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ASX Code: "PVL"

powerHouse

# Powerhouse Ventures Limited

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**Rights Issue April 2018**

**"We find great science and build global companies"**

**11 April 2018**



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# Powerhouse — at a glance

## Corporate

ASX Code	PVL
Share price*	A\$0.22
Ordinary Shares	28,986,363
Market Capitalisation*	A\$6,377,000
NTA at 31 December 2017	NZ\$15,399,486
NTA per share at 31 December 2017	A\$0.48
Cash balance at 31 March 2018	NZ\$192,183

## Key Board and Management Contacts

Russell Yardley	Chairman
Paul Viney	Chief Executive Officer
Andy Matheson	Chief Investment Officer
Stuart Whitham	Chief Financial Officer and Joint Company Secretary

- The company is working on a number of 'off-model' asset disposals that could lead to cash inflows
- The timing of the cash inflows is not certain
- Given the uncertainty of cash inflows, the Board of PVL has decided to launch a Rights Issue to ensure sufficient financial resources for investment opportunities in New Zealand and Australia and to underpin the Australian expansion of Powerhouse.

# Business model

**Powerhouse champions outstanding science by commercialising innovative research and creating the next generation of world-leading technology companies**

PVL shareholder value is generated through:

- **portfolio liquidity events (recent examples - ArcActive 4x, Syft 10x) realising \$2.9m cash**
- **portfolio company capital raising providing external value validation for PVL**



# Company Update

1H18 has been a period of stabilisation and building a platform for growth.

- **Powerhouse Board Changes**

- Mr Russell Yardley appointed as Director on 28 February 2017 and Chairman on 14 June 2017
- Dr Stephen Hampson resigned as Managing Director on 29 August 2017
- Mr Paul Viney appointed CEO on 29 August 2017

- **Comprehensive review of operating model and portfolio carrying values completed**

- **Actual and planned disposals of "off-model" investments**

- **Powerhouse pursuing value creating transactions in Motim and SolarBright**

- **Investee Croplogic proves "IP to IPO" pathway, with IPO completed in September 2017**

- **Invert Robotics expands into Europe, and completes \$7.8m capital raise, with significant sales contracts and expansion opportunities presenting**

- **Powerhouse Australian expansion is gaining momentum**

# The Australian Opportunity

## In Australia, the Government is pursuing an innovation and 'ideas' boom

- There is strong interest from Australian universities in the Powerhouse model with letters of intent received from:
  - CSIRO
  - Deakin University, Victoria
  - University of South Australia
  - University of Adelaide
  - Flinders UniversityDiscussions underway with Melbourne University and Monash University
- IP from Australian universities and CSIRO currently under review
- Over 40 technologies have been reviewed resulting in 6 potential investments and 1 actual investment to date
- Targeting innovation Fund management mandates
- Australian office discussions underway with Victoria and South Australia

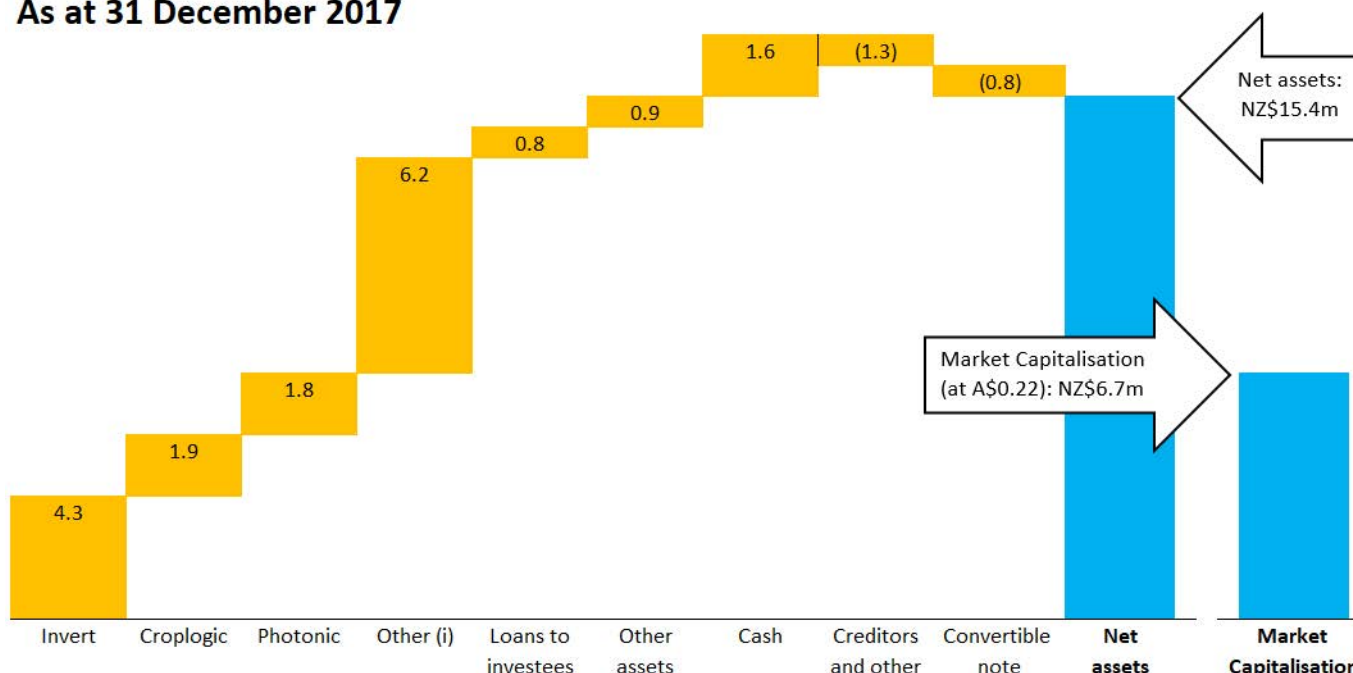
## Government research spend per annum:

- |   |                |
|---|----------------|
| ■ New Zealand   | \$0.8 billion  |
| ■ Australia   | \$10.0 billion |
| ■ Powerhouse is perfectly positioned to take advantage of the renewed Australian focus on commercialisation |                |

