KIWI INNOVATION NETWORK

ANNUAL REPORT

JUNE 2014

HIGHLIGHTS

KiwiNet

Kiwi Innovation Network

KiwiNet
Kiwi Innovation Network

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 limited resources available for commercialisation, and help one another achieve better commercial outcomes for New Zealand.

FUNDING

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

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

ANNUAL REPORT FOR YEAR ENDING 31ST MARCH 2014

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KIWINET'S GOAL:

To be a driving force in establishing New Zealand as a globally recognised leader in research commercialisation.

Plant & Food RESEARCH
RANGAHAU AHUMĀRA KAI

AUT ENTERPRISES LIMITED

waikatolink
University of Waikato Commercialisation

agresearch
Farming, Food and Health. First

CallaghanInnovation

viclink

ESR

Lincoln University
Te Whare Wānaka o Aoraki
CHRISTCHURCH, NEW ZEALAND

Landcare Research
Manaaki Whenua

UC UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

OTAGO INNOVATION
A UNIVERSITY OF OTAGO COMPANY

KiwiNet shareholders as at 31 March 2014.

CHAIRMAN'S REPORT

KiwiNet's mission is to ignite in the minds of publicly funded scientists the notions of commercialisation and collaboration across the science and innovation eco-system to accelerate the successful translation of smart ideas into business growth.

To advance this mission the Board invited five key players to table their wisdom as we worked up our current business plan.

The Treasury agonised about the role of the state, Shaun Hendy shot the breeze, , Mary Quin of Callaghan Innovation conveyed steely determination to make her institution fit for purpose, Sam Knowles of Xero fame insisted it was all about building sales capability and Peter Chrisp of NZTE underscored why we must bring a sense of urgency to the task.

In a stark warning he parodied the "Houston ….we have a problem" moment by revealing that against OECD data predicting where an economy like NZ's should be positioned we are 45% below our expected capability and dropping.

KiwiNet set itself three priorities for the year – to ramp up our relevance, our reach and our results.

Our multiple range of collaborative, support and connection activities have combined to give KiwiNet real traction.

Validation of our modus operandi has recently come from an unexpected quarter – the Australian National Commission of Audit.

They state in a robust, back to first principles report that "Collaboration between the different sectors of Australia's research system is crucial. …There are inherent incentives for public and private researchers to collaborate to share funding, knowledge and intellectual property, so government should play a targeted role in this space."

MBIE's Commercial Partner Network funding for KiwiNet plays out that intervention logic in NZ.

The real relevance of KiwiNet is to be found in the work of the Investment Committee so ably chaired by board member Andrew Turnbull. The IC is our engine as it assesses the Pre Seed Accelerator fund applications. Building pipeline is of the essence and the Board and management team are exercised about how we can encourage a greater flow of propositions and better accelerate ideas of demonstrated business promise.

KiwiNet has sought to expand its reach in a number of concrete ways.

We have welcomed an eleventh shareholder, ESR, to the ranks.
We agreed to deploy our IC mechanism to help MBIE evaluate their 2014 round of Smart Ideas applications.

Three corporate partners, the BNZ, Minter Ellison Rudd Watts and AJ Park, have come to the table to deploy their expertise and networks. Their backing will enhance KiwiNet firepower for which we thank them.

Invitations to two new crucial leadership hires into UniServices and Callaghan Innovation to address Board meetings helped reinforce the sense that we are invested in each other's success.

The best window on our results is our Gala Awards event that serves to both applaud success and showcase the range of endeavour.

Disruption is the new normal and KiwiNet means to coach, cajole and collaborate to help advance the ideas that are new, surprising and most importantly radically useful to consumers.

I want to thank my fellow directors for their insights and advocacy.

There was a handover of the University director position this year from Peter John of Lincoln to Geoff Todd of Victoria. Peter remains actively engaged in other capacities so in acknowledging his contribution as a foundation director it is wonderful that his value is not lost.

Geoff brings a wealth of experience and the odd business scar to the table – both invaluable.

Finally a tribute to the management team led by Dr Bram Smith who has learned so much in the job and given so much leadership to a bench that is building its capacity and usefulness.

KiwiNet has become the go-to entity for researchers bent on testing the commercialisation water and assessing the prospect of translating their ideas into business propositions and this standing is due in no small measure to the combined effort of directors, shareholders and management.

Hon Ruth Richardson / June 2014

GENERAL MANAGER'S REPORT

We live in the age of connectivity, where the performance of an innovation system is not just dependent on having the smartest and most creative minds. World leading innovation environments achieve their status through supporting a hotbed of interconnectivity and idea exchange.

These environments act as a catalyst for serendipitous conversations that lead to valuable innovative outcomes. This is the environment that KiwiNet strives to grow around New Zealand's science system.

In the three years since KiwiNet's launch the consortium has grown from strength to strength. KiwiNet's activities to drive greater research commercialisation are building momentum thanks primarily to the commitment of the 11 universities and crown research organisations that make up KiwiNet's shareholders. Connectivity is the key - over 750 different people from over 180 different research organisations, businesses and support agencies attended KiwiNet events by March 2014.

The Ministry of Business Innovation and Employment (MBIE) has continued to increase its support for KiwiNet as a centre of excellence in technology transfer. MBIE has confirmed Commercialisation Partner Network (CPN) funding through to June 2015 for KiwiNet, Return on Science and Canterbury Regional Innovation System. Working with our CPN partners we are determined to make this one of the most valuable MBIE interventions.

In July 2013 KiwiNet also began a new three year PreSeed Accelerator Funding (PreSeed) contract with MBIE. With 12 research organisations operating a combined investment of $7.5 million through KiwiNet, this represents a transformation in the way government investment is allocated for research commercialisation.

