

ASX RELEASE | De.mem Limited (ASX:DEM)

De.mem launches in-house developed Microfiltration membrane

Highlights:

- De.mem launches a new, proprietary, in-house developed Microfiltration ("MF") membrane
- The new MF membrane has specific applications for food & beverage clients, for example for beverage filtration
- The new technology complements DEM's existing technology product portfolio which comprises microfiltration, nanofiltration and ultrafiltration technologies.

12 September 2019: Australian-Singaporean water and waste water treatment company De.mem (ASX:DEM) ("De.mem" or "the Company") is pleased to launch its new, proprietary, in-house developed Microfiltration ("MF") membrane.

Launch of New Microfiltration ("MF") membrane

The new technology is a hollow fibre membrane with a relatively large pore size and increased flux (which allows greater throughput of liquids). The technology complements De.mem's technology portfolio well, as it adds to De.mem's existing hollow fibre Nanofiltration and Ultrafiltration technologies (see Appendix for an illustration of membrane separation processes and the size of particles to be removed).

MF membranes are deployed on a stand-alone basis, often also as a pre-treatment for other separation processes such as Ultrafiltration and as a post-treatment for granular media filtration. The typical particle size of contaminants excluded by MF ranges from about 0.1 to 10 μ m (a " μ m" is known as a micrometer). The technology can remove small particles such as sediment, algae, protozoa or large bacteria from a liquid.

The potential applications of MF membranes are extensive. For example, De.mem's MF membrane can be deployed in the processing of beverages such as wine, beer, dairy, as well as in potable and waste water treatment. The technology can also be used as a pre-filter to De.mem's existing Ultrafiltration and Nanofiltration processes.

De.mem intends to deploy the new MF membrane for its food & beverage clients, with specific applications such as wine filtration.

The global market for Microfiltration membranes and systems is forecasted to be at US\$6.9 billion by 2026, growing at a compounded annual rate of 7.1% from 2019-2026 (source: Acumen Research and Consulting).

De.mem CEO Andreas Kroell commented: "With the launch of this new product, we are further enhancing our product range in an effort to offer our customer base a comprehensive suite of membrane-based products. We provide attractive solutions for both potable and waste water treatment applications and food & beverage industry production requirements."



Appendix - DEM technology product portfolio overview

The new Microfiltration ("MF") membrane technology complements De.mem's existing technology product portfolio which comprises microfiltration, nanofiltration and ultrafiltration technologies.

De.mem has a portfolio of proprietary technology solutions which can filter particles of a range of different sizes. From larger to smaller particles, the technologies within De.mem's proprietary product portfolio which can be deployed to create customer solutions are:

- Microfiltration
- Ultrafiltration
- Nanofiltration

⋖ ST Microscope ◀ Naked Eye Scanning Electron Microscope **∢** Optical Microscope **Ionic Range Molecular Range** Macro Molecular Range Micro Particle Range Micrometers 1.0 10.0 100.0 1000.0 0.001 0.01 0.1 (µ) Albumin Protein Yeast Cells Aqueous Salts Paint Pigment Carbon Black Endotoxin/Pyrogen Beach Sand Sugar VIRUS Granular Activated Metallon Synthetic Tobacco Smoke Milled Flour RELATIVE Dye SIZE OF Latex / Emulsion COMMON MATERIALS Colloidal Silica Blue Indigo Dye Pesticide Red Pollen Blood Asbestos Human Hair Cells Herbicide Gelatine **Coal Dust** Giardia Mist Crypto Cvst ULTRAFILTRATION PARTICLE FILTRATION MEMBRANE **SELECTION** MICROFILTRATION NANOFILTRATION demem

Appendix 1. Membrane Separation Processes and Size of Particles to be Removed

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De.mem Limited (ASX:DEM) is an Australian-Singaporean decentralised water and wastewater treatment business that designs, builds, owns and operates turnkey water and wastewater treatment systems for some of the world's largest companies in the mining, electronics, chemical, oil & gas, and food & beverage industries. Its systems also provide municipalities, residential developments and hotels/resorts across the Asia Pacific with a reliable supply of clean drinking water.

De.mem's technology to treat water and wastewater is among the most advanced globally. The Company has commercialised an array of innovative proprietary technologies from its research and development partner, Nanyang Technological University (NTU) in Singapore, a world leader in membrane and water research. Technologies exclusively licensed from NTU include a revolutionary low-pressure hollow fibre nanofiltration membrane that uses less electricity and is cheaper to operate than conventional systems, as well as a new Forward Osmosis membrane deployed in de-watering applications or the concentration of liquids.

To learn more, please visit: www.demembranes.com

Forward Looking Statements

Statements contained in this release, particularly those regarding possible or assumed future performance, revenue, costs, dividends, production levels or rates, prices or potential growth of De.mem Limited, are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Actual results and developments may differ materially from those expressed or implied by these forward-looking statements depending on a variety of factors.