# Net assets 1H18

## Net Assets Breakout Analysis (NZ\$'m)

Net Assets breakdown analysis  
As at 31 December 2017



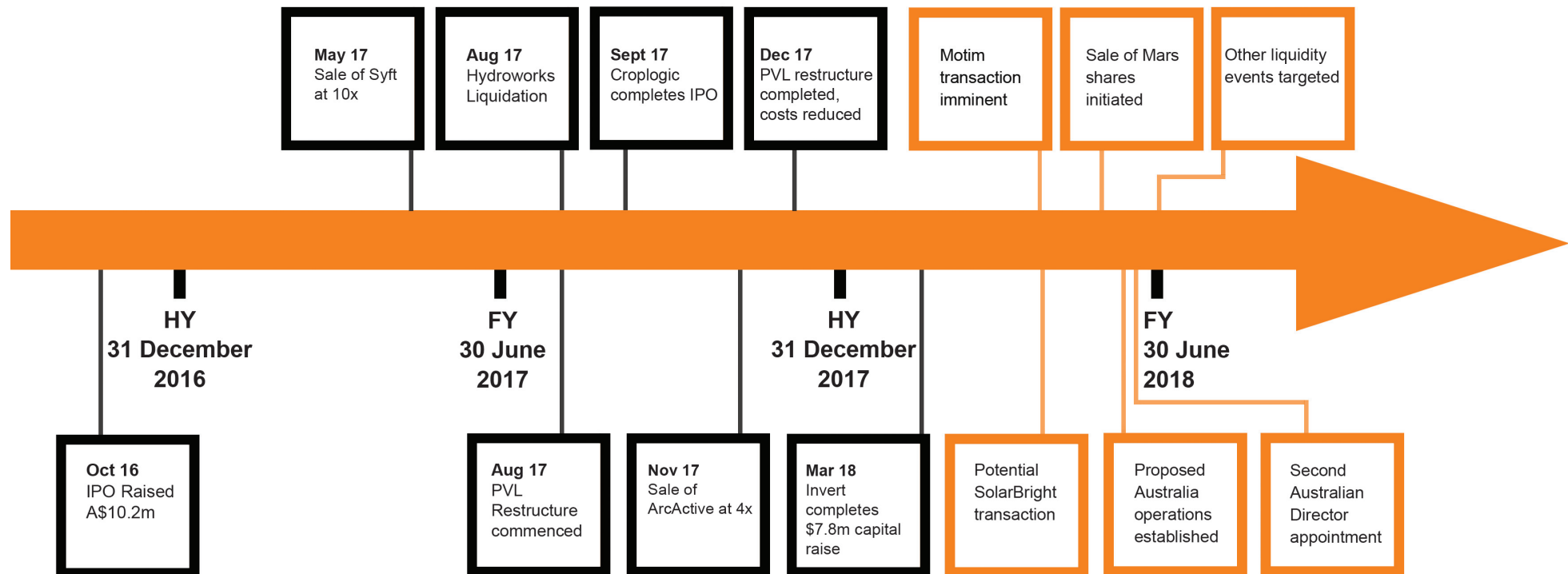
- **NTA/share A\$0.48**  
**Current share price A\$0.22\***
- Investments are carried at cost, price of last round, (POLR), mark to market or written down value.
- Uplifted POLR is recognised where capital round is validated by independent capital
- Further sales of off-model portfolio investments will improve liquidity on completion.
- PVL share price is significantly below published NTA.

\*As at 11 April 2018

(i) Made up of 22 companies

(ii) NTA/share A\$0.48 at at 31 December 2017. Market capitalisation stated as at 11 April 2017.

# Powerhouse strategic journey



- PVL has now 'sharpened' its model to include liquidity events and the recycling of capital
- This Rights Issue provides the foundation for three years of growth
- IPO Prospectus stated funds raised in the IPO would provide 18 months of investment and cost

Historic events  
 Planned events

Note: Milestone timings not to scale. For illustrative purposes only.



# Star performers and fair value uplifts

## Invert Robotics

- Robot inspections in dairy, petro-chem, aircraft
- \$7.8m capital-raise complete
- Sales contracts, licensing and joint venture being negotiated

## Photonic Innovations

- Laser-based gas leak detection
- Significant milestones: Signed distribution agreements in NZ and AU

## Upstream

- Heart attack risk detection technology
- Investment bank appointed for US \$5m raise
- Potential uplift to PVL of up to \$1.4m

## Tiro

- Breast cancer screening technology
- Capital-raising in 2018
- Value uplift anticipated in 2018\*

## Avalia

- Cancer vaccines
- Options for major capital-raise under consideration
- Value uplift anticipated in 2018\*

## Motim

- Augmented reality technology
- US offer received to purchase assets and technology
- Potential uplift to PVL of up to A\$3.6m\*\* in YEJ18, YEJ19 and YEJ20

\*Uplift dependent on investee board approving uplifted share price for capital-raising based on milestone achievement and sufficient independent capital being raised to validate uplift.

\*\*May be progressively recognised over a 3 year period. Uplift is dependent upon conversion of secured and unsecured loans in favour of PVL, completion of due diligence by Motim on acquiring vehicle, acceptance of deal proposal by Motim shareholders and successful IPO of acquiring vehicle for US\$15m.

# Cash utilisation in new and existing ventures since 1 July 2017

<u>New Ventures NZ\$</u>		
■ 2.2gForce		25,000
■ Hapai		25,000
■ Hot Lime Labs		25,000
■ Orbis		34,000
■ Silventum		<u>70,000</u>
		<u>179,000</u>

<u>Existing NZ\$</u>		
■ Avalia		113,262
■ CertusBio		30,000
■ Cirrus		37,500
■ Ferronova		121,670
■ Fluent Scientific		80,000*
■ Inhibit Coatings		50,000
■ Koti Technologies		10,000*
■ Motim Technologies		90,000*
■ Veritide		<u>170,000*</u>
		<u>702,432</u>

\*Convertible notes

# Pathway to Restoring Shareholder Value

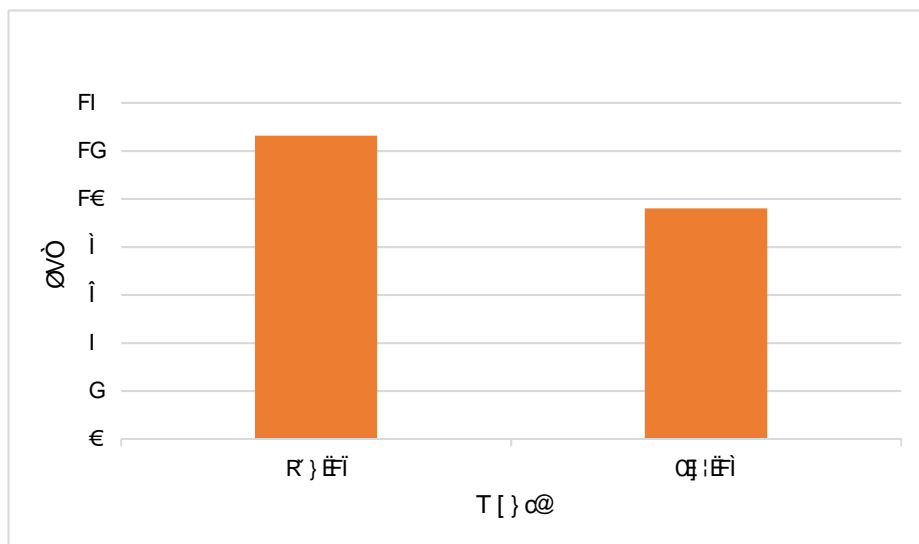
- NZ team restructuring completed
- Operating costs reduced
- Board reduced in size from 7 Directors to 4
- Model refined to include potential for licensing/royalty deals, trade sales with regular recycling of capital
- Strong focus on 'off model' realisations continues
- Significant governance improvements made within portfolio
- Staged Australian expansion underway with strong investment pipeline



