care professionals”.

**Widner:** “We’ve also co-invested with Qantas and Reinventure [backed by Westpac] in Data Republic, a Sydney-based startup that has designed a platform which allows companies and government to exchange data in a secure environment”.

**Q: Do you feel Australia is well-positioned to welcome more corporate venture capital funds (CVCs)? If not, what’s holding them back?**

**Davey:** “To get corporate venture right, companies need to take a strategic, long-term view. We see tangible benefits to our business

and the broader ecosystem by making early stage investments. We would encourage other Australian companies to look at their businesses and see whether CVC might also work for them”.

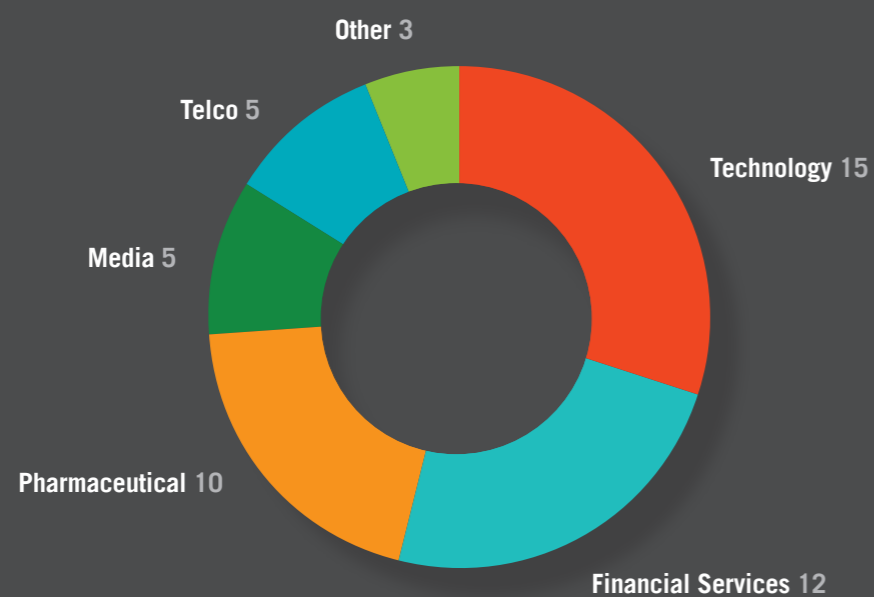
**Widner:** “Corporate venture capital has tended to be cyclical. We are now seeing more and more large, Australian businesses looking at creating their own CVC, or at least making direct investments in technology startups, as a way of staying agile and innovative. In the US, corporate venture is a major part of the venture landscape, across many different sectors, and there is huge potential to see it grow further in Australia. That would be a good thing for corporates, startups and the broader economy”.



## Global CVCs: Top 50 active CVCs in 2016 (by sector)

According to the latest CB Insights Corporate Venture Capital Report, the number of new corporate venture capital funds making first-time

investments reached record levels in 2016. The top 50+ most active CVC investors, broken down by sector:



## Top 50 most active global CVCs, 2016

1 - 25	26 - 50
1. Intel Capital	26. Roche Venture Fund
2. Google Ventures	27. Nokia Growth Partners
3. Salesforce Ventures	28. SMBC Venture Capital
4. Comcast Ventures	29. Citi Ventures
5. Qualcomm Ventures	30. Novartis Venture Funds
6. Cisco Investments	31. MAIF Avenir
7. GE Ventures	32. WuXi Venture Fund
8. Bloomberg Beta	33. Lilly Asia Ventures
9. Samsung Ventures	34. NTT DoCoMo Ventures
10. Microsoft Ventures	35. American Express Ventures
11. CyberAgent Ventures	36. Bertelsmann Digital Media Investments
12. Johnson & Johnson Innovation	37. Robert Bosch Venture Capital
13. Pfizer Venture Investments	38. Fosun Kinzon Capital
14. SBI Investment	39. Orange Digital Ventures
15. Slack Fund	40. Boehringer Ingelheim Venture Fund
16. Siemens Venture Capital	41. capitalG
17. AXA Strategic Ventures	42. Santander InnoVentures
18. Ping An Ventures	43. BlueCross BlueShield Venture Partners
19. Swisscom Ventures	44. Hearst Ventures
20. In-Q-Tel	45. Alexa Fund
21. Telstra Ventures	46. YJ Capital
22. Brand Capital	47. AbbVie Biotech Venture
23. Verizon Ventures	48. Nissay Capital
24. SR One	49. Saudi Aramco Energy Ventures
25. Legend Capital	50. Novo Ventures

SOURCE: CB INSIGHTS

## CASE STUDY

### Venture Capital Helps Create a Thriving Food Business

After spending more than 15 years building brands in the retail space here and overseas, Josh Sparks found himself at a career crossroads which saw him create the health and wellness brand which is now revolutionising the quick service restaurant industry.

