



Powerhouse Ventures Limited (ASX code:PVL)

Capital Markets Briefing

Melbourne
Monday 28 November 2016
The Wine Room
The Westin Melbourne
205 Collins Street
Melbourne, VIC 3000

Sydney
Tuesday 29 November 2016
The Press Room
The Radisson Blu Plaza Sydney
27 O'Connell Street
NSW 2000, Sydney



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Opening remarks

- 1** Welcome
- 2** Powerhouse Ventures overview
- 3** Portfolio company introductions

AGENDA

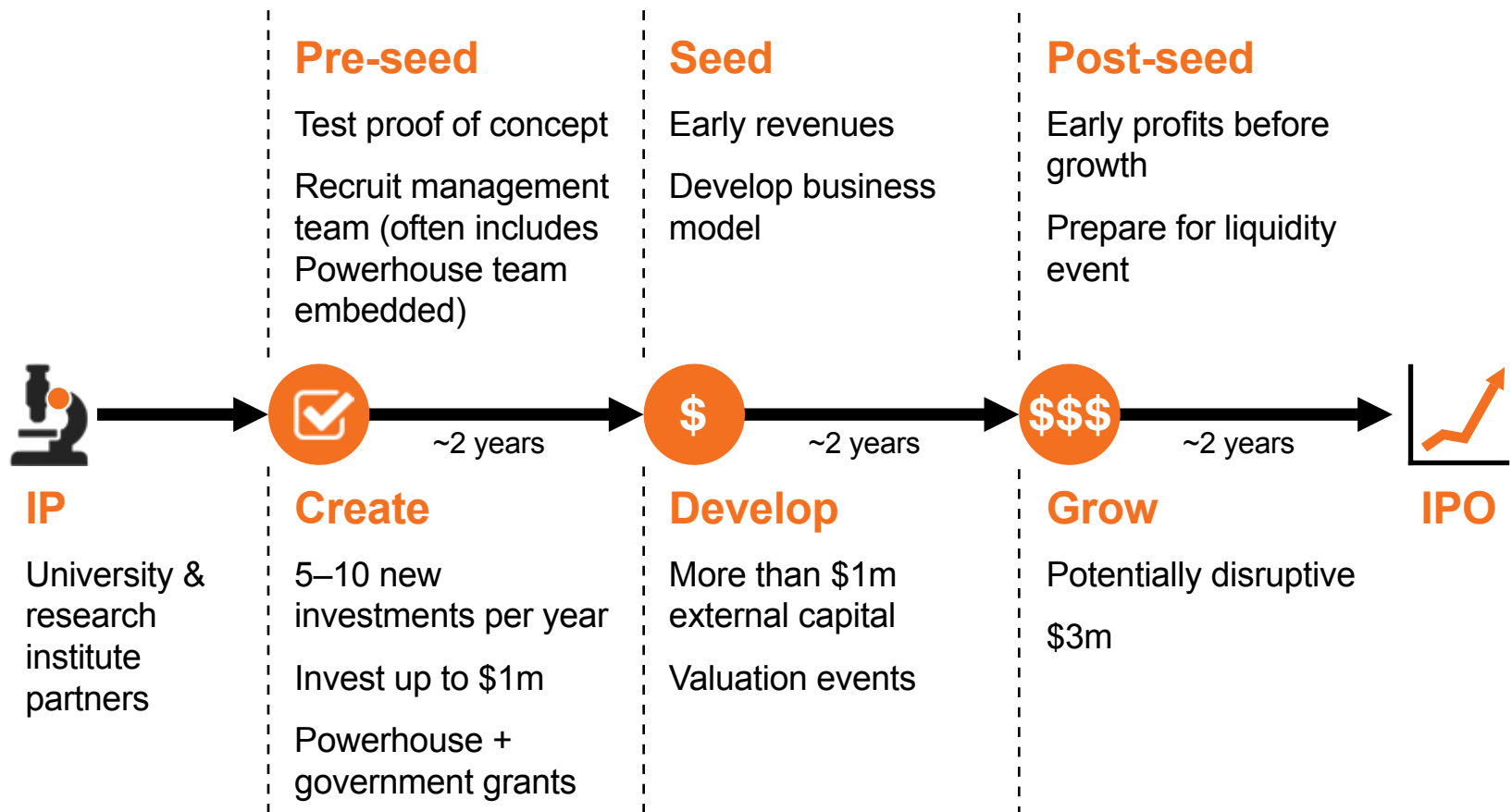
- | | |
|-------------|---|
| 4:30 | Registration |
| 4:40 | Powerhouse Ventures overview |
| 4:50 | Invert Robotics
Neil Fletcher, Exec. Chairman |
| 5:10 | CropLogic
Jamie Cairns, CEO |
| 5:30 | MARS Bioimaging
Colin Dawson, Director
(and COO, Powerhouse) |
| 5:50 | Panel session |
| 6:20 | Refreshments |

**Transforming intellectual
property into world-
changing businesses
by following a proven
investment pathway**

Powerhouse: a Patient Capital investment model

- 1 Strong links with university partners for high-quality deal flow**
- 2 Proprietary approach to screening and shaping innovation for predictable success**
- 3 A new model for investing based on the long-term demands of university spinouts**
- 4 Successful and repeatable performance through a prescribed business growth methodology**
- 5 An experienced team of innovation professionals**
- 6 A new asset class with an attractive risk/return profile**

Powerhouse process: few to more, not many to few



Dynamic, balanced and maturing portfolio

Medical & Healthcare



Ferronova



Tiromedical

UPSTREAM
MEDICAL TECHNOLOGIES

Agritech & Environmental

CertusBio



VERITIDE

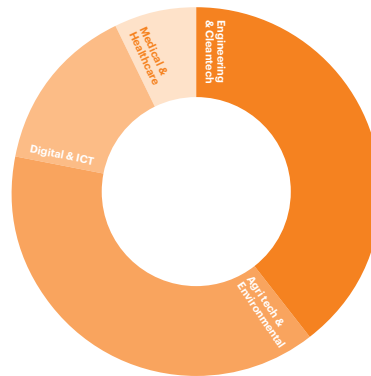
Digital & ICT



Cleantech & Engineering



Investment portfolio – as at 30 June 2016



Engineering & Cleantech \$8.1m, 39.4%

HydroWorks	20.9%
ArcActive	7.2%
SolarBright	5.1%
Syft	2.9%
Photonic	2.1%
Koti	1.2%

Agritech and Environmental \$8.0m, 38.5%

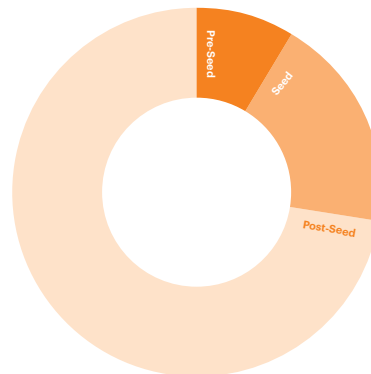
Invert	19.0%
CropLogic	15.6%
Veritide	3.1%
CertusBio	0.7%

Digital & ICT \$3.0m, 14.6%

Motim	10.7%
Modlar	3.1%
Fluent	0.8%

Medical and Healthcare \$1.5m, 7.5%

MARS	3.5%
Tiro	1.5%
Avalia	1.0%
Upstream	0.7%
AuramerBio	0.5%
Hi-Aspect	0.2%



Pre-seed \$1.8m, 8.8%

Photonic	2.1%
Tiro	1.5%
Koti	1.2%
Avalia	1.0%
Fluent	0.8%
CertusBio	0.7%
Upstream	0.7%
AuramerBio	0.5%
Hi-Aspect	0.2%

Seed \$3.9m, 18.9%

Motim	10.7%
SolarBright	5.1%
Veritide	3.1%

Post-seed \$14.9m, 72.3%

HydroWorks	20.9%
Invert	19.0%
CropLogic	15.6%
ArcActive	7.2%
MARS	3.5%
Modlar	3.1%
Syft	2.9%

Characteristics of our Portfolio companies

- 1 Strong IP position**
- 2 Business models that capture value**
- 3 Strong management and experienced boards**
- 4 Significant addressable markets**
- 5 Global opportunities**

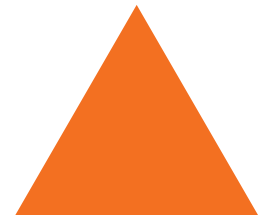


Powerhouse congratulates CropLogic, Invert Robotics and MARS Bioimaging on TIN100 Awards recognition

The TIN100 Awards recognise the top technology exporters in New Zealand in the areas of ICT, High-tech Manufacturing and Biotechnology.

Powerhouse introduces:

- Invert Robotics**
- CropLogic**
- MARS Bioimaging**



Invert Robotics

Neil Fletcher, Executive Chairman

Powerhouse 37.4%

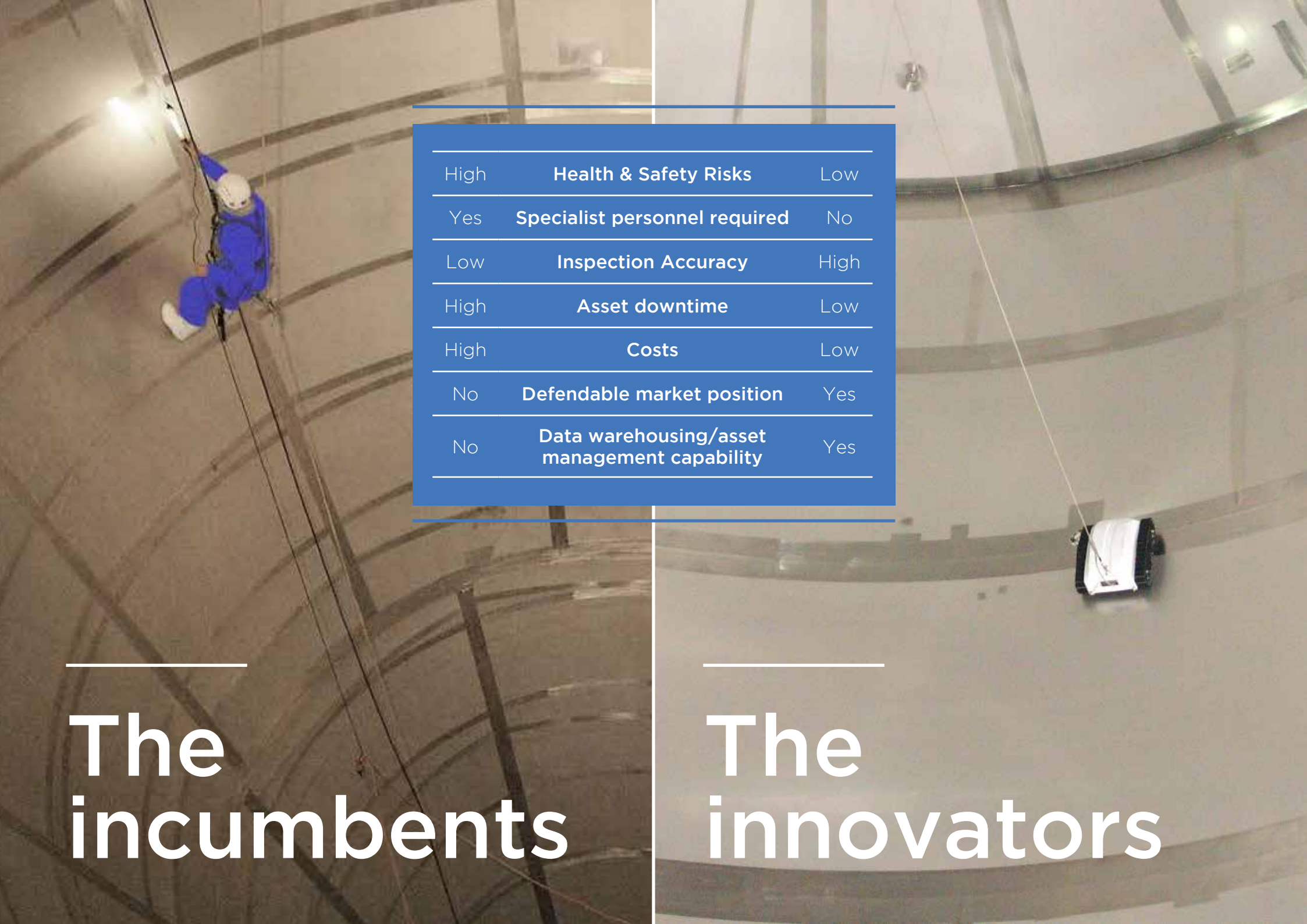
Powerhouse + Co-investors 64.4%

(as at 30 June 2016)

INVERT
ROBOTICS
LIMITED
NOVEMBER 2016



The Vision:
**Invert Robotics will
become a leading
global provider of
industrial inspection
services for mission
critical assets.**



High	Health & Safety Risks	Low
Yes	Specialist personnel required	No
Low	Inspection Accuracy	High
High	Asset downtime	Low
High	Costs	Low
No	Defendable market position	Yes
No	Data warehousing/asset management capability	Yes

The
incumbents

The
innovators

INVERT ROBOTICS — AT A GLANCE



21st Century
industrial
inspections
services

Proprietary
robotic
technology
platform

Blue chip
client base

Globally
scalable
in multiple
industry
and market
applications

Primary market
validated with
paying customers
- Dairy and Food
Processing

Value add
services that
will deliver
loyal clients
and recurring
revenue
streams

High barriers to
entry for future
competitors

INVESTMENT SYNOPSIS — A COMPELLING GROWTH STORY WITH YIELD



Investment for Growth

- Revenues of NZD\$20 - \$25 million by 2020 in the primary target market
- European and North American offices to open in 2016 and 2017