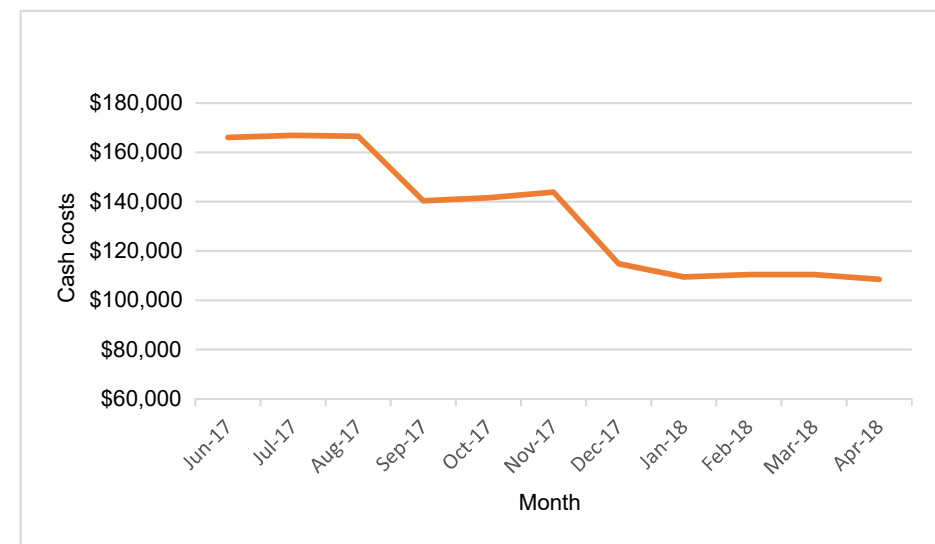
# Powerhouse operating costs

- The company has restructured to reduce operating costs and improve the focus of the team
- Leaner structure and faster decision making

Headcount



Staff cash costs run rate



# Outlook

- **Strong return to profitability anticipated in 2H18 driven by potential uplifts\*:**
  - **Upstream**
  - **Motim**
  - **Tiro**
  - **Invert Robotics**
  - **Avalia**
  - **Photonic**
- **Focus on 'off model' investment realisations**
- **Significant cost control focus**
- **Increased focus on Australian investment opportunities and University relationships**
- **Australian grant funding opportunities**
- **Strong interest in PVL's portfolio companies from potential acquirors**

# Offer Overview

<b>Offer size and structure</b>	<ul style="list-style-type: none"> <li>▪ 1 for 1 pro-rata accelerated non-renounceable entitlement offer</li> <li>▪ A\$0.20 per New Share</li> <li>▪ To raise a maximum of A\$5.8m</li> </ul>
<b>Offer price</b>	<ul style="list-style-type: none"> <li>▪ A\$0.20 per New Share representing:             <ul style="list-style-type: none"> <li>• 18.6% discount to 30 day VWAP of A\$0.246</li> <li>• 15.6% discount to 10 day VWAP of A\$0.237</li> <li>• 9.1% discount to the closing price of PVL shares on 10 April 2018 being A\$0.22</li> </ul> </li> </ul>
<b>Entitlement offer</b>	<ul style="list-style-type: none"> <li>▪ Eligible institutional shareholders will be invited to take up their entitlements in an accelerated institutional offer</li> <li>▪ Eligible shareholders in Australia and New Zealand will be sent the offer materials and can take up their entitlements in a separate retail offer</li> </ul>
<b>Use of proceeds</b>	<ul style="list-style-type: none"> <li>▪ The proceeds of the offer will be used to fund:             <ul style="list-style-type: none"> <li>• Investment in existing and new startup ventures in Australia and New Zealand</li> <li>• Working capital requirements to fund future growth</li> <li>• Other corporate, general and administration costs net of operating revenues</li> <li>• Costs of the Offer</li> </ul> </li> </ul>
<b>Ranking</b>	<ul style="list-style-type: none"> <li>▪ New shares will have the same ranking as existing shares</li> </ul>
<b>Oversubscriptions</b>	<ul style="list-style-type: none"> <li>▪ In the event of oversubscriptions, the allocation of Additional New Shares will be subject to scale back on a pro-rata basis</li> </ul>

# Key dates

Key event	Date
Announcement of the Entitlement Offer	11 April 2018
Record date for Retail Entitlement Offer	13 April 2018, 7pm*
Letter to ineligible shareholders despatched	18 April 2018
Retail Offer Booklet and Entitlement and Acceptance Form despatched to Eligible Retail Shareholders	18 April 2018
Retail Entitlement Offer opens	18 April 2018
Settlement of Institutional Offer	20 April 2018
Allotment of New Shares issued under the Institutional Entitlement Offer	23 April 2018
Retail Entitlement Offer Closes	30 April 2018, 5pm*
Allotment of New Shares issued under the Retail Entitlement Offer	7 May 2018
New Shares issued under the Retail Entitlement Offer commence trading on ASX on a normal settlement basis	8 May 2018
Despatch holding statements for New Shares issued under the Retail Entitlement Offer	9 May 2018

\*Australian Eastern Standard Time

# Key Risks

## 1 Overview

This Section identifies the key specific and general risks that the Board considers to be associated with an investment in the Company. Before making an investment decision, it is important to understand the risks that can affect the value of your investment. While it is not possible to identify every risk relevant to investing in the Company, detailed below are the key risks that might affect your investment. Before deciding to invest in the Company, you should carefully consider the key risks outlined below and throughout this Investor Presentation. These disclosures are not exhaustive. If you do not understand any part of this Investor Presentation, or are in any doubt as to whether to invest in Shares or not, it is recommended that you seek professional guidance from your stockbroker, solicitor, accountant or other independent and qualified professional advisor before deciding whether to invest.

## 2 Business Risks

Set out below are the risks related to the Company's business, investment strategy and risks related to the industry in which the Company operates.

### 2.1 The Company's investments are at an early-stage and carry inherent risk

Powerhouse primarily makes investments in early stage companies. The technology and market demand at this stage is largely unproven. Early-stage companies generally have one or more of the following risks (or a combination of these risks): The science and technology developed by any Portfolio Company business may fail and/or the business may not be able to develop their intellectual property into commercially viable products or technologies. The success of the Portfolio Companies may depend upon regulatory approval for certain clinical trials being granted and there is no certainty that such regulatory approval will be forthcoming.

- Early-stage businesses may not be able to secure subsequent rounds of funding which may restrict their ability to fund on-going research and the development and commercialisation of their

- intellectual property. Any such lack of funding could result in a Portfolio Company being forced to sell its assets or in the sale of the Portfolio Company as a whole or being wound up altogether.
- Portfolio Company businesses may not be able to source and/or retain appropriately skilled personnel. In particular, they may not have the financial resources to compete with the salary and other incentivisation packages offered by their competitors or other scientific and technology based companies or organisations.
- Competing technologies may enter the market which may adversely affect the Portfolio Company's ability to commercialise their intellectual property or the Portfolio Company may not be able to adequately protect their intellectual property (whether due to lack of financial resource or otherwise) or patent applications made by the Portfolio Company may not proceed through to grant.
- There is no certainty that the Portfolio Company's businesses will:
  - reach the stage where the economic benefits resulting from expenditure on research activities become probable; or
  - generate any, or any significant, returns (e.g. dividends, proceeds from a share sale or a return on capital from an exit event) for their shareholders (including the Company) or that the Company will be able to secure a profitable exit from its investment in any or all of the Portfolio Companies.

