

Analysis for Innovators (A4I) Briefing event

Case Study

Innovate UK

Measuring Hydroxyls & Other Radicals to Optimise our Disinfection Process

AQR Ltd
Analysis for Innovators (Round 1)
Case Study

London, 27 February 2019



Company Background: AQR SafeWater

- ▶ Disinfection process that cleans fluids, making them safe
- ▶ Low power, uses no chemicals, modular reactor for flexible installation
- ▶ Independent technical data



The Problem

- ▶ Lack of technical credibility
- ▶ Lack of understanding about Suite of Radicals generated by AQR process
 - ▶ Product Enhancement
 - ▶ Restricting Markets
- ▶ Not an ozone system
- ▶ Improve current batch process and access high-value markets



A4I: The Application/Brokerage Process

- ▶ 2-Stage Application:
 - ▶ 1. Video - Short; Clear articulation of problem; File size limit
 - ▶ 2. Formal Application - normal rules apply
- ▶ Brokerage Event:
 - ▶ Are we meeting the right partner?
 - ▶ Do they understand our problem?
 - ▶ Have they got the right solution?



The Project: Measuring Hydroxyls & Other Radicals to Optimise our Disinfection Process

- ▶ LGC & AQR together developed a method using direct ambient ionisation coupled to transportable mass spectrometry.
- ▶ This method allowed measurements to be made in non-laboratory environments.
- ▶ A number of test rigs were assessed for radical generation and initial optimisation of the technology performed.
- ▶ Confirmed that hydroxyl radicals were generated using AQR's technology.



Additional Benefits

- ▶ Technology validated by a reputable, independent World-leading organisation
- ▶ Confidence in AQR technology
- ▶ Opened up new markets
- ▶ Potential impact of £40 million revenue from a leading UK Water Company
- ▶ Strong, ongoing relationship with LGC



What Next?

- ▶ Built a strong working relationship with LGC throughout project
- ▶ Good collaborative team
- ▶ Full understanding of AQR technology - key measurement challenges
- ▶ Identified ongoing development work
- ▶ New A4I Round 4 application

