

The Game Changer

Australian tech company able to deliver safe water to the world without E. coli, Salmonella and Legionella

Worldwide, around 10,000 people die every day due to lack of clean drinking water. Two million annual deaths alone due to waterborne diseases like diarrhea, malaria, salmonella, legionella and hepatitis A. In India, 2,000 people die every day due to lack of clean drinking water, and out of these, children under the age of five are most vulnerable. The situation is alarming, but a Melbourne technology company has developed some incredible technology to solve delivery of safe water.



New scientific research has shown **MicroHeat Technologies** can destroy major waterborne bacteria. The Melbourne tech company has developed a game-changing technology with its eyes on global market opportunities. The demand for water disinfection equipment at homes across the world due to lack of clean water is huge. The positive impact on millions of people around the world will be enormous.

Legionella concern has heightened through the Covid-19 pandemic. Health experts are expressing concern building shutdowns have left warm water stagnant in pipes – a perfect environment for legionella to multiply.

“There is an ever-increasing need to make the world a safer, and healthier place to live. This makes next generation solutions - like ours - imperative. MicroHeat is poised to

become a significant player in the next generation water heating and water disinfection industries, saving water, energy and protecting millions of people from sickness," said CEO Brett Hernadi.



Australia's Swinburne University in Melbourne conducted research with testing done by NATA accredited Eurofins Scientific in Sydney, which has demonstrated that MicroHeat's 'direct energy transfer method' to heat water is able to destroy, and render potentially deadly bacteria such as E. coli, Salmonella and Legionella, ineffective. A game changer indeed.

MicroHeat uses a method of water heating incorporated into their electric water heating products that effectively and safely electrifies the water when it passes through the system. At the same time, this has the positive impact of simultaneously disinfecting the water. Water heating solutions are installed as close to the hot water outlets as possible reducing wait time and water wastage. This means treated water can be immediately delivered to the outlet without passing through any other pipework that can cause contamination.

In Australia, and globally, the major opportunity with this breakthrough is to help eliminate the risk of Legionella outbreaks in hospitals and aged care facilities, where Legionellosis is of significant concern. Additionally, many hotels, offices, schools and other buildings have been left fully or partially vacant for long periods of time says the US Center for Disease Control and Prevention (CDC) during the covid-19 period. Legionella grows naturally in the environment, especially warm freshwater lakes and streams that can be a source for drinking water. It becomes a risk to human health when it multiplies within human-made water and plumbing systems, and then that contaminated water becomes aerosolized.

"MicroHeat Technologies has demonstrated that our patented water heating technology has been scientifically validated to have the ability to destroy pathogens such as E. coli, Salmonella and Legionella without any impact on the water's potable quality. This means the patented technology used to heat and disinfect water can be quickly adapted and implemented all over the world for water disinfection that can be installed at the point of use, or point of entry, making reticulated water safe to

drink and that is free from harmful bacteria and pathogens,” said Cedric Israelsohn (photo right), Founder and inventor of MicroHeat Technologies.

“The MicroHeat Technologies water heating solution can also be applied for use within cooling towers and evaporative cooling systems, preventing the growth of Legionella Pneumophila bacterium, making these systems cost effectively safe and dependable,” he said.

MicroHeat also sees the major opportunity to expand its current manufacturing base in Melbourne for its water heating products across the world to help make heated water safe for users, more so in developing countries.

MicroHeat has been operating for eight years delivering innovative hot water solutions to the property industry knowing the patented technology had additional benefits in eliminating bacteria – so decided in 2020 to have its technology validated by respected research and NATA testing bodies Swinburne University and Eurofins Scientific Australia.

MicroHeat CEO Brett Hernadi, said *“MicroHeat will now be embarking on a global phase of expansion from our base in Melbourne. There will be opportunities to manufacture our relatively inexpensive systems in countries around the world to help protect communities concerned about water used for drinking and bathing”*.

The Process

Water disinfection is achieved by the MicroHeat process through the generation of Hydroxyl Radicals (OH) that are known to be highly effective and now proven in destroying waterborne pathogens such as E. coli, Salmonella and Legionella Pneumophila. Research has shown that Hydroxyl Radicals can effectively destroy other potentially fatal waterborne bacterium, pathogens and viruses.

Most recently an April 2020 research paper, has shown that Hydroxyl Radicals are also effective for the inactivation of virus species that would include the COVID-19 virus. Hence, although not tested by MicroHeat, it is highly probable that MicroHeat Technology as it exists today, could destroy Avian flu viruses, the Ebola virus, Anthrax spores that exist as waterborne diseases and COVID-19 which has been recently found in water, all of which can and do significantly affect human life across the globe.