THRIVE came about when a clear gap emerged in the food retail market where a lack of fast, authentically healthy food options was becoming abundantly clear. Smashed avocado might have been common on café menus but back in 2012 it was yet to be seen in the high foot traffic areas of CBD food courts.

The THRIVE mission is to make extraordinary health deliciously simple, bringing wellness to the widest possible audience and this mission is carried through the entire supply chain. The chef-designed and nutritionist approved menu is completely gluten free, using only healthy fats, no added sugars, and no chemical nasties ever.

“I firmly believe, we can square the typical downward ageing curve through simple lifestyle shifts. We inspire and empower our customers with customisable choices, combining the most delicious food trends, with the best of nutritional science” said Josh Sparks, Founder and CEO of THRIVE.

After opening the first store with funding from himself, friends and family, it became obvious that, to expand ahead of competitors, external investment was needed. In 2015, THRIVE was looking for a funding partner to continue its journey and Blue Sky Ventures was it. Since then it has helped THRIVE take superfood to the mainstream with ten retail outlets in four states. Blue Sky played an instrumental role in the launch of its ready-meal home and office delivery business with a wholesale deal recently signed with Woolworths Metro.

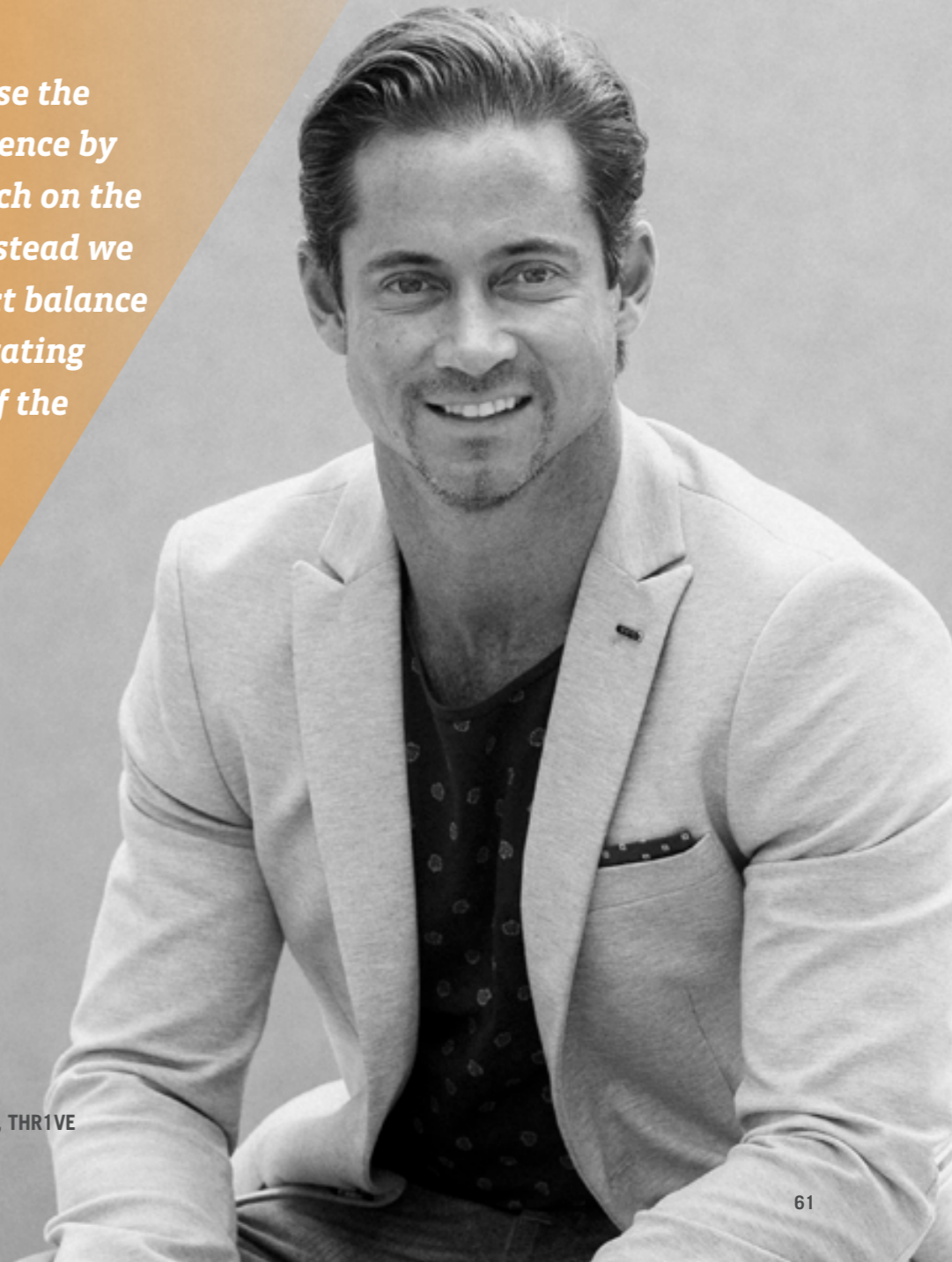
“The ability for Blue Sky to uncover opportunities and link me in with their vast network opened my eyes to a whole new realm of possibilities. It got to a point where the brand was bigger than the business but to exploit that potential required the next level of business insights and market data.”