NZD\$1.3 million Capital Raised

- Post-money valuation of NZD\$10.9 million
- Potential IPO late 2017

2020 EBITDA Projections \$12m-\$15m

- Cashflow positive projections in FY17

AN ESTABLISHED AND CAPTIVE MARKET AUDIENCE



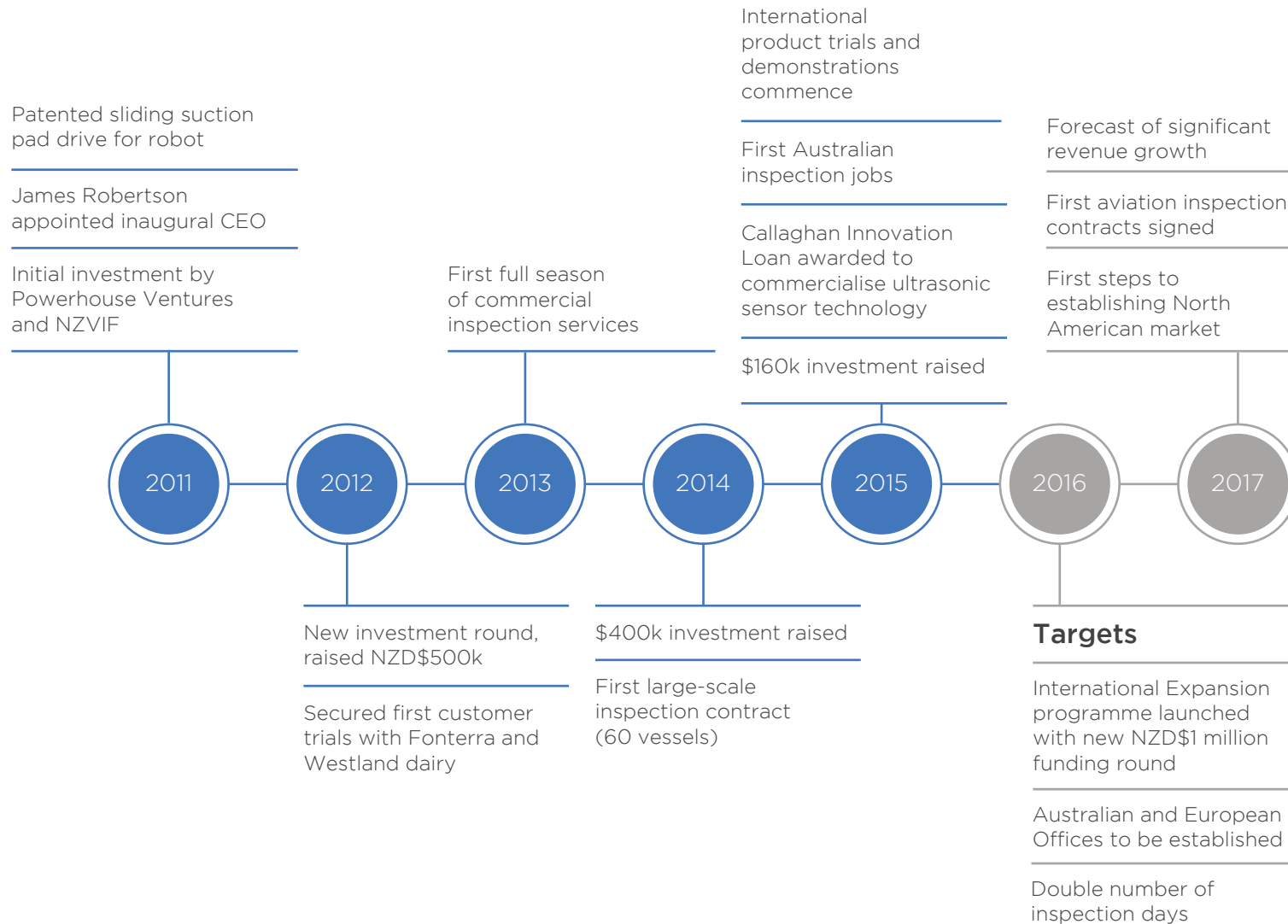
Market validated technology and value proposition

Commercial traction in the Australasian marketplace - Dairy and Food Processing

International demand in primary target markets



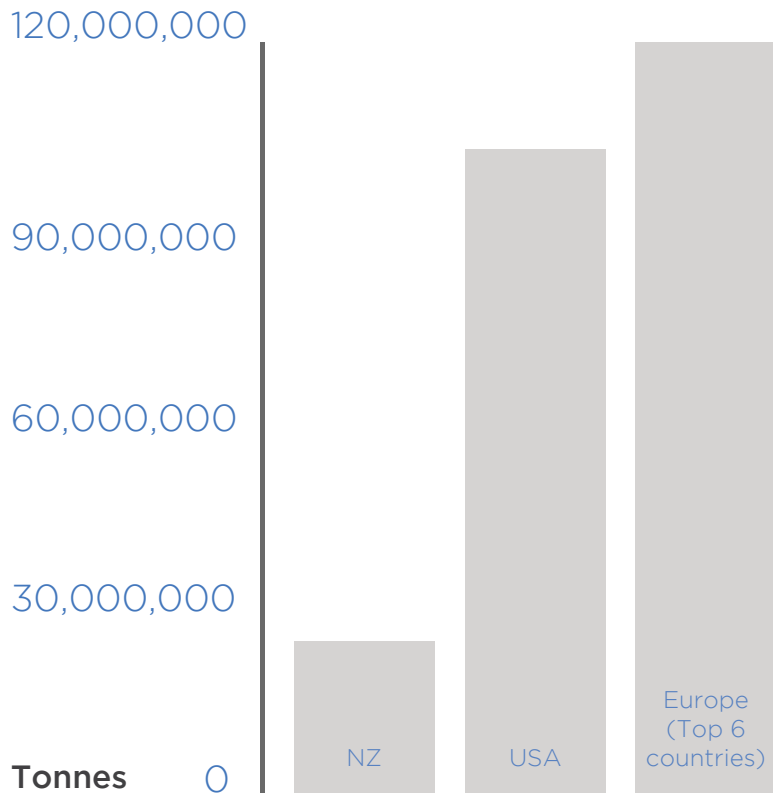
BUILDING SOLID FOUNDATIONS FOR GROWTH



The European region collectively represents the largest cow's milk output in the world. Following closely behind this is the North American market.

A FOCUSED GEOGRAPHICAL AND SECTOR SPECIFIC GROWTH PLAN

The scale of the dairy and food processing sector alone is sufficiently large enough to drive substantial revenue and profit streams with modest market penetration objectives



UNFAO annual cow's milk production 2013. The annual total of the top 6 European producers is 5 x that of New Zealand.

DISTILLING DOWN THE SCALE



The Global Testing, Inspection and Certification Industry

NZD\$300 billion
annually

The Global Dairy and Food Processing inspections market

NZD\$250 million
annually
50,000 tanks and
powder dryers

Estimated Global Inspection

Days per
annum = 50,000
@ NZD\$5,000
per day

2020 revenue target

Invert Robotics
target 10% market
share by 2020
~NZD\$25 million

CLEARLY DEFINED MARKET DRIVERS PROVIDE CONFIDENCE

The drive towards automating hazardous work practices is growing throughout the developed world

- Converging with this is the commercial need to efficiently and cost effectively maintain mission critical capital assets
- Current services and human inspection methods fail to deliver to these pressing demands
- Invert Robotics is uniquely positioned to exceed our target market's expectations today

Best practice determines that inspections should occur annually to manage corrosion, structural failure, and bacterial contamination




THE COMPETITIVE LANDSCAPE

Competing techniques are dependent on people entering the tanks, often working from ropes or scaffolds who have to search on average for 5km to find a single crack

Invert Robotics will:

- Remove the health and safety risk
- Enhance the accuracy, reliability and credibility of inspections
- Build genuine, long term value into the supply chain through superior reporting systems, data management and preventative asset maintenance services



Undetected tank faults place people, products, brands and companies at risk

CLEARLY POSITIONED TO CAPITALISE

Our technology platform enables us to deliver the safest and most accurate inspections services in the stainless steel and non-ferrous inspection markets

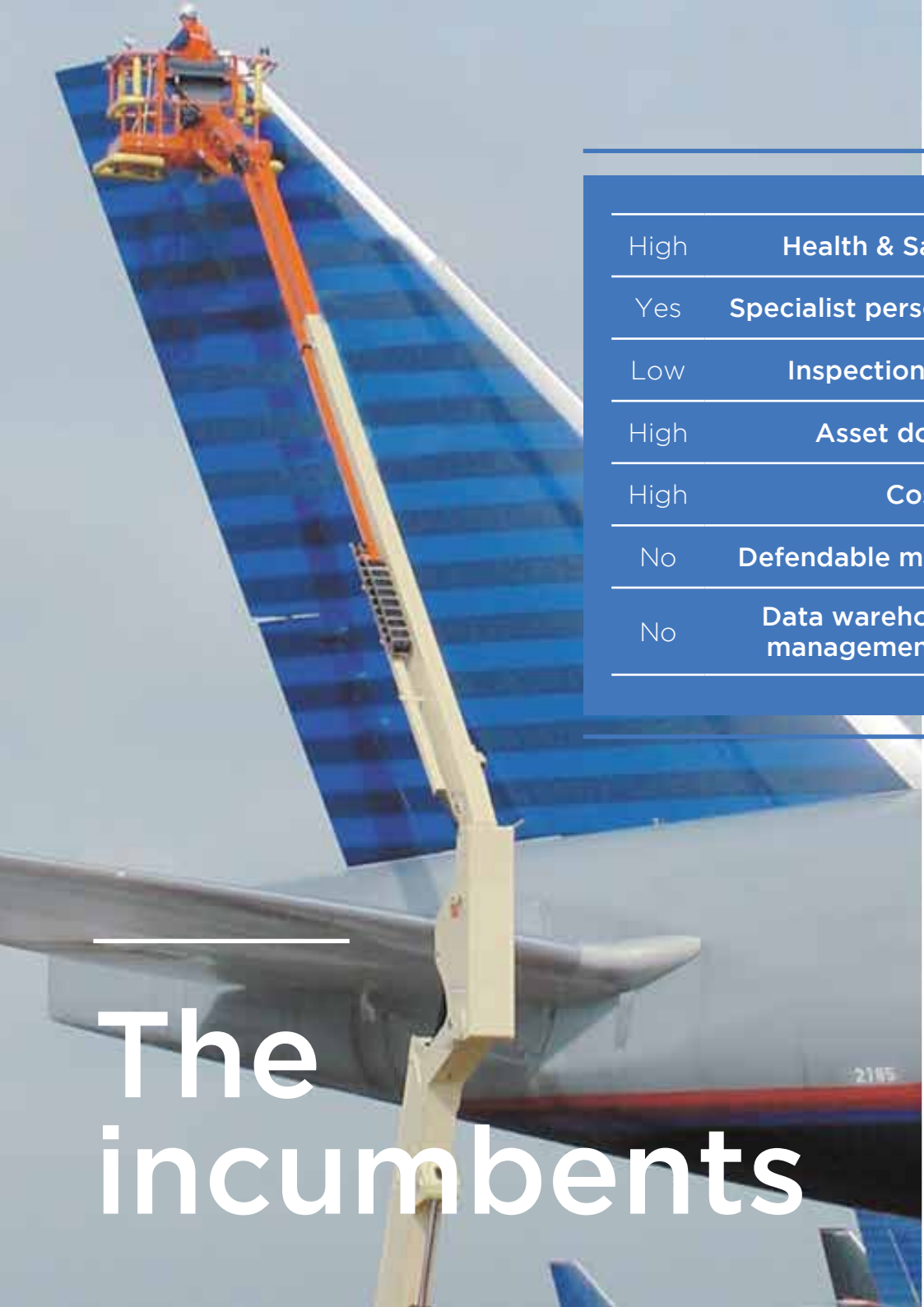
Industry surveys have indicated that the following technologies will transform the market:

- Automation/Robotics
- Software developments e.g. electronic data management, asset management reporting tools
- Sensory platforms e.g. Ultrasonic and Eddy Current crack detection services

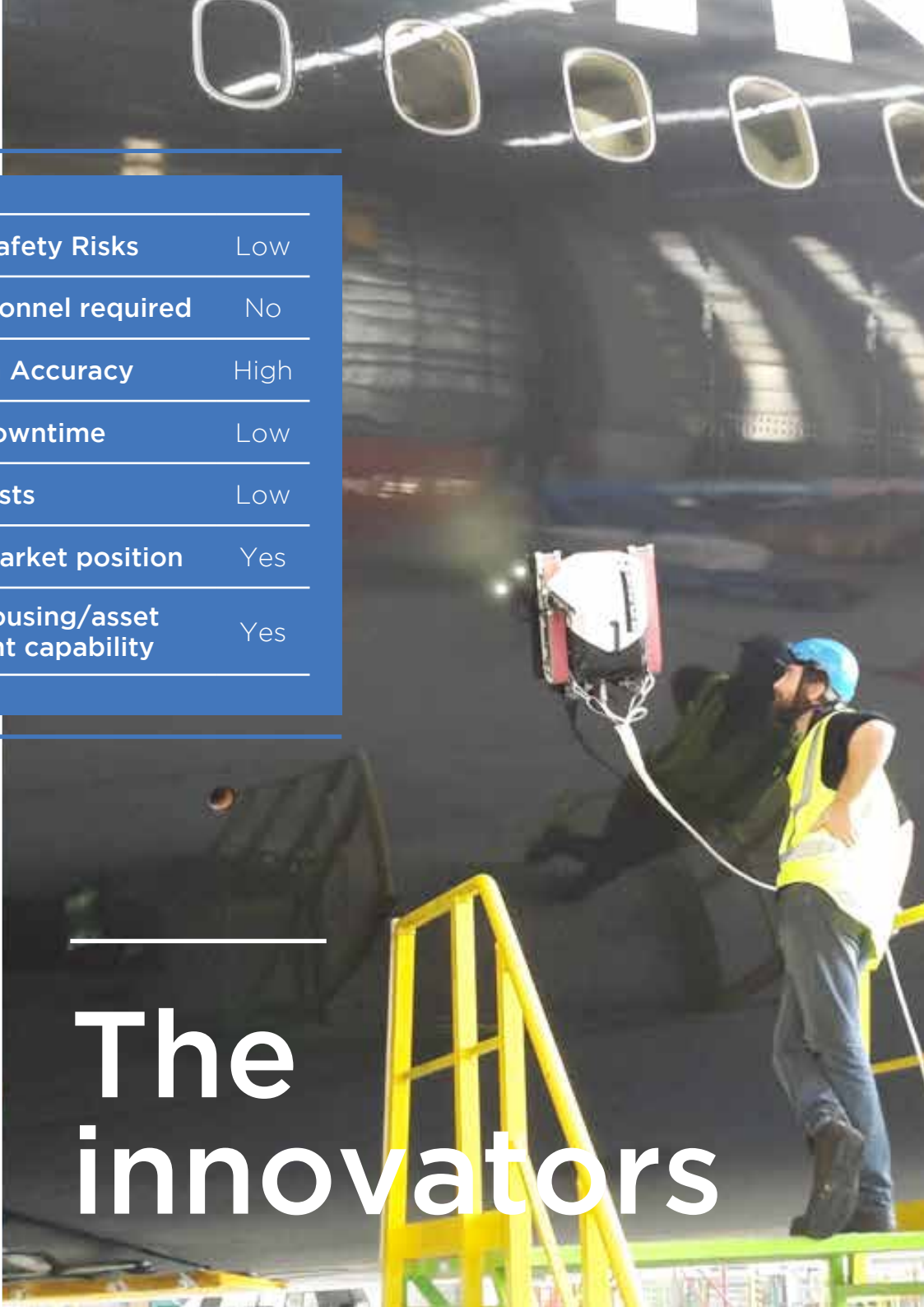
Invert Robotics is active in all three of these areas today. Ongoing technology and service enhancements will enable Invert Robotics to:

- Transition from dairy and food processing across into aeronautical, pharmaceutical and petrochemical sectors subsequently
- Build long term, loyal and committed stakeholder partnerships that lock in value and lock out competitors

With a powerful first mover advantage, Invert Robotics is clearly positioned to rapidly capitalise on material commercial opportunities both domestically and internationally.