PreSeed Portfolio Growth

Pipeline growth is our goal and KiwiNet's portfolio of PreSeed investments is continuing to progress rapidly. The KiwiNet Investment Committee have invested 8.6 million over 6 years into 244 projects. This has resulted in $2.4 million external co-investment alongside PreSeed, 47 commercial deals and $500 million of potential export earnings.

Capability Development

Using CPN funding from MBIE, KiwiNet's activities reach beyond just PreSeed investment. Continued pipeline growth requires more researchers who are commercially aware and who know where to find support. There has been a surge in demand for KiwiNet's commercialisation workshops targeted specifically at researchers, with over 200 people attended these workshops over the past 12 months. KiwiNet's commercialisation forums aim to build capability and formalise a professional network across the tech transfer community. In 2013 KiwiNet ran six advanced workshops that were attended by over 100 tech transfer professionals from across New Zealand.

Partnerships

Partnerships have continued to grow as we form closer relationships with organisations that share the same objectives and complementary capabilities. The Institute of Environmental Science and Research (ESR) has become our 11th shareholder, cementing their commitment to the collaborative commercialisation model. Recent MOUs with Callaghan Innovation and the MacDiarmid Institute confirm our intentions to collaborate on activities around research commercialisation.

We were also delighted to announce new corporate partnerships with the Bank of New Zealand, patent attorneys AJ Park, and the law firm Minter Ellison Rudd Watts. It is fantastic to have such well respected organisations putting their resources and considerable expertise into growing New Zealand's exciting innovation potential.

Connections

KiwiNet's connection activities focus on brining researchers and businesses together to form new relationships and encourage the open exchange of ideas. Over 150 people from business and research organisations attended KiwiNet's foresighting events over the past year.

The KiwiNet national Research Commercialisation Awards help promote research commercialisation successes, inspire scientists to dream big and encourage businesses to connect with research organisations. Over 130 people attended the inaugural awards evening last year including senior government officials and prominent members of the business and research communities. This year's awards are promising to achieve even greater impact, aiming for 250 attendees.

All about outcomes

KiwiNet activities are steadily realising our vision of making New Zealand a global leader in research commercialisation. Technology transfer professionals from research organisations are now meeting regularly and are building strong relationships. Researchers who were previously focused purely on research excellence and publications are now building relationships with businesses and exploring commercial applications for their research. Businesses who previously had little or no connection with research are now working out how they can tap into the scientific expertise across New Zealand.

Early this year I attended the Association of University Technology Managers (AUTM) conference, the biggest conference of its kind globally. Two things in particular stood out to me. Firstly, the PreSeed investment provided by MBIE is absolutely critical for unlocking the commercial potential of research discoveries. Secondly, the level of collaboration around research commercialisation thanks to the Commercialisation Partner Network funding is world leading and creates opportunities other countries can only dream of. KiwiNet is committed to rapidly build on the opportunities created through these initiatives.

2014 is shaping up to be a year of accelerated growth around the world. As the global innovation-race becomes increasingly intense, the winners will be the countries that show the best team work, bringing together their cleverest scientists and smartest business people to create the most exciting commercial opportunities. Connectivity will be the fuel that drives these engines. Over the next 12 months we will keep our focus on faster, smarter and better connected research commercialisation to create the best possible outcomes for New Zealand's economy.

Dr Bram Smith / June 2014

HIGHLIGHTS

Commercialisation Training

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

Commercialisation Forums

KiwiNet hosted one national and three regional forums in 2013. These were attended by over 170 people from organisations across New Zealand. The purpose of the regional forums was to make the event more accessible to people across the country. These events were very well received, particularly for the quality of the networking and speakers.

KiwiNet Awards

The inaugural KiwiNet Research Commercialisation Awards brought together the innovation community to celebrate successes and inspire others. 130 people attended the evening reception where the 12 finalists and winners were showcased in style.

Industry Foresighting

150 researchers and industry representatives attended KiwiNet's Foresighting 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, aquaculture and smart buildings.

Corporate Partnerships

KiwiNet secured sponsorship from Strategic Partner, Bank of New Zealand, patent attorneys AJ Park, and law firm Minter Ellison Rudd Watts. We're excited to have the expertise and support of these leading corporates to boost our efforts.

New Shareholder

The Institute of Environmental Science and Research (ESR) became the eleventh shareholder 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 AUT, Plant & Food Research and Creative HQ to run three commercialisation training courses for researchers. KiwiNet also partnered with organisations such as Aquaculture New Zealand, Farm IQ, Beef and Lamb, K-Matrix, Landcare Research and Canterbury Development Corporation to run three industry engagement events.

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 Canterbury Regional Innovation System. 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.

bnz Be good with money

AJPark intellectual property

MinterEllisonRuddWatts LAWYERS

sciencelens. PHOTOGRAPHING SCIENCE, INDUSTRY AND TECHNOLOGY

INVESTMENT COMMITTEE 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). 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 2014, 62 projects have been presented to the Investment Committee from 14 different research organisation.

What is PreSeed?

The PreSeed Accelerator Fund (PreSeed) is investment provided by the Ministry of Business, Innovation and Employment (MBIE). PreSeed investment provides publicly funded research organisations with funding they can allocate on MBIE's behalf for early-stage commercialisation of new ideas (so-called 'devolved funding'). PreSeed funding is intended to stimulate and attract investor interest in publicly funded research and development. PreSeed seeks 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.

244 projects under the KiwiNet Investment Committee* received

$8.6 million of PreSeed investment resulting in

$11.1 million of external investment attracted into completed projects.

