



Water Source is an Australian startup tackling one of the acknowledged 14 Grand Challenges for Engineering for this century: providing access to clean drinking water.

The company was spun out of a project incubated within Adidem Group between 2015 and 2017. Its product is an internet-connected point-of-entry water treatment system, able to produce 4,000 litres of clean drinking water a day, and with no maintenance or a need to replace consumables for five years.

It combines three existing concepts. Ultrafiltration followed by ozone disinfection to remove contaminants and its internet monitoring enables predictive maintenance and operation of the system.

"We can monitor performance, and also we can manipulate performance," explains Alex McDonald, Water Source's CEO.

“By that I mean, if the UF filter is underperforming because it may have some sediment buildup, we can command from Melbourne a backflush to clean that filter and bring it back to optimal performance, remotely.”

The solution runs on 24 Volts only. It does not require mains power, and can be powered by solar.

The invention by Mal Gordon has passed the proof of concept stage and is being refined through a collaborative project with RMIT and Bosch Australia. The former is helping optimise the ozone injection system and the latter is providing their considerable experience in high-end manufacturing and control systems.

Water Source's product is already in use in Timor Leste, where a lack of infrastructure means an estimated near-third of its population drink unsafe water.

Worldwide, the World Health Organization estimates that over 2 billion people lack "safely managed drinking water services". Therefore, the potential success for this innovation is substantial.

Among future clients Water Source aims to provide their product to international aid organisations.

There is also a need for point-of-entry water treatment at home, says McDonald, most obviously in remote indigenous communities in northern Australia, but in many other areas as well.

"Throughout Victoria, Tasmania, NSW – in western areas, in rural areas, a lot of people are on boil to drink notices", adds McDonald.

“They can't drink the water supplied by the water authorities, because it's really only water that has been settled in settlement ponds. It hasn't been treated for viruses and bacteria.”

As a young business with scarce resources and a product it eagerly wants to get to market as soon as possible, collaborating with other organisations has been essential. McDonald also credits the help of water authorities such as Coliban Water, as well as industrial businesses.

"Working with expert partners like Bosch, Heuch Engineering, and an Australian university gives us insights and experiences that would take us far too long to gain if we were to meet a fast-moving invention program," he says.

“Invention these days isn't slow. You have to be fast to meet the market, because there's a lot of competition out there wanting to develop point-of-entry water technology.”

The AMGC-assisted collaborative program to refine the filtration and communication of their units has helped them in "sharpening the pencil". The Growth Centre's support has also helped give Water Source self-confidence, which McDonald stresses has been vital.

“The thing for us with the AMGC was having them look at what we were doing and say 'You know what? This is really important for the country, and we're prepared to invest',” he explains.

And I think having people say **“Yes, we're prepared to back what you're doing,' was important.”**



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