“I was expecting to get good input primarily around finance and analytics but instead gained expertise around capital planning, direction with regards to strategic growth prioritisation, and access to an entire network of experts throughout their portfolio companies and beyond.”

“For me it was where the art of creating a brand met the science of best leveraging that brand. The bonus for me was they (Blue Sky) also care as passionately about the customer as I do,” said Josh.

# THRIVE

*“I feared we’d lose the customer experience by focusing too much on the numbers, but instead we found the perfect balance while still innovating for the benefit of the customer.”*



Josh Sparks, Founder and CEO, THRIVE



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# EXPLORING THE POSSIBILITIES, WHERE TO FROM HERE?



## Where the VC Industry is Today

The VC sector in Australia has undergone a period of renewed confidence over recent years.

In FY2016, VC fundraising increased to the highest level on record, with seven funds raising a total of \$568m. The total amount of VC fundraising seen in FY2015 and FY2016 was larger than the totals raised over the preceding six years (FY2009-2014).

The government's National Innovation and Science Agenda, announced in December 2015, has played a key role in increasing awareness of the VC sector and its importance to the innovation ecosystem and Australian economy as a whole.

Investment by VC funds has also seen an improvement across several measures in recent years. Total VC

On 13 December 2016, the \$500m Biomedical Translation Fund (BTF) was launched by the Australian Government as part of the National Innovation & Science Agenda. Involving \$250m of

Commonwealth funding, matched with an equal contribution from private sector investors, the BTF is an equity investment programme that will support the commercialisation of biomedical discoveries in Australia. With the funds to be invested by three venture capital fund managers – Bioscience Managers, Brandon Capital and One Ventures – the BTF will offer crucial capital to promising early stage companies over the coming years.

The BTF stands as a prime example of Government, private sector, and research sector collaboration. The BTF application process required fund managers to have received investor commitments, prior to lodging their applications with the Government. Importantly, the Government's undertaking to commit money to the successful fund managers, if the capital could be matched by other investors, helped attract those investors, removing an up-front obstacle to a successful fund-raising. Equally, the fundraising was assisted by the Government offering private investors a preferred distribution of profits above a hurdle rate of return (e.g. 60/40 under the BTF), thereby making the investment more attractive.

With Australian research amongst some of the world's best, the BTF will help provide the capital for the next wave of biomedical break-throughs in medicine and healthcare.

**The total amount of VC fundraising seen in FY2015 and FY2016 was larger than the totals raised over the preceding six years combined.**

investment in FY2016 was almost 50% higher in terms of total value compared to the previous year, with a combined \$347m invested by Australian and overseas VC funds. This was also the second highest total recorded in the last 10 years, below the \$542m recorded in FY2014 (largely caused by a single investment in Campaign Monitor).