47 commercial deals

$500 million combined potential return to New Zealand at March 2014.

*(and its predecessor UniCom)

"The KiwiNet Investment Committee adds a lot more value than just funding. While the money and investment rigour is important, it is the connections, contacts and different perspectives that the Committee has as a result of the breadth and diversity of the members that is really valuable. Projects presented in raw form as project previews get great support and direction from the Committee, which significantly improves the efficiency of the work-up and validation process. This ensures they have a much greater chance of success as a result."

Andrew Turnbull - Chairman, KiwiNet Investment Committee

ANDREW TURNBULL - CHAIRMAN, KIWINET INVESTMENT COMMITTEE

KIWINET INVESTMENT COMMITTEE MEETING – NIWA, AUCKLAND, JULY 2013

KIWINET INVESTMENT COMMITTEE MEETING – WAIKATO UNIVERSITY, HAMILTON, FEBRUARY 2014

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.

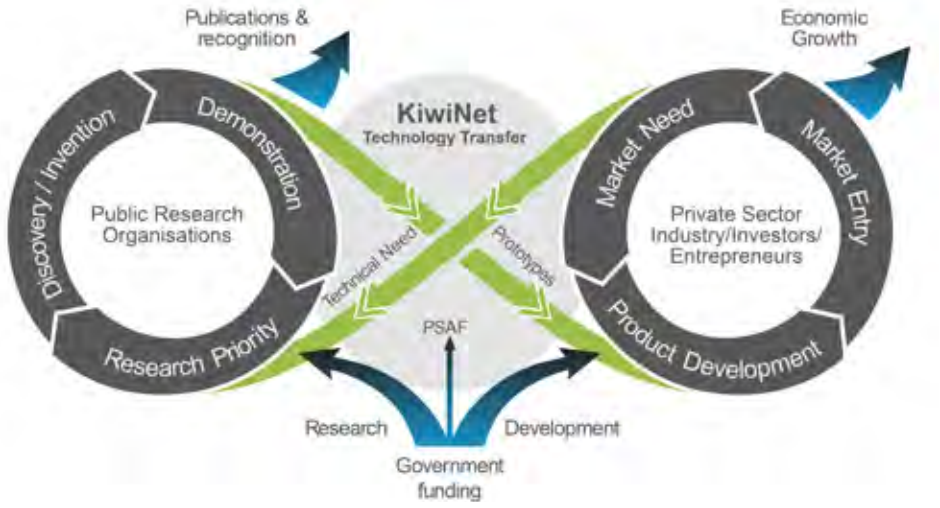
Our Vision

A highly collaborative innovation ecosystem in New Zealand with strong alignment between research and business to drive economic growth.

Key characteristics of the vision:

- Creating a world leading innovation system in New Zealand
- Forming national alliances around science and business strengths
- Blurring the boundaries between research and business
- Building an interconnected web of commercialisation activity
- Celebrating entrepreneurial scientists as heroes

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.

Strategic Priorities

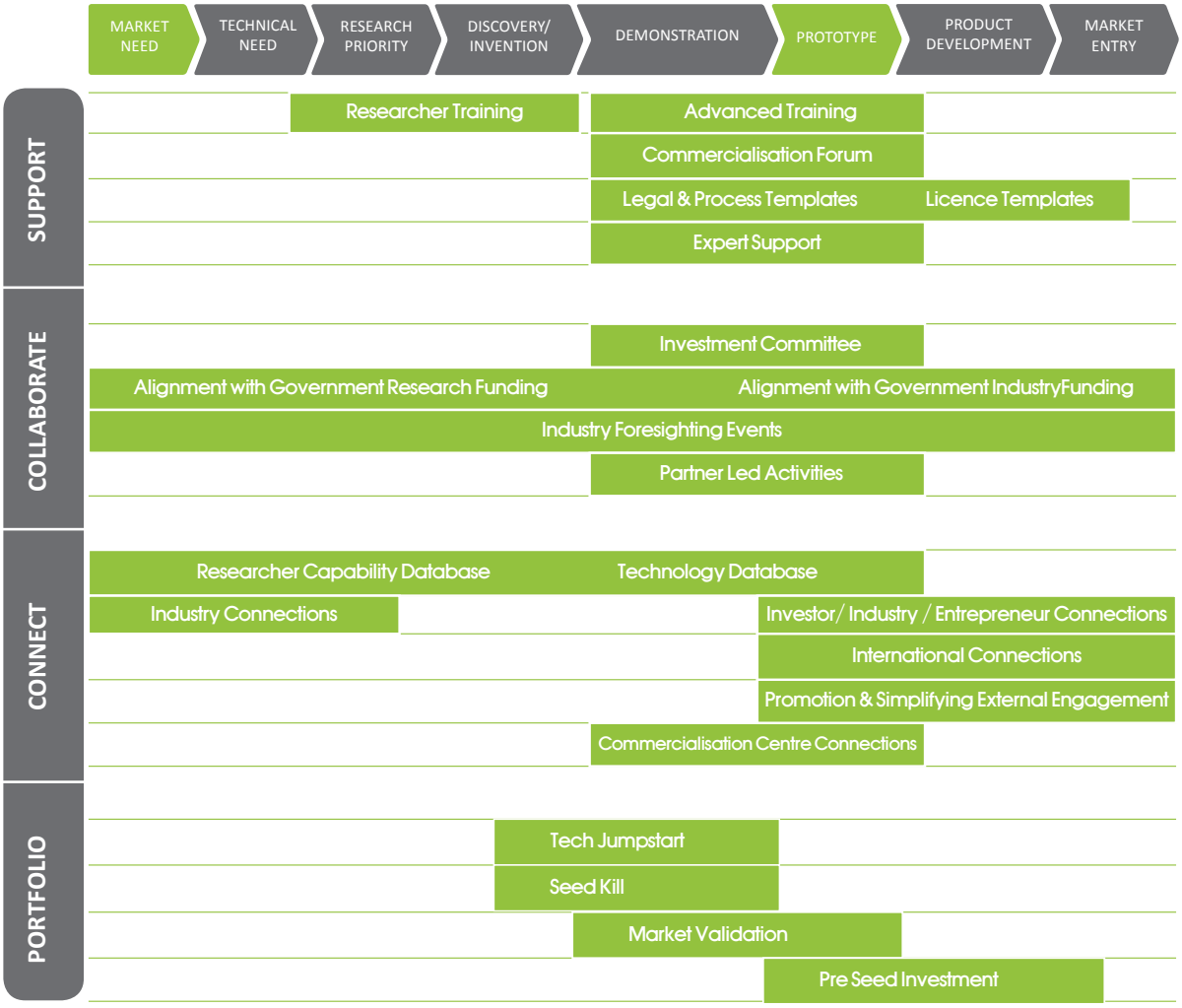
Support
Energise New Zealand research commercialisation capability by building a strong professional network with the best professional development, expert support and resources available.