The
incumbents



The
innovators

High	Health & Safety Risks	Low
Yes	Specialist personnel required	No
Low	Inspection Accuracy	High
High	Asset downtime	Low
High	Costs	Low
No	Defendable market position	Yes
No	Data warehousing/asset management capability	Yes

A STRENGTHENING INTELLECTUAL PROPERTY POSITION



With a patented sliding suction system at the heart of our platform we control the world-leading technology for inspection of stainless steel tanks

Ongoing development of added value services to the technology platform strengthen this core intellectual property position. Ultrasonic crack detection services, electronic data management and sophisticated reporting systems for preventative maintenance/asset management programmes all contribute to:

- The creation of recurring revenue streams
- Augmentation of our intellectual property position
- Enhanced customer value and long term loyalty
- Barriers to entry for the competition

Applicant: Invert Robotics Ltd
Title: Robotic Climbing Platform
Filing date: 1/10/2012

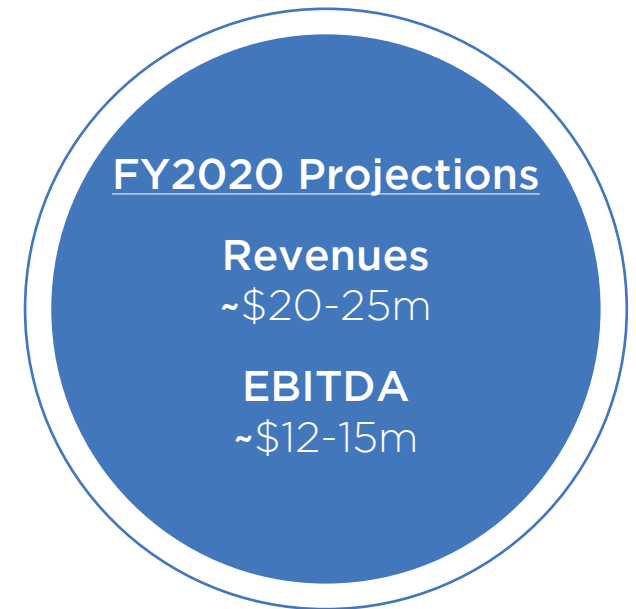
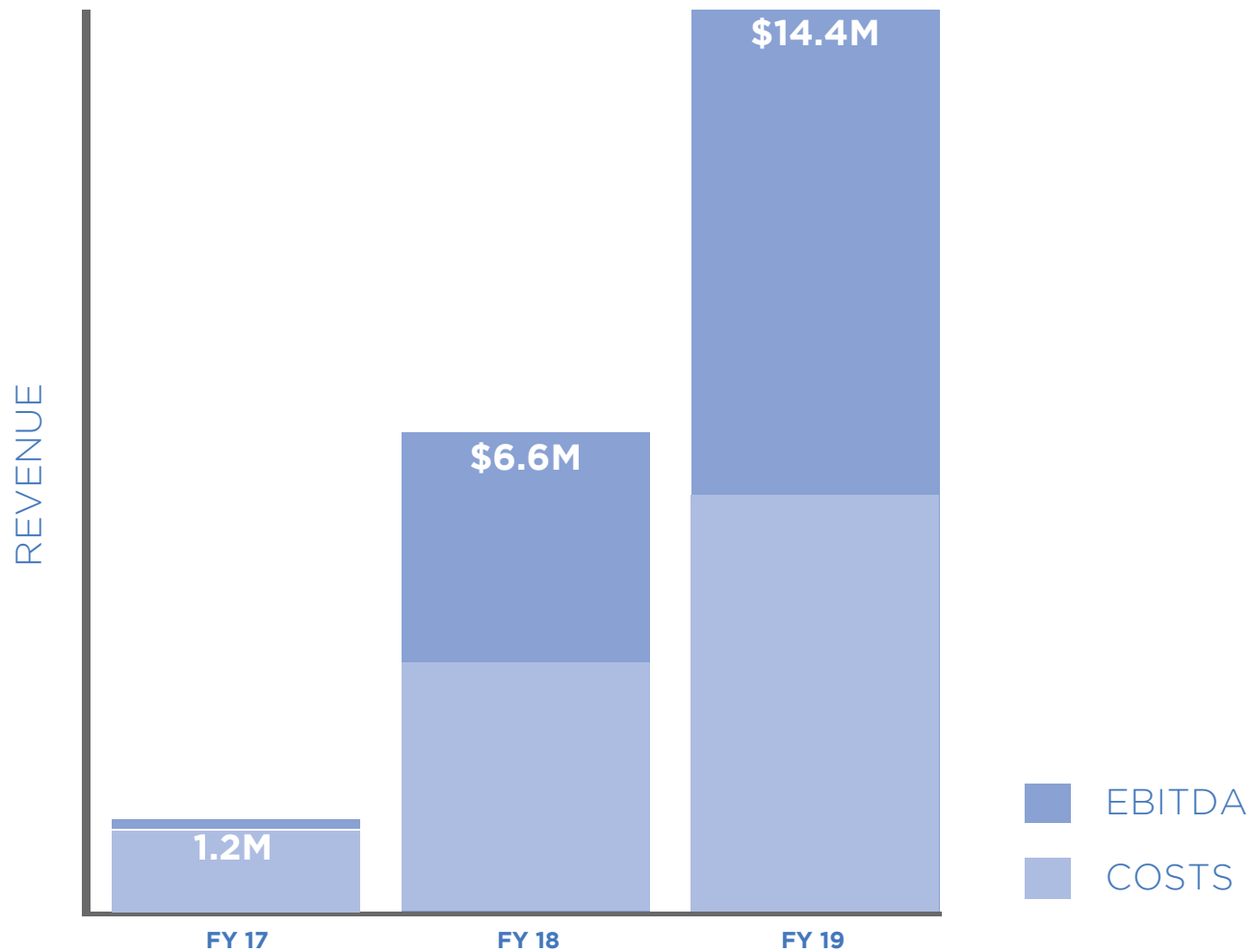
Sliding suction cups and their application in climbing robots

Country	Appln No.	Grant No.	Status
New Zealand	595509	595509	Granted. Next renewal due 01/10/2016
Australia	2012316878		Awaiting examination. Next renewal due 1/10/2016
Europe	12836922.0		Search report and patentability opinion issued - response approved and submitted. Next renewal due 31/10/2016
USA	14/348529		Under examination - response to examiner filed and awaiting further action from examiner

Invert Robotics' services will become the international benchmark standard in delivering value to channel providers and asset owners alike.

A COMPELLING FINANCIAL PROPOSITION

PROFORMA PROJECTIONS



A GOVERNANCE STRUCTURE POSITIONED FOR GROWTH



**Neil Fletcher,
Executive Chairman**

With a career spanning over 25 years in international technology organisations, Neil is highly experienced in commercialising technology and was most recently CEO of a software and services organisation delivering solutions worldwide.



**David Wade,
Director**

With deep governance experience focused on financial, commercial and operations, David has spent the last 25+ years in international technology businesses. David held several board roles and recently was the Acting CEO for the Tait Group where he was CFO for 16 years.



**Dr Stephen Hampson,
Director**

MD of Powerhouse Ventures. His career has been dedicated to transforming new knowledge into commercial success. Stephen established Powerhouse Ventures in 2006 and has overseen the incubation and growth of more than 50 companies.

CropLogic

Jamie Cairns, Chief Executive Officer

Powerhouse 31.3%

Powerhouse + Co-investors 62.2%

(as at 30 June 2016)



Transforming
the agronomy
service industry

CROPLOGIC[™]

Investment highlights

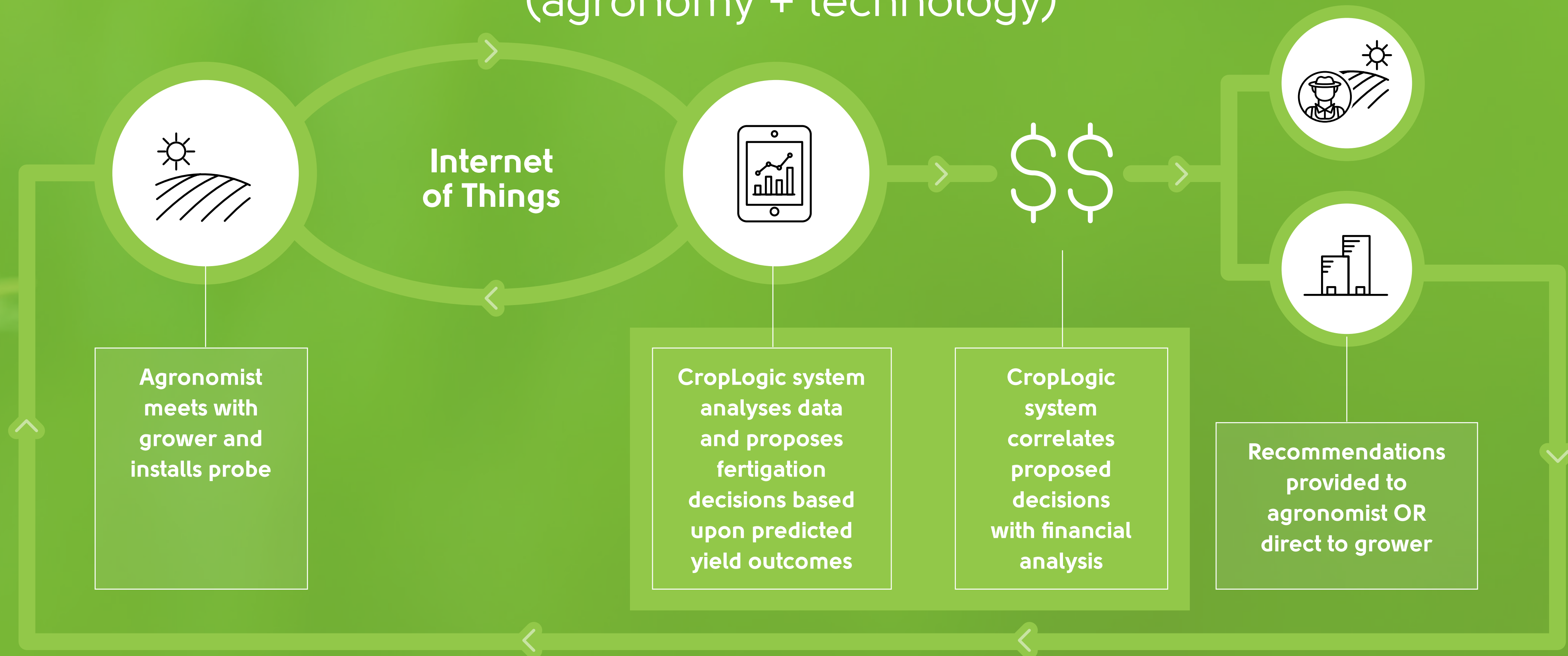
- 01 CropLogic uses complex modelling and Internet of Things technologies to predict crop yield outcomes and support agronomic decision making
- 02 Blue chip customers (e.g. McCain – worlds largest supplier of french fries)
- 03 Established presence in US
 - Three years of trials
 - Acquisition target secured
- 04 Initial target is the high-value potato crop. Corn, Cotton, Soybean, and Wheat to follow.

- 05 90% profit increase for potato growers achievable from 6.25% overall yield increase
- 06 Technology validated through field trials in the US, China, Australia and New Zealand with global food brands such as PepsiCo (largest producers of potato chips in the world), Simplot, ConAgra, and McCain Foods.
- 07 Intellectual Property position secured through exclusive license of PCT Patent and through trade secrets gained through 3 decades of research



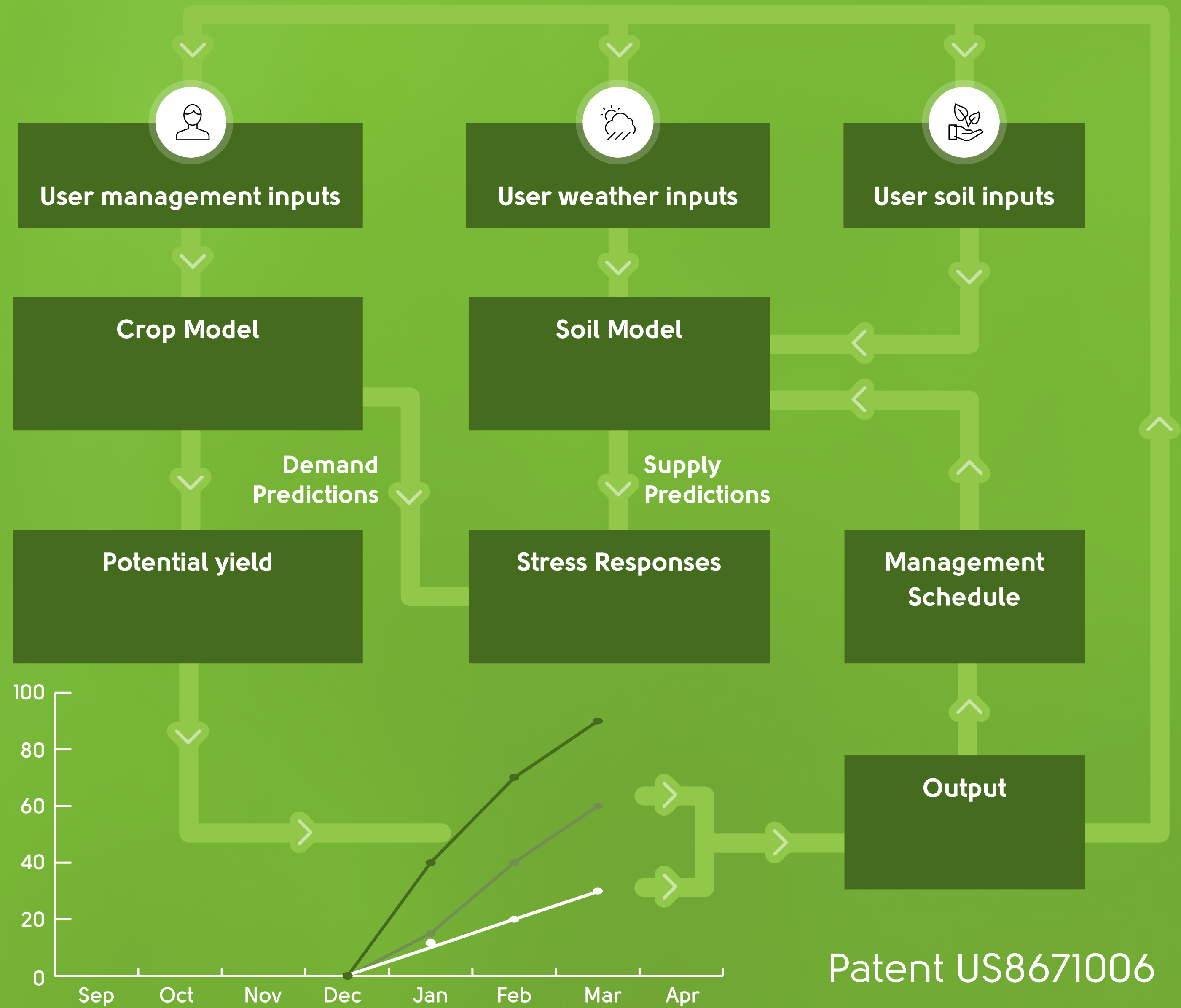
What is the CropLogic System and how does it differ from current practices?

