

ANNUAL REPORT

HIGHLIGHTS

2015

SCIENCE POWERING
BUSINESS INNOVATION



**BIG IDEAS
ARE BORN
EVERYDAY**



ABOUT KIWINET

The Kiwi Innovation Network (KiwiNet) is a consortium of Universities, Crown Research Institutes and other publicly funded research organisations who are dedicated to taking a collaborative approach to research commercialisation.

Together these research organisations represent a total combined research expenditure of over \$500 million and represent 70% of the publicly funded researchers in New Zealand.

KiwiNet's role is to empower people who are involved in research commercialisation by helping them to access the tools, connections, investment and support they need. By collaborating on projects, combining capability and sharing networks we can better leverage the resources available for commercialisation, and help one another achieve better commercial outcomes for New Zealand.

FUNDING

KiwiNet is funded by shareholder research organisations, corporate partners and the Ministry of Business, Innovation and Employment.



**MINISTRY OF BUSINESS,
INNOVATION & EMPLOYMENT**
HĪKINA WHAKATUTUKI

ANNUAL REPORT AND FINANCIAL STATEMENTS FOR YEAR ENDING 31ST MARCH 2015

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**WE EMPOWER
THE PEOPLE WHO
COMMERCIALISE
RESEARCH**

NIGEL SLAUGHTER - CEO, Ligar Polymers
WaikatoLink spin-out from the University of Waikato

KiwiNet is a driving force in establishing New Zealand as a globally recognised leader in research commercialisation.



CHAIRMAN'S REPORT

Moore's Law, an iconic discovery now 50 years old, was described in a recent Wall Street Journal article as ushering in an era of a "stunning efflorescence of innovation and entrepreneurship". The article goes on to observe that "Everything is now in play". Having lived their entire lives at the pace of Moore's Law, the millennials seem to sense "that the time has come to hit the accelerator".

KiwiNet is but four years old, yet there is an unbounded determination to see publicly funded science push the business innovation boundaries.

We have grown the network by design and as new shareholders have joined we remain convinced that the core proposition of collaboration is key to leveraging the commercial power of scientific discovery. There is an evident and universal push to foster innovation and those who collaborate under the KiwiNet umbrella know by experience that the seeds of success lie in a good deal of consciousness raising and capacity building at both the University and Crown Research Institute levels.

Through the year the Board and our able team of those millennials keen to hit the accelerator have sought to shape the debate on what constitutes optimum public policy settings as well as focusing our efforts on the delivery of a commercialisation pipeline.

KiwiNet has wanted to have multiple reach; to account to MBIE for our use of Commercialisation Partner Network (CPN) funding, to flush out discovery of commercial promise through the administration of the PreSeed Accelerator fund, to salute excellence in commercialisation with our famed Awards extravaganza, to foster close working relationships with complementary institutions like Callaghan Innovation.

All this is necessary, but not sufficient. We live in an era of discovery where incremental changes threaten to be surpassed by disruptive innovation.

Disruption these days is not the product of evolutionary change; revolutionary transformation has become the new normal. KiwiNet must work with our constituent shareholders, those with whom we work and those who determine the public policy settings and attendant funding to rise to this challenge.

The next three years will see a new CPN funding cycle, a new investment round for PreSeed and all in the context of the yet to be released final National Statement of Science Investment.

We must continue to ask ourselves what success looks like. For KiwiNet it is harnessing our collective power to flush out ideas from the ecosystem that would otherwise come to commercial nought; it is seeing new technologies go to market and so fuel both growth and jobs; it is professionalising the technology transfer cadre.

The pleasure of Chairing KiwiNet is the opportunity to work with such a switched on Board and management team.

I want to thank the Directors Geoff Todd representing the University sector, Dr David Hughes representing the CRIs and the two independents, Andrew Turnbull and Mark Stuart.

Andrew is responsible for the KiwiNet engine room chairing the Investment Committee (IC). His knowledge and drive is instrumental in securing a pipeline that is more than the current PreSeed funding can handle. The two independents, Dr Andrew Kelly and Greg Smith from Perth, add considerable intellectual and commercial heft to the IC. We are grateful to our shareholders, whose support and dedication to science-led innovation is making KiwiNet's bold vision possible. Board and IC meetings alike continue to demonstrate the "wisdom of the crowds"!

The team who pull all this together with advocacy, processes and structures that make sense, forums and awards, is ably led by Dr Bram Smith who enjoys substantial standing at every level of the innovation spectrum. A dedicated set of professionals ensure that KiwiNet's value proposition is not just well known, but it works to capture value from discovery.

We mean to be part of the next generation of wealth creation and I want to thank shareholders and those who do business with us for their confidence and contribution to the momentum that we have established.



Hon Ruth Richardson / June 2015



**“KIWINET’S
UNBOUNDED
DETERMINATION
SEES PUBLICLY
FUNDED SCIENCE
PUSH BUSINESS
INNOVATION
BOUNDARIES.”**

**“KIWINET BRINGS
SCIENTISTS AND
BUSINESS PEOPLE
TOGETHER TO
IGNITE INNOVATION.”**



Bram Smith
Kiwinet Crew
Kiwinet

GENERAL MANAGER'S REPORT

KiwiNet's vision is Kiwi science powering business innovation to create economic prosperity in New Zealand. Innovation is dependent on people and their relationships. That's why everything KiwiNet does brings scientists and business people together to ignite innovation that will drive economic growth.

Over the past year KiwiNet has continued to develop as a hub for science-led innovation. We have new shareholders, new initiatives, an expanding pipeline of projects and a growing portfolio of research commercialisation success stories. Over 1300 people from research organisations, industry and the innovation community have now attended one or more KiwiNet events.

KiwiNet is continuing to welcome new shareholders that are vital to its supportive and collaborative culture. Both ESR and SCION have been issued shares over the past year and GNS will soon join as well. That will mean all of the CRIs and 6 of the Universities will be either shareholders or pooling PreSeed Accelerator Funds (PreSeed) through KiwiNet.

The portfolio of commercial opportunities is expanding and the economic impact of successful commercialisation projects is continuing to grow. Over the 2014 calendar year, KiwiNet invested \$3,548,437 of PreSeed investment into 108 projects which have a combined potential export earnings to New Zealand of \$180 million. In total KiwiNet has now invested \$11.4 million of PreSeed investment into 342 projects worth a potential \$680 million to export revenue.

PreSeed Accelerator Funding is a critical tool for supporting science-led innovation and KiwiNet is focused on demonstrating the positive economic impact of PreSeed to New Zealand. MBIE staff have full visibility of decision making processes through the Investment Committee and KiwiNet provides a report on portfolio performance to MBIE annually. In December 2014 KiwiNet completed the first ever comprehensive review of PreSeed outcomes from 10 years of investment.

KiwiNet is a small organisation that must constantly innovate its own activities to stay relevant and stay ahead - "running between the feet of giants" - as someone said in the early days. Over the past 12 months KiwiNet has seen some exciting new initiatives produce solid outcomes. Last year's AGM identified resourcing at Tech Transfer Offices as a key barrier to greater commercial outcomes. KiwiNet responded by implementing the Commercial Mentor programme, which has expanded well beyond expectations, with 13 mentors working across 20 projects over the past year. Our sponsors have helped too, with at least another 5 projects receiving mentoring from Minter Ellison Rudd Watts. Commercial Mentors are driving significant pipeline growth while helping research organisations to overcome limited tech transfer resources.

The research commercialisation awards are a key activity to turn the spotlight on science-led innovation. In an environment where industry-led innovation is prioritised, KiwiNet is demonstrating that science-led innovation can have substantial economic benefits. Last year the awards attracted 250 people, including senior politicians, various senior ministry officials, and research and industry leaders. We are particularly grateful to our sponsors, BNZ, Minter Ellison Rudd Watts, AJ Park, PwC and Sciencelens for helping us promote the winners of the awards and make it all possible.

KiwiNet's business engagement events are attracting increasing attention; over 180 researchers and industry representatives attended during the past year. In particular, we are seeing strong interest in our new Business Challenge initiatives, where businesses put up technical challenges and researchers present potential solutions. The result is more connections between research and business nurturing more innovation. This is an area we will expand on in 2015 in partnership with Callaghan Innovation.

Callaghan Innovation is becoming an increasingly important and supportive ally. Their focus on driving industry-led innovation is very complementary to KiwiNet's own focus on science-led innovation. We share a common objective, to accelerate innovation and together we can connect the innovation thought leaders from the science and business communities.

The innovation environment has changed substantially since KiwiNet was launched in 2011 and KiwiNet is rapidly evolving to remain at the leading edge of research commercialisation best practice. KiwiNet must focus on its strengths, communicate a distinctive value proposition and continue developing bold new activities to accelerate research commercialisation. With this in mind KiwiNet's new strategic plan has set a bold new vision:

"Kiwi scientists powering business to push the frontiers of high-tech innovation"

The vision describes a future New Zealand where scientists have a much greater impact on driving business innovation. KiwiNet's distinctive value proposition has its roots in science-led innovation, creating new channels for bringing scientific ideas to commercial use.

