

Singapore start-up develops unique water treatment technology

It is said to be faster and costs less than traditional processes

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NANO Sun, a two-year-old water technology spin-off from the Nanyang Technological University (NTU), has developed a first-of-its-kind multi-functional water filtration membrane that may revolutionise water treatment processes.

The technology is developed by Darren Sun, a researcher behind Singapore's first NEWater plant. It is able to turn large volumes of polluted water into drinking water quickly at a fraction of current costs.

The startup, currently valued by venture capitalists at S\$80 million is already looking at an IPO (ini-

tial public offering) within the next five years, *The Business Times* understands.

"We've raised S\$2 million from the National Research Foundation and Public Utilities Board, another S\$2 million from private investors, and are now working on a S\$20 million round," said managing director Wong Ann Chai.

Mr Wong is an adjunct professor at NTU's Nanyang Business School and formerly an investment banker.

He co-founded the startup with Mr Sun, who is also an associate professor at NTU's School of Civil and Environmental Engineering.

According to Mr Sun, traditional water treatment processes use polymer-based membranes that are fraught with limitations, such as fouling (accu-

mulation of unwanted material on solid surfaces) and high breakage, which can lead to sluggish water treatment and higher maintenance costs.

Moreover, developing countries with high industrial output are generating wastewater that is increasingly harder to treat.

"With more of the world's population moving into urban cities and generating more wastewater, there is a real need for cost-effective technology," said Mr Sun.

The startup's water filtration membrane - centred around a patented titanium dioxide nanotechnology - can kill bacteria and break down organic compounds in waste water with the help of sunlight or ultra-violet rays.

It is also high-flux (allowing fast water flow), heat resistant, and durable, all of which enable more water to be treated even with a smaller plant, said Mr Sun.

The startup has since secured interest - including inking some deals - from

several companies from a wide range of industries: wastewater treatment and desalination, chemicals, food and biomedical.

"Nano Sun plays a unique and helpful role in the local cleantech scene. It can also contribute to the global water ecosystem with its new technology and leveraging Singapore's reputation as a water hub," said Mr Wong.

The global water industry is tipped to be worth some US\$360 billion, according to New York-based S-Network Global Indexes.