The occurrence of any of these risks or a combination of these risks may adversely affect the development and value of the Portfolio Companies and, consequently, the business, financial condition, results of operations and prospects of the Company.

To mitigate risk, Powerhouse's Portfolio is spread across four different sectors to reduce impact of a sector demise. In addition, senior members of the Company generally serve as directors or advisers to Portfolio Companies, to help identify and remedy critical issues promptly.

The Company also provides Portfolio Companies ongoing financial support through participation in follow-on fundraising by those Portfolio Companies. Powerhouse also provides operational and company secretarial support to minimise failures due to common administrative errors.

### 2.2 Profitability on sale or spin-out of Portfolio Companies

Powerhouse generates limited revenue and is cash flow negative. There is no guarantee of future asset sales.

Powerhouse's profitability depends in part on its ability to capitalise on the market's appetite for investments in scientific and technology companies with a limited or no trading history, as well as valuations in the market sectors in which its Portfolio Companies participate. As such, there can be no guarantee that the expenditure incurred to date by Powerhouse and the expenditure the Company expects to incur going forward will produce returns. Returns that are lower than expected, or non-existent, could have a material adverse effect on the business, financial condition, results of operations and prospects of the Company.

### 2.3 Investment strategy risks

The historic performance of the Company's Portfolio cannot be relied upon as a guide to future performance of the Portfolio valuations in the market sectors in which its Portfolio Companies participate. As such, there can be no guarantee that the expenditure incurred to date by Powerhouse and the expenditure the Company expects to incur going forward will produce returns. Returns that are lower than expected, or non-existent, could have a material adverse effect on the business, financial condition, results of operations and prospects of the Company.



### **Strategy risk**

The Company's success and profitability is reliant upon the ability to devise and maintain a Portfolio that achieves the Company's investment objectives, strategies and guidelines within the parameters of the investments in which it is permitted to invest and elements of investment set out in this Prospectus.

The Company intends to use the net proceeds from the Offer principally to invest further in its existing Portfolio Companies and to take advantage of the future opportunities to invest in start-up ventures developing intellectual property from universities and other research intensive organisations in New Zealand and Australia. The proceeds of the Entitlement Offer will also be used to meet working capital requirements, operating costs and the costs of the Entitlement Offer.

The Company may experience delays before optimal deployment of funds can be achieved. Therefore, investment returns on these funds may be delayed.

### **Concentration risk**

The Company's investment strategy is focused on a relatively small number of companies. This means that the Portfolio is likely to be much more volatile than a diversified portfolio and may be significantly impacted by events impacting individual Portfolio Companies. In particular, if the net tangible assets of an investment in a Portfolio Company increases, and/or the net tangible assets of an investment in other Portfolio Companies decreases, an investment in a single Portfolio Company may significantly exceed 10% of the Company's net tangible assets.

### **Investment risk**

The value of an investment in the Company and/or the Company's Portfolio may fall over the short or long-term for a number of reasons, including the risks set out in this section, which means that you may receive less than your original investment when you sell your Shares. The price of an individual security may fluctuate or underperform other asset classes over time. An investor is exposed to these risks through their holding in Shares and through the Company's investments in Portfolio Companies.

### **Industry sector concentration risk**

There are no limits on the Company's exposure to any industry sector. This may result in a high concentration in one sector, exposing the Portfolio to risk related to that specific sector.

## **3 Company Risks**

### **3.1 Control or influence over Portfolio Companies**

Powerhouse may not be able to secure the rights it seeks when investing in Portfolio Companies or where it does, it may be compelled to agree to potentially onerous terms and conditions in order to secure the relevant intellectual property. Such terms and conditions could include contractual provisions whereby a portion of the benefit to be gained from commercial development of the new technology must be shared with the university, often by granting the intellectual property owners an equity stake in the Portfolio Companies. Thus, the Company's university counterparties may, and frequently do, seek to secure equity stakes in the Portfolio Companies that are established to exploit the new technology and these universities often seek rights of co-investment in future developments, as well as possible significant royalty payments.

The Company usually holds a significant minority position in Portfolio Companies and therefore generally does not control the development of the Portfolio Company. If a Portfolio Company raises capital and the Company is unable to participate then the Company's position may be diluted.

In the majority of Portfolio Companies, the Company either has a Director, senior manager, or lead investor appointment right which allows Powerhouse to maintain a close and ongoing relationship with Portfolio Companies and to provide input on the timing and structuring of future fundraisings.

### **3.2 Key person risk**

The Company's business and future success heavily depends upon the continued services of management and other key personnel. If one or more of the Company's management or key personnel were unable or unwilling to continue in their present positions (including the Chief Executive Officer, Chief Investment Officer

or Chief Financial Officer), the Company might not be able to replace them easily or at all. The Company's business may be severely disrupted, its financial condition and results of operations may be materially adversely affected, and it may incur additional expenses to recruit, train and retain personnel.

### **3.3 Competition for new investment opportunities**

There are a number of competitors seeking to provide commercialisation services to universities in New Zealand. In addition, universities and other institutions may choose to seek capital from other sources to initiate the development of their intellectual property. Other universities or research institutions may also create intellectual property that competes with the intellectual property generated by Portfolio Companies.

### **3.4 Protection of intellectual property rights**

The value of the Company's Portfolio is dependent upon the innovative technologies developed by Portfolio Companies and, where practicable, such Portfolio Companies will seek to benefit from the intellectual property protection of such technology.

However, intellectual property rights may be challenged, rendered unenforceable, infringed or, in some international jurisdictions, disregarded. There is also a risk that intellectual property protection cannot be secured because of early disclosure by a university or research institution through publication, presentation, demonstration or other means. If protection is granted, there is no assurance that Portfolio Companies will have sufficient resources to enforce their rights against infringing parties. Further, the Company's Portfolio Companies may be subject to claims that they are infringing the intellectual property rights of a third party.

A Portfolio Company may have to incur significant costs and expenses in commencing or defending third party intellectual property claims. In addition, a Portfolio Company may have to cease the alleged infringement activity, which could have a material adverse effect on the Portfolio Company's business.

### 3.5 New investment opportunities

The Company may consider acquisitions and developments that it believes have the potential to add value to the Portfolio.

The acquisition and developments of business opportunities (whether completed or not) may require the payment of monies (as a deposit and/or exclusivity fee) after only limited due diligence and prior to the completion of comprehensive due diligence. There can be no guarantee that any proposed acquisition or development will be completed or be successful. If the proposed acquisition or development is not completed or successful, monies already advanced may not be recoverable, which may have a material adverse effect on the Company.

If an acquisition or development is completed, the Company will need to reassess, at that time, the funding allocated to current projects and new projects, which may result in the Company reallocating funds from other projects and/or the raising of additional capital (if available).