(agronomy + technology)



The technology

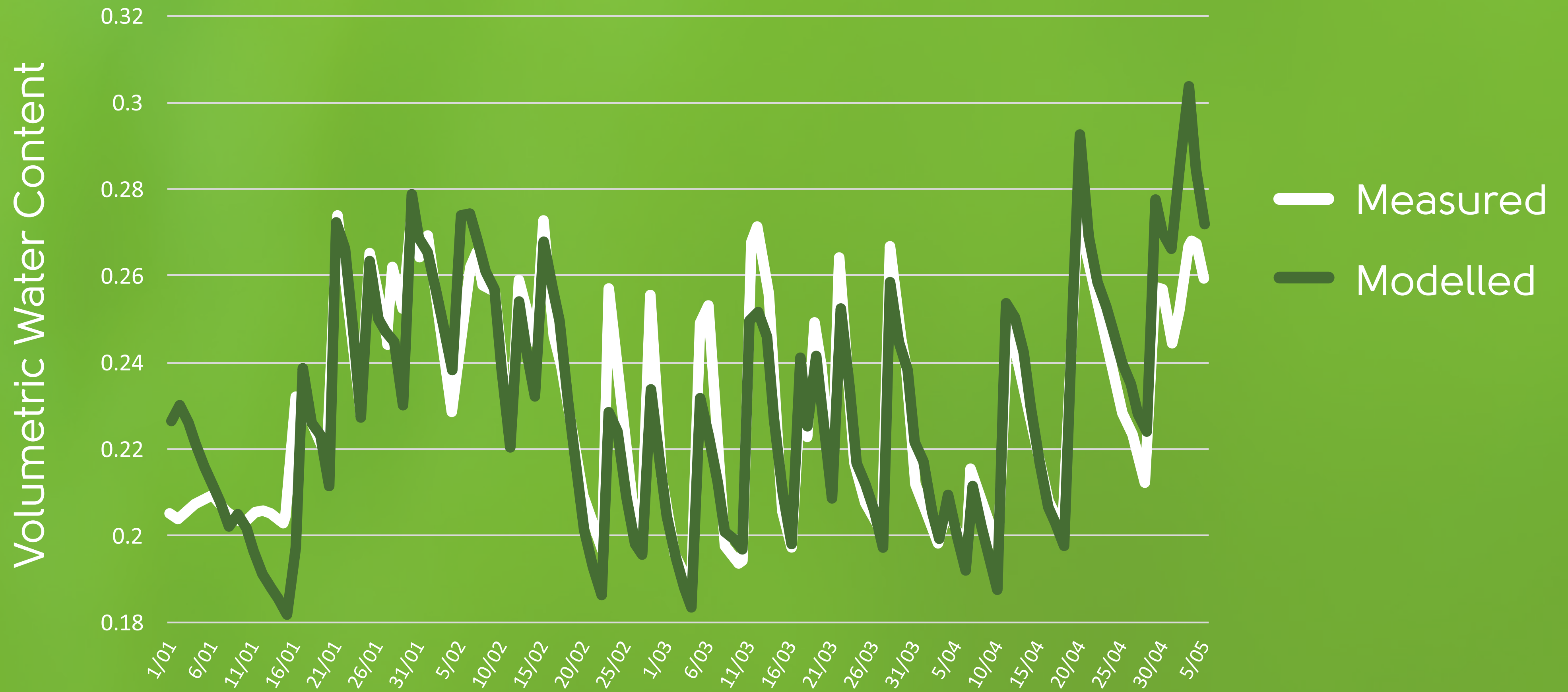
Not just a system of probes



Patent US8671006

Data validation

Modelled outputs validate inputs



Validation increases data accuracy and greatly improves exception management

30 years of research and 5 years of trials

Over 65,000 acres of trials from 2011 with key food processing companies.



United States
504 field trials,
Lamb Weston
29 field trials,
Frito-Lay



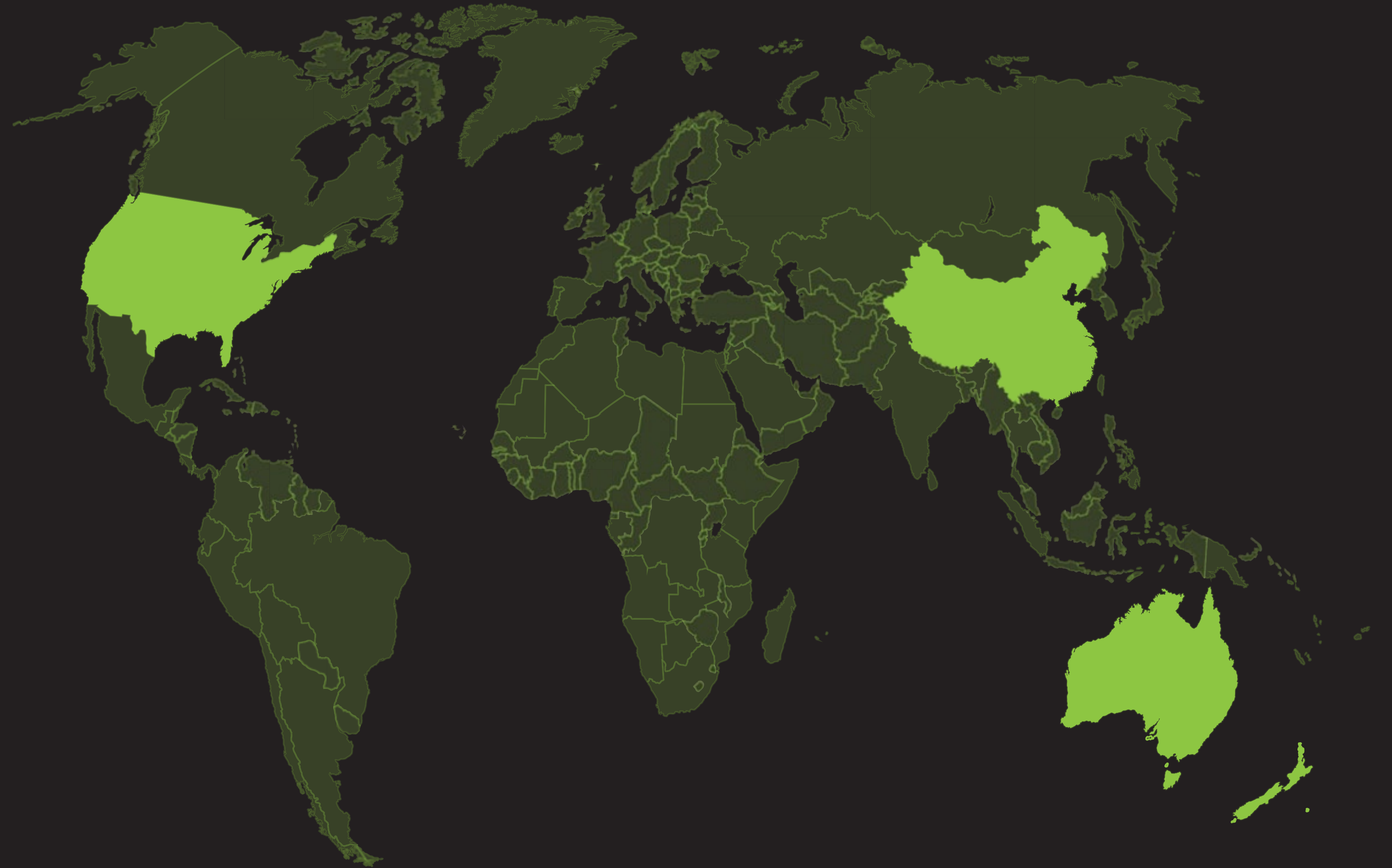
China
18 field trials,
PepsiCo



New Zealand
124 field trials,
McCain Foods



Australia
2 field trials,
Simplot



Revenue growth through commercial roll out of Potato model

A two-fold approach

01

Recurring revenue model

- a. CropLogic agronomy services to growers

02

Top down approach utilising our current buyer relationships

- a. Food processors



CropLogic Revenue

A Business to Business
per-acre per-crop recurring
subscription model



Value for growers

Up to 90% increase in bottom line



Target subscription fees of \$25 - \$35 per acre per crop



Increased yields



Increased Profits

All figures in \$USD	END VALUE TO GROWER	
	Currently	With CropLogic
Revenue	\$3,045	\$3,235 (+6.25%)
Operating Costs		
Seed	\$331	\$331
Fertilizer and chemicals	\$702	\$690
Water	\$109	\$109
Custom Services	\$94	\$72
CropLogic Services	–	\$35
Labor and other	\$582	\$582
Ownership costs	\$1,030	\$1,030
Total	\$2,848	\$2,849
Profit per acre	\$197	\$386
BOTTOM LINE (for 1000 acres)	\$197,000	\$386,000 (+>90%)

Top down approach – influencers



CropLogic has good relationships with many of the major potato processors globally.
These buyers like the CropLogic model for three reasons:



Reducing costs

increasing globalisation of the food industry has put downward pressure upon food prices



Supply-chain management

global population growth and diet changes have increased demand for food



Environmental pressures

increasing awareness of the environmental impact of cropping and an increased consumer demand for processors to demonstrate sustainability in commodity inputs

CropLogic will continue to build upon these existing relationships to build processor promotion and advocacy

Size of target market



29 million acres
USD \$1 Billion Annually

29 million acres meet CropLogic's Target Farm criteria in the USA.

At US\$35 per acre this is a potential revenue of USD\$1 billion per annum.

Why USA first?

- This is due to relationships and brand recognition from previous trials
- Relationships and brand recognition that has been developed through successful trials
- The marketability of uptake of the CropLogic system in this region to other regions.



1000 acres
or more

Target Farms
Irrigated cropping farms of 1,000 acres or more



60 million acres
USD \$2 Billion Annually

Outside the U.S.
Approximately 60 million acres meet CropLogic's Target Farm criteria.

At US\$35 per acre this is a potential revenue of USD\$2 billion per annum.



Size of addressable market likely to grow

With the cost efficiency and increased capability of the CropLogic system this market is likely to grow.

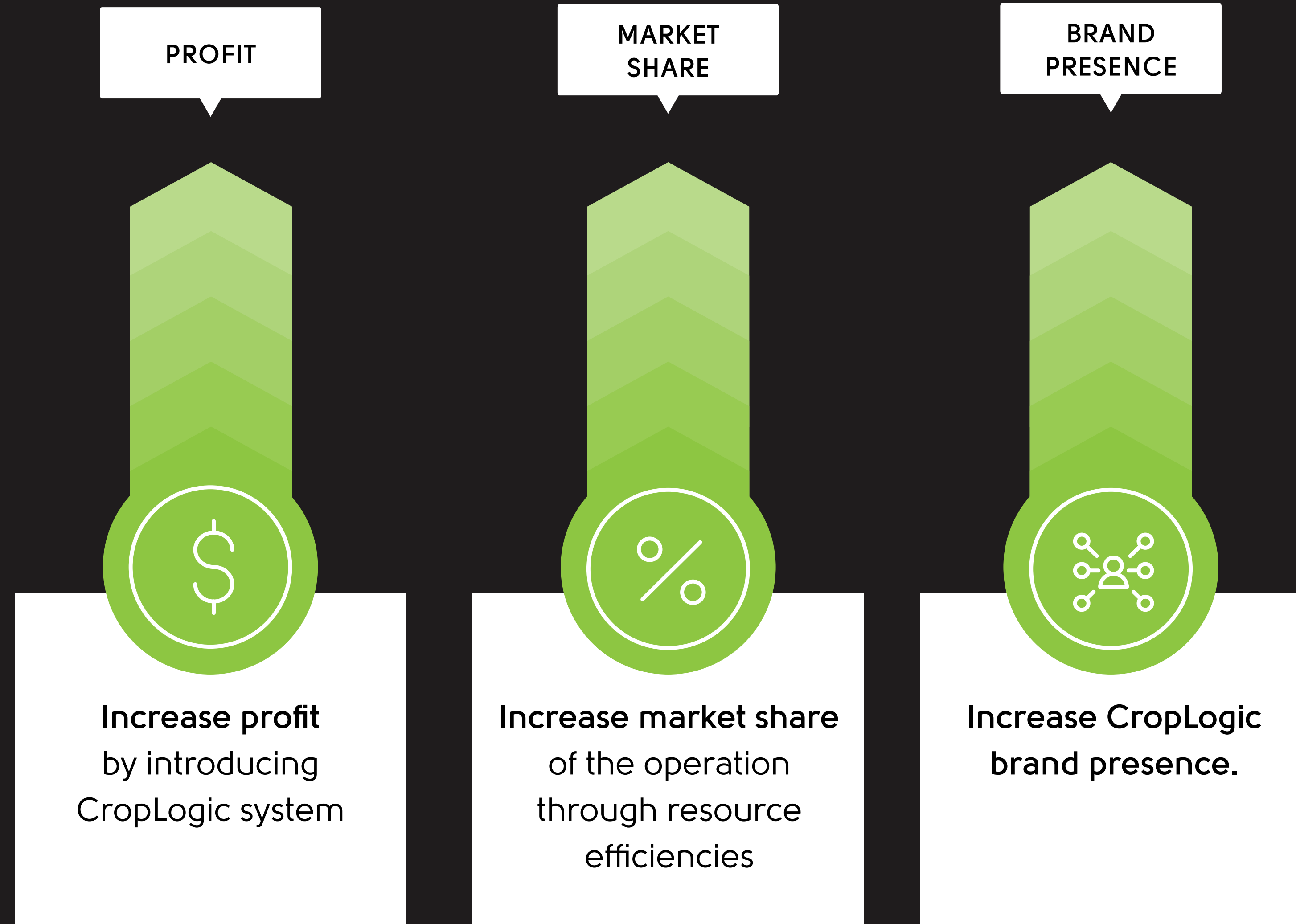
Chinese Market

China has more acres under irrigation than any other country;