Our priorities for the next 12 months are empowering emerging entrepreneurial talent, connecting more scientists with business, providing access to expert advice and mentoring and continuing to grow a strong pipeline of projects. Through raising the profile and ambition around science-led innovation KiwiNet aims to turn New Zealand into a hotbed of high-tech innovation powered by entrepreneurial science.



Dr Bram Smith / June 2015

HIGHLIGHTS

Commercialisation Training

More than 200 researchers and 85 tech transfer professionals from many different organisations attended KiwiNet commercialisation training courses last year.

Commercialisation Forums

KiwiNet hosted a national forum in 2014. This was attended by over 100 people from organisations across New Zealand. This event brought together, researchers, businesses and tech transfer professionals from across the country. The event was very well received, particularly for the quality of the networking and speakers.

KiwiNet Awards

The second KiwiNet Research Commercialisation Awards brought together the innovation community to celebrate successes and inspire others. 250 people attended the evening reception where the 12 finalists and winners were showcased in style.

Industry Engagement

Over 180 researchers and industry representatives attended KiwiNet's industry engagement events in the last year. These forums brought together researchers and industry representatives to identify opportunities for R&D collaboration in areas including water management, sensors in the built environment and the mussel industry.

Commercial Mentors

KiwiNet's Commercial Mentor programme has expanded beyond expectations in 2014, with 13 mentors working across 20 projects from 9 organisations. KiwiNet brings in these external experts to support research organisations on everything from identifying new opportunities to mentoring some very high potential projects. Commercial Mentors are driving significant pipeline growth while helping research organisations overcome limited tech transfer resources.

Operational Funding

The Ministry of Business Innovation and Employment (MBIE) has confirmed Commercialisation Partner Network (CPN) funding through to June 2015 for KiwiNet, Return on Science and CRIS. With this investment, we are determined to create the best system for turning research ideas into commercial value to grow the pipeline of research commercialisation successes.

Partnerships

New Shareholder

Scion and GNS Science became the twelfth and thirteenth shareholders of KiwiNet, confirming their support for the collaboration and vision behind KiwiNet.



Commercialisation Partnerships

Over the past year KiwiNet has partnered with many different organisations to deliver training courses for researchers and industry engagement activities. This year KiwiNet partnered with MacDiarmid Institute, Cawthron Institute, University of Otago and University of Waikato to run training commercialisation training courses for researchers. KiwiNet also partnered with organisations such as Sanford, Callaghan Innovation and British High Commission, Beef & Lamb and Farm IQ to run three industry engagement events.

CORPORATE PARTNERSHIPS



**WHERE
SCIENCE AND
BUSINESS
MEET**

Corporate Partnerships

KiwiNet was delighted to welcome PwC as a new Major Corporate Partner in 2015, along with renewed support from:

- Strategic Partner, Bank of New Zealand provided substantial support around events and promotion in 2014, helping us raise the profile of research commercialisation.
- Major Partner, Minter Ellison Rudd Watts Lawyers provided free legal advice to 5 research commercialisation projects from across the country to ensure early stage projects get off on the right foot.
- Sciencelens provides excellent photographic services at our Awards events.

We're also grateful for the support AJ Park has provided over 2014. It's exciting to work alongside these leading corporates who are bringing their expertise and support to boost science-led innovation in New Zealand.



MinterEllisonRuddWatts



HIGHLIGHTS

PreSeed Investment

In July 2013 KiwiNet began a new three year PreSeed Accelerator Funding (PreSeed) contract with the Ministry of Business Innovation and Employment (MBIE). The Government provides PreSeed funding to accelerate commercialisation of publicly funded research. With 12 research organisations operating a combined investment of \$7.5 million through KiwiNet, this is the largest collaboration of its kind in New Zealand.

Investment Committee Partnerships

With 13 partnering organisations collaborating through the KiwiNet Investment Committee, it now represents about 70% of the researchers in public research organisations in New Zealand. Over the 12 months to March 2015, 49 projects have been presented to the Investment Committee from 14 different research organisations. Over the past 12 months a number of KiwiNet funded projects have completed significant deals such as: Cawthron Natural Compounds, STRmix, Ligar Polymers Ltd, 11Ants Analytics Ltd and others.

342 projects under the KiwiNet Investment Committee* received

\$11.4 million of PreSeed investment resulting in

59 commercial deals and **\$3 million** external co-investment matched against PreSeed.

\$680 million

combined potential return to New Zealand at March 2015.

*(and its predecessor UniCom)



KIWINET INVESTMENT COMMITTEE MEETING - LANDCARE RESEARCH, CHRISTCHURCH, MARCH 2014

“It’s been fantastic to see the investment committee continue to evolve over the last 12 months with GNS, SCION and ESR joining our ranks and enthusiastically buying into the genuinely collaborative culture. ESR is a great example of what we are about. By effectively utilising the support and expertise within the investment committee and KiwiNet they now have two ventures which are achieving substantial early success. The most pleasing part of their journey is that the commercialisation capability within ESR has been significantly enhanced and they are now better able to identify and exploit opportunities within their own organisation and add to the collective wisdom of KiwiNet. This illustrates a phenomenon observed across many of the KiwiNet partners: the collaborative group helps to inspire and guide a much greater focus on achieving commercial outcomes.”

Andrew Turnbull - Chairman, KiwiNet Investment Committee



**“COLLECTIVE
WISDOM IS
OUR ENGINE
ROOM.”**

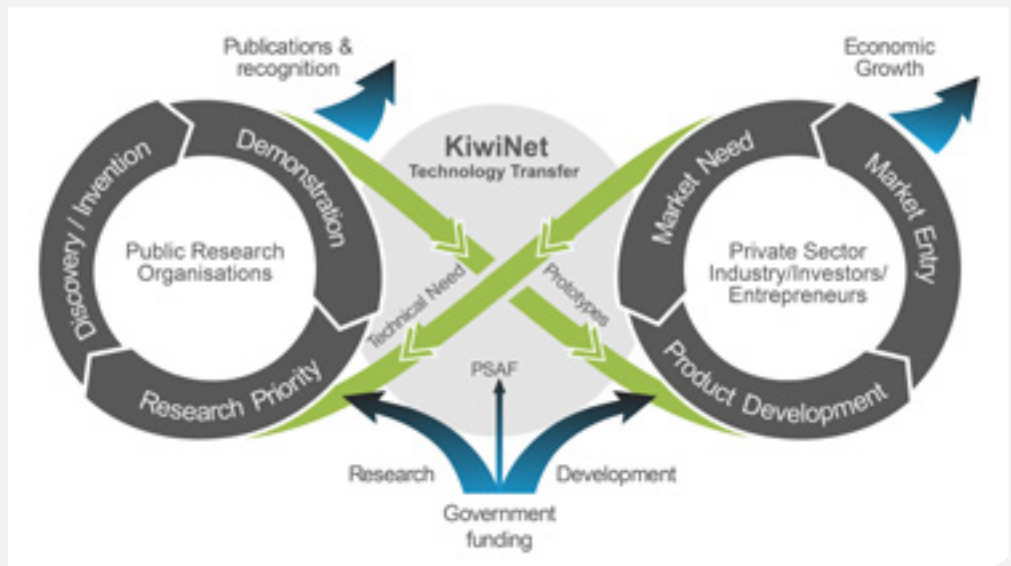
ANDREW TURNBULL - Chairman,
KiwiNet Investment Committee

STRATEGY

KiwiNet's purpose: to empower and propel public research organisations to world class commercialisation of their ideas, intellectual property and capability to boost economic outcomes for New Zealand.



CONNECTING SCIENTIFIC DISCOVERY WITH COMMERCIAL ENTERPRISE.



OUR CORE VALUES

People and their connections

Innovation is first and foremost about people and their connections.

Collaboration not duplication

KiwiNet is a facilitator, working with complementary organisations to achieve outcomes through collaboration.

Trusted neutral party

KiwiNet must be recognised as an independent organisation that is trusted to be fair and balanced.

New and innovative approaches

KiwiNet must have a maverick spirit, striving to take new approaches, to create new conversations between new people and to encourage new talent that underpins future innovation.

Speed and efficiency

KiwiNet must be nimble and dynamic, running between the feet of giants, acting as a catalyst for new opportunities and ensuring ideas become self-sustaining quickly.

OUR MISSION

To create the best system for turning research ideas into commercial value.

KiwiNet seeks to be a driving force that establishes New Zealand as a globally recognised leader in research commercialisation. To achieve this we must strive for nothing less than creating the best system for turning research ideas into commercial value.

WHAT MAKES US DIFFERENT

The science and innovation system is continuously evolving and restructuring. KiwiNet maintains a distinctive value proposition to deliver quality outcomes. KiwiNet has its roots in science-driven innovation, creating new channels to bring scientific ideas to commercial use. The table below summarises some of the key points of difference between KiwiNet and other support organisations in the innovation system.