Powerhouse's Portfolio Committee oversees the Company's sector-based Investment Advisory Committees. The Company's Portfolio Committee considers and approves the investment profile and investment risk appetite of the Company in light of the risk appetite, as set by the Audit and Risk Committee and approved by the Board.

### 3.6 Ability to secure funding for ongoing portfolio expansion and operations

Some or all of Powerhouse's Portfolio Companies may have significant funding requirements in the future. The Company may seek to meet these funding requirements through arrangements with third party investors and by carrying out further capital-raising activities. The success of these Portfolio Companies and the availability of funding, may be influenced by the market's appetite for investment in companies in their early stage of growth which may be insufficient in relation to the funding demands of the Portfolio Companies. As a result, it may take longer than anticipated to develop the business or it may not be able to develop the business at all.

Consequently, it may take longer for the Company to realise value from equity holdings in Portfolio Companies which have significant funding requirements and the consideration received by the Company may include shares and/or deferred cash consideration, the value of which may depend upon the future performance of a Portfolio Company. Alternatively, the Company may not realise value from such holdings at all. Any such occurrence may have a material adverse effect on Powerhouse's business, financial condition, results of operations and prospects.

### 3.7 Access to new intellectual property and relationships with research institutions

The Company has relationships with government, technical and advisory parties and other stakeholders in the industry. The Company's success, in part, depends upon continued successful relations with these parties. The loss of one or more of these relationships or a change in the nature or terms of one or more of these relationships may have a material adverse impact on the financial position and prospects of the Company.

The Company has developed close relationships with a number of different entities in New Zealand and has maintained active and ongoing communications with these entities. Powerhouse is one of a small number of technology incubators receiving New Zealand Government funding and the Directors believe the Company is recognised as a leader in this space and that this presence acts as a barrier to competitors in New Zealand.

Powerhouse's ability to expand its business by entering into additional links and collaborative arrangements with universities, research intensive institutions and other commercial partners will depend on the willingness of organisations of suitable quality to enter into such arrangements on terms acceptable to the Company (including duration). Failure to successfully initiate new and additional partnerships may limit the Company's ability to expand.

### 3.8 Taxation risks

Imposition of tax on disposal of Portfolio Companies. On the basis of the current investment strategy, the Directors

expect that the Company will generally be considered to hold its investments on capital account. As such, the Board believes the Company is unlikely to pay any tax on realised gains on investments disposed of. To the extent that any such tax is paid, it should give rise to imputation credits which can be attached to dividends paid.

### 3.9 Third party risk

The operations of the Company require the involvement of a number of third parties, including suppliers, contractors and clients. Financial failure, default or contractual non-compliance on the part of such third parties may have a material impact on the operations and performance of the Company. It is not possible for the Company to predict or protect the Company against all such risks.

### 3.10 Powerhouse's funding and grants

The Company materially benefits from financial and other support from NZ government business enterprises such as Callaghan Innovation. Withdrawal of such support could be materially adverse to the Company's financial position and prospects. There is no certainty that the Company will receive any funding from Callaghan Innovation when its existing business incubator award from Callaghan Innovation ends on 30 June 2019.

## 4 Risks relating to the Offer and an investment in Shares

The risks related to the Offer and an investment in Shares are detailed below.

### 4.1 Country risk and foreign operations

There are risks associated with operating in foreign countries. Country risks include exchange rate risk, economic risk, sovereign risk, political risk and transfer risk.

The Company's operating results and financial conditions are highly susceptible to changes in New Zealand's political, economic and social conditions as the Company's revenue is currently wholly derived from its operations in New Zealand and Australia.

There can be no guarantee that the government regulations in Australia and New Zealand, in particular in relation to taxation and the ongoing support of commercialisation of research and development, will not be amended in the future to the detriment of the Company's business.

#### **4.2 Share market fluctuations**

There are a number of risks associated with any share market investment that are beyond the Company's control. The price of Shares may rise or fall in relation to the Offer Price and investors who decide to sell their Shares, after listing of the Company on the ASX, may not receive the full amount of their original investment.

The value of the Shares will be determined by the share market and will be subject to a range of factors beyond the control of the Company and its Directors. These factors include movements in local and international stock exchanges, local interest rates and exchange rates, domestic and international economic and political conditions, government taxation, market supply, competition and demand and other legal, regulatory or policy changes.

#### **4.3 Dependence on general economic conditions**

The operating and financial performance of the Company will be influenced by a variety of general economic and business conditions. Any protracted down turn in Australia, New Zealand and world economic situation could be expected to have a material adverse effect on the Company's financial performance, financial position and cash flows.

#### **4.4 Insurance risk**

The Company insures its operations in accordance with industry practice. However, in certain circumstances, the Company's insurance may not be of a nature or level to provide adequate insurance cover and in some circumstances appropriate insurance cover may not be available or financially viable for certain risks. The occurrence of an event that is not covered or fully covered by insurance could have a material adverse effect on the business, financial condition and results of the Company.

#### **4.5 Foreign exchange risk**

The Company has most revenues, costs and expenses denominated in New Zealand dollars, but its Shares trade in Australian dollars. Accordingly, if the Australian dollar appreciates relative to the New Zealand dollar, the Company will have lower Net Assets and lower profits in Australian dollar terms.

In addition, the Company has investments in New Zealand entities and is expected to commence making investments in Australian entities in the near future.

As such, the Company's Portfolio may be exposed to foreign exchange risks (to the extent investments are located outside of New Zealand). There is a risk that adverse movements in exchange rates will reduce the value of investments.

Accordingly, the Company's share price may be influenced by fluctuations in exchange rates between the Australian dollar and the New Zealand dollar.

#### **4.6 Liquidity risk**

The Company's status as a small-cap stock dictates that there can be no guarantee that an active market will continue for the Shares or that the price of Shares will increase. There may be few investors who will buy or sell the Shares at any time, which could decrease liquidity and increase price volatility. This may result in shareholders receiving a price for their Shares lower than that paid.

#### **4.7 Risk of shareholder dilution**

Powerhouse may seek to issue shares to raise capital for either working capital purposes or to fund acquisitions of, and investments in, Portfolio Companies. This may result in the dilution of existing shareholders.

#### **4.8 Changes in taxation law and policies**

Changes to tax laws may adversely affect Powerhouse's financial performance and/or the returns achieved by investors. As such, investors are encouraged to seek professional tax advice in connection with the application

of the tax relevant country's (Australian or New Zealand) legislation to your investment in the Company.

#### **4.9 Payment of dividends**

Payment of future dividends and franking or imputation credits will depend on matters such as the future profitability and financial position of the Company, the Company having sufficient franking or imputation credits in the future and the other risk factors set out in this Section. There can be no guarantee that the Company will achieve profitability in the future and be able to pay any dividend.

