



Cash headwinds ground Fortescue, Playground-backed hydrogen plane

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Body

A **Fortescue**-backed hydrogen-powered plane start-up has collapsed, burning through almost \$150 million in investor capital but unable to secure additional funding amid the global challenging venture capital environment.

The closure of Universal Hydrogen comes despite the California-based start-up successfully completing a test flight last year, which made it the largest hydrogen fuel cell-powered plane to take to the skies.

The company, founded in 2020 by former Airbus chief technology officer Paul Eremenko, raised \$US62 million in a Series B round at the height of the venture capital boom in 2021.

Its previous \$US20.5 million Series A raise was led by Silicon Valley-based Australian Peter Barrett's early-stage deep tech fund Playground Global, while Rich Lister Andrew Forrest's **Fortescue** was also an early-stage minority investor. Other investors include American Airlines, Toyota, Airbus and General Electric.

Speaking to The Australian Financial Review, Mr Barrett said the start-up, led by former chief technology officer Mark Collins - who stepped into the CEO role after Mr Eremenko left earlier this year - had been trying to raise funds since last year.

"Last year wasn't a good time to raise money, we had a lead for a very significant round, but that lead [investor] was unable to fund it," said Mr Barrett, who was also Universal Hydrogen director.

"There were dynamics that had nothing to do with the market or technology. There were a number of unfortunate timing coincidences ... It's a really underappreciated determinant of success for these companies.

"We were very close to getting through this crisis. We were less than six months of runway from being in a very strong position."

Mr Barrett, who co-founded video game developer Rocket Science Games in the 1990s and gave Elon Musk his first job, said the US government had approached Universal Hydrogen since the news of the collapse with offers to inject capital into the start-up to keep it afloat, but he believed it was too late to save it. However, he backed the team and the technology, saying he hoped the company would "find another home" for its hydrogen fuel cell tech.

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"We have test aircraft flying, certification basis, we know the economics of the hydrogen plane are favourable, but there is still a two-year path for certification ... That means you have to keep the development program fed and there's a very small quorum of money that's in the middle," Mr Barrett said.

"It's not the \$5 million cheque, or the \$500 million cheque, it's the \$50 million cheque that's really hard."

Playground Global, which Street Talk reports is raising a new fund, is also an investor in federal government-backed PsiQuantum, Agility Robotics, Atomic AI and Ultima Genomics. More than 20 per cent of its portfolio companies have already hit \$US1 billion valuations.

A statement from **Fortescue** on yesterday on the collapse of Universal Hydrogen suggested the company was undeterred by the the venture's demise.

"There remains significant interest in our green energy projects and the prospect of green hydrogen and its derivatives," the spokesperson said.

"We are proud to have some of the first green energy projects in the world at final investment decision including our Arizona Hydrogen project in the United States and our Gladstone PEM50 project in Queensland."

The Seattle Times reported Universal Hydrogen's funding negotiations had been with a Saudi investment fund, and the business had then tried to merge with Florida-based regional airline Silver Airways to stay afloat.

While companies such as Universal Hydrogen have made leaps forward in developing hydrogen fuel cells to power planes, there are still limitations being worked through, including storing sufficient hydrogen for long flights, given even in liquid form it contains about a quarter of the energy of a similar volume of jet fuel. On its test flight last year, only one engine of the retrofitted aircraft was powered by a hydrogen fuel cell, the other by regular jet fuel.

As well as developing the propulsion system, Universal Hydrogen faced other challenges, including developing the infrastructure at airports to support hydrogen-powered planes, and securing sufficient green hydrogen.

Hydrogen-powered long-haul flights are still some way off, but Mr Barrett said it was time for regional airlines to convert to the fuel, with the technology already there to support short flights.

As well as being an early investor in Universal Hydrogen, **Fortescue** Future Industries had signed a memorandum of understanding with the US start-up in 2021 to negotiate a global offtake arrangement.

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