CropLogic plans to target the Chinese market building on relationships developed from successful trials with PepsiCo in this country



Strategic Industry Acquisitions



USA Strategic Acquisition

Provides immediate:



Footprint in the largest USA potato-producing region



Acres under management – currently approx. 100,000



Growth opportunities



Three-year payout period



Wider access to the lucrative North American agricultural industry



50 years industry experience in the principals (remaining with the company)



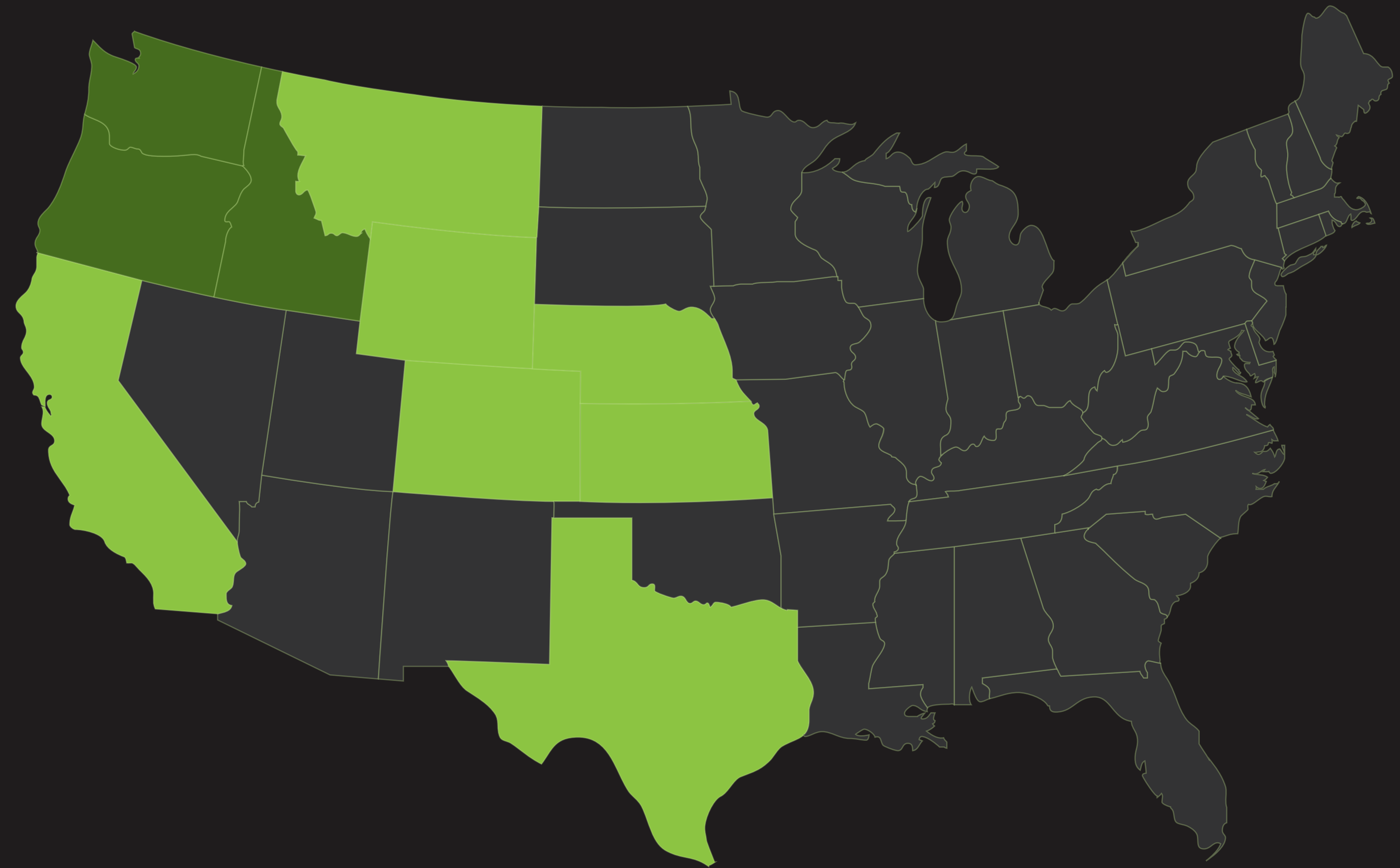
- Binding Term Sheet signed November 2016
- Settlement 28th February 2017
- Settlement fee on signing S&P
- And then pay-out over a three year period
- Non-Compete (restraint of trade) for 5 years.

USA Strategic Acquisition

Entry into key USA irrigation states

65%

10 Western States
represent 65% of
all irrigated acres in
the USA



Board of Directors



John Beattie
Chairman

John was Founder Chairman of Genesis Research & Development Ltd, New Zealand's first listed biotech company. He was General Manager at Brierley Investments Ltd for 12 years and currently chairs the Commercial Committee of the Malaghan Institute of Medical Research. John is an advisor to PowerHouse Ventures.



Stephen Hampson
Director

Stephen was inaugural Chief Executive of the award winning Canterbury Innovation Incubator before establishing Powerhouse Ventures, of which he is currently the Managing Director. In this role, he has overseen the incubation and growth of more than 50 companies. Stephen has previously led innovative, high growth companies in Europe.



Peter Roborgh
Director

Peter has over 20 years experience in marketing and general management in FMCG, financial services, utilities and business services in New Zealand and Asia. After accepting a takeover offer of an IT company he set up, Peter joined the CropLogic board to provide his expertise in customer focussed business.



Steve Wakefield
Director

Steve has been with accounting and management firm, Deloitte, for 30 years where he is a senior partner. He is also the Deputy Chair of the Canterbury District Health Board. Steve was named as the country's top Chartered Accountant in 2012 in the NZICA annual Leadership Awards.

Management



CEO

Jamie Cairns

Jamie was the CEO at Snap Internet where he led the transformation of the company from a residential telco into a successful nationwide service provider. As well as co-founding a datacentre company and growing an ICT service company in London, he has also held numerous consulting roles, including for the UK Ministry of Defence.



COO

Matthew Journee

Matthew has broad operational, project and engineering management experience in new technology companies in both New Zealand and the United Kingdom. He is a Fellow of the UK IMechE. Matthew has also had experience in the venture capital industry where he specialised in technology transfer and commercialising research.



Capital Markets Advisor

James Cooper-Jones

James' career has seen him hold accounting and secretarial roles in companies in the resources, agriculture, import / export and information technology industries. James has also gained experience in Initial Public Offerings, take-overs, asset valuation and sale negotiations, rights and entitlement issues and other capital raising mechanisms.

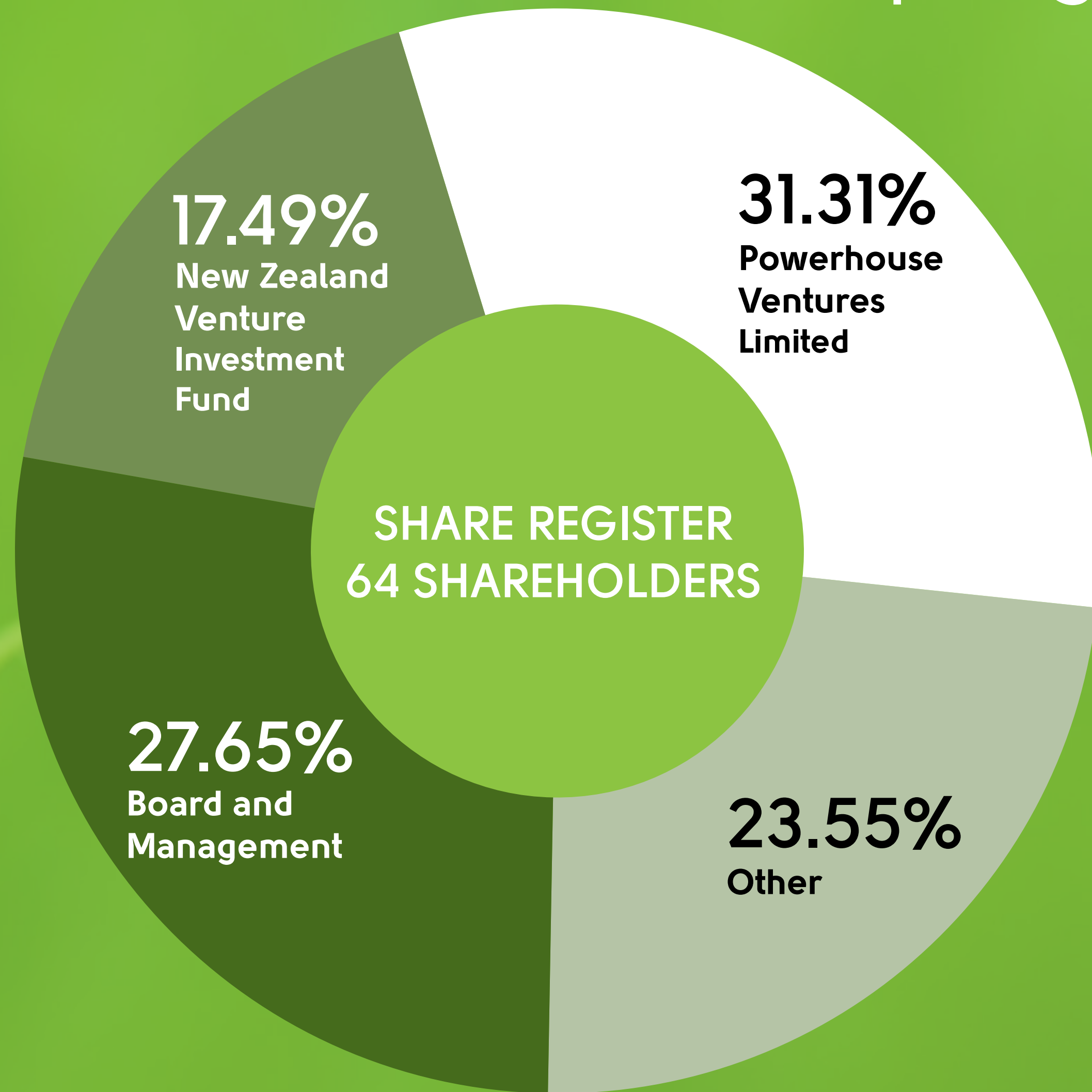


CTO

David Rankin

Dave was the CEO of an agricultural data company prior to its acquisition by CropLogic. He pioneered the use of innovative, mesh network systems in the New Zealand viticulture industry for environmental monitoring and control. Dave has broad research and industrial experience in communications, field sensing and systems modelling.

CropLogic at a glance



Total capital raised to date	NZD\$4.7 mil
Total Shares on issue	178,733
Last raise price	\$60/Share
Capitalisation	\$10.7 mil

Strong institutional and government support



Powerhouse Ventures Limited

New Zealand based technology commercialisation company.



New Zealand Venture Investment Fund (NZVIF)

The NZVIF was established by the New Zealand government in 2002 to build a vibrant early stage investment market in New Zealand. NZVIF currently has \$300 million under management.



Callaghan Innovation Limited

Crown Agency set up by the New Zealand government in 2013 to invest in innovative technologies.



Plant & Food Research

A leading New Zealand Crown Research institute focussed on crop and food research and development.

Milestones for the next 12 months

01

Western USA
agronomy firm
acquisition
imminent

02

Australian
agronomy firm
acquisition

03

IPO – planned
listing Q2/Q3 2017



For more information contact:



Jamie Cairns

jamie.cairns@croplogic.com

+64 21 645 445



James Cooper-Jones

james.cooper-jones@croplogic.com

+61 419 978 062

MARS Bioimaging

Colin Dawson, Director
(and Chief Operating Officer, Powerhouse)

Powerhouse	8.5%
Powerhouse + Co-investors	12.8%

(as at 30 June 2016)



mars

Medipix All Resolution System

Spectral molecular imaging

- ↖ single machine
- ↖ single scan

providing

- ↖ tissue constituents
- ↖ quantification of biochemistry
- ↖ lower drug development costs

Location: New Zealand

Founded: 2007

Industry: Medical Imaging

Stage: Post-seed

why MARS Bioimaging?

- strong IP
- growth markets
- existing customers
- high value exit

Intellectual property:

- CERN
- proprietary

Target markets:

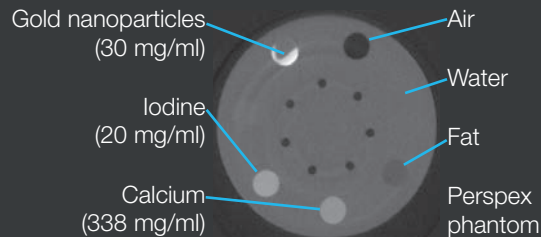
- pharmaceutical
- research
- academic
- clinical

Reference customers:

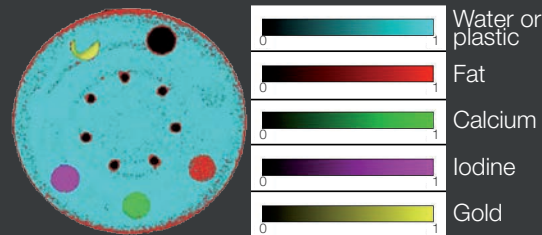
- Mayo Clinic, USA
- Virginia Tech, USA
- Rensselaer Polytechnic Institute, USA
- University of Notre Dame, USA
- Oregon Health & Science University, USA
- University of Otago, Christchurch

molecular information – comparison with traditional CT

traditional x-ray CT imaging



MARS spectral CT imaging



drug discovery – preclinical trials

- ↪ reduced costs
- ↪ faster development
- ↪ better information

“In vivo imaging is expected to have greatest impact in drug development...”