#### **4.10 Digital and IT Risks**

As businesses move to provide innovative online functions in order to differentiate themselves in the marketplace, risks associated with operating in the digital economy and IT will emerge. Security concerns associated with confidentiality and privacy of personal information will also need to be addressed by Powerhouse. There is a risk that if Powerhouse does not have adequate protection and risk management systems in place, its data, which may include sensitive information, may be compromised. If Powerhouse is unable to prevent security breaches, it may suffer financial and reputational damage or penalties because of the unauthorised disclosure of confidential information. Any such security breaches could have a detrimental effect on Powerhouse's business relationships in the short and medium term. In addition, Powerhouse's brand and reputation may be detrimentally affected by its failure to effectively protect the privacy of its confidential information and mandatory data breach notifications. These events may adversely affect Powerhouse's financial position and its ability to generate revenue. In addition, Powerhouse may face regulatory action or significant fines as a result of data breaches and breaches of privacy legislation.

# Thank you

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## Contact details:

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**Chairman**

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**Investor Relations**

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# **Powerhouse Ventures Limited**

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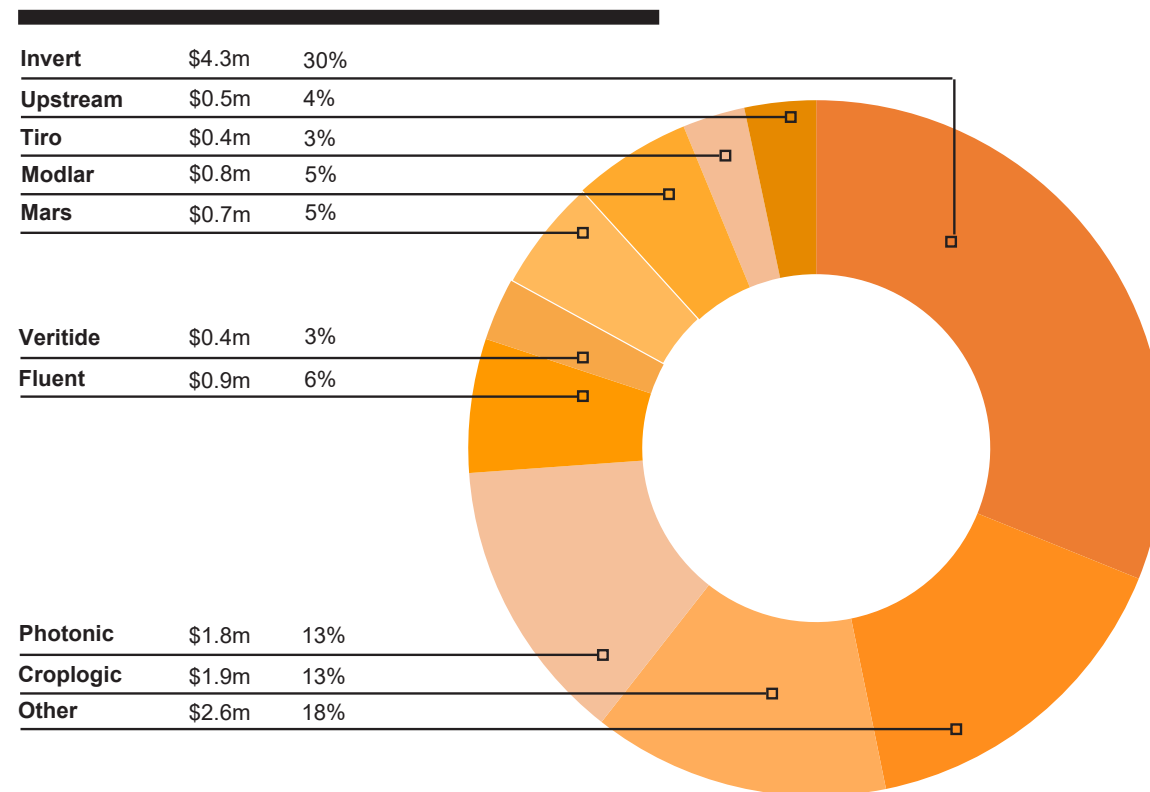
## **Appendix**

# An actively managed, diversified portfolio

(as at 31 December 2017)

- Valuations have been externally reviewed
- Independent review of valuation methodologies completed
- Valuations are at cost, price of recent sophisticated third party investment, written down value, or mark to market.

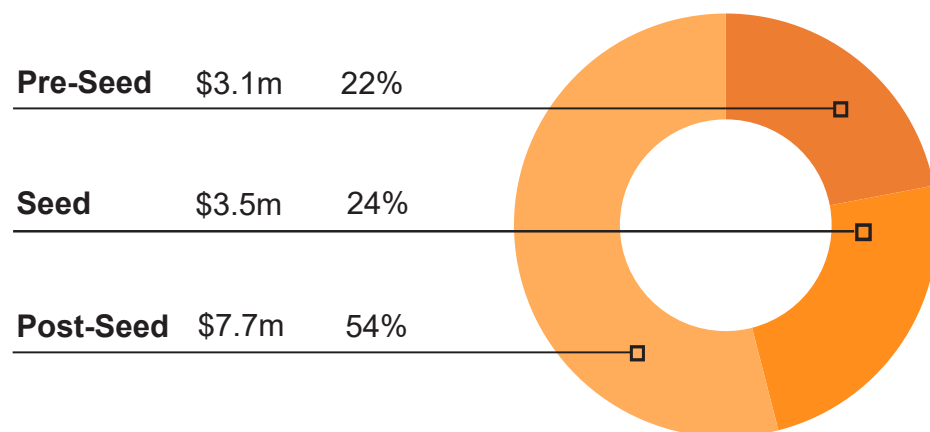
## Investment Portfolio Total Value \$14.3 million



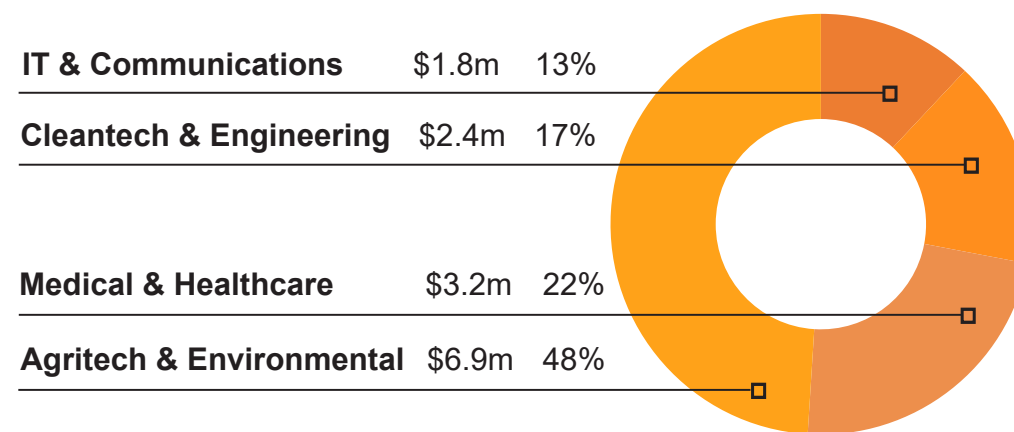
# An actively managed, diversified portfolio

(as at 31 December 2017)

## By Stage of Growth



## By Sector



Powerhouse mitigates risk by spreading its investments across a variety of sectors and stages of business development.