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

Collaboration
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



SUPPORT

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

Activities

Commercialisation Training
Training programmes ranging from practical commercialisation training for researchers through to advanced professional development for commercialisation staff.

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.

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

Human Resource
Providing commercialisation staff with access to people (e.g. analysts, students and consultants to carry out market research, help prepare proposals and support initiatives).

"Through KiwiNet we'll not only improve our commercialisation capability but we'll be able to share vital industry and investment networks that will help us take research and innovations to the marketplace."

Richard Gordon, CEO, Landcare Research

"The networks, expertise and collegiality across member organisations has helped in identifying new paths to market for innovation originating at Plant & Food Research.

Dr Gavin Ross, GM Business Development, Plant & Food Research

2013 Outcomes

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

Commercialisation Forum
KiwiNet's Commercialisation Forum for Technology Transfer Professionals continues to expand. One national and three regional forums were attended by over 170 tech transfer professionals from organisations across New Zealand.

Resource Library
13 research organisations have participated in preparing 20 templates, guides and forms now available in the Resource Library on KiwiNet's website.

Capability Building
75 research staff and students have been involved in KiwiNet funded projects over the year to March 2014. Researchers that are involved in commercialisation projects gain valuable experience that makes them more likely to identify new commercial opportunities from their research in future.

External Experts
The number of projects that use external experts and consultants has increased substantially reflecting the Investment Committee's increasing focus in this area. Bringing in external experts at the right time to support projects can substantially improve the chances of successful outcomes. During the past 12 months 8 independent experts have been specifically recruited by KiwiNet to support at least 10 projects from across numerous PROs.

KiwiNet Staff
The KiwiNet team, including one person on secondment funded by Callaghan Innovation, target key areas of pipeline and PR.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 new Marketing Coordinator.

4 **Commercialisation Training workshops for researchers**
> 200+ attendees
> 20 organisations engaged

4 **Commercialisation Forums**
> 57 organisations represented
> 170+ attendees

20 **Best Practice Templates, Guides and Forms**

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.

Government Agency Connections
KiwiNet connecting with government departments who are working in similar and complementary areas.

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

Partner Led Activities
Encouraging research organisations to lead activities that leverage their core strengths but align with the collaboration principles of KiwiNet. Ensure all public research organisations are included and can benefit from these activities.

Commercialisation Centre Connections
Co-ordination of activities across the MBIE funded Commercialisation Partners Network.

62 projects and previews presented to the Investment Committee in the year to March 2014.

12 public organisations pooling Pre-Seed investment.

14 different research organisations presented projects to the KiwiNet Investment Committee.

5 partner led collaborative activities including capability building and industry connection initiative.

"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 a lab, making a positive difference to New Zealand's economy and in the wider world."

Charles Eason - Chief Executive, Cawthron Institute.

"I am very impressed by the collegiality among the CRI and University members of KiwiNet. This teaming, across many of the facets of public sector sourced early stage commercialisation, is unique in my experience. It results an investment decision environment that qualifies, invests in and nurtures many very early stage innovation opportunities in New Zealand."

Dr. Greg Smith, Executive Director, SciVentures Investments Pty. Ltd. (Australia)

2013 Outcomes

Investment Committee

With the addition of ESR in 2014 the Kiwi Innovation Network Ltd now has 11 public research organisations who each hold an equal shareholding. The KiwiNet Investment Committee now represents 12 public research organisations which operate a shared PreSeed pool to ensure the best projects receive investment when they need it. The committee is established around principles of openness and trust where organisations see each other's deal flow, share expertise and combine IP to maximise the chances of successful 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.

This arrangement means substantially more visibility between research organisations and more opportunities for collaboration. Over the 12 months to March 2014, 62 projects have been presented to the KiwiNet Investment Committee from 14 organisations. Each project is discussed amongst the research organisation representatives and independents, combining expertise and connections to help accelerate commercialisation.