KIWINET	OTHER SUPPORT ORGANISATIONS	DIFFERENTIATORS
Investor-led innovation, driven by market aware research	Industry-led innovation, driven by firms and private investors	While others are focused on industry-led innovation, where businesses set priorities, KiwiNet strives for market aware research, where scientific exploration is coupled with greater awareness and engagement with business.
Start with technology, find the pathway to market	Start with pathway to market, find the technology	This approach has led to a strong track record of disruptive business innovation emerging from serendipitous scientific discovery.
Disruptive innovation driven by scientific exploration.	Sustaining innovation driven by business needs.	
Entrepreneurial research	Research excellence	KiwiNet focuses on inspiring and rewarding entrepreneurial researchers that convert scientific knowledge into commercial value.
Founding start-ups	Supporting start-ups	KiwiNet creates a strong foundation for start-up opportunities that others then grow.
On demand prototyping and commercialisation funds	Large research grants, annually, 10% chance of success	While most funding available to research organisations is through large grants provided at specific intervals, KiwiNet provides commercialisation funds on demand through a highly interactive process.
Embedded collaboration	Fragmented engagement	Collaboration between publicly funded research organisations (PROs) is typically fragmented, involving a select group on a specific project. For KiwiNet, collaboration is embedded in everything we do and is open to all PROs to lift everyone's performance.

STRATEGIC PRIORITIES



Empower

Energise New Zealand research commercialisation capability by building a strong professional network with the best professional development, expert support and resources available.



Connect

Build a thriving web of interconnectivity between research organisations and business by regularly bringing scientists and business people together and encouraging the open exchange of ideas.



Collaborate

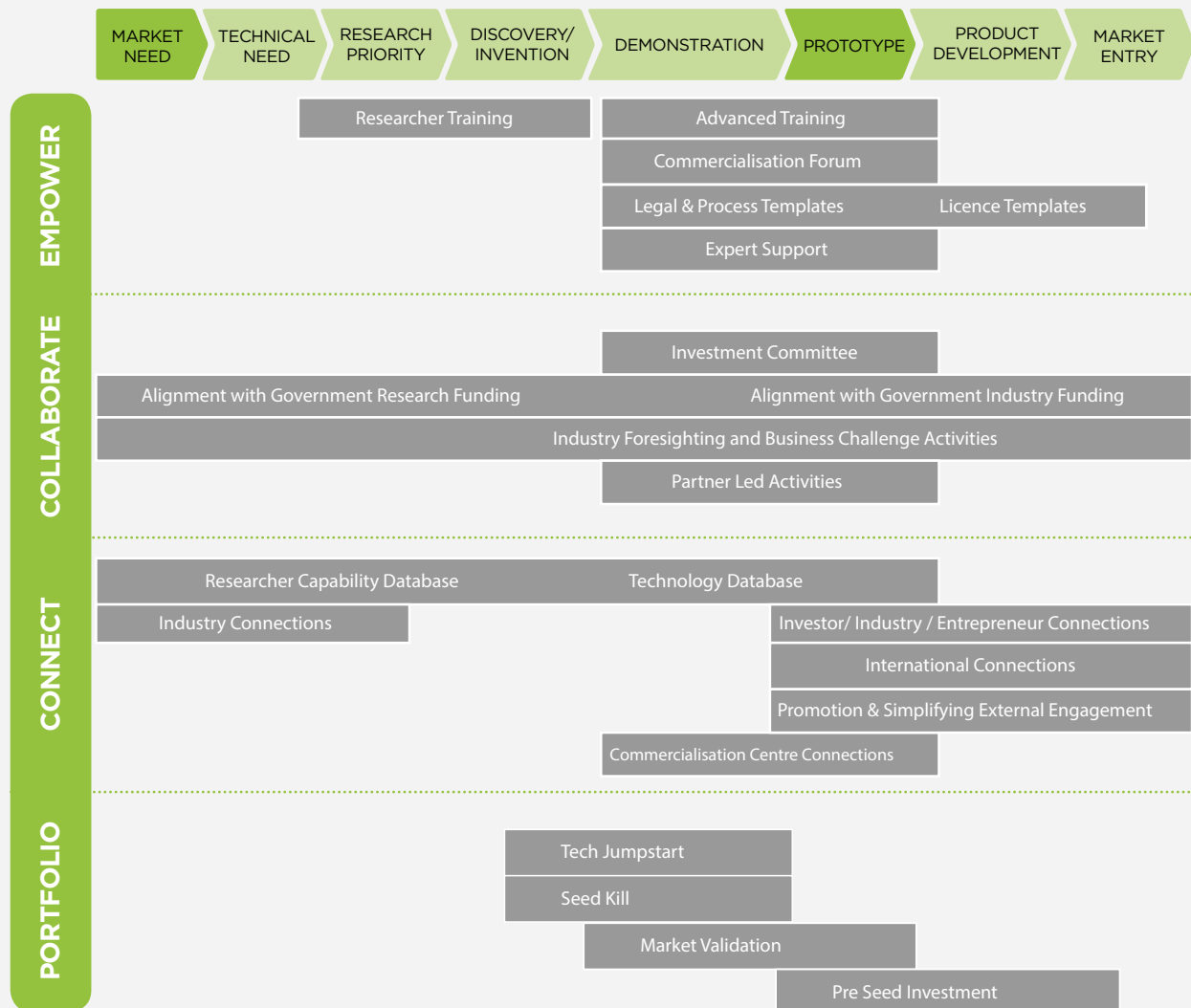
Drive a deeply embedded culture of nationwide collaboration in the research commercialisation community by constantly bringing people together in an environment of openness and trust.



Portfolio

Redefine best practice in effective and efficient investment by leveraging rigorous expert review, transparent decision making and a focus on supporting commercialisation staff to reach high standards.

KiwiNet Activities





**DRIVING A
CULTURE OF
NATIONWIDE
COLLABORATION**

EMPOWER

Energising NZ research commercialisation capability by building a strong professional network with the best professional development, expert support and resources available.

ACTIVITIES

COMMERCIALISATION CAPABILITY TRAINING

Workshops ranging from practical commercialisation training for researchers through to advanced professional development for commercialisation staff.

COMMERCIALISATION FORUM

A national event for research commercialisation professionals that provides professional development and promotes a highly connected commercialisation network.

RESOURCE LIBRARY

A library of legal and process templates and case studies to support research commercialisation staff, reduce legal costs and improve commercialisation processes.

EXPERT ADVICE & ENTREPRENEUR CONNECTIONS

Helping commercialisation staff to connect with experts and mentors to provide advice and guidance.

KIWINET STAFF

KiwiNet's team works in partnership with research organisations and commercialisation professionals across New Zealand to deliver KiwiNet's strategic objectives.

2014 OUTCOMES

More than 200 researchers and 100 tech transfer professionals from many different organisations attended KiwiNet commercialisation training workshops last year.

KiwiNet's 2014 Commercialisation Forum attracted a broader audience from businesses and research backgrounds, 97 people attended from 50 organisations across New Zealand.

22 templates, guides, and forms now exist on the resource library. These were downloaded over 890 times in the 2014 year. Through collaboration with Return on Science, most public research organisations in New Zealand are now using the same process templates developed by KiwiNet to access and report on PreSeed investment.

KiwiNet's Commercial Mentor programme has expanded beyond expectations in 2014, with 13 mentors working across 20 projects from 9 organisations. KiwiNet brings in these external experts to support research organisations on everything from identifying new opportunities to mentoring some very high potential projects.

Two analysts carry out opportunity assessment for research organisations and two Commercialisation Managers work with research organisations to identify new opportunities, connect projects with support and guide them through the Investment Committee process. A Marketing and Events Manager is responsible for greater promotion around the commercialisation activities of the research organisations and the role of KiwiNet. Marketing support is provided by a Marketing Coordinator.



