

Navico Group and Queen's University Belfast

Nominee Name Navico Group and Queen's University Belfast

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 commercially 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 Knowledge with Impact 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).

As KTP celebrates its golden anniversary, we at Navico Group proudly mark three decades of transformative collaboration, through four projects that have shaped who we are today.

Our story began in Bangor, Northern Ireland, as Munster Simms Engineering in 1810. From those roots, we have grown into a global leader in water, waste, and heating systems for marine, RV, and industrial applications. Our legacy in marine water systems is why our products are aboard the world's most desirable vessels.

Since our first TCS project with Queen's in 2000, we've delivered pioneering Partnerships that have shaped our evolution:

- From advancing 3D-CAD and simulation,
- To embedding lean manufacturing,
- Developing new in-house electronics and software capabilities,
- And today, pushing boundaries with robotic rotational moulding.

These collaborations have built a world-class innovation hub in Bangor, and laid the foundation for sustained, profitable growth.

From a £8.7M business with 100 employees in 2000, we've grown into a £28.8M turnover with 175 employees, leading five engineering and three operations sites globally. Now under the umbrella of Brunswick Corporation, a \$5.25B global marine powerhouse, our reach is greater than ever.

Our journey is a powerful example of knowledge with impact - delivering innovation, competitiveness, and long-term value through collaboration.

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)

Over three decades, we have strategically harnessed the KTP programme to support a long-term transformation journey, aligning each project with a critical inflection point in our evolution. This deliberate, forward-thinking, approach has enabled us to build deep, world-leading internal capability, drive innovation, and enhance competitiveness across multiple domains over decades.

Our first KTP addressed a pressing need to modernise our New Product Development process, which was slow and inefficient, producing low-quality parts. By integrating 3D-CAD and Computer Aided Engineering tools, we modernised product design and development processes, accelerating product launches, enabling profitable growth.

Next, we tackled production inefficiencies rooted in reactive problem-solving and unbalanced workflows. Through lean manufacturing principles - Kaizen, single-piece flow, SMED (Single Minute Exchange of Die) and improved component storage - we significantly boosted Overall Equipment Effectiveness, minimised downtime during equipment changeovers, enhancing overall efficiency and productivity.

Recognising a growing reliance on costly external expertise, our third Partnership focused on building new in-house electronics and software capabilities. This empowered us to innovate more rapidly in key product areas like gas heaters and pump control, enhancing flexibility and enabling advanced features such as energy efficiency and safety.

Most recently, we identified a commercial opportunity in marine fuel tank innovation. This KTP will develop recyclable, single-skin tanks using robotic rotational moulding with direct electric heating to position us as a leader in sustainable, high-performance marine fuel solutions.

By aligning each Partnership with a clear commercial imperative, we've delivered measurable outcomes and cultivated a culture of knowledge transfer and continuous improvement. Each KTP has been a catalyst for strategic growth, enabling us to embed new technologies, respond to market shifts, and future-proof our operations. This journey evidences our ability to leverage academic expertise to overcome complex challenges, build long-term capability, drive innovation - positioning us as a resilient, future-ready organisation.

Overview of Outcomes and/or Impacts for the Beneficiaries

Please outline the key achievements. Detail the impacts realised 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 transformational in realising optimal outcomes and impact for everyone involved.

Through a series of transformative KTPs, Navico has accelerated innovation, strengthened operational excellence, and launched the careers of talented Associates.

One standout achievement was the full redesign of a high-volume pump, improving performance, reducing tooling costs, and enhancing quality. This generated £108M revenue from >1.8M units sold - this design remains market-leading 25 years on. Time-to-market was cut by 43% using advanced CAD and validation tools, while Kaizen rollouts halved equipment changeover times and boosted assembly output by 10%. A major leap in product innovation came with the creation of in-house Electronics and Software capability. This accelerated development, delivering Navico's first advanced gas control system within the KTP timeline, followed by the design of three complex gas heater ranges - scaling HVAC growth from \$0 to \$9M.

Bangor is Brunswick's global centre of excellence for rapid prototyping, producing over 7,000 prototypes worth £1M+, playing a key role in Navico's strategic growth, streamlining product development, project delivery, and manufacturing globally.

KTP has been a launchpad for our Associates' careers. Richard Bovill, now Director of Product Development, drives innovation across five global sites. Peter Hansen leads Electronics & Software across four countries. These leaders continue to drive strategic change and act as proud KTP Ambassadors. Our current Associate, Claire Wilson, is surpassing expectations and on-track to become a future leader.

For three decades, Queen's and Navico have deepened strategic partnerships through real-world application of research, student engagement, and annual site tours. Academic expertise has been embedded in advanced manufacturing, electronics, and software development. Queen's has had the opportunity to influence operations of a global organisation, including the establishment of in-house electronics teams and the adoption of AR/VR, robotics, and AI.

This is the legacy of KTP: a catalyst for transformation, delivering industrial impact, nurturing leadership, and proving the enduring power of knowledge with impact.

WOW Factor!

What makes this nomination special in having realised its exploitation potential and why should it win the Knowledge with Impact Gold Award?

This nomination celebrates a journey of transformation that began with a bold vision and grew into a global success story powered by knowledge transfer. Using strategically aligned KTPs, Navico evolved from a local SME, becoming a cornerstone of a \$1Bn division within a \$5.25Bn multinational. Today, Navico's Bangor site employs 175 people and generates £28.8M in turnover - but the true impact lies in the lasting transformation and far-reaching influence these KTPs have delivered.

Each KTP was a catalyst. The redesigned pump, now a market leader with 1.8M units sold and £108M in revenue, exemplifies how academic expertise can unlock commercial potential. Product development cycles were reduced by 43%, and Bangor emerged as a global Centre of Excellence for Injection Moulding, Rapid Prototyping, and Moldflow Analysis.

Navico's KTP-driven products have earned multiple IBEX and METS Innovation Awards, affirming global leadership in marine technology. These accolades represent the ingenuity, collaboration, and relentless pursuit of excellence that defined these partnerships.

Behind the metrics are people. Engineers who once worked on a single brand now lead global teams. Our KTP Associates have grown into our innovators, driving the development of 16 product ranges and expanding the HVAC category by \$9M. Integration of the KTPs enabled remote global design capability, these advanced technologies, from digital twins and VR manufacturing layouts to remote testing and simulation, are now embedded across a global business.

This is more than a success story - it's a blueprint for how KTPs reshape industries and empower talent, to deliver lasting impact. It demonstrates what's possible when collaboration is purposeful, ambitious, and aligned. When harnessed effectively, KTP is a powerful catalyst for transformation, embedding academic expertise into industrial practice, driving measurable change. At its heart lies the enduring value of knowledge with impact - and a legacy worthy of gold.