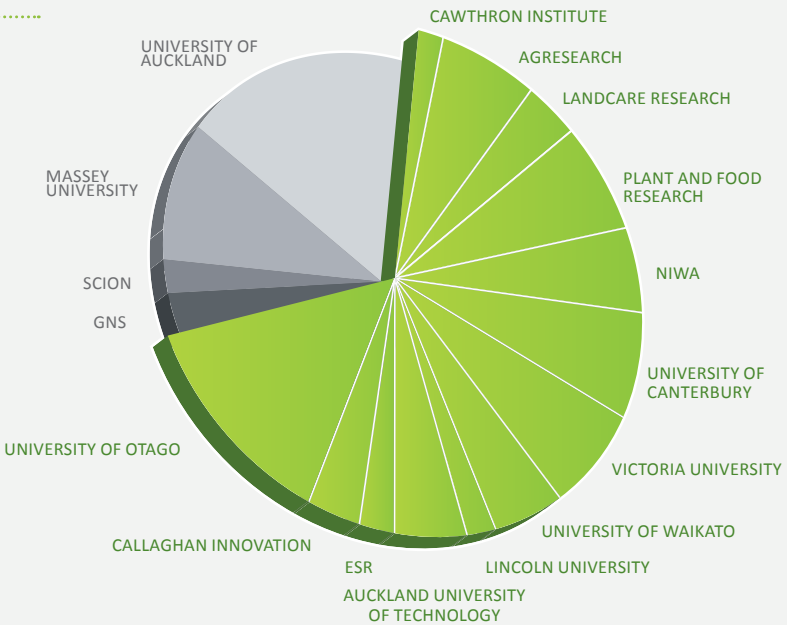
Partnerships

KiwiNet encourages initiatives where join forces around training and business engagement. This year KiwiNet partnered with AUT, Plant and Food Research and Creative HQ to run 3 commercialisation training courses for researchers. KiwiNet also partnered with Aquaculture New Zealand, Farm IQ, Beef and Lamb, K-Matrix, Landcare Research and Canterbury Development Corporation to run 3 industry engagement events.

KiwiNet now has MOUs in place with Callaghan Innovation and the MacDiarmid Institute to collaborate on activities around research commercialisation. We also work with Return on Science to align investment committee processes and help research organisations tap into their support services and connect research technologies and expertise with channel to market partners. These partnerships with complementary organisations are central to KiwiNet's strategy of partnering to maximise the impact of our activities.

~6000

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



KiwiNet
Kiwi Innovation Network

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.

Channel to market connections (industry / investors)
Promoting technologies and capabilities in research organisations to investors, industry, entrepreneurs, connecting with regional partners.

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.

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.

2013 Outcomes

Innovation Database
The Innovation Database now contains over 470 entries from across 31 organisations, representing the most comprehensive national portfolio of its type in New Zealand.

Industry Foresighting
These forums bring together researchers and industry representatives to identify opportunities for R&D collaboration across their respective themes. Over 150 people from business and research organisations attended KiwiNet's foresighting events over the past year. These events targeted specific sectors including water management, aquaculture and smart buildings. KiwiNet partnered with various industry organisations to run these events including Beef and Lamb, Farm IQ, K-Matrix and Aquaculture New Zealand.

Business Challenges
Following KiwiNet's Robotics Industry Foresighting event KiwiRail was the focus of our first Business Challenge initiatives. Through KiwiNet, KiwiRail invited New Zealand's research organisations to address three specific technical challenges. Six research organisations responded to the challenge, resulting in KiwiRail connecting with four of these organisations to follow up potential solutions to the challenges.

Marketing and Publicity
KiwiNet is ramping up its PR activity. Thanks to our Strategic Corporate Partner, BNZ, KiwiNet featured in a double page spread in Air New Zealand's KiaOra magazine and exhibited at the national Fieldays. KiwiNet also sponsored the SCANZ and NZBIO conferences, the Aquaculture New Zealand workshop and conference, the Angel Summit, plus the Engineering Machinery, and Electronics exhibition to build the profile of our partners and connect them with industry.

International Connections
KiwiNet has expanded its international connections over the past year, through discussions with Mitsui (Japan), Elanco (United States), Prosetta Anitiviral, Knowledge Commercialisation Australasia (KCA), Australian Industrial Research Group (AIRG) and Texas A&M (United States). Further, KiwiNet was been invited to present to AusBiotech and AIRG conferences in Australia.

3

KiwiNet industry foresighting events

> 150 people from business and research organisations attended

470

Innovation Database entries

> 129 projects
> 31 organisation profiles
> 52 patents
> 154 staff profiles
> 49 research capability profiles
> 56 plant variety rights

16

media and opinion releases about KiwiNet activities & projects

> 42,600 website visits
> 595 social media posts
> 866 Twitter followers

150

researchers and industry representatives attended KiwiNet's foresighting events.

RESEARCH COMMERCIALISATION AWARDS

In 2013 KiwiNet established New Zealand's Research Commercialisation Awards with the aim of inspiring and energising the innovation community. The KiwiNet Awards celebrate the entrepreneurial spirit of those who strive to bridge the gap between research excellence and outstanding business leadership.

The event has fast become the country's premier event showcasing the achievements of individuals, teams and organisations actively commercialising publicly funded research.

Where: Auckland, Viaduct Events Centre
When: Wednesday 19th June, 2013

130 2013 attendees

12 finalist presentations

5 winners

CallaghanInnovation · THE UNIVERSITY OF AUCKLAND NEW ZEALAND Te Whare Wānanga o Tāmaki Makaurau · AUT UNIVERSITY · OTAGO INNOVATION A UNIVERSITY OF OTAGO COMPANY

Winners of the Research & Business Partnership Award -

Callaghan Innovation and Electronic Navigation Limited: Advanced Sonar Technology

The Advanced Sonar Technologies team (which includes Eugene Stytsenko, David Greager, Neil Scott and Marco Meijer) at Callaghan Innovation is a multi-disciplinary team which was set up to develop long-range sonar technologies during a research engagement with ENL (Electronic Navigation Limited). The team has been collaborating with ENL for well over 10 years leading to commercial success for ENL's WASSP sonar product which is now exported to 39 countries. In 2010 ENL entered into a five year co-funding agreement with Callaghan Innovation to work together on the development of the next generation of sonar technologies. The agreement— which involves in-kind and direct co-funding from both parties — will deliver a new generation of products incorporating innovations in the area of hardware design, transducers and signal processing techniques developed by both ENL and Callaghan Innovation teams.