# Board of Directors



**Russell Yardley**  
**Chairman**  
**Non-Executive**  
**Independent Director**

Russell has been a professional Non-Executive Director and Chairman for the past decade following a career in the informational technology and communications sector. He is Chairman of ASX listed Tesseract Limited. After spending more than 7 years at IBM he founded his first company Decision Engineers that was merged with ASI to form Applied Learning that was then listed on the ASX in 1993.



**Rick Christie**  
**Non-Executive**  
**Independent Director**

Rick is a professional Director and Chairman with experience in both the public and private sectors. His appointments include Chairman of AgResearch Limited and Director of the Foundation for Research, Science and Technology. Rick is past Chairman of a Top 300 ASX Listed company. He also had extensive experience as a senior/ Chief Executive, including with BP Oil Limited, in Australia and the UK, Cable Price Downer - involved in the ANZAC Frigate Project - and the diversified New Zealand investment company Rangatira Limited.



**Dianne McCarthy**  
**Non-Executive**  
**Independent Director**

Di is a former professor at the University of Auckland, with an extensive list of peer reviewed publications. She has over 20 years' experience in various management and governance roles in the tertiary education, science and health sectors, including Pro Vice-Chancellor (Equity) and Council member at the University of Auckland, a Director of AgResearch, a Crown Research Institute. She is the immediate past Chief Executive of the Royal Society of New Zealand.



**John Hunter**  
**Non-Executive**  
**Independent Director**

John has held various Directorship positions for 25 years on both private and NZX listed companies, together with board membership on educational and health sector institutions. John's executive career encompasses extensive chief financial officer experience as well as chief operating officer and general manager positions in New Zealand and Australia. His expertise includes HR, IT and legal responsibilities. He has extensive experience across the manufacturing, finance, retail, wholesale, information technology and primary sectors



# Key Management



**Paul Viney**  
Chief Executive Officer

As a career finance and governance professional, Paul has worked in Australian industrial and financial services organisations for over 20 years. Paul has specialised in financial and management accounting, value creation, mergers and acquisitions and corporate governance. Prior to joining Powerhouse Ventures, Paul was Chief Financial Officer/Company Secretary at a diversified ASX-listed banking group, which had a market capitalisation of over \$400 million and an asset footprint of over \$5.3 billion. Paul joined Powerhouse in May 2014 as CFO and Company Secretary, was an executive director from April 2016 to August 2017 and became CEO in August 2017.



**Andy Matheson**  
Chief Investment Officer

Andy has held senior executive roles in energy, infrastructure and clean-tech companies. He has worked as CEO, MD and Board Director in start-up businesses through the pre-seed to exit stages for over 12 years. Before this Andy held international marketing and business development roles targeting the global industrial and utilities sector for 10 years. Prior to joining Powerhouse Ventures, Andy worked at a significant New Zealand investment company; a substantial shareholder of an NZX company with a market capitalisation of NZ\$1.7 billion. Andy joined Powerhouse as a contractor in February 2016 and was appointed as CIO in November 2016.



**Stuart Whitham**  
Chief Financial Officer and  
Joint Company Secretary

Stuart brings to Powerhouse his international experience working with young growth companies on modelling, audits, valuation, fund management and financial control. After earning a joint honours degree at the University of Oxford, Stuart qualified as a Chartered Accountant at Coopers & Lybrand (now PwC) in London, specialising in the valuation of derivatives with Credit Suisse First Boston, Commerzbank and the Royal Bank of Scotland. After making a permanent move to Christchurch in 2004, Stuart took up a role with a global fund of funds, before later becoming Financial Controller at TSE listed Allied Telesis. Stuart joined Powerhouse in July 2011.



**Rachel Triplow**  
General Counsel and  
Joint Company  
Secretary

Rachel's experience includes more than 20 years in intellectual property and commercial law. Her roles have included: acting as the sole in-house counsel for the UK branch of an international company; providing specialised legal and strategic advice within leading IP firms in New Zealand and the UK; preparing legal opinions and policies at what is now the MBIE; and drafting legal decisions and practice guidelines as the Assistant Commissioner of Trade Marks at IPONZ. Since joining Powerhouse in 2014, Rachel has played a key part in listing on the ASX and as Joint Company Secretary is now responsible for supporting the Board on governance matters.

# 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.

### Agritech and Environmental\*

PVL shareholding: 22.9%  
PVL invested: \$834k



MARS Bioimaging 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.

### Medical and Healthcare\*

PVL shareholding: 8.5%  
PVL invested: \$726k



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.

### IT and Communications\*

PVL shareholding: 9.9%  
PVL invested: \$570k



## Post-seed companies



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.

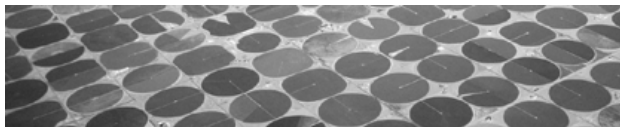
CropLogic delivers specialist agronomy services to growers using technology developed over 30 years at The New Zealand Institute for Plant & Food Research. CropLogic brings together crop science, environmental data and agronomic expertise to offer input for daily decision making that improves on typical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

CropLogic listed on the ASX in September 2017 (CLI).

### **Agritech and Environmental\***

PVL shareholding: 14.9%

PVL invested: \$1.87m



## Seed companies



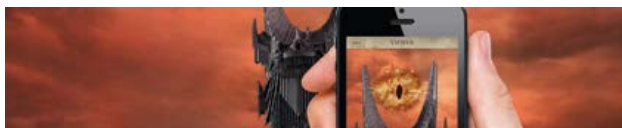
The global mobile marketing sector is a high-growth area that is seeing innovation as technology and marketing mix, with consumers becoming increasingly 'connected' and smartphone technology becoming almost ubiquitous in the modern world.

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 deep 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.

### IT and Communications\*

PVL shareholding: 41.8%  
PVL invested: \$719k



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

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.

### Engineering and Cleantech\*

PVL shareholding: 30.3%  
PVL invested: \$1.04m



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.

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.

Veritide's platform technology has many other applications in food, health and bio-safety areas.

### Agritech and Environmental\*

PVL shareholding: 19.7%  
PVL invested: \$980k



# 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 uses a combination of ultra reliable, connected sensors combined with cloud based data management to address these challenges with minimal human intervention. Under a recurring revenue business model, Photonic 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.

### Engineering and Cleantech\*

PVL shareholding: 29.9%  
PVL invested: \$630k



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.

### IT and Communications\*

PVL shareholding: 20.1%  
PVL invested: \$410k



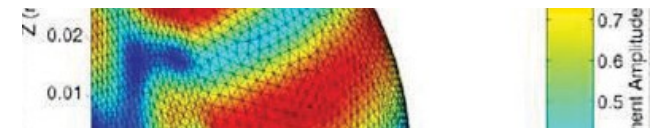
Mammography is the dominant method of breast cancer screening in New Zealand. However, mammograms are much less effective with radio-dense tissue.

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.

### Medical and Healthcare\*

PVL shareholding: 31.6%  
PVL invested: \$285k



## Pre-seed companies



AuramerBio is a custom sensor development company. Its novel technologies allow accurate measurement of biologically relevant molecules at the point-of-testing. AuramerBio's technologies are being developed for application in drug and fertility testing.