**VC-backed companies account for 85% of the total R&D spend of US public companies.**

Importantly these VC investment figures underscore the continuing growth of the local VC industry in Australia. Domestic VC funds invested almost \$300m in FY2016, which is 84% higher than the domestic

total in FY2015 and the highest annual figure seen in the last 10 years.

Domestic VC investment accounted for 86% of total VC investment, higher than the 70% and 45% seen in FY2015 and FY2014, respectively. The number of VC firms making investments also rose to an all-time high, with 33 VCs recording investments in FY2016, which is far higher than the annual average of 21 over the nine years from FY2007 to FY2015.

**33**  
VCs recording investments in FY2016, higher than the annual average of 21 over the nine years from FY2007 to FY2015.

Domestic VC funds invested almost **\$300m** in FY2016, which is **84%** higher than the domestic total in FY2015

## How do we Compare to Our Global Peers?

BY MASSIMO GARBUIO, SENIOR LECTURER ENTREPRENEURSHIP, UNIVERSITY OF SYDNEY BUSINESS SCHOOL



### United States

VC has been a dominant force in the funding of American

companies. The list of high-growth and successful companies backed by venture funds includes Apple Computers, Intuit, Compaq, Staples, Intel, Federal Express, Microsoft, Cisco, e-Bay, Starbucks Coffee, Nextel Communication, Yahoo!, Sun Microsystems, Amazon.com, Google and thousands of others.

Recent research from Stanford University and the University of British Columbia shows that, in the United States, since 1974, 42% of public companies had VC backing. They employ over 3 million people and account for 63% of the public market capitalisation of public companies over that period (\$4.4 trillion). They invest heavily in research, accounting for 85% of the total R&D spending of post-1974 U.S. public companies. In fact, the R&D spending of VC-backed public companies represents a large proportion of the total government, academic, and private U.S. R&D spending.



### Singapore

The local VC market in Singapore started in 1983, and the government began aggressively promoting VC funds in 1985. The impact on VC activity has been dramatic. From 1987-2001, 92 public companies were backed by VC. In 2015 alone, a total of S\$970 million was managed by VC firms in Singapore.



### China

Ongoing economic reforms in China have transformed the

economy from a complete reliance on state-owned enterprises to a mixed economy where private enterprises play a more important role in growth and employment opportunities. Due to difficulties in obtaining bank loans, many small and medium-sized private Chinese businesses have begun to seek alternative sources of funding. The Chinese economy has witnessed exponential growth in the number of VC-backed companies, with venture capitalists increasingly providing long-term equity funding to Chinese companies. A study published in 2016 reports that the China Venture Capital Research Institute (CACRI) computed the value of VC in China growing from US\$4.76 billion in 2003 to US\$36.67 billion in 2008.

## VC investment as a % of GDP

**0.023%** Australian VC investments as a % of GDP (2015)

**0.38%** Israel VC investments as a % of GDP

**0.33%** US investments as a % of GDP

**0.049%** OECD+ average

**0.192%** OECD+ top 5 average

**This means Australia is ranked 18 out of 30 OECD nations when it comes to VC investment as a percentage of GDP.**

SOURCE: ENTREPRENEURSHIP AT A GLANCE, OECD 2016.





## Australian Venture Capital – the future looks bright

BY RICK BAKER, CO-FOUNDER, BLACKBIRD VENTURES

The last few years have seen an amazing transformation of the Australian venture capital sector.

Five years ago there was almost no venture capital left in Australia. Post Global Financial Crisis, domestic superannuation funds were not investing into the asset class, and there had been few successes to talk about.

Thankfully, things have shaped up over recent times.

In the last two financial years, AVCAL data shows that Australian venture capital funds have raised around \$900m. This is a big step-up when you consider that a total of just under \$700m was raised in the five years before (FY2010 – FY2014).

Things have started well for the new group of Aussie VCs which have emerged since the financial crisis of 2008. A new breed of venture capital manager has been investing these funds into new companies and starting to prove their track records. Venture-backed companies like Canva, Safety Culture, SiteMinder, Culture Amp, ROKT, Prospa and Stackler are building real value and have created hundreds of well-paying jobs for Australians.

