Innovate UK Business Connect - KTP Platform (Current)
2789 Innovate UK KTP 50th Golden Awards

Manchester Metropolitan University and Aquacheck Engineering

Application name should be the nominee name (i.e. the name of the Partnership team, project, people or person who will be the recipient of the Award).

Entrant Name

Entrant Email

Nominee Name Manchester Metropolitan University and Aquacheck Engineering

Nominee Email

Confidentiality Declaration

- ✓ I confirm all contributors to this project have provided consent for the use of the information provided in this application to be used by the organisers in any promotion of the Awards.
- ✓ The information provided does not include comercially sensitive content that requires approval before it is made public.

Consent

- ✓ I am happy for any of the information provided to be used by the organisers in any promotion of the Awards

1. Knowledge with Impact
Criteria
In this category applications should demonstrate exemplary TCS / KTP credentials, with a particular focus on evidencing the impacts made, the transformative outcomes delivered, and the exploitation potential realised.
Eligibility
To be eligible for this award, your TCS / KTP participation must have begun after 1st January 1975 and have been completed by 30 June 2025.

2. Driving Innovation for the Future
Criteria
Here we wish to showcase the most creative, innovative and market-disruptive aspects of TCS / KTP. Applicants here should be able to demonstrate and evidence the nature, novelty and scale of progressive change enabled and exploited by TCS / KTP.
Eligibility
To be eligible for this award, your TCS / KTP participation must have begun after 1st January 1975 and have been completed by 30 June 2025.

3. The Art of Successful Collaboration

Criteria

This theme exemplifies the TCS / KTP ethos, here we wish to focus on the relationship aspects of TCS / KTP and how applicants can demonstrate a depth and breadth of reach and impact that has been facilitated through people and organisations working in partnership for a common goal.

Eligibility

To be eligible for this award, your TCS / KTP participation must have begun after 1st January 1975 and have been completed by 30 June 2025.

The shortlisted finalists for each category will be invited to attend the Gold Awards Gala Dinner on Wednesday, 29th October 2025 at the Kimpton Clock Tower Hotel in Manchester. Each shortlisted finalist will be allocated three Gold Awards Gala Dinner tickets, but will be responsible for covering their own travel and accommodation costs.

Are you applying for the Art of Successful Collaboration Category? Yes

About the Nominees

Describe the People/ Partners/ Participants involved including any available TCS/ KTP project details (mention here any relevant context such as Knowledge Base and Company Partner details, main company activities, markets, locations; also consider providing turnover, profitability, and headcount numbers where possible).

> KTP Ref: KTP010030
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> Dates: Feb-2016 – Feb-2019
>
> Company Partner: Aquacheck Engineering Limited
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> Knowledge Base: Manchester Metropolitan University
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> Knowledge Base Lead: Bamidele Adebisi, Professor in Intelligent Infrastructure Systems
>
> Associate: Dr. Dario Chiantello
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> Aquacheck Engineering Limited is a small manufacturing company based in Rochdale, with expertise in engineering spanning over 40 years. Building on this successful (top 10% in Europe) history in engineering, providing high-volume, precision-turned parts to large multinationals, Aquacheck refocused its operation to concentrate solely on the design and manufacture of high-specification, non-return valves and tooling for the water industry and Fire Protection Services. Whilst maintaining its sector focus, Aquacheck has more recently diversified into developing innovative solutions to common problems encountered in the water infrastructure sector

The Strategic Context

What was the strategic challenge, need or opportunity that this KTP (or formerly TCS) nomination set out to address? Please outline the key purpose/ aims/ objectives of your partnership(s) and/ or the drivers motivating the Gold Award nominee(s)

> The traditional water standpipe design was unchanged for decades and its limited, purely mechanical functionality meant water utility companies could not identify where or when they were being used, or how much water was being extracted from the network.
>
> As the impacts of climate change grow, the water supply network is an increasingly important - but stressed asset - with every possible action needed to improve its resilience.
>
> The KTP aimed to develop a new Internet of Things (IoT) device – a Smart Standpipe – that could solve these challenges. Through advanced ultrasonic metering capabilities and IoT connectivity, water companies would be able to monitor real time data on location, volume, flow, and pressure readings for every standpipe in use.

Achieving this challenging aim would transform Aquacheck from a traditional manufacturer into a fully integrated standpipe service provider, generating benefits across three complementary aspects:

1) Developing a new R&D capability: Forming a specialised team, including the Aquacheck's first KTP Associate, and purchasing specialist instrumentation and design and modelling software.