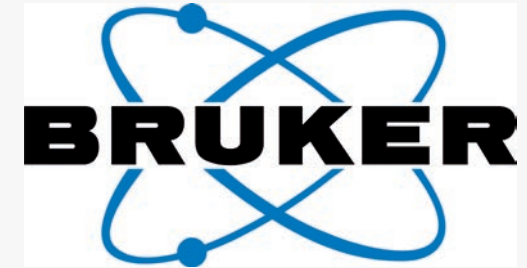
Dr John Comley
Drug Discovery World, 2011

medical imaging

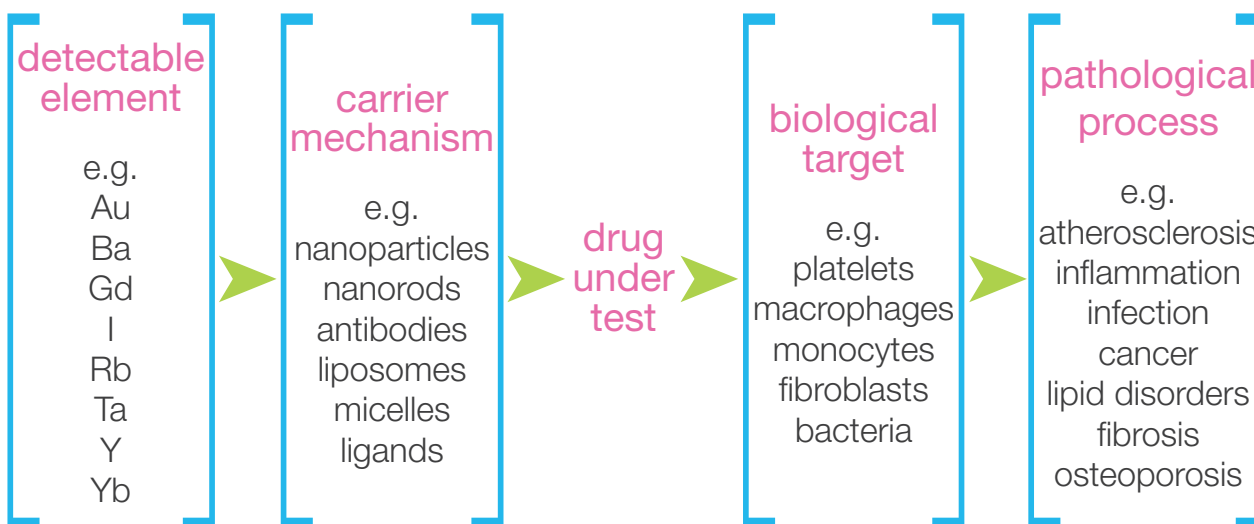
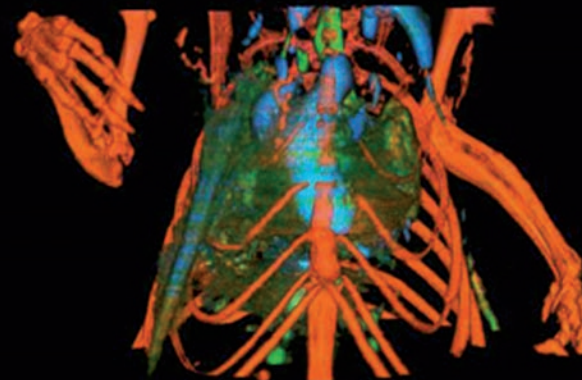
↪ US\$27.4 billion

pre-clinical imaging

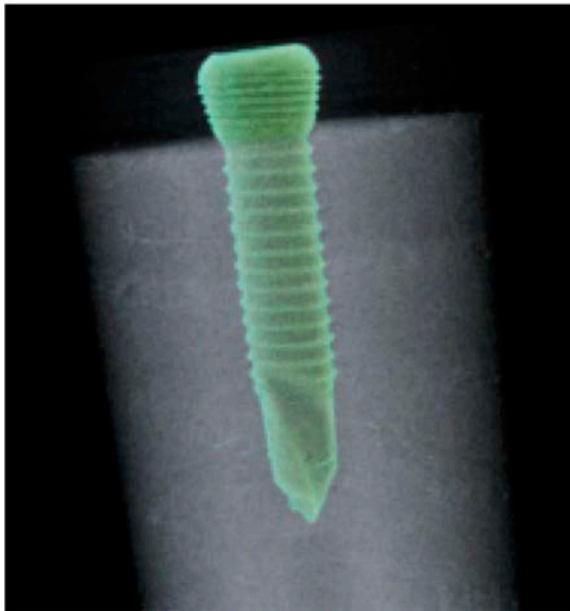
↪ US\$1.7 billion, 14% CAGR



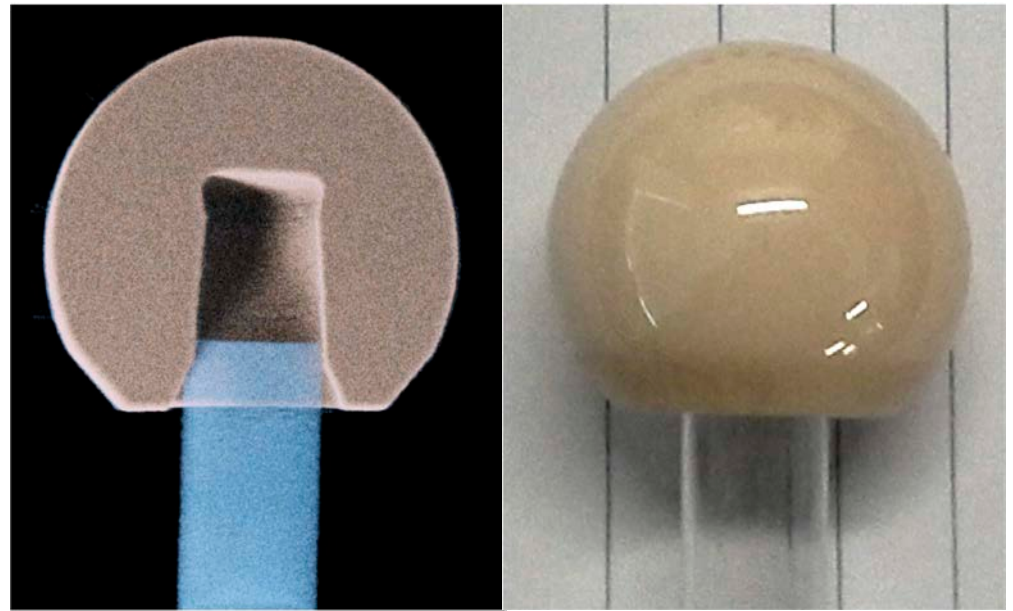
MARS is a new imaging modality – spectral CT



