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### **MICROBIAL SOLUTIONS, NEW INVESTMENT IN WATER PURIFICATION**

Microbial Solutions Ltd, a newly formed spin-out company from the Centre for Ecology & Hydrology, a research centre owned by the Natural Environment Research Council, has announced that it has raised £1.2 million to commercialise its innovative wastewater treatment technology, which uses a patent protected collection of 'clever' non-pathogenic bacteria to cleanse toxic metal working fluids from the engineering industry. The investment round was led by Oxford Capital Partners investing alongside H2O Venture Partners, who also provided management input to develop the company. The Rainbow Seed Fund, the company's initial investor, committed further capital in this round.

Microbial Solutions has also announced a partnership with Houghton Europe, the leading provider of industrial fluids, which will see the two firms provide a complete supply and treatment process to major manufacturing companies using industrial fluids.

Current disposal processes for metal-working fluids, the oily lubricants used to ensure clean cutting processes during drilling and manufacturing, require the used fluids to be transported offsite by tanker to specialist treatment facilities. These treatment processes are themselves energy-intensive, are expensive, cannot remove all the toxic components – and still leave a residual oily waste that then has to be transported to landfill for disposal, where their anaerobic degradation produces the high-impact climate-change gas, methane. With such disposal options reducing and costs rising, manufacturers' costs are also rising unpredictably.

By contrast, Microbial Solutions' innovative on-site bacterial process can treat metal working fluids within 7–10 days in a much more environmentally friendly manner, producing grey water that is safe to dispose of in the sewerage system, and with no methane production in the process – so lower greenhouse gas impact. Water re-use is also possible, and the company can offer treatment price certainty and stability to manufacturers, on a non-capital investment 'pay-as-you-treat' per litre basis.

The technology has been successfully trialled with a leading car manufacturer. Microbial Solutions has now moved to new office and laboratory facilities in Oxfordshire, and following an introduction by Houghton Europe, is also now set to conduct a commercial pilot of its patent protected bacterial treatment, known as 'Microcycle™ Technology' at the site of a major aerospace manufacturer.

Microbial Solutions uses a simple bioreactor (a large cylinder) containing a meshed plastic grid on which a variety of non-pathogenic bacteria are cultivated – each bacterial species feeds off different components of the metal working fluids, together 'eating' the polluting and toxic elements. The resulting grey water is disposed of to sewer, removing the need to transport to landfill, and the next batch of metal working fluid is added to repeat the process.

Prof. William Pope, Chief Executive Officer, said: "We are delighted to have secured the funding we need to take our technology to market and to have signed a partnership agreement with Houghton Europe.

"Our Microcycle™ Technology can revolutionize the treatment and disposal of metal working fluids. It can generate significant cost savings as future disposal costs rise – the costs of waste disposal in Europe alone are already estimated at around 1 billion euros per annum – and, unlike existing facilities, our bioreactors are straightforward to scale up.

"Our treatment is particularly relevant in the current marketplace as Industry faces increasing pressure from regulators to significantly reduce the pollution and toxicity of waste fluids as well as the amount of waste sent to landfill, and to reduce the impact of climate change gas generation. Microcycle™ hits all these targets."

Dr Victor Christou, Senior Investment Manager at Oxford Capital Partners, said: "The single most important driver of our investment decision was the desire of Microbial Solutions' customers to implement Microcycle™ as soon as possible. Microcycle™ has the potential to eliminate waste streams completely. When this is combined with the company's 'pay as you treat' business model, it looks like an attractive proposition to engineering companies faced with a pressing need to reduce their environmental impact.

"The investment plays to Oxford Capital Partners' strengths in the environmental and biological sectors and is a good example of our interest in investing across traditional sector boundaries."

Dr David Kelly, Managing Partner of H2O Venture Partners, said: "Microbial Solutions stands as a first class example of what can be achieved by intensively resourcing development of the commercial proposition for high-quality intellectual property from the publicly funded research base. We are delighted that such high quality investors as Oxford Capital Partners and the Rainbow Seed Fund felt able to support the next phase in the company's development."

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