2) Analysing the new service against market and customer requirements: Understanding Aquacheck's existing product range, identifying common issues with the traditional mechanical standpipe, and validating future requirements.

3) Developing a brand-new integrated service: Creating a new product development based on the Smart Standpipe product, comprising the entire design process – from preliminary block diagram to a proof of concept working unit.

Overview of Outcomes/ Impacts for the Beneficiaries

Please outline the key achievements for the host Organisation(s), the Knowledge Base(s) and the Associate(s). What were the evidential impacts and outcomes realised alongside any evidence of changes in operations, culture, economic/ societal/ environmental benefits etc. How was TCS / KTP applied to optimal effect for the mutual benefit of the involved stakeholders and how did the collaborators ensure that sum of the outcomes realised went beyond the individual and collective ambitions.

A strong collaborative relationship built on trust and cooperation was key to the success of this first-time partnership between the Associate, Aquacheck, and academic team. Together, they not only met but exceeded the ambitious goals of the project.

The team developed the Smart Standpipe as a patented, market-ready product, while also delivering significant additional benefits:

- Creating a new service and revenue stream by leveraging data hosting, visualisation, and management capabilities.

- Adopting a modular 'plug and play' development philosophy to future-proof current and future innovations.

- Building new capabilities in AI and rapid prototyping using 3D printing.

The project grew Aquacheck's reputation, positioning them as market leaders in product innovation. Business performance improved markedly, with significant growth in turnover, net profitability, headcount, and company valuation. Despite no initial plan for exports, they are actively exploring interest from European markets.

From the KTP work, Aquacheck also won Severn Trent Water's 2017 'Supplier of the Year' award and subsequently, were awarded a contract to act as their Innovation Partner.

The Academics gained valuable insights into real-world engineering challenges, leading to new teaching materials, five publications, and collaborative research across the UK, Brazil, and Africa. Relationships were also established with major water utilities including Severn Trent, United Utilities, and Yorkshire Water.

The Associate exceeded expectations, registering for and completing a PhD during the project. Their research enhanced the Smart Standpipe with a machine learning-enabled acoustic event detector. They went on to lead Aquacheck's newly established R&D team for nearly five years.

The project's most significant outcome was Aquacheck's transformation from a traditional parts manufacturer into an R&D-led organisation. The partnership was rated 'Outstanding' by Innovate UK and won 'Best KTP' and was a finalist for 'Engineering Excellence' at the 2020 KTP Awards.

WOW Factor!

What makes this nomination special in having applied the TCS/ KTP partnership culture and ethos to best effect and why should it win the Art of Successful Collaboration Gold Award?

> The KTP between Aquacheck Engineering and Manchester Met sparked a collaborative research partnership that has now lasted a decade. The strong foundation built during the first KTP led to a series of follow-on collaborations, including a dual Associate KTP (2017–2018), a single Associate KTP (2019–2022), an AKT (2022–2023), two contract research projects (2018–2019), and a match-funded PhD (2023–2026). In total, the partners have been actively collaborating for 97 months over this time.
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> Over time, the scope of collaboration has expanded disciplines to include electrochemistry, cyber security, and advanced 3D printing. Even during challenging periods, such as the early end of the dual Associate KTP, the partnership remained resilient. The subsequent three-year KTP, rated 'Outstanding', resulted in a new to market handheld device for detecting lead in drinking water, furthering Aquacheck's leading reputation and commercial growth.
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> Aquacheck's CEO has been a vocal advocate for KTP and Manchester Met, facilitating new partnerships with Severn Trent Water - resulting in one KTP (2018-2021), Arctic Hayes - resulting in one KTP (2020-2023) and one AKT (2022-2023), and United Utilities leading to an Ofwat Innovation Fund 'Water Industry Printfrastructure' project with Manchester Met's PrintCity (2020), while the Lead Sensor project initiated a 74-month research collaboration with a prestigious organisation. He has also supported KTP by supporting events such as the Bank of England Governor's visit to Manchester Met in 2022.
>
> The partnership has had a major academic impact. Experience gained through the project has enabled Prof Adebisi to become a KTP champion. Applying this knowledge, he has mentored 12 new-to-KTP academics across 16 KTPs and 2 AKTs, including the award-winning I Want Plants KTP (2024). His contributions to knowledge transfer were recognised with an MBE in 2024.
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> This is a gold-standard collaborative partnership that continues to deliver exceptional results for all partners.