removal of beam hardening artifacts

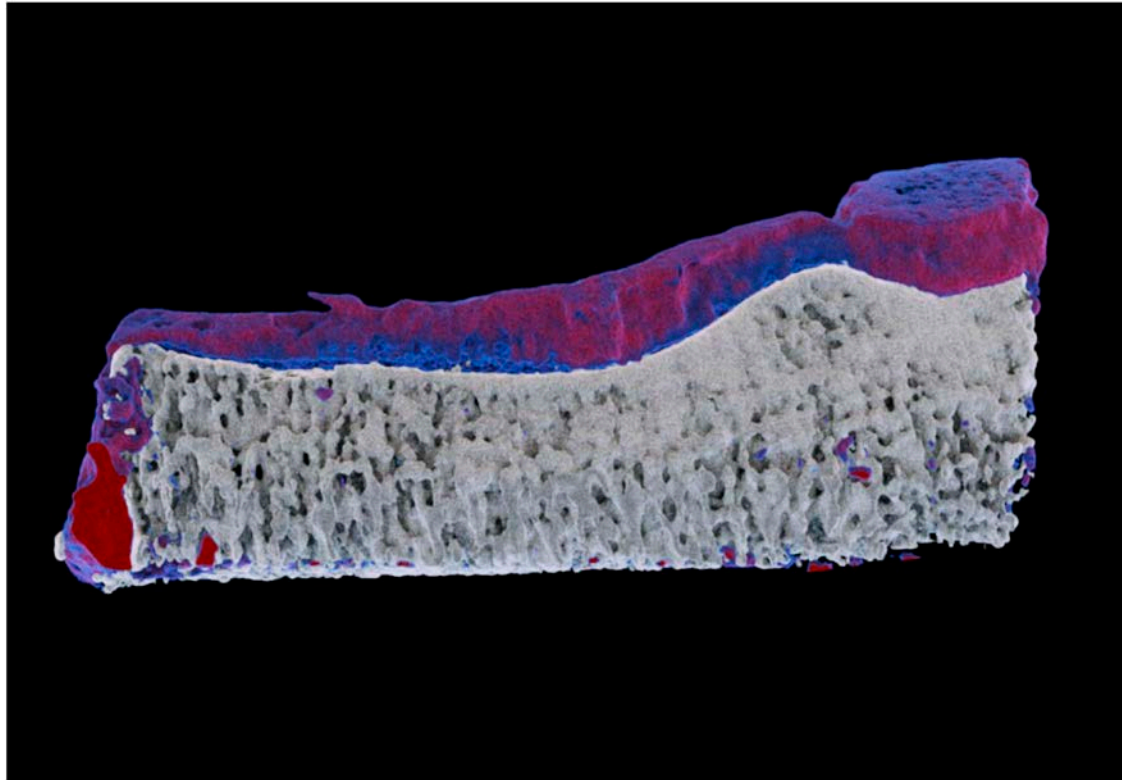


titanium screw in
PMMA



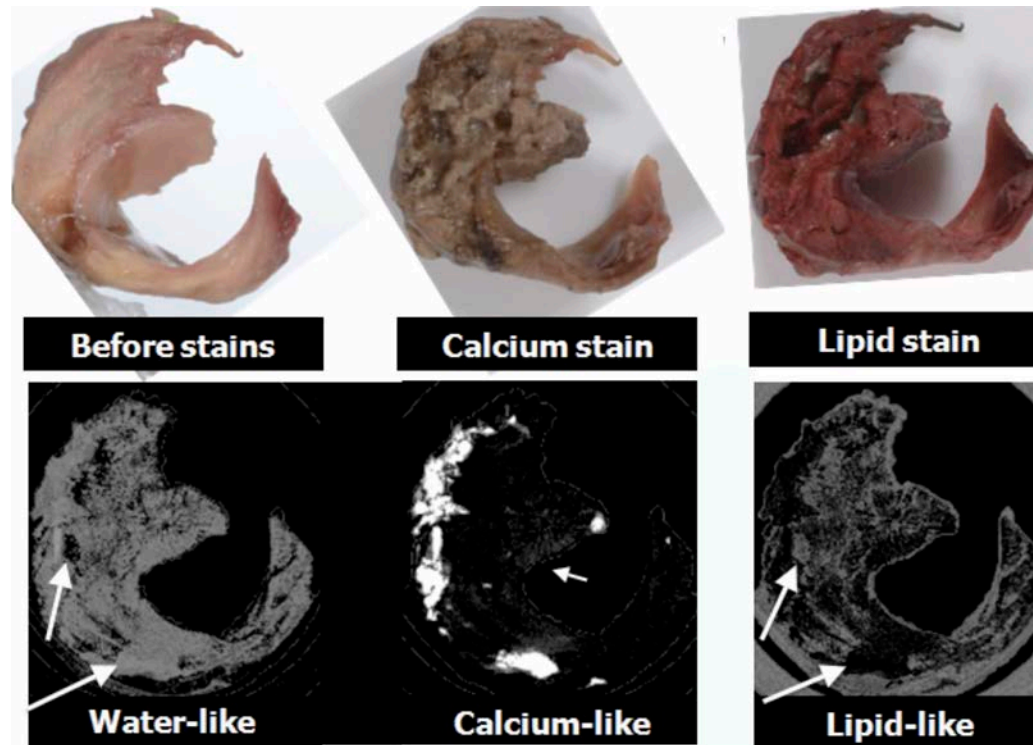
CoCr femoral head
with PMMA shaft

measurement of cartilage health in excised human tibial cartilage



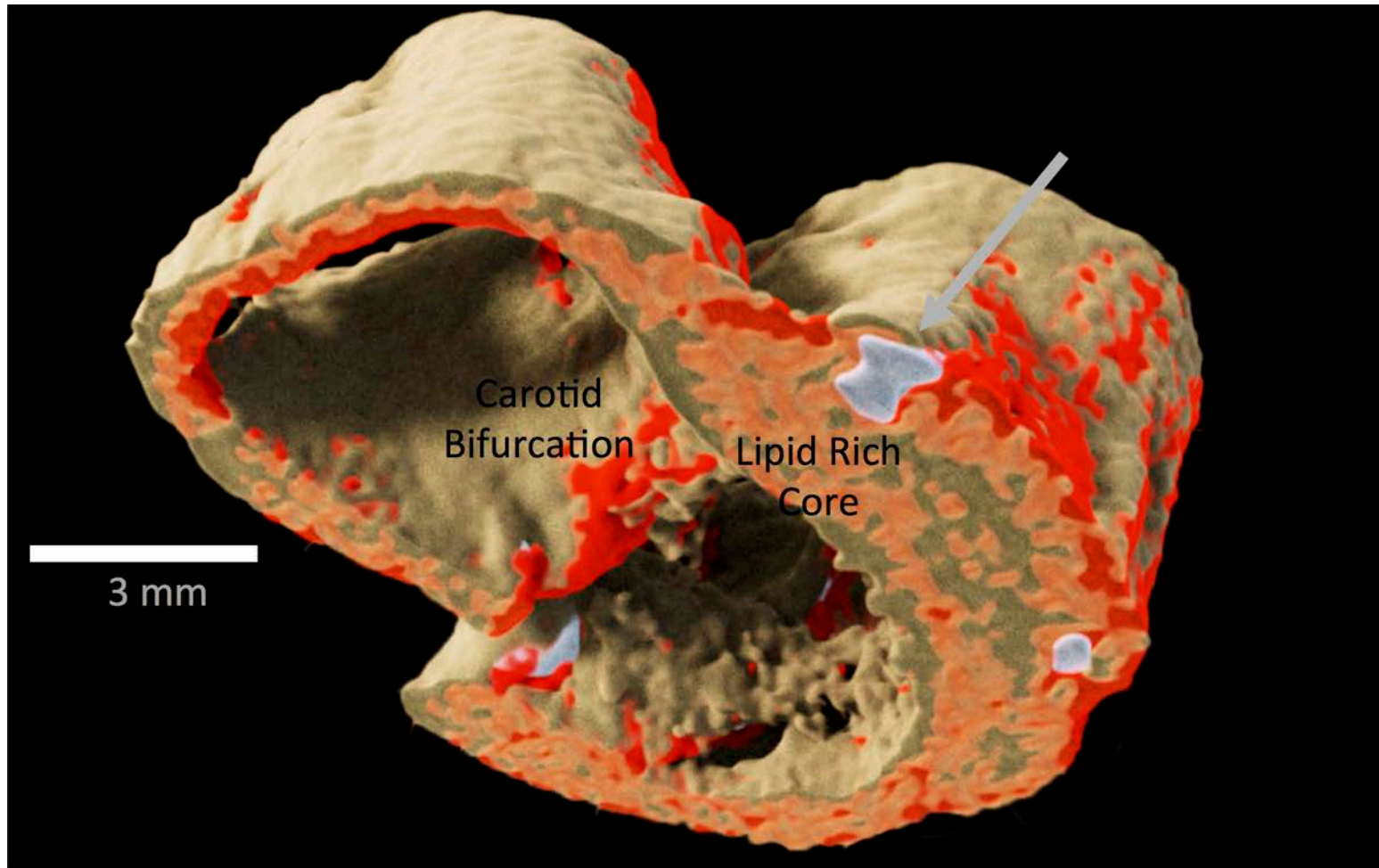
funded by NZ Arthritis Foundation

better characterisation of atheroma plaque

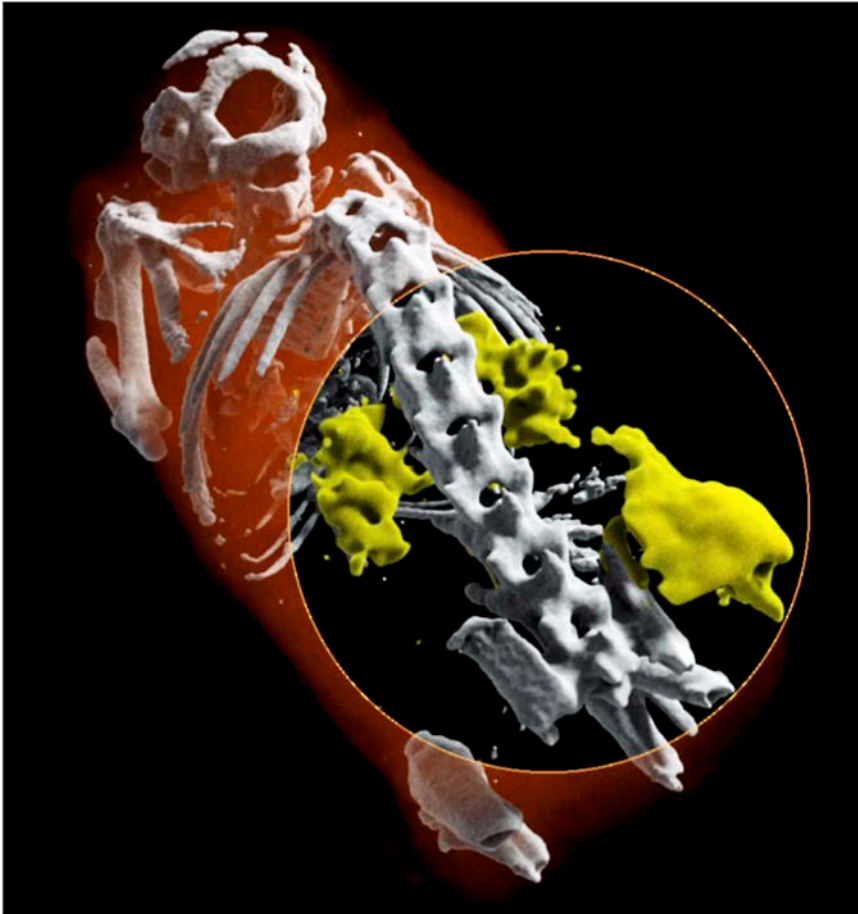


funded by NZ Heart Foundation

better characterisation of atheroma plaque



better characterisation and better drug delivery



proof of concept:
Au-nano probes
measured in Lewis Lung
cancer model

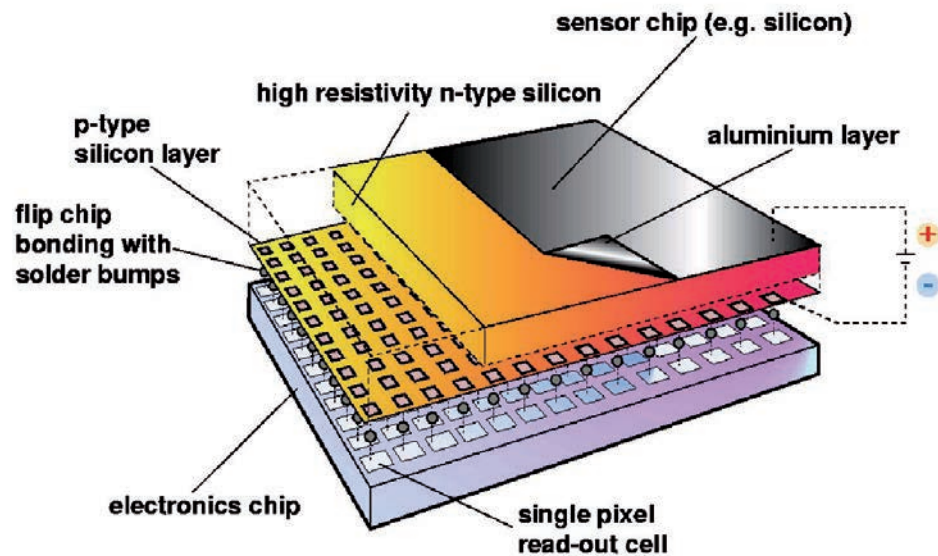
MARS spectral CT systems



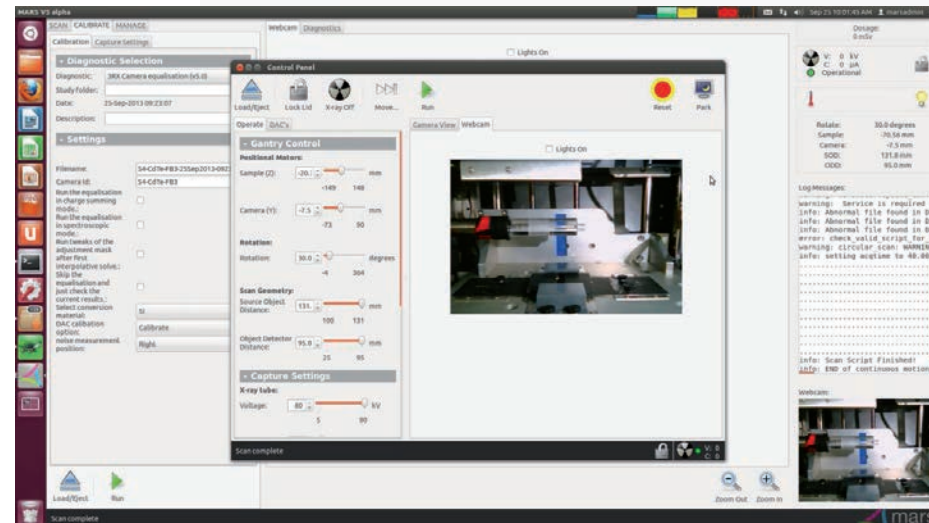
MARS spectral CT camera systems



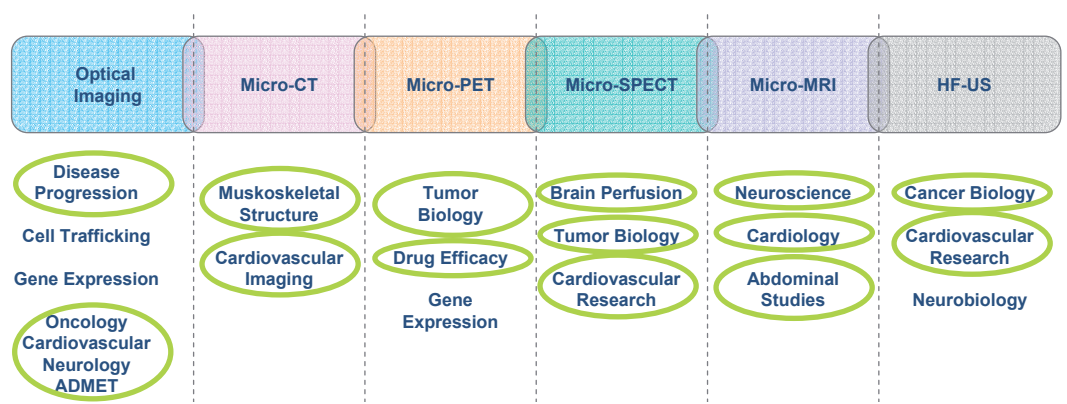
photon processing Medipix3 detectors



proprietary hardware
& software solutions

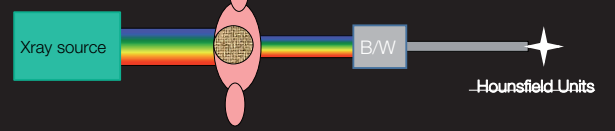


MARS: structure & function

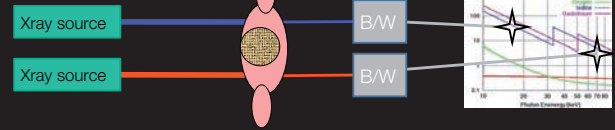


Source: Frost & Sullivan report M2AB
 Key: = MARS capability

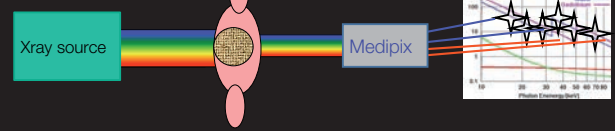
standard CT



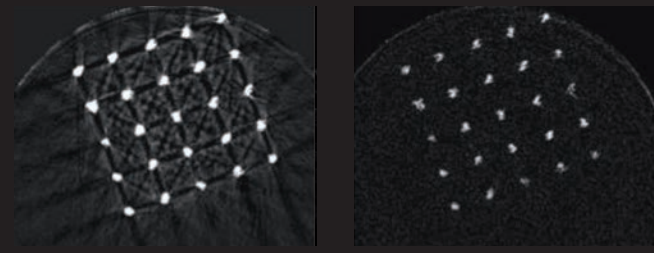
dual energy CT



MARS CT



imaging metal (e.g. Ti) scaffolds



broad energy band imaging shows streak artefacts

narrow energy band imaging eliminates streak artefacts

1. preclinical small animal imaging
2. OEM spectral CT camera systems
3. other CT scanners or camera systems

reference customers:



team

- Phil Butler – CEO
- Anthony Butler – CTO
- technical & clinical team
- scientific advisory



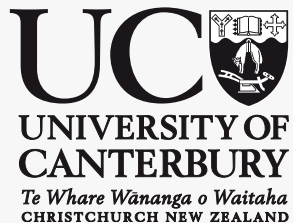
Phil Butler
chair



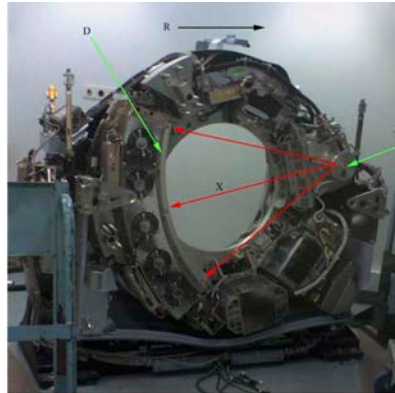
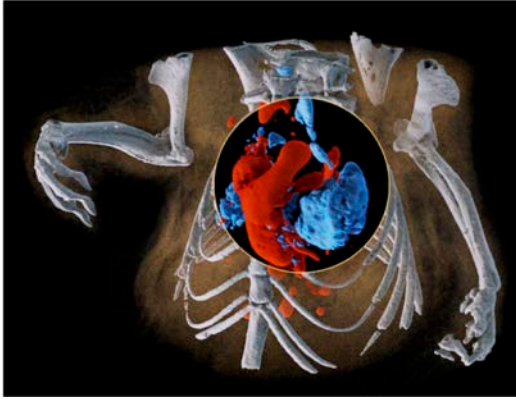
Anthony Butler
director



Colin Dawson
director



powerHouse



funded by NZ government
NZ\$12 million, 2014–2020



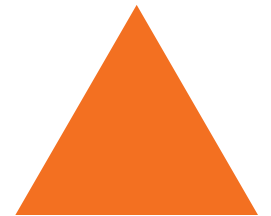
“Clearly, the next major step in our field is spectral CT...”

Professor Ge Wang
Clark & Crossan Endowed Chair
Director
Biomedical Imaging Cluster
Rensselaer Polytechnic Institute

powerHouse

Panel session

Chairman: Jo May (Lodge Partners)



Thank you

Contact details:

Stephen Hampson

Managing Director

+64 27 227 9854

stephen.hampson@powerhouse-ventures.co.nz

Paul Viney

CFO/Company Secretary

+64 21 084 72029

paul.viney@powerhouse-ventures.co.nz

Greg Slade

Investor Relations

greg@sladeir.com

+61 48 891 7882



Powerhouse Ventures Limited

Portfolio Appendix

Post-seed companies



ArcActive is developing a carbon fibre negative electrode for lead acid batteries to improve fuel economy in Start-Stop/Micro-Hybrid vehicles (MHV). The MHV is expected to be the mass-market car for at least 20 years with demand estimated to grow from 3m batteries in 2010 to 100m in 2020 – a US\$12b market.

ArcActive has one of only a handful of technologies that have real prospects of addressing the market's cost and recharge rate performance requirements. The electrodes are based on research pioneered at the University of Canterbury into continuous production of carbon nanotubes. The carbon fibre material may be used in a number of potential products, but ArcActive's initial focus is on the battery electrode.

Originating institution

University of Canterbury

Timing of initial investment

2011

Sector

Engineering & Cleantech

Powerhouse equity interest at 30.06.16

6.4%

Other shareholders

Other shareholders	93.6%
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High-volume crop growers and processors have significant challenges ahead in order to meet rising food-demand. Growers need to optimise resources and processors need to plan to ensure efficient processing.

CropLogic delivers specialist agronomy services to growers using technology developed over 30 years at The New Zealand Institute for Plant & Food Research. CropLogic brings together crop science, environmental data and agronomic expertise to offer input for daily decision making that improves on typical "rule of thumb" recommendations. In addition to its expert system, CropLogic provides the telemetry required to gather field data.

Following more than 65,000 acres of field trials in the USA, NZ, Australia and China, CropLogic is embarking on strategic acquisitions of agronomy services companies in target countries.

Originating institution

New Zealand Institute for Plant & Food Research Ltd

Timing of initial investment

2010

Sector

Agritech & Environmental

Powerhouse equity interest at 30.06.16

31.3%

Other shareholders

NZVIF Investments Ltd	17.5%
Powerhouse No.2 Nominee Ltd	13.4%
New Zealand Institute for Plant & Food Research Ltd	3.4%
Other shareholders	34.5%



Globally, environmental pressures are driving the increase in hydro-generation of electricity.