Winners of the Researcher Entrepreneur Award - Professors John Boys and Grant Covic: Inductive Power Transfer

Electrical and Computer Engineering Department, Auckland University,

This team has been undertaking commercialisation for over 25 years and they have a passion for seeing their work used in the real world. It is a passion they instil in all of their students. As a result of their work the Power Electronics Lab in Auckland is regarded as one of the leading centres of its kind in the world. John and Grant are the inventors on more than 60 International Patents in several Patent families. These patents have been licensed to 6 companies into fields such as materials handling, electric vehicles, lighting and security. Their technology has had global impact. John and Grant credit UniServices for backing them in the early days at a time when investors would not. In 2010, based on work that John and Grant did in the lab in response to the global car industry, UniServices formed Halo Induction Power Technologies together with the global engineering firm, Ove Arup and the TransTasman Commercialisation Fund. John and Grant continued to develop the technology and as a result in October 2011 Qualcomm purchased the assets of Halo for an undisclosed but multimillion dollar deal.

Winner of the Commercial Deal Award

Otago Innovation, TOXINZ

Developed over the past 50 years, the National Poisons Centre's database, TOXINZ, has been widely used by New Zealand clinicians. Now it is gaining the respect of the international medical profession as well. The TOXINZ database, developed at the University of Otago, today contains more than 190,000 documents with comprehensive and up-to-date information on poisonous chemicals, pharmaceuticals, plants and animals. It is fully referenced, providing treatment pathways, brand names and combination products, removing the need for clinicians to identify individual ingredients and chemicals. It is also easily navigated and contains images to help with the identification of hazardous plants and animals. TOXINZ's content is maintained 24 hours a day, seven days a week by poisons information staff, with updates made in real time as new information becomes available.

Winner of the People's Choice Supreme Award

Auckland University of Technology: Growing the New Zealand surf clam industry with the Cloudy Bay Group

Since 2011, the Cloudy Bay Group and AUT (through Assoc. Prof Lindsey White) have developed a strong collaborative relationship to deliver significant growth for the Group, as well as New Zealand's seafood industry and fisheries sector. AUT has built and continues to build expertise and is gaining a national reputation in aquaculture and fisheries research, innovation and development. The output also includes skilled students, who have gained practical experience, and collaboration between different faculties at AUT. Cloudy Bay group benefits by having access to experts to develop new products and processes to allow it to grow its business and compete successfully in international markets. A mature NZ surf clam industry has been estimated at NZ$300-400 million in export earnings. This collaboration's strategy seeks to contribute to this projected growth, as well as New Zealand aquaculture industry's growth plan which aims to increase seafood export to $1b per annum by 2025, through market-led product innovation and exports.

Winner of the Commercialisation Collaboration Award -

Callaghan Innovation - Ovine Automation Consortium

The Ovine Automation Consortium, known as OAL, embodies research partners and industry in a unique collaboration. At its inception the open forum discussion, with members of 9 different meat companies, 2 research partners, 2 research organisation advisors with support from MIRINZ Inc, jointly owned by the MIA and Beef + Lamb, all contributing to a common goal, was a new approach for an industry that had recently begun to see the value of research collaboration. The research partners are Callaghan Innovation and Milmeq Limited with input from both AgResearch and the University of Auckland. Its success is testament to excellent leadership with focus, vision and the ability to keep a very diverse group on track.

PORTFOLIO

Redefining best practice in effective and efficient investment for turning research ideas into commercial value.

Activities

Opportunity Identification

Identifying new commercial opportunities in research organisations, including individual projects and platforms.

Opportunity Assessment

Increasing the speed and efficiency of new opportunity assessment.

2013 Outcomes

Pipeline and Return-on-Investment

Pipeline growth is out goal and KiwiNet's portfolio of PreSeed investments continues to progress rapidly. Over the past 6 years, the KiwiNet Investment Committee (and its predecessor UniCom), have invested $8.6 million into 244 projects. This has attracted $2.4 million external co-investment alongside PreSeed, in addition to substantial research organisation co-investment. This has resulted in 47 commercial deals to date and $11.1 million of external investment. This combined portfolio has the potential to generate export earnings for New Zealand worth $500 million.

PreSeed Outcomes Report

KiwiNet carried out a 10 year review of all PreSeed investment across the 12 partnering research organisations. $25 million of PreSeed has attracted $13 million of external co-investment and $25 million of commercialisation investment from research organisations. The outcome is a portfolio that has the potential to generate $1 billion in export earnings for New Zealand, and to-date has resulted in 133 commercial deals and generated $57 million of revenue back to research organisations.

Job Creation

PreSeed funded projects have resulted in contracts that have created at least 150 unique jobs across 26 projects once these projects have been completed.

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 15 new companies since 2003.

$8.6m
invested by the KiwiNet Investment Committee since 2009

244
projects in the KiwiNet portfolio

47
commercial deals

$500m
estimated benefit to New Zealand.

$11.1m
external investment into completed PreSeed projects

"Feedback from the KiwiNet IC definitely improves our chances at successful commercialisation through unfettered review and constructive critique."