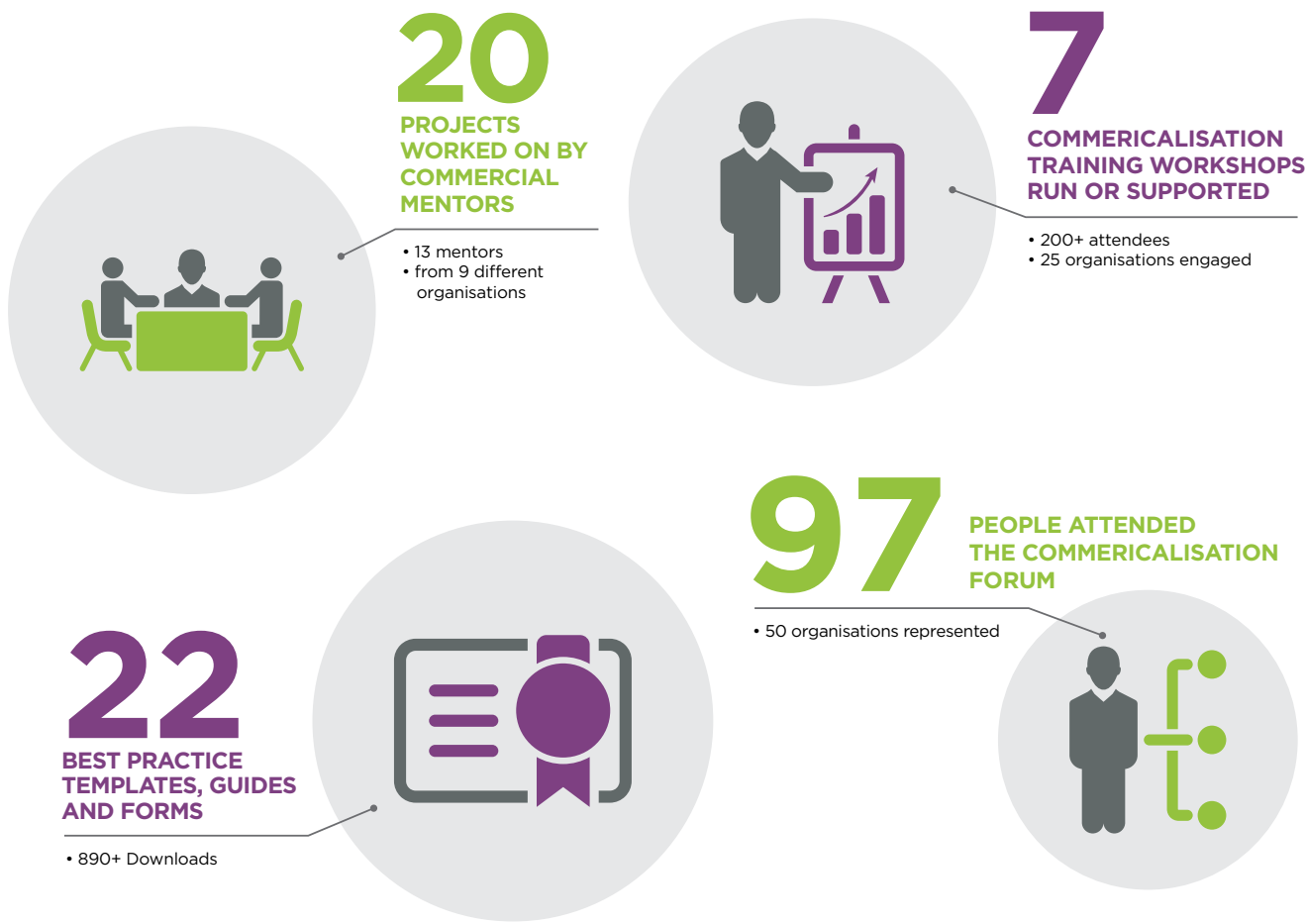
“Seamless partnerships and alignment with industry ensure Cawthron’s aquaculture, food safety and environmental research has line-of-sight to market. Not only is this good business, it’s also very satisfying to see science we’ve worked on for years in the lab, making a positive difference to New Zealand’s economy and in the wider world.”

Prof Charles Eason, Chief Executive, Cawthron Institute.



“We are looking forward to working within and contributing to KiwiNet’s collaborative ethos and through this further strengthening our commercialisation capacity and partnerships through the extensive KiwiNet network. We are confident KiwiNet can help us achieve an even greater impact with the sectors we work with as well as opening up new opportunities for our technologies in other industries.”

Warren Parker, Chief Executive, Scion



COLLABORATE

Driving a deeply embedded culture of nationwide collaboration in the research commercialisation community by constantly bringing people together in an environment of openness and trust.

ACTIVITIES

INVESTMENT COMMITTEE

A joint committee of research organisations and independent experts, who assess new projects, allocate PreSeed investment and design initiatives to support commercialisation.

The committee is established around principles of openness and trust where organisations see each other's projects, share expertise and combine IP to maximise the chances of successful commercial outcomes. The Ministry now requires all research organisations to notify, or seek approval from either KiwiNet or Return on Science Investment Committees when allocating PreSeed investment into projects.

GOVERNMENT AGENCY CONNECTIONS & COMMERCIALISATION CENTRE CONNECTIONS

KiwiNet connects with Government departments who are working in similar and complementary areas.

PLATFORMS AND THEMES

Encouraging research organisations to work together to target platforms where New Zealand has a strong national capability and good access to strong market demand.

PARTNERSHIPS

KiwiNet encourages joint initiatives to deliver training and foster business engagement. Through partnerships with other organisations in the innovation ecosystem we achieve greater impact from our activities.

2014 OUTCOMES

With GNS becoming a shareholder, KiwiNet now has 15 Universities, Crown Research Institutes and publicly funded research organisations sitting around the Investment Committee table.

Over the 12 months to March 2015, 49 projects have been presented to the KiwiNet Investment Committee from 14 organisations. A further 122 projects have been presented as notifications to the committee. Projects are discussed amongst the research organisation representatives and independents, combining expertise and connections to help accelerate commercialisation.

KiwiNet has been working closely with MBIE to provide a clear picture of research commercialisation activities in New Zealand. Reports provided to MBIE include:

- The first ever 10 year review of PreSeed outcomes.
- A response to MBIE's draft National Statement of Science Investment.
- A post-election briefing to the Minister.
- An annual report on KiwiNet's PreSeed portfolio.

KiwiNet has been running activities to encourage greater collaboration amongst research organisations and connections with industry in a number of sectors. Over the past 12 months the specific themes have been Aquaculture, Water Management and the National Culture Collection. These initiatives have been well received and more are planned in other sectors.

Examples of active partnerships that we have in place include:

- MOU with MacDiarmid Institute for KiwiNet to provide commercialisation training for researchers and support with commercial opportunities.
- MOU with Callaghan Innovation to partner on a variety of initiatives around connecting researchers with business.
- Technology-focused incubators – KiwiNet has been building relationships with the Tech Incubators and working to ensure they have visibility of emerging opportunities in the KiwiNet portfolio.

49

projects and previews presented to the Investment Committee from 14 organisations*.

171

market validation and prototype development projects supported by the Investment Committee.

12

public organisations pooling Pre-Seed investment.

14

different research organisations presented projects to the KiwiNet Investment Committee*. *in the year to March 2014.

5

partner led collaborative activities including capability building and industry connection initiatives.



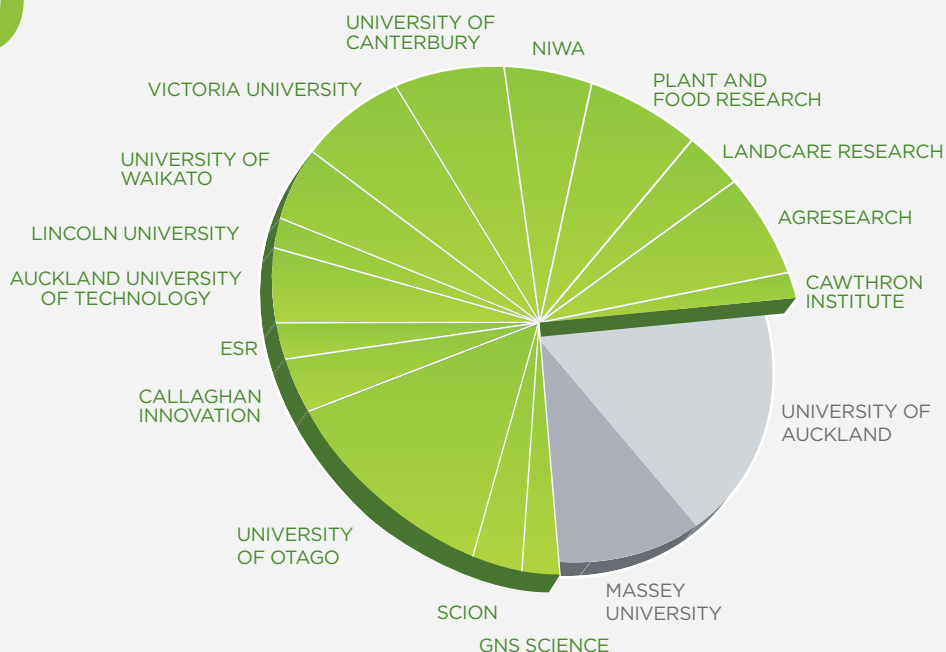
“We have strong science and business development teams, but KiwiNet will add new tools and skills to allow us to better assess market opportunities and progress more commercialisation projects.”

Dr Mike McWilliams, Chief Executive, GNS Science

Photo: Margaret Low, courtesy of GNS Science.

~7000

researchers from NZ’s public research organisations are now represented around the KiwiNet Investment Committee table.



CONNECT

Building a thriving web of interconnectivity between research organisations and business by regularly bringing new people together and encouraging the open exchange of ideas.

ACTIVITIES

NATIONAL INNOVATION DATABASE

A central repository of technologies, research capability, patents & commercialisation staff profiles from NZ's research organisations.

INDUSTRY FORESIGHTING

Bringing together researchers, industry representatives and end-users to identify and prioritise opportunities for R&D collaboration in specific sectors.

INTERNATIONAL CONNECTIONS

Connecting with similar organisations overseas to identify opportunities for collaboration and leverage their connections into foreign markets.

BUSINESS CHALLENGES

Providing opportunities for research and business to connect over a common theme, assisting the development of disruptive solutions to industry problems.

