



Innovation in Technology and Systems

Winner

Waterless Urinal Technology,
WhiffAway Group



A waterless urinal technology system for improved environmental sustainability and workplace experience. The company developed a system that reduces water use, saves cost – through reduced maintenance – can be retro-fitted and prevents blockages.

Annually, a standard flushing urinal wastes 157,000 litres of potable water, which equates to £395 per urinal. In developed countries, 18 per cent of total water consumption comes from flushing urinals.

Plus, waterless technology means blockages – mostly caused by a build-up of uric acid, salts and limescale, which create a bio-film on the urinal waste trap, drain and pipework – are reduced. It can also cause overflowing leading to a negative user experience. WhiffAway created non-return valve housing for its systems to stop bacteria growing in the pipework, below the bowl and entering the washroom – while also eradicating bad odours.

Results

From data collected between 2015 and 2018, WhiffAway's waterless urinal technology has saved its clients an estimated 750,000,000 cubic meters of water – 300,000 Olympic sized swimming pools of drinking water – and £1.9 billion and 14.7 million kilos in carbon. Plus, the system is non-hazardous and all cleaning materials are environmentally friendly.

While the system can be retro-fitted, new builds can save around 30 per cent on project costs by not having to plumb in cold feeds to urinals.

The main benefits of the waterless urinal technology are:

- Saving customers in excess of 350 litres per second;
- Lower carbon footprint;
- Reduced operational costs; and
- Better perception of the washroom

Despite the waterless urinal technology eradicating bad smells, WhiffAway created an Air Quality Sensor (AQS) for washrooms to monitor humidity, volatile organic compounds (VOCs), and Co2 levels. And it has created an Odour Eliminator, which uses photo-plasma, photo-catalytic oxidation (PCO) ozone and negative ions to rid the washroom of smells.

With a focus on the future, WhiffAway has also developed and installed what it says to be “the world's first fully connected smart washroom technology”. The turn-key solution uses IoT-enabled sensors to collect data and provide an interactive 3D washroom platform to make sense of the data.

Sensor applications include usage sensors to determine use and 'end-of-life', wipe sensors to monitor urinal cleaning patterns, tap sensors to identify temperature and stagnant water conditions for Legionella control, air quality sensors to monitor relative humidity, volatile organic compounds (VOCs), proven commercial, environmental and operational CO2 and temperature, and waste pipe sensors to predetermine maintenance patterns and help avoid 'run to breakdown' scenarios.

Best practice

Smart washrooms can allocate resources through real-time data analysis for routine maintenance and identifying problems before they occur.

Smart washrooms can help to identify patterns so consumables can be replenished to keep customers satisfied.