In fact the pendulum has swung so far that some in the investment industry are worried that there is now too much venture capital in the system, and that there aren't enough quality startup companies worth funding. I disagree.

Here's why I think the Aussie VC market is still undersized:

- Some of that \$900m raised in the last two years has already been invested, leaving us with a smaller amount of “dry powder” left to invest.
- Some of this dry powder is directed at offshore companies. From what I know of the largest funds' strategies, most will look to allocate 20% of their capital overseas, leaving less to be pointed at the Aussie startup ecosystem.

While the headline numbers seem big, our successful companies need to raise larger amounts of capital to grow. For example, Blackbird invested \$22m into Canva over the last two rounds, the latest Prospa round led by Airtree was \$25m, while One Ventures led a \$25m round into Vaxxas and Australian company Deputy raised \$33m from US sources. That's a significant chunk of our whole market's dry powder gone in just four successful Australian mid-stage companies funded in the last twelve months.

When compared to the much more established US VC market, Australia still has a huge amount of room to grow:

- **US venture fundraising in 2016 was US\$41.6bn, compared with A\$568m (the record year) in Australia;**
- **On a per capita basis, there is 7.3 times more US venture funding per capita than in Australia;**



- In the last two years, US venture capital funds raised A\$102 billion. So the Australian VC market raised 0.9% of the US market;
- In 2016 alone, 21 US venture capital funds were raised that were individually larger than the whole amount raised in the Australian market in that year;
- In 2016 alone, seven US venture capital funds were raised that were individually larger than double the whole amount raised in the Australian market in that year.

It's worth remembering, that there will be many small failures and some big ones, but this is what venture is all about. It's a home run strategy where a small number of the investments we make will create most of the returns for the industry.

**“The great Australian startups are growing faster than we can raise venture capital to support them.”**

We're all hoping to have enough of these winners in our portfolios. Think Atlassian, Cochlear, SEEK, all multi-billion dollar Aussie companies, which were backed by either Australian or foreign venture capital.

In my view, the great Australian startups are growing faster than we can raise venture capital to support them. Traditionally, this gap has largely been filled

by US venture capital firms in the later stages, but we want more of this wealth generation to be captured by Australians, hopefully via their superannuation funds.

This goes back to my point that there is plenty of scope for the Australian venture industry to continue to double and maybe triple in a sustainable fashion. In many cases, Blackbird had to turn to overseas venture funds in order to find additional capital to support our portfolio companies. Had we had more capital, I am confident that we could have invested at least double the amount of capital into these companies, and perhaps more.

So the bottom line is that with a strong pipeline of talented Australian entrepreneurs, more institutional capital flowing in, and savvier fund managers, the future for the Australian venture capital sector looks bright.

**“There is plenty of scope for the Australian venture industry to continue to double and maybe triple in a sustainable fashion.”**





## The Future of Healthcare Investment

BY DR PAUL KELLY, MANAGING PARTNER AND HEAD OF HEALTHCARE, ONE VENTURES.

Healthcare is a major growth sector with global healthcare expenditure outstripping consumer spending at around 10% of global GDP, growing at 6% pa. In developed countries such as the US where healthcare spending has

risen to around 17% of GDP, the drivers include the aging population; while in emerging countries the growth of the middle class has resulted in an increase in chronic disease prevalence coupled with the financial capacity to access the already over-burdened healthcare system.



Products that allow for more efficient delivery of care are highly valued but need to be balanced against the needs of an aging population with greater access to wealth and healthcare, increasing chronic disease prevalence, consumer/patient advocacy, and the tremendous innovation in terms of new drugs being developed especially for management of rare diseases and cancers in general.

Next generation genomics provide part of the solution, and is predicted to be in the top 10 disruptive technologies over the next decade and projected to have an impact of around \$7 trillion on the global economy by 2025.

Australia has a strong track record of invention and discovery in genomics, lifesciences and healthcare but has under delivered in terms of commercialisation of

these innovations. The Australian domestic market is around 1% of the global pharmaceutical market, so sustainability of the biomedical innovation sector in Australia will be driven by our ability to develop products for global markets.

Recent initiatives such as the Australian Government's Biomedical Translational Fund (BTF), promise to transform the Australian innovation landscape by bridging the later-stage funding gap for taking biomedical products through clinical development.

Combined with the R&D Tax Incentive, various state initiatives and regulatory changes, these initiatives will elevate the nation's position as a world leader in health sciences.