PROMOTION & SIMPLIFYING EXTERNAL ENGAGEMENT

Building awareness around the activities of KiwiNet, the technology transfer professionals and the research organisations to encourage people and make it easier for them to engage.

INNOVATION CALENDAR

A new initiative for 2014, the Kiwi Innovation Calendar provides a one stop shop to locate events in the innovation space.

2014 OUTCOMES

The Innovation Database now contains over 770 entries from across 32 organisations, representing the most comprehensive national portfolio of its type in New Zealand.

These forums bring together researchers and industry representatives to identify opportunities for R&D collaboration across their respective themes. Two Industry Foresighting meetings over the past 12 months including:

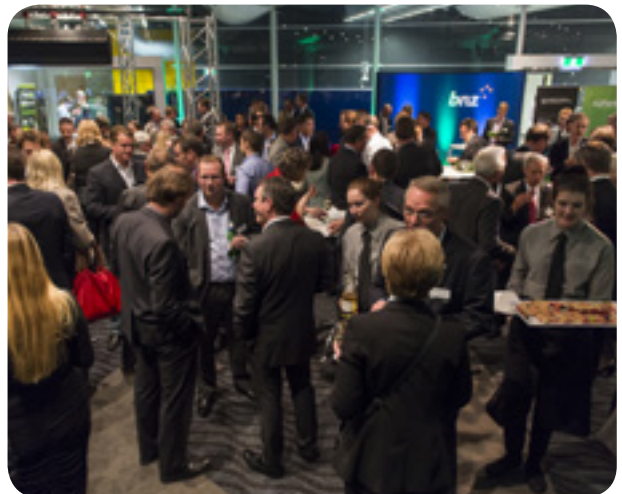
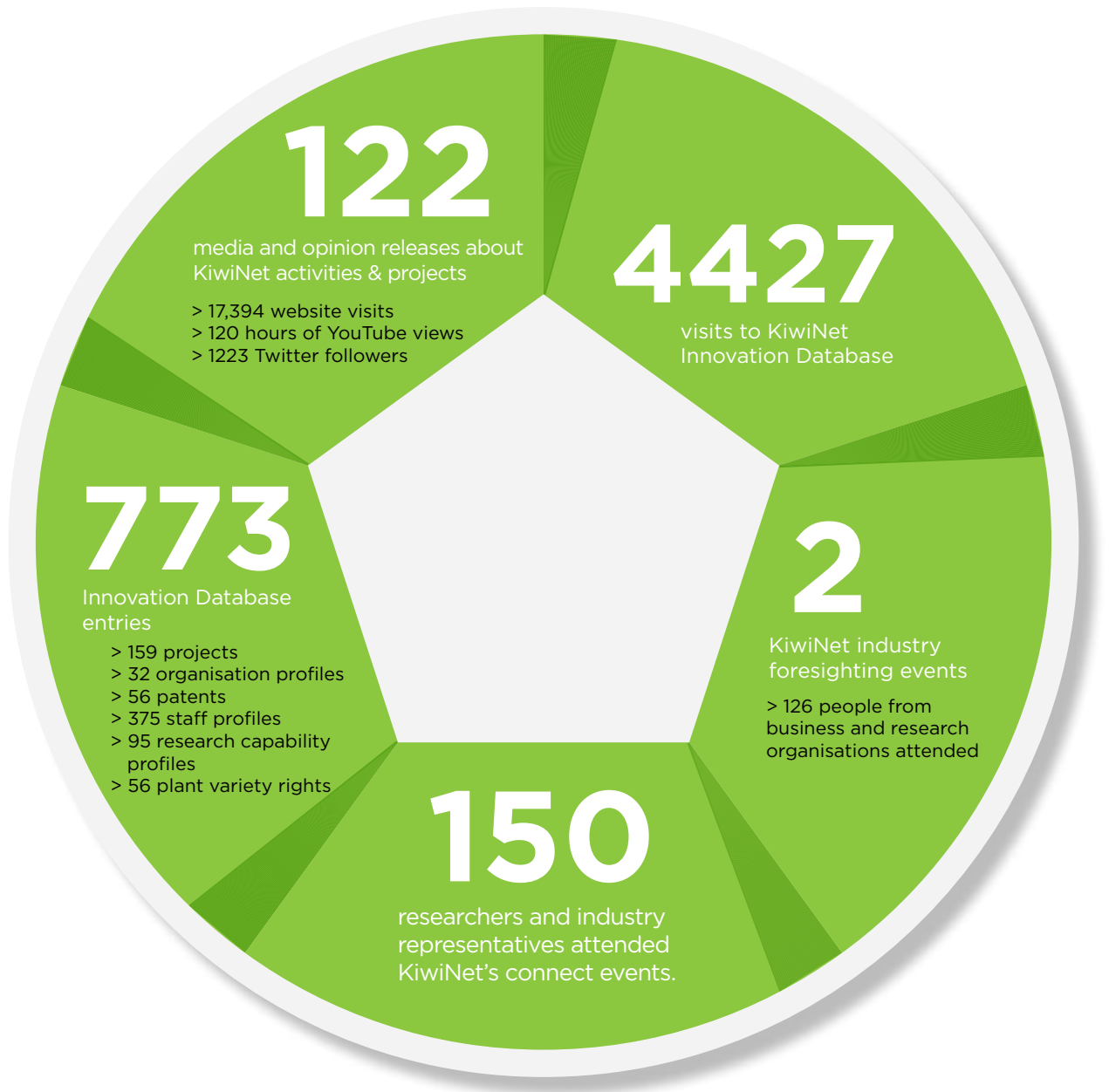
- Water in Agriculture – 46 people attended. Event run in partnership with Beef & Lamb and FarmIQ.
- Sensors in the Environment – 80 people attended including 27 researchers from 13 research organisations. Event run in partnership with Callaghan Innovation and the British High Commission.

KiwiNet is continuing ongoing engagement with YASTI (China), Mitsui (Japan), Knowledge Commercialisation Australasia (KCA) and Australian Industrial Research Group (AIRG). An MOU has now been signed with YASTI to help build connections into China and projects are now being exchanged.

Following the success of the KiwiRail business challenge initiative, KiwiNet partnered with Sanford to run a similar event in the Aquaculture sector. Further events are now planned in the Salmon industry, working with Seafood Innovation and MPI. KiwiNet is also working with a network of applied mathematicians to organise an Industrial Mathematics study group where businesses put up specific challenges and mathematicians from across New Zealand work together for one week to find solutions.

KiwiNet has released 12 press releases including 2 opinion pieces. There have been 122 media publications about KiwiNet projects and KiwiNet since 1st April 2014. The unique website hits on kiwinet.org.nz have increased 36%.

The Kiwi Innovation Calendar has proven to be a popular tool used by stakeholders. It featured 295 events for the 2014 period.



CONNECT - DEMONSTRATING IMPACT

In 2014 the Ministry of Business Innovation and Employment (MBIE) began assembling data on outcomes of the PreSeed Accelerator Fund (PreSeed) since the fund was established in 2004. KiwiNet commissioned an independent consultant, Roger Ridley from Ridley Insights Ltd, to prepare a comprehensive analysis of the impact and outcomes of PreSeed funded projects.

About PreSeed

PreSeed is provided by the MBIE to undertake early stage technology commercialisation activities to:

- maximise the commercial benefits to New Zealand of previously publicly funded research
- raise public sector providers' commercial capabilities and skills
- improve public sector research providers' links with potential private sector partners.

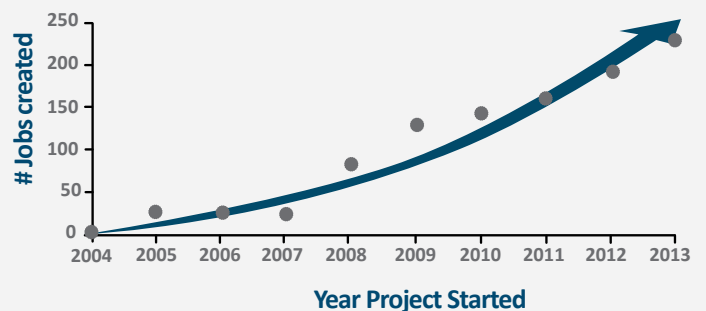
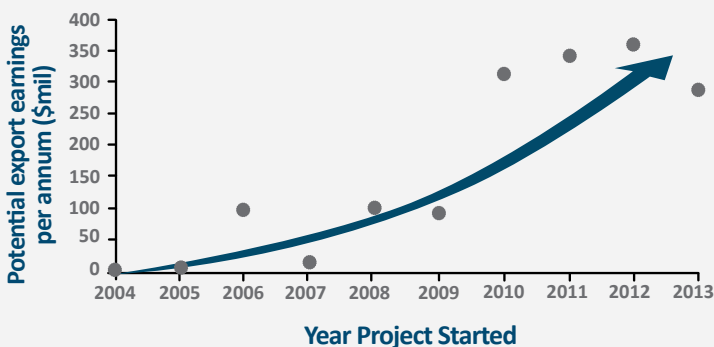
Report Highlights

The report was the first ever comprehensive analysis of PreSeed outcomes across 10 years of data from 15 Universities and Crown Research Institutes.

