

Wakefield, UK, Monday 28th February 2022

YORKSHIRE WATER AND AQUA ENVIRO IN GROUND-BREAKING METAGENOMICS PARTNERSHIP

Yorkshire Water and Aqua Enviro, the SUEZ owned wastewater technical consultancy, have developed a ground-breaking metagenomics project, which will be used to monitor and control performance at wastewater treatment works.

The genetic sequencing tool will help Yorkshire Water gain an increased understanding of the different populations of bacteria at its sites and the conditions that impact their performance, while the EBPR upgrades are carried out.

It is hoped the results of the project will enable the utility to improve the performance of its wastewater treatment works and help the business meet its environmental and sustainability ambitions.

Tom Taylor, innovation technical specialist at Yorkshire Water, said:

“This is a ground-breaking project and we’re pleased to be leading the way with the trialing of this technology.

“It is hoped the genetic sequencing tool will improve efficiency at our treatment works and help us continually improve their performance, which ultimately provides better value for money for our customers. It will also improve the wastewater we return to the environment.”

Metagenomics involves sequencing wastewater to determine the bacterial populations and abundances present and this can give valuable data that could inform on operation and process optimisation of a treatment works. Profiles of Nitrifiers, methanogens and Anammox bacterial populations have been studied in depth.

Aqua Enviro has validated its own sequencing work flow across a variety of wastewater processes such as conventional activated sludge plants (ASP), ammonification process, UASB, Anaerobic digestion, and enhanced biological phosphorus removal (EBPR) processes.

A particular focus of the research is the bacterial ecosystem found in Enhanced Biological Phosphorus Removal (EBPR) processes, particularly Phosphorus accumulating organisms (PAOs) and Glycogen accumulating organisms (GAOs). With ever-tightening phosphorus

consents coinciding with the rise in the price of chemicals such as ferric and the continuing supply chain disruptions, many sites are looking to biological phosphorus removal.

Being able to monitor and understand the changes in PAO populations will play a significant role in future phosphorus removal strategies. The active deployment of process monitoring and control via metagenomics, will aid in achieving environmental and sustainability targets for the industry.

Dr Mikael Khan of Aqua Enviro commented:

“Here at Aqua Enviro we are focused on unlocking the ‘black box’ of biological wastewater treatment technologies and believe that our knowledge of metagenomics and sequencing tools can be used to support the water utilities and other waste, wastewater and effluent treatment plant operators using these technologies.”

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Notes to editors:

We're Yorkshire Water.

The people trusted to take care of Yorkshire's most valuable natural resource. On the surface, it sounds simple. We manage and look after the region's water. But water is not quite like anything else. We're not like any other business – and nowhere is quite like Yorkshire. Our work means much more than just supplying clean drinking water, taking away wastewater and looking after the region's coast and countryside. We're an integral part of Yorkshire life and millions of people who live and work here rely upon us, every single day.

We look after communities, protect the environment and plan ahead to look after Yorkshire's water, today, tomorrow, always. 24/7, 365, we provide essential water and wastewater services to every corner of the Yorkshire region and play a key role in the region's health, wellbeing and prosperity. That means over 5 million customers, and the millions of people who visit Yorkshire each year rely on us, every day. 140,000 businesses also depend upon the water we supply and the wastewater we take away to provide goods and services that support the economy – not only in Yorkshire, but across the United Kingdom and beyond.

About SUEZ:

SUEZ is a major player in environmental services. For almost 160 years, SUEZ has supported local communities and industrial companies in the management of essential services such as water, waste, and air quality. As such, SUEZ produces drinking water for 66 million people worldwide, recovers 2 million tons of secondary raw materials per year, and generates 3.1 TWh of renewable energy from waste. In our ongoing management of the ecological transition and climate change challenges, SUEZ will rely on the expertise and commitment of its 35,000 employees (particularly in France, Italy, Central Europe, Africa, Asia, and Australia) to offer high value-added and customized environmental solutions to all its customers. SUEZ's expertise allows, for instance, its customers to avoid the emission of 4.2 million tons of CO2, thus improving their carbon footprint and their impact on climate. With a turnover of nearly 7 billion euros and backed by its expertise and capacity to innovate, SUEZ has strong growth prospects. Soon, SUEZ will rely on a solid consortium of investors made up of Meridiam and GIP – with 40% stakes each - and the Caisse des Dépôts et Consignations Group with a 20% stake in the capital, including 8% held by CNP Assurances, to pursue its strategic development plans in France and internationally.

About Aqua Enviro

Aqua Enviro is a specialist environmental consultancy which has been synonymous with the wastewater sector for over 20 years. As well as working with all the major UK water utilities, Aqua Enviro, a SUEZ group company, boasts a highly experienced team with a proven track record of providing expertise to clients in the water, waste, industrial and agricultural sector.

Find out more about the SUEZ Group
on the [website](#) & on social media