A key element to delivering on this promise will also be access to the highly specialised skills that are required in development of clinical products for global markets. Attracting highly skilled international talent to Australia and building on our own talent pool, across clinical development, regulatory approvals, commercialization, funds management and business development will be critical if Australia is to deliver on this goal.

It's a very exciting time to be an investor in Australian biomedical innovation with many of the historical road blocks and barriers being alleviated in the face of an unprecedented rate of discovery. It is up to those of us at the coal face of commercialisation to build on this, and ensure we deliver repeated and sustainable success in this market.



## Venture Capital fundraising by year: Australia vs US

YEAR	AU AMOUNT (A\$m)*	AU AMOUNT (US\$m)	US AMOUNT (US\$m)	US Multiple of AU	Australia - VC Funds Raised (USD) per Capita	US - VC Funds Raised (USD) per Capita	US Multiple of AU \$/capita
2007	\$356.92	270	34,920	129.5x	\$12.95	\$115.92	9.0x
2008	\$351.90	266	36180	136.1x	\$12.51	\$118.98	9.5x
2009	\$174.89	132	12,010	90.9x	\$6.09	\$39.15	6.4x
2010	\$158.00	119	19,570	163.9x	\$5.42	\$63.26	11.7x
2011	\$120.00	91	23,310	257.1x	\$4.06	\$74.78	18.4x
2012	\$140.02	106	24,420	230.8x	\$4.65	\$77.75	16.7x
2013	\$153.93	116	20,640	177.5x	\$5.03	\$65.23	13.0x
2014	\$123.75	93	35,350	378.1x	\$3.99	\$110.85	27.8x
2015	\$325.63	246	35,170	143.0x	\$10.34	\$109.42	10.6x
2016	\$567.93	429	41,600	97.0x	\$17.65	\$128.12	7.3x

\*AMOUNT OF FUNDS RAISED BY FISCAL YEAR (IN AUD MILLIONS)

\*NOTE: TOTAL NUMBER OF FUNDS AND THE TOTAL COMMITMENTS INCLUDE FIRST, INTERMEDIATE AND FINAL CLOSINGS, REINVESTED GAINS, INTEREST AND DIVIDENDS, AND CAPTIVE RAISINGS.

AU SOURCE: AVCAL 2016 YEAR BOOK

US SOURCE: NVCA 2017 YEARBOOK DATA PACK

EXCHANGE RATE - 0.7555

## A Super Fund's Perspective

BY NEIL STANFORD, HEAD OF PRIVATE EQUITY, HOSTPLUS SUPERANNUATION

We often get asked why we have an allocation to Venture Capital. Isn't it too risky? Aren't we worried about losing money?

The reality is that the Venture Capital sector is maturing in Australia, as are super funds' investment

**“When compared to its US or European counterparts, the potential for Australia's venture capital sector to grow larger is enormous.”**

strategies. As funds, like Hostplus, seek to maximise risk-adjusted returns for their members, alternative investments like Venture Capital play an important role as part of a balanced portfolio. Investing in Venture Capital requires patience, careful due diligence and a firm belief that the corporate giants of today might not necessarily be the leaders of tomorrow.

Hostplus, the national industry super fund for the hospitality, sport, tourism, and recreation industries, was established in 1988 by the Australian Hotels Association (AHA) and United Voice. Today the Fund has grown to \$25B in size and has about one million members. Hostplus invests in the early stage ecosystem because we believe that the world is witnessing rapid technological change, creating major opportunities for agile players in both new and old sectors.

From cutting-edge medical research to artificial intelligence, technology promises to transform our way of life dramatically over the years ahead. Our Venture Capital investments allow Hostplus to gain exposure to these exciting new businesses, rather than passively waiting for them to disrupt other more established companies. Hostplus typically makes small early stage investments with a carefully selected cohort of venture capital managers on the basis that it provides our Fund with potentially excellent returns

as well as the ability to make larger follow-on commitments in the future. Not only does this strategy provide scale to early (otherwise sub-scale) investments, but also means that if

portfolio companies grow rapidly, they know they will have a long-term investor with adequate capital to continue to back them.