The analysis showed that PreSeed had stimulated a strong pipeline of commercial opportunities based on a solid foundation of matching investment from research organisations and the private sector. \$42.5 million of PreSeed had been invested into 573 projects alongside \$66.5 million from research organisations and \$22.4 million of external organisations.

Outcomes

The outcome is a steady increase in commercial deals and start-up companies that are creating jobs, export earnings and business investment in R&D. By November 2014 PreSeed had created 460 jobs, \$188 million of external investment into research organisations and potential export earnings of \$3 billion.



PreSeed Accelerator Fund Outcomes: 10 Year Review

Publicly Funded Research

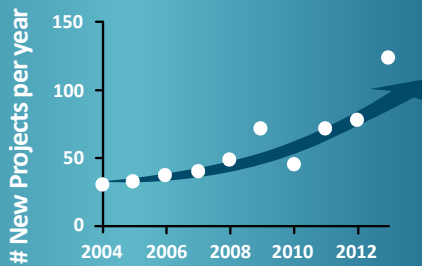
\$133.5 million Tech Transfer investment

\$66.5m Research Organisations

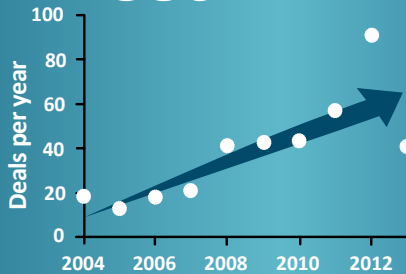
\$42.5m PreSeed

\$24.4m External Co-investment

573
Projects



386 Commercial Deals



Metrics



\$188 million

industry and external investment back into research organisations



460

jobs created



\$3 billion

potential export earnings

Startups



...and many more

KIWINET RESEARCH COMMERCIALISATION AWARDS 2014

In 2014 KiwiNet ran New Zealand's Research Commercialisation Awards for the second year, building on the success of the inaugural event. The KiwiNet Awards celebrate the ability for science to power business innovation, putting the spotlight on those who successfully commercialise clever Kiwi ideas.



Where: Auckland, Viaduct Events Centre

When: Wednesday 11th June, 2014

THIS PREMIER EVENT IS NOW HIGHLY ANTICIPATED ON NEW ZEALAND'S INNOVATION CALENDAR, RAISING THE PROFILE OF RESEARCH COMMERCIALISATION NATIONWIDE.

250 ATTENDEES

6 AWARDS CATEGORIES

12 FINALISTS



2014 KIWINET AWARD WINNERS



WINNERS OF THE MINTER ELLISON RUDD WATTS RESEARCH & BUSINESS PARTNERSHIP AWARD, AND BNZ SUPREME AWARD

Wireless Network Partnership, University of Canterbury

Since 2007, Tait Communications and the Wireless Research Center (WRC) at the University of Canterbury have combined forces in the development of technology in LTE broadband, narrowband mobile radio, coverage extension, enhanced reliability and situational awareness. This partnership has allowed Tait to significantly expand its business and has raised the capability of both organisations. Through \$2.2 million in cash and an equal amount in kind contributed from Tait, the WRC has boosted its research and student capability putting graduates in a prime position to take up formal employment at Tait, and delivering a combination of research and commercial expertise that has elevated Tait's business. This partnership has all the hallmarks of a successful collaboration between research and business:

- WRC researchers are able to immerse themselves in the world of Tait and its clients, enabling shared knowledge around the fast moving digital communications space.
- Tait has been able to expand its business and address new and upcoming markets, as well as penetrate into overseas markets generating export value for New Zealand.
- Tait has been able to expand its business and address new and upcoming markets, as well as penetrate into overseas markets generating export value for New Zealand.

With a further \$1.5 million guaranteed from Tait to the WRC over the next 2 years, this relationship is set to deliver ongoing value to both New Zealand's public and private sectors.



WINNER OF THE RESEARCHER ENTREPRENEUR AWARD

Alistair Jerrett, Plant & Food Research

Alistair Jerrett has a vision of a New Zealand seafood industry that has a national and international reputation for ethically harvested and high quality fish. This vision has underpinned his research programmes over the last 15 years. He has focussed on understanding the properties of New Zealand commercial fish species and applying that knowledge to the development of technologies that can operate at commercial scale to maximise the potential of New Zealand seafood products.

Alistair works closely with the seafood industry to find science and technology based solution for their businesses. His research has delivered a new harvest technology that is able to consistently and selectively land high quality fish - a monumental step forward for New Zealand's fishing industry with potential to add value in all post-harvest areas, from improving the quality of current products to new and exciting market opportunities.



WINNER OF THE COMMERCIAL DEAL AWARD

Kifunensine Serendipity, Callaghan Innovation

Kifunensine is a crucial ingredient in the manufacture of an enzyme replacement therapeutic for the treatment of a rare genetic disorder. A viable manufacturing process was developed by GlycoSyn, a world class technology leader in the area of Carbohydrate Chemistry and a business unit of Callaghan Innovation.

GlycoSyn specialises in high quality drug development and prototype scale-up manufacture of complex drug candidates for its clients. A synthetic pathway to Kifunensine was developed in-house and the process patented by GlycoSyn, positioning themselves as one of the world's few providers of this valuable compound and one of the few commercial providers of pharmaceutical grade material. GlycoSyn successfully connected with a US-based Biotech multinational for the export sale of clinical grade Kifunensine. Total revenues generated with this partner have exceeded NZ\$16M over the last 7 years, with demand steadily increasing, year-on-year, until commercial launch of the business partner's product in 2010.

To put the worth of this material in perspective, on a per gram basis Kifunensine is 20 times more valuable than gold. GlycoSyn's development and commercialisation of Kifunensine is an exemplar for a commercial deal from publicly funded research, generating significant economic returns to New Zealand.



WINNER OF THE PEOPLE'S CHOICE AWARD

Precision Seafood Harvesting, Plant & Food Research

Plant & Food Research (PFR) is working in partnership with Sanford Limited, Sealord Limited and Aotearoa Fisheries Limited and the Ministry for Primary Industries to deliver a world leading commercialisation programme that will transform the way New Zealand, and eventually the world, fishes. The system uses an understanding of the physical, physiological and behavioural aspects of fish to target specific species and fish sizes, as well as enabling fish to be landed in a better condition than with traditional harvesting systems, leading to premium pricing in export markets. By landing the fish in a live, low fatigue state, unintended catch can be returned to the sea. The reduction in the number of non-target species taken maintains the health of all fish stocks. By meeting consumer demands for quality and sustainability, it is expected that New Zealand's export returns will increase by \$100 million by 2020 through use of the system.



WINNER OF THE AJ PARK COMMERCIALISATION COLLABORATION AWARD

TiTeNZ

Titanium powder metallurgy technologies creating a platform for high value manufacturing in NZ

TiTeNZ was established in Dec 2012 with the goal of developing a world class platform in titanium powder metallurgy that would in turn become a multi-company, multi-sector manufacturing base for advanced technology products and export focused technology enterprises. The TiTeNZ team involves a collaboration between the University of Waikato, Callaghan Innovation, GNS Science, Auckland University, the Titanium Industry Development Association (TIDA) and a number of industry partners.

This collaboration has resulted in the commercialisation of several exciting new technologies, which have been leveraged for optimal economic return to New Zealand. These include: Design through to export of a firearm suppressor patented and manufactured by TiDA in partnership with Oceania Defence Ltd, using 3D printing techniques. Export sales of a new titanium alloy crew safety knife manufactured in collaboration between TiDA, Page Macrae and Victory Knives, for use by the Team New Zealand Americas Cup syndicate.