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. AuramerBio is developing both simple economic 'qualitative' dipstick tests and also more complex 'quantitative' digital devices with its industry partners.

### Medical and Healthcare\*

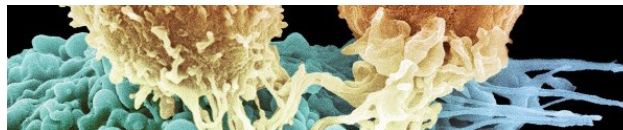
PVL shareholding: 18.9%  
PVL invested: \$200k



Avalia Immunotherapies' first vaccine product is a cancer vaccine to treat patients suffering from HPV associated cancers. Its vaccine approach has the potential to induce patient responses against HPV cancers that are not currently responsive to checkpoint immunotherapy.

### Medical and Healthcare\*

PVL shareholding: 10.2%  
PVL invested: \$300k



## CertusBio

CertusBio's flagship biosensor technologies combined with process control systems will have the ability 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.

### Agritech and Environmental\*

PVL shareholding: 30.6%  
PVL invested: \$272k





# Pre-seed companies



Cirrus is an easily adopted process technology that significantly improves the mechanical properties of plated coatings in electronics, aerospace, and hi-tech manufacturing, without degrading the conductivity, corrosion resistance or appearance of the coating material.

Cirrus technology has been developed and patented at The University of Auckland and is currently in early evaluation with some of the world's largest manufacturers, manufacturing process and chemistry suppliers.

## Engineering and Cleantech\*

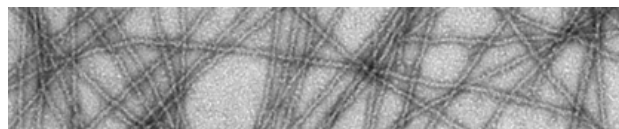
PVL shareholding: 7.1%  
PVL invested: \$113k



Hi-Aspect provides topical formulations using its proprietary natural protein scaffolds to deliver active ingredients for skin and wound care. The skincare and medical markets 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.

## Medical and Healthcare\*

PVL shareholding: 63.2%  
PVL invested: \$150k



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.

## Engineering and Cleantech\*

PVL shareholding: 56.7%  
PVL invested: \$250k



# Pre-seed companies

## UPSTREAM MEDICAL TECHNOLOGIES

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, bone 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.

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.

### Medical and Healthcare\*

PVL shareholding: 13.4%  
PVL invested: \$450k



## ferronova

Ferronova is a medical device company, bringing together patented magnetic probe technology from University of South Australia and magnetic nanoparticle technology from Victoria University of Wellington.

Current cancer staging technology uses gamma probes with radioactive tracers; these have significant logistical issues and, due to their low resolution, are not suitable for more complex cancers.

The Ferronova magnetic probe and tracer system is being developed to allow staging of complex cancers, initially targeting oral cavity and other head and neck cancers. Improved staging of these complex cancers is anticipated to allow better treatment, lower patient morbidity and reduced healthcare system costs.

### Medical and Healthcare\*

PVL shareholding: 27.0%  
PVL invested: \$395k



## silventum

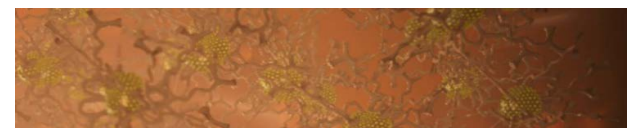
Silventum is a dental materials business that is commercialising a novel platform for filling materials that have enhanced mechanical, structural and aesthetic qualities and resist bacterial decay better.

This will result in reduced levels of dental decay, or caries, which is the most prevalent disease in humans.

Silventum arises from a collaboration between the Department of Chemistry and the Faculty of Dentistry at the University of Otago.

### Medical and Healthcare\*

PVL shareholding: 41.2%  
PVL invested: \$70k





## Pre-seed companies



Orbis Diagnostics provides a platform technology for the analysis of fluids in agricultural and industrial processes using centrifugal microfluidics.

The first market is dairy farming, where the company will offer a single device for measuring all of the key variables in milk.

This will allow a farmer to make timely decisions around the yield, health and reproductive status of each cow.

### Agritech and Environmental\*

PVL shareholding: 2.4%  
PVL invested: \$17k



Objective Acuity is a breakthrough digital health company that achieves early detection of vision and related disorders leading to changing lifelong healthcare and learning outcomes. There are many approaches to the measurement of vision and development disorders, but all rely on a co-operative subject and are intrinsically subjective.

### Medical and Healthcare\*

PVL shareholding: 16.2%  
PVL invested: \$250k



EdPotential delivers software-as-a-service products based on advanced algorithms and data analysis capability, enabling schools to make more informed decisions, enhance teaching practice, saving teachers time and improving student outcomes. EdPotential is cloud based and designed specifically for analysis of school assessment results, allowing teachers to query assessment data, analyse the data to identify gaps and strengths and act to develop solutions to target student achievement.

Many of New Zealand's leading schools are now utilising EdPotential software, delivering better student outcomes and saving schools and teachers significant time compared to manually entering and processing data.

### Digital and ICT\*

PVL shareholding: 20.7%  
PVL invested: \$150k



## Pre-seed companies



The marine and aquaculture industries face significant fouling issues, resulting in decreased yield, increased corrosion and operating costs.

Antifouling coatings are utilised extensively but remain expensive, ineffective or pose significant risks to the environment.

Inhibit Coating's surface coatings display strong antimicrobial activity against E.coli and prevent the settlement of microscopic algae. Preliminary tests show very good static resistance to biofouling in the New Zealand marine environment.

Inhibit Coatings novel coatings utilise very low biocide concentrations and exhibit very low leaching rates, providing robust coatings with a long antifouling lifetime and minimal environmental impact.

### Engineering and Cleantech\*

PVL shareholding: 21.3%  
PVL invested: \$100k



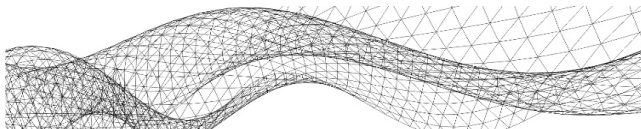
2.2gForce has been established to commercialise energy dampers developed by University of Canterbury researchers.

Energy dampers operate as "shock absorbers" that dissipate the kinetic energy of movement and cushion the impact between structures.

They are versatile, cost effective and can be designed to protect structures from wind load, thermal motion or seismic events.

### Cleantech and Engineering\*

PVL shareholding: 100%  
PVL invested: \$25k



## Hot Lime Labs

Hot Lime Labs is developing CO2 capture technology for the commercial greenhouses to increase crop yields and transition to low carbon renewable energy sources.

Modern commercial greenhouse operations can produce up to 20 times the yields of open fields while using only a fraction of the resources typically needed.

### Agritech and Environmental\*

PVL shareholding: 2.6%  
PVL invested: \$25k



\*PVL shareholdings and invested amounts as at 31 December 2017