Ultimately, we hope this strategy means more innovation and technology is commercialised in Australia, and that our Fund has got in on the

**“Hostplus invests in the early stage ecosystem because we believe that the world is witnessing rapid technological change, creating major opportunities for agile players in both new and old sectors.”**



ground-floor of Australia's next Atlassian, Cochlear or Seek.

The ability to participate in long-term investment is also aided by our Fund's very young member demographic. Hostplus Members have an average age in the early thirties; retirement is typically up to 40 years away, granting the Fund a longer investment horizon than others. The Fund also places a greater emphasis on capital growth over income

**“Hostplus considers an allocation to Australian Venture Capital to be critical to boosting Member returns as well as playing a critical role in transforming Australia's economy.”**

growth, allowing for better diversification across asset classes, especially alternative investments.

When compared to its US or European counterparts, there's the potential for Australia's Venture Capital sector to grow significantly. In a superannuation industry characterised by fierce competition and a battle for the best returns, Hostplus considers an allocation to Australian Venture Capital to be critical to boosting Member returns as well as playing a critical role in transforming Australia's economy.

## How we can realise our potential

BY CHRISTIAN GERGIS, HEAD OF POLICY & RESEARCH, AVCAL.

With optimism having returned to the venture capital sector, and a pipeline of dynamic startups emerging, Australia's early stage ecosystem is as strong today as it has ever been. Buoyed by the \$500m Biomedical Translation Fund, 2017 is expected to be the second consecutive record year for venture fund raising.

**“Australia's early stage ecosystem is as strong today as it has ever been.”**

While these trends are heartening, now is not the time for self-congratulations. As this report shows, the Australian venture capital sector remains small, both

in absolute terms, and relative to its international peers. We are boxing below our weight as a nation. The result is that hundreds of high potential Australian companies are missing out, both on the capital, and more importantly, expertise offered by venture fund managers.

If Australia is to become an innovation leader, this must change. And quickly. In order to reach our potential, we must tackle some key issues:

### 1. Competitive innovation policy settings

Make no mistake, Australia is in a global race for talent and capital. As the KMPG Enterprise Venture Pulse report (January 2017) shows, Governments

around the world have woken up to the importance of re-tooling their economies towards high-value-add activities. In the UK, recent support to the local-start up ecosystem has included a £400m co-investment into venture funds through the British Business Bank, building on a suite of measures rolled-out over recent years including concerted programs to entice foreign high growth companies to the UK. Germany and France have also committed to creating a €1 billion fund to assist startups to grow, recognising the need to tap into new seams of economic growth.

Meanwhile, closer to home, the 2016 StartupAUS Cross Roads Report has highlighted that our regional neighbours are re-doubling their own efforts. For example, over the last two years, Singapore has committed itself to an A\$17bn package aimed at boosting research, innovation and entrepreneurship.

**“In order to compete in this innovation arms-race, Australia must ensure that it develops ambitious, long-term, bi-partisan policy.”**

A remarkable commitment given that Singapore's population is roughly equivalent to that of Sydney, and the nation already ranks second on the World Economic Forum's Global Competitiveness Index. Similarly, South Korea has actively sought to create

a new high growth sector through its \$4bn “Creative Economy Initiative”, including developing a 300 strong network of startup incubators.

With widespread recognition of the benefits of venture capital for a transitioning economy, Australia must ensure that it has in place regulatory settings

**“Ultimately, the continued growth and maturing of the early stage ecosystem will depend on Australian superannuation funds making a long-term commitment to the venture capital sector.”**

that facilitate, rather than stymie, investment. Overseas, many private and public pension funds already see venture as an essential part of their asset allocation mix. Faced by ageing populations in the developed world, this trend is only gaining

In order to compete in this innovation arms-race, Australia must ensure that it develops ambitious, long-term, bi-partisan policy architecture that builds on the long-running success of the research & development tax program. We will fall behind if we stand still. The next wave of the National Innovation & Science Agenda should therefore focus on ‘scaling-up’ Australian businesses – companies that have traditionally had to look overseas for funding due to a shallow local funding pool.

## **2. Harnessing the power of the superannuation system**

Ultimately, the continued growth and maturing of the early stage ecosystem will depend on Australian superannuation funds making a long-term commitment to the venture capital sector. With total superannuation assets of around \$2.2 trillion, yet only around \$120m committed by funds to Australian venture last financial year, the potential to boost allocations is enormous.

pace as funds look for higher risk/return investments such as venture capital and private equity. Government and industry must therefore come together to work through the road-blocks stopping greater investment, or risk seeing the Australian economy left behind by seismic technological forces.