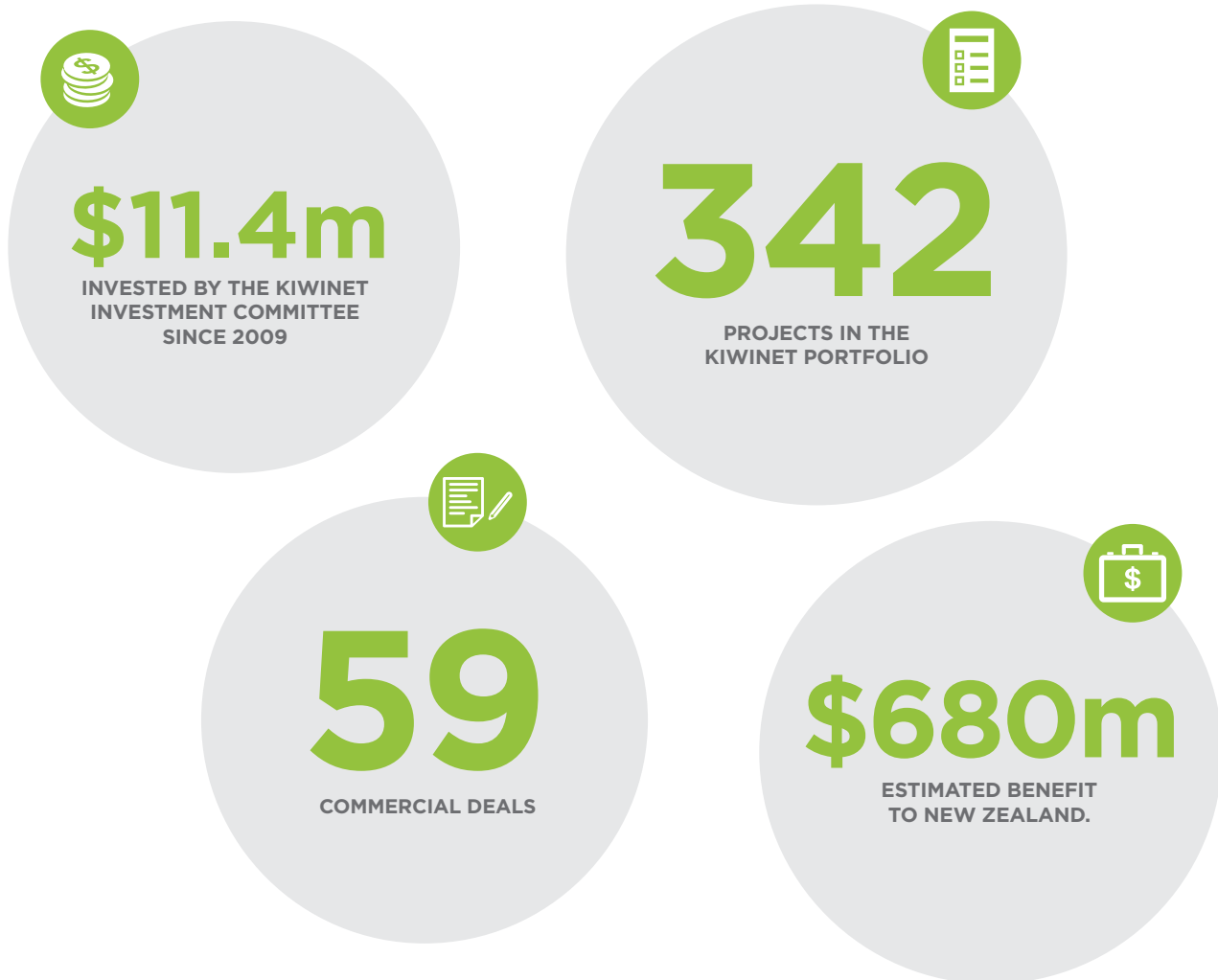
Successful demonstration of a proof of concept Ion Beam coating process for cleaning and pre-treatment of metal surfaces by GNS Science. The technology is now integrated within the daily operation of Page MacRae Engineering, enabling improved quality, appearance and performance of titanium alloy coatings.



PORTFOLIO

Redefining best practice in effective and efficient investment by leveraging rigorous expert review, transparent decision making and a focus on supporting commercialisation staff to reach high standards.

ACTIVITIES	2014 OUTCOMES
<p>OPPORTUNITY IDENTIFICATION Identifying new commercial opportunities in research organisations, including individual projects and platforms.</p> <hr/> <p>OPPORTUNITY ASSESSMENT Increasing the speed and efficiency of new opportunity assessment.</p>	<p>PIPELINE AND RETURN-ON-INVESTMENT The portfolio of commercial opportunities is expanding and the economic impact of successful commercialisation projects is continuing to grow. Since 1st July 2013 KiwiNet has allocated over \$7.5 million of PreSeed investment into 212 projects across 15 research organisations. Projects that have received investment over the past 12 months have a combined potential to generate export earnings to New Zealand of \$172 million. In total KiwiNet has now invested over \$11.4 million of PreSeed into 342 projects worth a potential \$680 million to export revenue.</p> <p>START-UP COMPANY CREATION A recent report provided to MBIE demonstrated that projects that have been invested in by the KiwiNet Investment Committee have led to the spinout of more than 15 new companies since 2003.</p>



PORTFOLIO EXAMPLES

Success Stories



11Ants Analytics

Big Data Software Creating International Interest

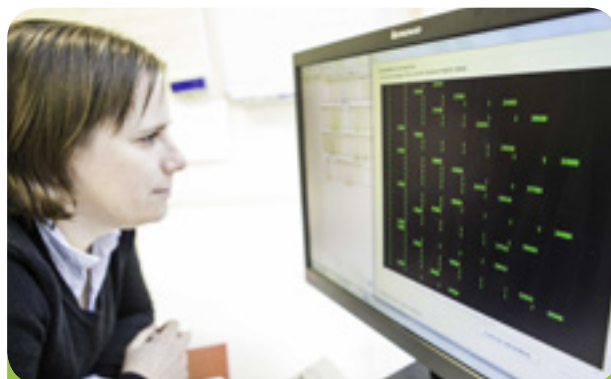
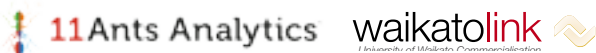
11Ants Analytics is a spin out company from WaikatoLink, created from machine learning research at the University of Waikato. 11Ants Analytics' main product is 11Ants RAP, a cloud-based customer science platform for the retail sector including supermarkets, fuel retailing, home improvement, fashion, pharmacies and department stores, which transforms customer data into customer insights to enable deeper customer relationships.

11Ants has licensed its solutions to a number of notable customers in New Zealand and Fortune 1000 companies overseas. In early April WaikatoLink announced its biggest deal to date - it completed the sale of the business of spinout company 11Ants Analytics to a joint venture between Air New Zealand and Aimia Inc., a Canadian based data-driven marketing and loyalty analytics company. This deal will allow 11Ants Analytics to expand the company's operations, creating more employment opportunities and commercial benefit for New Zealand.

This is one of KiwiNet's earlier investments, it has now come to fruition after years of work building the company and has been bought out by a joint venture, providing a significant return on the initial investment.

"PreSeed funding for the Gen3.0 project was critical at a time where not only it enabled extended development of our platform, it secured capability and improved WaikatoLink's ownership position. All of these contributed to the final and successful position we received."

Duncan Mackintosh, CEO, WaikatoLink



STRmix™

STRmix™ is "expert software" designed by researchers at ESR and Forensic Science South Australia and used by DNA reporting analysts for the interpretation of forensic DNA profiles, with particular application to complex DNA mixtures, with no restriction on the number of contributors. The concepts applied and the way that the system works are able to be understood by DNA scientists with an appropriate background in DNA statistics and are able to be explained in court. This is critical for the acceptance of such an approach within the criminal justice system. Answers delivered using a "black box" technology are unlikely to be allowed in court proceedings.

The first commercial version of STRmix™ was made available in January 2014, and instantly attracted significant international attention. STRmix™ has had strong sales into foreign markets and ESR have established a strong potential sales pipeline, indicating many potential buyers looking to take up STRmix™

The KiwiNet Investment Committee approved PreSeed funding for this project in late 2013, and ESR have successfully accelerated this project to a commercial success that is resulting in significant export returns to New Zealand.

"Taking a lab model and turning it into a commercial product is a big step, or rather, a series of smaller steps. Pre-Seed funding from KiwiNet was a crucial support in that journey to commercialisation. It helped establish market demand, sort out the best business model, and define a clear market entry strategy."

Hamish Findlay, Commercial Manager, ESR





Cawthron Natural Compounds



The Cawthron Institute in Nelson is one of only a few organisations in the world capable of producing purified marine natural toxins.

These pure toxins are now required by the world's seafood testing laboratories because of work done by Cawthron to improve international testing standards. Cawthron specialises in understanding the ecology and chemistry of marine natural toxins from a range of sources, including algae. Some of these toxins are responsible for making seafood unsafe to eat and are subject to tight regulatory control. The global seafood testing laboratory community needs pure toxins in order to calibrate tests and ensure seafood is free of toxins. To meet this demand Cawthron has entered into a lucrative deal to supply a range of purified marine toxins to the world's largest chemical and analytical supplier, Sigma-Aldrich.

The export earning potential of these marine toxins is staggering in that as little as 1g of a marine toxin could be worth up to NZ\$5 million. The deal, signed late in 2014 has already created commercial revenues to Cawthron and demonstrates that the outcomes of publicly funded research can form the basis for outstanding commercial deals that generate significant economic returns to New Zealand.

In early 2013, The Cawthron Institute brought forward a project proposal seeking funding to support commercialisation of this project. The KiwiNet Investment Committee recognised the potential value in the project, and allocated PreSeed investment to support development of the business case. Additionally, KiwiNet provided market validation support to identify potential customers for the reference materials.

Case Studies



Biocontrol for Vegetables



Lincoln University intends to develop a commercially viable live spore product to protect high value vegetables against soil-borne pathogens.

New Zealand produces around 60% of the world's carrot seed, all of which is exported. The export value of carrot seed was \$27M in 2013.

Lincoln's technology will provide an effective method of protection against soil-borne pathogens. Not only will this improve crop yield and quality but will also allow growers to expand into soils currently out of circulation due to infection. This control will be cost effective and save exporters millions in wasted fungicide application.

The KiwiNet team helped Lincoln University by assisting with market validation activities and the preparation of a project proposal which was subsequently approved by the Investment Committee. The Committee identified this as a promising project with the potential to protect and increase the export of fresh vegetables from New Zealand.

