

**ASX Release****Powerhouse Ventures Limited****Level 4, Scottish House, 90 William Street, Melbourne VIC 3000, Australia****(ASX Code: "PVL")****NZ Company No. 1854396 / ARBN 612 076 169****INVESTMENT IN COURSELOOP PTY LTD and FIRMUS GRID PTY LTD****Melbourne, Australia: 22 December 2021**

Powerhouse Ventures Limited (PVL or the Company) is pleased to advise shareholders that it has executed the following two investments:

1. AU435,000 for a 1.4% ownership stake of CourseLoop Pty Ltd ("CourseLoop")
2. AU250,000 in Convertible Notes and Warrants in Firmus Grid Pty Ltd ("Firmus")

These investments are examples of PVL's focus on the digital and information technology sector with SaaS (software as a service) revenue streams, while both companies provide exposure to the new Web 3.0¹ marketplace for data that is becoming increasingly relevant across the globe.

CourseLoop

CourseLoop is a provider of course management software (CMS) platform to universities across Australia, the UK and the US with customers including Monash University, University of Sydney and UCLA. CourseLoop's CMS enables universities to manage their courses comprehensively from content management through to accreditation auditing, in a single platform. While universities have made large strides investing into technology for student management and course delivery as a result of COVID19, they typically lack a back-end CMS - CourseLoop's platform typically replaces in-house bespoke systems or excel and word documents.

¹ Web 3.0 was originally called the Semantic Web by World Wide Web inventor Tim Berners-Lee, and was aimed at being a more autonomous, intelligent, and open internet. The Web 3.0 definition can be expanded as follows: data will be interconnected in a [decentralized](#) way, which would be a huge leap forward to our current generation of the internet (Web 2.0), where data is mostly stored in [centralized](#) repositories.



CourseLoop has rapidly established a strong presence within Australia in less than 5 years, boasting several G8 universities amongst its clients. The recent funding round will allow CourseLoop to capitalise on a large pipeline within Australia and to expand rapidly into the UK and US, with strong potential growth ahead of a planned IPO, currently indicated to occur in 2022.

For further details on CourseLoop, please visit the company's [website](#).

Firmus

Firmus is an emerging ultra-efficient, low PUE data centre developer and operator that utilises unique intellectual property (IP) relating to immersion cooling. Firmus' proprietary single phase immersion data centres are fully compatible with industry standards for air-cooled servers, with the unique benefits of capacity to host the world's most demanding compute loads for AI & Machine Learning workloads, with best-in-class energy efficiency and capabilities. Firmus existing 20MW data hall in Tasmania, LST01, hosts up to 100KW per 45RU rack, at 1.03 PUE, and is powered by majority renewable energy.

With the funding round we have participated in, Firmus will double its data centre footprint to 40MW in Launceston, with LST02 – another 20MW data hall – targeted for completion in the middle of 2022. LST02 is a globally significant undertaking, being a full N+1 designed system, with the capacity to host over 100 petaflops of double-precision AI computational workloads.

Hosted within its facility, Firmus is building Supercloud, a high-performance computational IaaS cloud specialising in AI, ML & digital image processing. IaaS is a high-growth and critical service that unlocks advances in the knowledge economy. In Australia, the IaaS market is worth over \$1.1bn today, growing to a forecast \$3.0bn by 2026. Powered by Firmus' breakthrough efficient data centre technology, Supercloud can offer latest generation sovereign GPU & CPU capacity at a price proposition relatively disruptive to the established IaaS market today – with the added benefit of being ultra-low carbon in use, being powered by majority grid connected renewable energy.

With a drive to maximise productivity of built infrastructure, Firmus has developed a novel way to utilise any spare capacity in its data halls with a computing product known as Synert. Synert – developed by Firmus - uses modified BTC mining machines to provide baseload demand for renewable energy and offer grid stabilising services to the Australian Energy Market Operator (AEMO), known as Frequency Control Ancillary Services (FCAS). FCAS is an essential service required to assist Australia's energy grid transition to a higher renewable generation mix.



Beyond a planned 40MW near term expansion, Firmus has site power capacity for growth up to 200MW within Tasmania.

For further details on Firmus, please visit the company's [website](#).

"PVL views the investments into CourseLoop and Firmus as compelling from both a financial and strategic perspective, bolstering PVL's network amongst the university community and our technical know-how in the commercialisation of distributed energy resources respectively. Further, by being later stage investments with nearer term potential liquidity events, we are seeking to broaden the maturity profile of the PVL investment portfolio with the aim of delivering a more consistent and predictable value set for our shareholders" said Joshua Baker, Non-Executive Director of PVL.

If shareholders have any questions on this update, please contact the Company.

Sincerely,

Joshua Baker
Non-Executive Director, Powerhouse Ventures Limited

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Authorised by the Board of Powerhouse Ventures Limited

About Powerhouse Ventures Limited:

Powerhouse is an investment company seeking to advance emerging intellectual property (principally originating from Australian scientists, engineers and institutions) into globally impactful businesses. The focus sectors are: engineering and clean-tech, information communication technology and digital; medical and healthcare, agritech and environmental.

Powerhouse has an existing active portfolio and strong pipeline of early stage to mature businesses across its focus segments. It has developed a unique network and broad base of skillsets to help its portfolio businesses expand and commercialise.