Enrico Tronchin - Business Operations Manager - Commercialisation, AUT Enterprises Ltd

PORTFOLIO EXAMPLES

A sample of projects in the KiwiNet portfolio.

Probiotics For Farmed Fish

The University of Canterbury (UC) is seeking to commercialise a fish feed additive for salmon farming, which could significantly decrease cost of fish feed and omega-3 additives used in salmon aquaculture.

World fish farming is a massive industry, with annual global production of farmed salmon alone nearly reaching 2 million tonnes. Due to the sheer scale of the industry, a notable decrease on the cost of salmon feed (typically 40%-60% of a farms operating costs) would have a significant impact in the profitability of salmon farming. Research out of the University of Canterbury has identified a novel probiotic fish feed additive that could provide a significant reduction in the feed required for farmed fish, while maintaining fish flesh and omega-3 levels.

In mid-2013, the KiwiNet Investment Committee approved PSAF support for this project, to accelerate the scale up of formulation and validate the current findings with the probiotic in salmon. This PSAF investment aims to get UC's probiotic to a point where it is market ready and can create significant economic impact in the aquaculture industry, in New Zealand and overseas.

"KiwiNet has expanded our networks considerably, connecting us with expertise to assist on specific projects, and is providing opportunities for IP aggregation that will make our efforts to commercialise some technologies much more effective".
Nigel Johnson - Director Research and Innovation, University of Canterbury

Species Selective Rodenticide

Landcare Research has developed a rodenticide that is targeted at rats, while proving relatively harmless to other rodents and mammals. Landcare Research is looking to commercialise this technology through licencing to Bell Labs, a global rodenticide manufacturer.

The ubiquitous rat is considered to be one of the most destructive mammalian species in the world, with economic impact from rats estimated at US $20 billion annually in the United States alone. While there are a number of available toxins that are effective at controlling rats, almost all are non-specific and pose a risk of poisoning children, domestic pets, wildlife and livestock.

Landcare Research has developed improved analogues of the rat specific poison norbormide, and are seeking to licence this technology to an international rodenticide manufacture. The KiwiNet Investment Committee approved PSAF investment to get the rodenticide technology to an investor ready stage, and helped connect Landcare Research with an expert for assisting with information in US product registration and royalty rates.

"Through KiwiNet we'll not only improve our commercialisation capability, but we'll be able to share vital industry and investment networks that will help us take research and innovations to the marketplace."
Richard Gordon - CEO, Landcare Research

Molecularly Imprinted Polymers

Researchers at Wintec have developed a smart polymer (MIPS) that can selectively remove molecules from solution, opening up a range of industrial applications. WaikatoLink has worked with Wintec to help commercialise this exciting new platform technology.

One of the initial applications identified for MIPS is the removal of smoke taint from smoke damaged wine. It takes a very small amount of contaminant molecules to spoil a bottle of wine – only 10 parts per billion. Australia was targeted as an ideal market for this application after out-of-control brush fires in 2009 cost the industry NZ$400 million in lost sales.

This technology received a significant boost through the support of PSAF investment, approved by the KiwiNet Investment Committee. This investment has allowed the technology to go from the laboratory to a commercial trial for smoke taint removal in six months, and has helped attract significant interest from potential partners and investors.

"We needed KiwiNet to fund the early-stage commercialisation of the research to the point where we had the evidence industry partners need to start investing themselves. The smoke-taint trial was set up to give that level of proof." – Nigel Slaughter, General Manager Commercial at WaikatoLink.

Rapid Point Cloud Viewer

ESR's Rapid Point Cloud Viewer (RPV) is a user friendly piece of software than can make processing laser scan data a part of anyone's everyday workflow.

There is a growing trend worldwide towards using laser scanning to record crime scenes, accidents, and other environments. However, there is currently a lack of software for taking the scanned data and translating it into a virtual 3D environment that anyone can use and understand.

ESR originally brought the RPV project to the KiwiNet Investment Committee (IC) in early 2013. While excited about the potential of the project, the IC felt work had to be done to confirm there was a market for this technology. PSAF funding was allocated to assist ESR with getting this project in the best position to succeed. ESR returned later in 2013 with an improved proposal, which was approved for further PSAF investment. Additional assistance from KiwiNet earlier this year has helped ESR engage with potential buyers to showcase the potential of this new technology.

"Through KiwiNet ESR was able to access resources, advice and expertise that wasn't previously available to us, and which gave us the confidence to step into new areas." Hamish Findlay - Forensic Business and Commercial Manager, ESR

High Performance Schottky Contacts

Researchers from the University of Canterbury are looking to commercialise the next generation of thin film transistors for flat panel displays.

The market for flat panel display technology in televisions, smartphones and tablets is incredibly fast moving, innovative and lucrative. There is constant drive to improve the technology with higher resolutions, 3D functions, faster refresh rates and lower power consumption. Development of technology that capitalises on these improvements can open access to a market with incredibly high demand – in 2012 alone 130,000,000 iPhones were sold worldwide.

The University of Canterbury (UC) brought a project to the KiwiNet Investment Committee, seeking PSAF funding to support commercialisation of a new technology for application in the flat panel display market. The committee was enthusiastic about this project, and approved the requested PSAF allocation, while emphasising the importance of moving quickly to stay current with the ever changing market. Since funding, UC have engaged several experts to focus this project effectively, to succeed in a challenging marketplace.

PORTFOLIO EXAMPLES

A sample of projects in the KiwiNet portfolio.

Localised Water Heating

An exciting new platform technology is emerging from the University of Waikato – with the first commercial application being rapid water heating in domestic households.