"While we already had some financial support for the project from Lincoln University and two seed company partners, the funding provided by KiwiNet has allowed us to move from our promising glasshouse results to field validation and commercial product development. I really valued the input provided by KiwiNet during the development of the proposal. KiwiNet assisted with obtaining market data, and provided valuable comments and suggestions on my initial ideas and the crafting of the proposal drafts. Meetings with KiwiNet personnel were immensely helpful for the project and the eventual successful bid outcome".

Professor John Hampton, Director, Lincoln University Seed Research Centre

PORTFOLIO EXAMPLES

Case Studies

WETOX



WETOX is a technology out of the University of Victoria that seeks to provide an economic and environmentally friendly way of disposing of waste sludge products.

There are a number of acute issues associated with the disposal of waste sludge. The receiving environment (particularly waterways) is stressed, valuable resources are being wasted and disposal sites are becoming scarce. These issues are global and increasing. The Wetox technology addresses this by reducing sludge volumes by over 95% and retrieving re-usable constituents.

WETOX provides a complete onsite disposal option which separates wastewater products into clean water and re-usable resources, in a competitive and environmentally acceptable way.

The goal is to prove critical technical and economic aspects of the WETOX system, to enable external investment from the private sector into this technology. The path to achieving this is through a PSAF funded project, approved by the KiwiNet Investment Committee. By validating and fine tuning the operating conditions for the Wetox process, while also proving a viable economic model, WETOX will be in a position to form business partnerships and implement their commercialisation plan.

“The investment and support from KiwiNet has allowed us to significantly accelerate the Wetox technology towards securing our first customers which puts us in a much stronger position to raise private capital and launch our solution globally.”

Jeremy Jones, Commercialisation Manager, Viclink



HyLink



Callaghan Innovation has developed the HyLink System which can provide a cost effective sustainable energy solution from 100% renewable resources.

HyLink is a system for the efficient creation, storage and delivery of hydrogen fuel to provide continuous energy availability (e.g. for heating and cooking) from renewable resources (e.g. wind and solar). Not only will HyLink be a green lifestyle choice (with minimal to zero carbon footprint) but it will also save money, time and improve security of supply for any consumer wanting to be self-sufficient for cooking, hot water and space heating.

Various HyLink System configurations have been run, monitored and demonstrated at several NZ sites, notably a prototype at a Totara Valley high country farm in the Wairarapa and currently a pilot at Matiu/Somes Island in Wellington Harbour.

The KiwiNet Investment Committee approved Pre Seed funding for HyLink as they saw the potential for commercial development in the hydrogen energy space.

“As with any new, disruptive technology there is the constant challenge of finding sufficient funding to sustain progress on the technology development, so the KiwiNet funding to reach the pre-commercial stage, i.e. a full-scale configuration in a real world setting, of a farm manager’s house on a Taupo property, has been absolutely vital. Furthermore, this support from KiwiNet has encouraged the commitment of the industry partners to invest their own resources to completion of the project.

KiwiNet identified a consultant with expertise in the renewable energy field to support the project team to further refine the customer segmentation and value proposition for each, which has been invaluable in preparing for commercial sales within the next two years.”

Tim Balmer, Director Investments & Commercialisation, Callaghan Innovation





Chronoptics

The University of Waikato's Chronoptics Group have developed a suite of technologies that are proven to improve the quality and performance of time-of-flight cameras for 3D imaging.

3D vision will soon play a huge role in our day-to-day lives and time-of-flight (TOF) is rapidly becoming the imaging platform of choice for many market applications, including gaming, consumer electronics, automotive, security and industrial automation.

For over 5 years, the Chronoptics Group have worked with the world's leading TOF camera manufacturers to understand technology limitations and develop novel solutions that contribute to accelerating mass-market application of TOF.

The support of KiwiNet and PreSeed Accelerator Funding (PSAF) provided a strong foundation for Chronoptics to develop a portfolio of IP, made up of at least 10 technologies targeted to distinct technical TOF challenges. Early PSAF investment allowed proof-of-concept development, which went on to trigger multiple technology sales and licenses, commercial returns of over NZ\$500,000 and research contracts with commercial partners of over NZ\$600,000.

KiwiNet are currently funding a project aiming to establish Chronoptics as a start-up and secure private investment, with a vision to enhance New Zealand's position as a thought-leader in TOF solutions development. KiwiNet's Corporate Partner, Minter Ellison Rudd Watts, are also providing support with ongoing expert legal advice. The KiwiNet Investment Committee are excited to fund the current direction of Chronoptics as a high-tech commercialisation opportunity for New Zealand.

"Ongoing investment and support from KiwiNet has not only been critical to seeding an innovative platform of technologies, but importantly, it has also kick-started ongoing partnership development with major global players in the time-of-flight space. These partners have continued to take a strong interest in Chronoptics and will play a key role in the next exciting step in their journey."

Duncan Mackintosh,
CEO, WaikatoLink Ltd



Hotels for Chelifers

Development of a novel beneficial method for biocontrol of varroa mite in commercial honey hives.

Varroa mite is considered to be the biggest threat to apiculture globally. Over the last 30 years it has spread rapidly and is now found in beekeeping countries across the globe, with the exception of Australia. It has a devastating effect on bee health and mortality and can lead to colony death.

Chelifers provide a non-chemical alternative method for Varroa control that has the potential to circumvent many of the current issues surrounding control. PFR have developed a novel way to culture chelifers and introduce them into bee hives for potential Varroa control.

Called the "Chelifer Hotel System", it enables the efficient transfer of chelifers from culture to commercial honey bee hives. This Chelifer system is expected to lower the current cost of varroa control, reducing honeybee mortality and reducing the reliance on acaricides. The system will fit easily with current

beekeeping practices and may increase production and quality of honeybee products. The increased hive health will also result in improved pollination services for horticultural and agricultural industries.

The KiwiNet Investment Committee approved funding for this project as it was identified as an innovative project that has the potential to protect New Zealand's significant honey export market.

"KiwiNet funding is enabling us to demonstrate the efficacy and safety of this technology that will give beekeepers the confidence to trial this revolutionary new treatment and their guidance on business models will help us position this technology to maximize benefits to New Zealand."

Dr Claire Hall, Business Manager,
Bioprotection and Sustainable
Production, Plant & Food Research





Amaranth Protein

The Biopolymer Network have developed a process to produce an extract that is expected to deliver 3 beauty outcomes; skin whitening, hair strengthening, and skin cell protection.

Amaranth PFI is a powdered extract from Amaranth grain that delivers 3 beauty outcomes: skin whitening, hair strengthening, and skin cell protection. BPN have developed a process to produce an extract that meets the criteria for natural personal care products. Their natural extraction process avoids harsh chemicals or solvents and so enables the extract's use in the lucrative, global, natural personal-care market. This addresses growing global concern about the inclusion of chemicals in products applied to the skin.

The efficacy of the extract has been scientifically proven, unlike much of its competition, through in vitro and ex vivo studies by AgResearch for BPN. This enables it to be targeted at the USD 10 billion skin whitening market in Asia-Pacific.

It's great to help an organisation that doesn't normally have access to PreSeed investment. BPN are working on a range of exciting opportunities. They prepared a solid business plan for the Amaranth Protein project with support from KiwiNet's commercialisation managers and the Investment Committee were keen to support them.

"Working together with the KiwiNet team on our proposal to the Investment Committee allowed the development of a well thought out and comprehensive business case. The positive and professional feedback from the committee is hugely valuable and would be difficult to access in another forum. Not only does this contribute to our internal business planning around the technology but the resulting well-rounded proposal increases the chance to access funding. All of the KiwiNet staff are professional and good to deal with. Receiving funding to take our technology to the next stage is a great outcome for BPN."

Sarah Heine, CEO, Biopolymer Network



CEMARS Energy

Landcare Research, through their subsidiary Enviro-Mark Solutions, has developed an integrated carbon and energy management system in response to UK regulation.

On 31st December 2014 a new energy management regulation (applying to all companies with 250 or more staff or turnover exceeding €50M turnover) called the Energy Savings Opportunity Scheme (ESOS) was enforced in the UK. 50% of the ESOS work stream relates to measuring energy use, which is a significant task for most companies.

The CEMARS program is being further developed by Enviro-Mark Solutions to support those organisations with carbon and energy obligations resulting from these changes in legislation.

The CEMARS programme is specifically referred to as a route to compliance within the ESOS statutory guidance published by the UK Department of Energy and Climate Change. The tools provided to CEMARS participants currently capture energy use data and, with further development, these tools can provide a one-stop shop for companies to comply with ESOS and maintain their carbon certification.

The KiwiNet Investment Committee funded this project based on its potential to boost export revenues of Landcare Research's subsidiary company, Enviro-Mark Solutions.

"The funding from KiwiNet has been vital to ensuring that the CEMARS programme remains the carbon and energy solution of choice for scores of top UK companies."

Ann Smith, CEO, Enviro-Mark Solutions.



Landcare Research
Manaaki Whenua

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