HydroWorks has the ability to design, manufacture and supply hydro-turbines with worldclass efficiencies and tolerances, providing customers with an increase in generated electricity and lower lifetime costs, resulting in increased profits.

With installations across New Zealand already, from Dunedin in the South to Auckland in the North and also internationally, the potential of the next generation InRace turbines for the irrigation market in NZ is sizeable.

Originating institution

Founder-led but core IP developed at the University of Canterbury

Timing of initial investment

2010

Sector

Engineering & Cleantech

Powerhouse equity interest at 30.06.16

22.7%

Other shareholders

Founder	30.4%
Powerhouse No.1 Nominee Ltd	18.3%
NZVIF Investments Ltd	17.3%
Other shareholders	11.2%

Post-seed companies



Within the food-processing industry, food-safety is driven by eliminating bacterial contamination which can be harboured by cracks in industrial vessels such as tanks, dryers, silos. Historically these vessels have been serviced by scaffold or rope-based inspections, a hazardous process which is prone to errors.

Invert Robotics provides remote inspection services to global blue chip customers using its proprietary robotics technology. The mobile climbing robot system allows identification, recording and reporting of cracks in mission critical infrastructure.

Invert is currently expanding geographically into Europe, following success with inspection of milk silos and dryers in Australasia.

Originating institution

University of Canterbury

Timing of initial investment

2011

Sector

Agritech & Environmental

Powerhouse equity interest at 30.06.16

37.4%

Other shareholders

NZVIF Investments Ltd	24.6%
Founders	8.5%
Powerhouse No.2 Nominee Ltd	2.4%
Other shareholders	27.1%



Pharmaceutical companies currently spend ~US\$1.5b developing each new drug. It can take 12–24 months for the pre-clinical trials of ~250 prospective drugs, with only 5 proceeding to clinical trials. These companies have a strong need for tools that will speed up this elimination process and aid getting drugs onto the market quicker.

MARS Bioimaging (MBI) has developed a small animal x-ray molecular imaging system that has spectral resolution, using CERN developed detector technology. This additional “colour” information provides new imaging capabilities.

Having initially targeted key opinion leaders, MBI has launched its first commercial release system and is now building a human scanner.

Originating institution

University of Canterbury

Timing of initial investment

2013

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

8.5%

Other shareholders

Founders	74.1%
Powerhouse No. 4 Nominee Ltd	4.3%
Other shareholders	13.1%



The architecture and construction industry is going through a rapid shift from 2D CAD (Computer Aided Design) to modelling buildings in full 3D BIM (Building Information Modeling).

Modlar's core product is a network which connects architects to building products manufacturers. This allows architects to more easily discover, discuss and specify real world products into their projects in full 3D. This in turn speeds up the design process and reduces errors on site.

Having raised approximately NZ\$3 million of venture capital, the company is now rapidly expanding into the North American market. Modlar is currently used by 130,000+ professionals globally including 80% of the world's top 100 firms.

Originating institution

Ara Institute (Christchurch Polytechnic Institute of Technology)

Timing of initial investment

2011

Sector

Digital & ICT

Powerhouse equity interest at 30.06.16

13.5%

Other shareholders

Other Co-investors	45.0%
Founder	27.6%
NZVIF Investments Ltd	12.9%
Other shareholders	1.0%

Post-seed companies



Volatile organic compounds (VOCs) are organic chemicals, many of which are dangerous to human health or cause harm to the environment. However, detection and monitoring is difficult.

Syft uses technology developed at the University of Canterbury and known as Selected Ion Flow Tube Mass Spectrometry (SIFT-MS) to develop, manufacture and market solutions for analysing VOCs.

Solutions are in place for multiple markets including: soil and mud samples in the oil and gas sector; and environmental air analysis for example in container shipyards, vehicle emissions, landfill and more.

Originating institution

University of Canterbury

Timing of initial investment

2012

Sector

Engineering & Cleantech

Powerhouse equity interest at 30.06.16

1.6%

Other shareholders

Canterprise Ltd ¹	1.0%
Other shareholders	97.4%

Seed companies



The global mobile marketing sector is a high-growth area that is seeing innovation as technology and marketing mix, with consumers becoming increasingly 'connected' and smartphone technology becoming almost ubiquitous in the modern world.

Motim Technologies has developed a range of mobile interaction technologies, based on expertise in computer vision, augmented reality, image-recognition and mobile-software development alongside creative experience and expertise.

Securing direct relationships with major global brands is validation that Motim has a special proposition and the ability to execute and deliver on a global stage.

Originating institution

University of Canterbury

Timing of initial investment

2012

Sector

Digital & ICT

Powerhouse equity interest at 30.06.16

41.8%

Other shareholders

NZVIF Investments Ltd	14.5%
Founders	9.0%
Powerhouse No.3 Nominee Ltd	6.5%
Other shareholders	28.1%



SolarBright is positioned to capitalise on the LED and Solar LED lighting phenomena that are changing the way the world is illuminated.

SolarBright is taking its innovation and manufacturing excellence to the international market with customers in over 20 countries, including the World Bank, government agencies, local authorities and blue-chip companies.

SolarBright's approach of innovation and collaboration has led to use of its patented products in a wide range of applications and markets – from the supply and installation of solar street lighting in Pacific islands to development and manufacture of PATeye, the world's first commercially-available solar-powered ice-detection road stud.

Originating institution

Founder-led

Timing of initial investment

2012

Sector

Engineering & Cleantech

Powerhouse equity interest at 30.06.16

38.4%

Other shareholders

Founders	28.0%
NZVIF Investments Ltd	17.1%
Powerhouse No.3 Nominee Ltd	0.8%
Other shareholders	15.7%

VERITIDE

The food industry is driven by food-safety. Detection of harmful microorganisms through improved process control leads to higher quality food, with better shelf-life and fewer product-recalls. Annually in the US, one in six people become ill and there are 200,000 hospitalisations and 4,000 deaths, all attributable to food poisoning.

Veritide is the creator of disruptive technology for real-time detection of faecal contamination on meat within meat processing plants. Providing both portable hand-held devices and fixed full carcass scanner technology Veritide scanners can be integrated throughout each stage of the food processing line.

Working closely with major meat processors in Australasia, Veritide's platform technology has many other applications in food, health and bio-safety areas.

Originating institution

University of Canterbury

Timing of initial investment

2013

Sector

Environmental & Agritech

Powerhouse equity interest at 30.06.16

18.3%

Other shareholders

Powerhouse No.3 Nominee Ltd	30.3%
NZVIF Investments Ltd	11.4%
University of Canterbury	7.5%
Other shareholders	32.5%

Pre-seed companies



AuramerBio is a point of care biosensor company. Its novel technology allows for the accurate measurement of extremely low levels of biologically relevant molecules at the point of care. This will allow health professionals to obtain the answers and make treatment decisions, all within the time-frame of a patient consult.

AuramerBio's first product is being developed to monitor fertility hormones at levels not currently possible with existing methods. The technology can be rapidly adapted to measure a wide range of targets in liquid samples (saliva, urine, blood, environmental water) providing access to a large number of future market opportunities.

Originating institution

Victoria University of Wellington

Timing of initial investment

2016

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

14.3%

Other shareholders

Victoria Link Ltd 85.7%



Cancer immunotherapy helps to stimulate a patient's own immune system to kill cancerous tissue. It is a new class of treatment, complementary to traditional treatments (surgery, radiation and chemotherapy). It offers a more targeted approach to eliminate tumour cells while minimising side-effects for the patient.

Avalia Immunotherapies has developed a novel technology platform to generate therapeutic vaccines for cancer immunotherapy. The new technology can also be used to make prophylactic vaccines for the prevention of infectious disease.

Avalia Immunotherapies intends to build a product pipeline and partner with larger biotech or pharmaceutical companies to progress new treatments into the clinic.

Originating institution

Victoria University of Wellington and
Malaghan Institute of Medical Research

Timing of initial investment

2015

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

13.1%

Other shareholders

Malcorp Biodiscoveries Ltd	37.9%
Victoria Link Ltd	37.1%
Otago Innovation Ltd	8.7%
NZVIF Investments Ltd	3.3%

CertusBio

Increased industrial efficiency and tighter environmental regulations are driving the global process analytical instrumentation market, currently worth US\$2.8b and projected to grow exponentially.

CertusBio's flagship biosensor technologies combined with process control systems aim to make real-world efficiency gains in the primary industries across New Zealand and overseas. Analysis and shaping has revealed an opportunity from multiple research projects.

Detecting lactose in dairy processing plants is a customer need, and rapid detection of biological oxygen demand (BOD) is another. Both can be solved using hi-tech biosensor solutions emerging from the region's research organisations.

Originating institution

Lincoln Agritech

Timing of initial investment

2015

Sector

Agritech & Environmental

Powerhouse equity interest at 30.06.16

25.3%

Other shareholders

Lincoln Agritech Ltd	20.2%
Founders	10.1%
NZVIF Investments Ltd	6.1%
Other shareholders	38.3%

Pre-seed companies



EdPotential is a SaaS product for data analytics in the education sector that can accurately assess a student's ability, allowing a school to intervene early and improve overall student achievement outcomes.

Originating institution

Victoria University of Wellington and
Macleans College of Auckland

Timing of initial investment

2016

Sector

Digital & ICT

Powerhouse equity interest at 30.06.16

Nil

Other shareholders

Victoria Link Ltd

Founders

Ferronova

Ferronova is a magnetic probe and tracer company that provides improved cancer staging. It was founded on intellectual property from Boutiq Science Ltd (a Victoria University of Wellington spinout) and University of South Australia, Adelaide.

Originating institution

University of South Australia

Timing of initial investment

2016

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

Nil

Other shareholders

University of South Australia

Founder



Over 2 Billion people use English to communicate on a regular basis every day. The negative impact of substandard english proficiency is significant and felt worldwide on both an economic and social level.

Fluent is combining new linguistic science with "big data" and machine learning to build an artificial intelligence platform that can provide improved and faster analysis of verbal communication skills and placement against real-world expectations.

This technology applies to a range of applications and industries. As a first step to market Fluent is initially applying it to language learning through a tool that will guide English language learners around the world towards real-world fluency.

Originating institution

University of Canterbury

Timing of initial investment

2015

Sector

Digital & ICT

Powerhouse equity interest at 30.06.16

21.3%

Other shareholders

Founders

78.7%

Pre-seed companies



Hi-Aspect is developing a range of new ingredients for the cosmetics and healthcare industries, based on its protein fibrils technology. These industries have an increasing need to use natural materials with sophisticated functional properties instead of synthetic nanomaterials and polymers, which can be costly, toxic and persist in the environment.

The fibrils form strong gels that bind and release active ingredients in a controllable way, while holding them close to the site of action. With dimensions of 9–50 nanometres across and up to 1000 nanometres long, the fibrils have a high surface area and act as a scaffold. They can be made from a number of proteins and tailored to different applications.

Originating institution

University of Canterbury and Plant & Food Research

Timing of initial investment

2016

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

50.0%

Other shareholders

Founder	50.0%
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Koti Technologies is developing coatings that self clean, destroy bacteria and viruses as well as pollutants in air and water, simply by being exposed to light.

Koti Technologies produces highly active, photo-catalytic coatings via several novel application methods which produce coatings with exceptional performance characteristics. Potential applications include antimicrobial healthcare and food production surfaces, air and water treatment and industrial catalysis applications.

Koti Technologies (translation from Maori is “to cloak or cover”) is a University of Canterbury spin-out commercialising ceramic coating technology developed by Professor Krumdieck and her research team.

Originating institution

University of Canterbury

Timing of initial investment

2012

Sector

Engineering & Cleantech

Powerhouse equity interest at 30.06.16

56.7%

Other shareholders

NZVIF Investments Ltd	23.3%
Founders	18.9%
Other shareholders	1.1%



Objective Acuity has developed a new technology for objective detection of optokinetic nystagmus enabling visual acuity to be measure in the very young. Early detection of visual acuity complications followed by intervention leads to improved eye health outcomes.

Originating institution

University of Auckland

Timing of initial investment

2016

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

Nil

Other shareholders

Auckland Uniservices Ltd

Pre-seed companies



Many industrial and commercial operations manage controlled environments, where variables such as temperature, humidity and air quality need to be maintained within specific limits and dangerous substances such as toxic gases need to be contained.

Photonic Innovations (**PIL**) uses a combination of ultra reliable, connected sensors combined with cloud based data management to offer solutions that address these challenges with minimal human intervention. Under a recurring revenue business model, PIL will monitor environmental variables, take corrective action and use the data to provide added value services such as predictive maintenance and energy management. The first target market is cold stores where patented highly reliable laser-based detection of gas leaks forms the platform for an Internet of Things business.

Originating institution

University of Otago

Timing of initial investment

2013

Sector

Engineering & Cleantech

Powerhouse equity interest at 30.06.16

41.1%

Other shareholders

NZVIF Investments Ltd	33.5%
Otago Innovation Ltd	19.1%
Other shareholders	6.3%



Mammography is the dominant method of breast cancer screening in New Zealand. However, mammograms are much less effective with radio-dense tissue (affecting 40% of the screened population).

The University of Canterbury has developed a painless, zero-radiation screening technology unaffected by radio-dense tissue.

Tiro Medical will develop technologies to enable more accurate diagnoses and treatments across a range of medical areas, improving care whilst reducing expenditure. Tiro's initial focus will be on the breast screening market, developing the University's technology for use as a supplementary scan to mammography of radio-dense tissue.

Originating institution

University of Canterbury

Timing of initial investment

2014

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

38.3%

Other shareholders

Founders	57.5%
Other shareholders	4.2%



A large number of patients present in Emergency Departments (**ED**) each year with chest pain. One in eight has a life-threatening disease. Causes for this pain are many; heart, lung, gastrointestinal, bone, muscle and nerve problems. ED physicians require rapid and accurate methods to determine which patients require immediate life saving medical treatment.

Upstream Medical Technologies (**UMT**) has a novel technology platform built on many years of research. This provides a new class of diagnostic tests designed for ED use. These tests detect life threatening heart and associated diseases. The lead assay can detect imminent heart attack BEFORE tissue damage occurs.

UMT is building a pipeline of tests that enable earlier diagnosis for improved patient recovery.

Originating institution

University of Otago

Timing of initial investment

2015

Sector

Medical & Healthcare

Powerhouse equity interest at 30.06.16

11.1%

Other shareholders

Otago Innovation Ltd	88.9%
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