## **3. The potential of corporate venture capital (CVC)**

In the last three years alone, NAB Ventures, IAG Ventures, ReInventure (funded by Westpac), and Scaleup Media Fund (owned by media firms including News Corp Australia and Nova Entertainment) have emerged as venture firms backed by large, established Australian corporates. Similarly, others such as Qantas and AGL have made early stage investments, recognising the strategic benefits on offer from such deals. Telstra Ventures is the longest running CVC in Australia, but there is there great potential for CVC to feature more prominently in the nation’s innovation landscape for decades to come.

Globally, CVC is a critical element of the venture industry, with CB Insights data showing that corporate VCs invested in nearly 20% of all VC deals in the second half of 2016 alone. Indeed, globally, corporate VCs participated in almost \$25bn of transactions, across 1,352 deals in 2016. 107 corporate VCs made their first investment in 2016.

Government should look carefully at what can be done to encourage Australian boards to look at CVC as a way of staying agile, and gaining exposure to new technologies and dynamic young companies.

## **4. Australian venture capital fund manager performance**

Having been starved of capital commitments post GFC, Australian venture fund managers now have an opportunity to show they can deliver for their investors. This will be crucial to encouraging more institutional investors into the sector, some of whom were chastened by past experience.

With local venture managers, like their investors, having learned important lessons, Australia has a real chance to create a knowledge-based economy that delivers skilled jobs, and huge export opportunities, at the same time as generating attractive financial returns. Of course, as with any young sector, it must be given time to grow, and mature. Overseas experience shows that such perseverance can be handsomely rewarded.



## CASE STUDY

### Turning the tables on Parkinson's Disease

We're all familiar with the wearable technology that tracks our heart rate and steps but what if this same concept could be applied to improve medical outcomes for Parkinson's disease patients?

In the late 1990s, Professor Malcolm Horne from the Florey Institute of Neuroscience and Mental Health did just that. Horne and his team developed a device which tracks the kinetic movements of a Parkinson's patient, delivering objective, data-driven reports which are vital in creating a more personalised treatment plan with a clinician, ultimately leading to a higher quality of life for patients.

In 2007, this invention was commercialised as the Parkinson's KinetiGraph™ system or PKG™ by Global Kinetics Corporation, thanks predominantly to funding by venture capital.

One of these early backers - and one of the largest collective investors in Global Kinetics - is Brandon Capital Partners which saw the potential of such a device and helped take the PKG to the world. It is now found in more than 200 clinics in 16 countries across the U.S., Europe and Asia Pacific.

Vital to the success of this expansion was the expertise and market insights which Brandon brought to the table.

"In the Australian life sciences sector, there is a real lack of early stage funding available to small businesses to enable them get their ideas off the ground and reach the necessary milestones in order for them to secure further funding support," said Howitt.

"Brandon's experience in the sector, their understanding of the market, their networks and their ability to seek out opportunities was, in a way, possibly even more valuable than the considerable dollar investment they made."

"We were able to move more quickly and everything was more straightforward given we were dealing with a sophisticated investor like Brandon," said Tom Howitt, Global Kinetics CFO.

Now, Global Kinetics is looking at embedding the PKG into healthcare systems in overseas markets where it can also deliver significant cost savings across the Parkinson's disease continuum, given that a controlled patient can cost the system half that of an uncontrolled patient. It's also investigating how the same technology may be implemented for other movement related disorders like ADHD and Huntington's disease.



*The PKG remains the only commercially available mobile health technology which provides a clinically meaningful measurement of the key symptoms of Parkinson's disease, measured continuously over the course of the day.*

TOM HOWITT, CFO, GLOBAL KINETICS



The Australian Private Equity and Venture Capital Association (AVCAL) is the voice of private equity (PE) and venture capital (VC) in Australia. AVCAL's members provide capital and expertise to startups, SMEs and large organisations by enhancing innovation, productivity and sustainability. In turn, the industry plays an important role in the broader Australian economy by building better businesses. Together, private equity and venture capital firms in Australia manage around A\$27bn on behalf of Australian and offshore superannuation and pension funds, sovereign wealth funds and family offices.