Researchers at the University of Waikato have discovered a unique new use for supercapacitors, which are an emerging energy storage technology that may one day super cede conventional batteries. A supercapacitor-assisted device has been created to instantly heat water, the first application for which will be in domestic households to eliminate the 20-60 second delay for hot water when taps are turned on. The solution is designed to heat the cold water stored in pipes (which would otherwise be flushed down the sink), until hot water from the central heating system arrives.

This technology is not only expected to conserve water but it will also allow home builders and plumbers to overcome increasingly tough standards for domestic water heating. Future applications could be anywhere there are hot water delays, it's impractical/inefficient to store hot water, or temperatures are too low for rapid heating. A proposal from WaikatoLink for PSAF to support this project was approved by the KiwiNet Investment Committee – WaikatoLink are now on track to take this technology to market with a commercial partner in the global water heating solutions space.

"With the Kiwi Innovation Network we have an exciting opportunity to develop strong relationships with the current and future partners... This new found scale and breadth of expertise across new sectors, regions, and networks makes KiwiNet a significant and distinct player internationally, something as a small entity in a small region distant from major markets we could not have achieved."
Duncan Mackintosh – CEO, WaikatoLink Ltd, the commercialisation office of the University of Waikato

A New Bio Pesticide For Psa-V

Plant & Food Research is developing a new biopesticide to manage the kiwifruit disease Psa, to help with protecting kiwifruit export revenues for New Zealand.

Psa is a plant bacterial disease that aggressively attacks kiwifruit, resulting in crop loss and vine death. After 3 years of Psa in NZ control options are still limited – the estimated cost of Psa could be as high as $400 M over the next 5 years. There is a strong demand for a product to combat Psa with minimal environmental impact.

This new bio pesticide from Plant & Food Research has shown good efficacy in mitigating the symptoms of Psa. Furthermore, the ingredients are food-grade products and pose no issue to human health – and likely bee health, though this is yet to be tested. The KiwiNet Investment Committee approved investment into this project earlier this year, as it was identified as a promising project for protecting NZ exports while also commercialising the technology internationally.

"KiwiNet offers a unique opportunity to change the dynamic between New Zealand's public research organisations. The intensively competitive nature of the science funding arrangements in place over the last 10 years has weakened commercialisation linkages between organisations that should have strong interests in working together. KiwiNet's mix of CRI's and Universities, strong frameworks and good working climate, offer a chance for change."
David Hughes – General Manager Commercial, The New Zealand Institute for Plant & Food Research Ltd

Reliable Production Of Juvenile Hapūku

NIWA is seeking to develop a procedure for the reliable and cost-efficient production of hapūku juveniles, as a basis for a profitable hapūku farming industry to develop in New Zealand.

Suppliers to the seafood market have difficulty sourcing white-fleshed fish that is reliably top quality and can be supplied on demand. Market validation undertaken by NIWA with expert chefs identified that farmed hapūku is a premium product. End user testing at international "white tablecloth" restaurants gave positive feedback on the culinary qualities of hapūku, and a willingness to buy.

The KiwiNet Investment committee approved PSAF funding for a NIWA project, to determine a standard operating procedure for early stage rearing of hapūku juveniles. By removing the key risk in the farming protocol, NIWA seeks to transfer this technology to industry to create another profitable aquaculture venture in New Zealand.

"Having the experts at KiwiNet test our thinking around the hapūku opportunity and then fund this crucial part of the commercialisation jigsaw has proved invaluable."
Bryce Cooper - GM-Strategy, NIWA

DME Extraction Technology

Callaghan Innovation is looking to demonstrate the commercial suitability of their dimethyl ether (DME) processing technology, with the application of extracting carotenoids from natural products.

Callaghan Innovation approached the KiwiNet Investment Committee (IC) with a project proposal, seeking PSAF investment to support development of their extraction technology to a commercial stage. By de-risking the technology with the PSAF project, Callaghan Innovation could then transfer the technology to industry partners for further investment and full commercialisation of the product opportunities that are identified.

The IC was excited by the technology and approved the investment of PSAF. However the committee identified that the project could benefit from extracting more high value carotenoids – such as astaxanthin. Callaghan Innovation took the advice on board, and since the beginning of the project has successfully demonstrated astaxanthin extraction capability, and has licenced this IP to a commercial partner.

"KiwiNet, and the Investment Committee in particular, is a great example of New Zealand research institutions collaborating in an open and transparent manner to achieve best outcomes."
Tim Balmer – Director Investments & Commercialisation, Callaghan Innovation Research Ltd

STRmix™

STRmix™ is a technology from ESR, which interprets DNA profiles with particular application to complex DNA mixtures.

DNA profiles collected from crime scenes are often used as evidence in court. However, a common problem is that DNA can be mixed, e.g. from multiple people touching the same door handle. Resolving these mixtures can be critical to a case, but can prove extremely difficult and may not be possible by manual methods, meaning that the evidence is less effective in court.

The STRmix™ technology allows more complex DNA signatures to be interpreted, providing more reliable, robust and defensible evidence. Further, STRmix™ allows aspects of the mixture resolution process to be automated with significant time, quality and cost savings. Through identifying this gap in forensic laboratory capability, ESR recognised the potential for commercialising this technology into international markets. ESR brought a preview of this project to the KiwiNet Investment Committee (IC) in mid-2013 – and after receiving feedback on several areas of the project they returned with a full proposal for PSAF investment, which the KiwiNet IC approved.
With the assistance of PSAF investment, STRmix™ is now in a position where it is being sold into international markets, with a significant sales pipeline in place.

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