Ultrasonic tap attachment saves water and energy

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An award-winning ultrasonic tap attachment, which uses less water and less power than existing technologies, has been developed by the University of Southampton.

Professor Tim Leighton and Dr Pete Birkin with the ultrasonic nozzle device

Developed as a more effective cleaning method, the attachment generates both bubbles and ultrasound which travel down the water stream to the dirty surface. The bubbles then act as microscopic 'smart scrubber', massively boosting the streams cleaning potential.

The nozzle significantly reduces water and power consumption, using only a tenth of each compared with an equivalent pressure washer approximately - two litres of water per minute compared with 20litres and less than 200W compared with 2kW.

As well as using less water and energy, the nozzle obviously also dramatically reduces the amount of run off and wastewater created, thus providing a significant cost reduction in industrial applications and processes. These include food preparation, manufacturing, hospitals, power industries, cleaning sewage systems and even nuclear contamination, the cost of purifying run-off from the latter reaching up to £10k per cubic metre, says the university.

The product was developed by a team of scientists led by Professor Tim Leighton and Dr Peter Birkin, who were awarded the Royal Society Brian Mercer Award for Innovation earlier this month in recognition of their work. The award includes a £250k grant, which will be used to develop related products.

Professor Leighton said: "There's a very obvious need for technologies that improve our ability to clean while saving on our most important resources, water and energy.

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