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## Ahead of the game in virtual reality

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New Australian gaming technology that allows groups of friends to roam about together in virtual reality chasing zombies has grabbed the attention of global gamers. The founders of Melbourne-based Zero Latency have found themselves at the top of an exploding world market.

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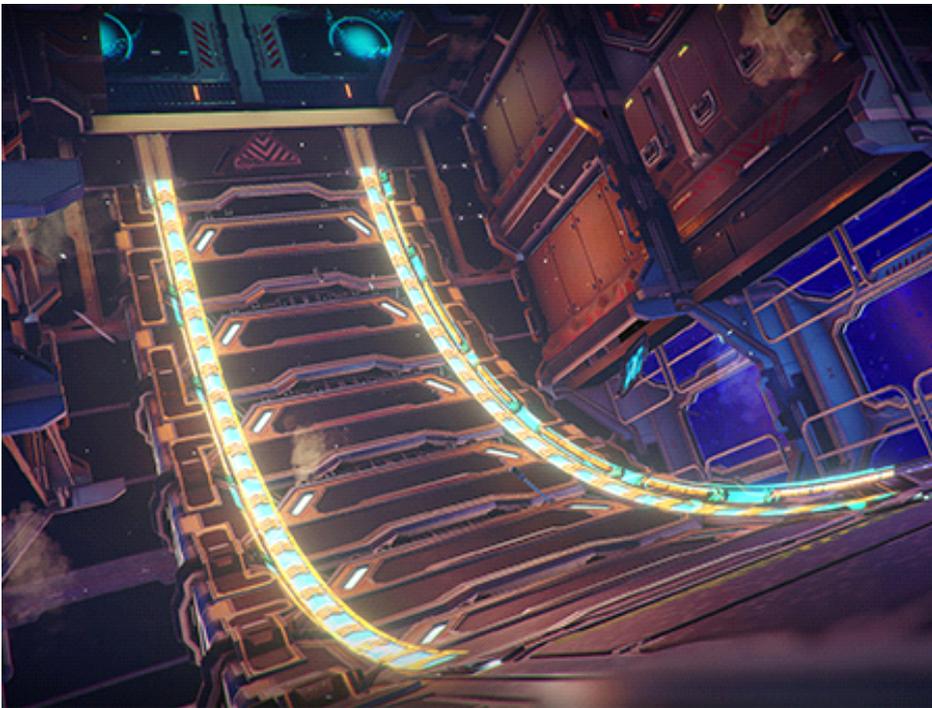
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Pumping adrenalin, you're one of a small team of elite fighters negotiating a chaotic cityscape. You're on a mission to save the world from zombies in the wake of an epidemic that is wiping out humankind.

One of the zombies looms from behind a parked car, and you shoot it as your comrades despatch other undead amid the deafening noise.

The action is in fact taking place in an empty, warehouse-sized room in Melbourne, Tokyo or Las Vegas. You are participating in a radical free-roam virtual reality game.

Zombie Outbreak and Zombie Survival form part of a suite of immersive virtual reality (VR) games developed by Zero Latency, an unlisted company based in Melbourne. The games, the product of Australian information technology, engineering and business knowhow, have catapulted the company to the top of the burgeoning global VR gaming market, which is populated by giants such as Google, Microsoft, HTC, Sony and Nintendo.

In another Zero Latency game, Singularity, players must overcome a horde of rogue robots powered by an

artificial intelligence agent.

## Free-roam immersion

What distinguishes the Zero Latency technology from competing systems is that it can involve several players in one game, who are free to walk around the space, uninhibited. Until now, VR has been a largely insular experience, the company's CEO Tim Ruse says.

Virtual reality projects a fictitious but credible three-dimensional scene onto your brain. It does this through sophisticated software and hardware. One trick is to give the impression of depth by displaying two slightly different angles of a scene in each eye via a custom helmet. The helmet, along with a replica gun and a backpack bearing sophisticated electronics, constitute the players' kit.

The system matches physical movements to the sensory experience, so not only does it feel totally immersive, it also eliminates any motion sickness.

Transceivers – electronic devices that can both send and receive radio signals – in the game venue and the backpacks track players in real time.

Zero Latency is the brainchild of the company's three co-founders Scott Vandonkelaar, Tim Ruse and Kyel Smith.

It had its genesis in 2013 when the three tossed around ideas for the project. "I was immediately captivated by its potential," Ruse says.

Vandonkelaar wrote the original software, while Smith developed the electronics and other hardware. Ruse has focused on the business model and capital raising.

## Technological edge

"We have a tracking system that allows you to experience any digital world like it's real life. You put on the backpack and head set and walk into a space. It tracks you and the other players," he says, adding that the virtual space is much bigger than the real space.

"It allows you to interact with a digital scenario.

"It is the wireless and social model that is the differentiator for us," Ruse explains.

"A bunch of clever tricks we've come up with allow the immersive experiences with the other participants."

The components are either copyright or patented.

Zero Latency has an annual revenue of A\$12 million. Its workforce has grown rapidly, now numbering more than 75, and its VR experiences are expanding across the world.

## Small steps

“It took little iterative steps to get here,” Ruse says.

“We were very focused on creating a new form of entertainment going very much from the beginning.”

So far, 400,000 games have been played worldwide, and around 40,000 are now played every month.

The experiences last about an hour.

Players are mostly males aged 25 to 40 years but Zero Latency wants to attract more females to the games.

A big spin-off has been training. The company does training work for the Australian Army, and hopes to hatch deals with other defence forces as well as police forces and firefighters. There is scope, too, in the business world to develop experiences such as walking through a house, an oil rig or a shopping centre before it is built.

Zero Latency is developing the games as the underpinning technology advances.

The company launched its first public installation, in Melbourne, in 2014. “We are very much pioneers – a small company in Australia that has created a business model and entertainment medium that was completely unique, and we did that all ourselves out of Melbourne,” Ruse says.

Ruse, who previously worked as an analyst in IT and web design, says the company was a logical progression from his interest in new technology. He completed a Bachelor of Business and IT at Melbourne’s RMIT University and picked up other “tangible” vocational skills from a multimedia course at a Technical and Further Education (TAFE) college in the early 2000s.

His advice to budding entrepreneurs? “Make sure you’re constantly evolving your offering to capture the imagination of as many people as possible”.

Find out more about [Zero Latency](#).