

Innovate UK Business Connect - KTP Platform (Current)

2768 Innovate UK KTP 50th Golden Awards

University of Aberdeen/Vertebrate Antibodies

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).

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 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).

The enduring partnership between Vertebrate Antibodies/EpitogenX, the University of Aberdeen, and NHS Grampian & Biorepository, initiated through a 2017 KTP (KTP10982). Originally focused on colorectal cancer biomarkers, the collaboration evolved into a dynamic, multi-project innovation engine. A second KTP in 2021 (KTP12327) expanded into fish diagnostics and commercialised EpitoPredikt™ (AI-driven epitope prediction) and EpitoGen® (recombinant scaffold), groundbreaking technologies which were rapidly repurposed during COVID-19 to deliver WHO-validated serology tests.

The partnership pioneered diagnostics for Lyme disease, improving early detection by >23% and developing the first species-specific assays to guide treatment. A third KTP in 2024 (KTP13675) supports the creation of an NHS-aligned autoimmune centre, advancing diagnostics for Type 1 diabetes and Hashimoto's. All partners are based in North-East Scotland, enhancing regional collaboration and economic growth.

Together, they've secured >£8M in funding (both public grants and private investment), published 50+ peer-reviewed papers, and commercialised 200+ reagents via Cancer Research UK. Their technologies span clinical and veterinary markets across UK, EU, and beyond. The KTPs have driven a 1000% increase in turnover, a 900% rise in R&D investment, and created 11 high-skilled roles, expanding the workforce by 450% over six years. This partnership exemplifies transformative innovation, regional impact, and sustained excellence.

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)

Existing serological diagnostics are regularly constrained by inadequate sensitivity and specificity, high per-test cost, dependence on specialist laboratory infrastructure, and the need for expert interpretation. These limitations leave clinicians without reliable tools for early detection of diseases where timely intervention is critical (e.g., colorectal cancer, early-stage Lyme disease, presymptomatic Type 1 diabetes), and hinder diagnostic reach in low-resource settings.

KTP10982 and the ongoing collaboration addressed that strategic gap by translating foundational immunology and bioinformatics research into a transformative, clinically robust diagnostic platform that is rapid, affordable, scalable and broadly deployable. The partnership's core objectives were to:

(1) develop antigen designs that capture the full antibody repertoire (linear and conformational epitopes) to materially improve sensitivity and specificity; (2) integrate AI-driven component to prioritise clinically relevant targets and accelerate assay design and development; (3) engineer a multiplex-capable scaffold to display multiple immunodominant “hotspots” without loss of conformation or manufacturability; (4) deliver assay formats compatible with both laboratory and point-of-care workflows; and (5) achieve clinical validation and market readiness through rigorous NHS partnership and regulatory-aligned evidence generation.

Motivating drivers included an urgent clinical need for earlier, more accurate diagnosis; economic opportunity to scale a UK-origin platform globally; and the strategic imperative to demonstrate reproducible translation from university research to market-ready diagnostics. To meet these aims the partnership combined complementary assets - AI and scaffold engineering from the company, and advanced laboratory capabilities, clinical insights and patient-sample access from the university and NHS partner - creating a capability that neither could achieve alone.

The KTP model has confronted interdependent technical and commercial challenges (antigen fidelity vs manufacturability, assay multiplexing, clinical evidence generation and regulatory confidence). By coupling iterative lab development with clinician-led validation and persistent dissemination, the partnership accelerated a credible pathway from concept to validated product, addressing urgent unmet needs in modern diagnostics.

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.

KTP10982 has generated sustained, measurable impact across the partnership, translating research excellence into commercial growth, talent development and societal benefit.

Vertebrate Antibodies/EpitogenX (Business partner): The partnership enabled rapid operational scaling: relocation to larger R&D facilities, integration of EpitoPredikt™ and the EpitoGen® scaffold into product pipelines, and creation of new high-skilled roles. These advances strengthened market credibility (international distributor agreements), and underpinned launches in Lyme and autoimmune diagnostics. Platform repurposing into vaccine R&D (aquaculture) demonstrates cross-sector value. Predicted benefits include global market expansion (targeting Lyme and T1D markets), eight new product launches by 2028, further revenue growth, ~20 additional jobs and continued technological leadership centred on the EpitoGen® platform.

University of Aberdeen (Knowledge Base): The collaboration produced >50 peer-reviewed articles, secured £1.5M+ in research grants, and two KTPs graded outstanding. The partnership enriched curricula, produced ~10 industry-ready graduates, and raised public engagement through media, festivals and outreach. Future impact anticipates new teaching programmes in AI-driven diagnostics, strengthened global research leadership, REF Impact Case Study, increased funding opportunities and expanded public engagement.

Associate: As KTP Associate, Dr Abdo Alnabulsi bridged science and industry: leading assay development, coordinating NHS Grampian validations, contributing to publications and grant bids, mentoring students and accelerating product optimisation. His progression into senior leadership (co-founder/CEO roles of AiBiologics and EpitogenX) and supervision of subsequent KTP Associates evidences tangible career and leadership development.

Mutual benefit & cultural change: The KTP established shared governance, iterative development cycles and joint IP strategies that de-risked translation. Operational practices and culture shifted towards rapid, evidence-led innovation; outcomes exceeded individual ambitions, commercial products, academic outputs, workforce development and clinically meaningful tools, delivering economic, academic and societal returns beyond any partner acting alone. Collectively, the partners have secured >£8M of public funding (BBSRC, CSO, SAIC, InnovateUK, Scottish Funding Council, EASTBIO) and private investment.

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?

This nomination exemplifies the KTP spirit in every dimension: shared purpose, complementary expertise, rapid iteration and demonstrable public benefit. The partnership has transformed fundamental research, turning an urgent public-health challenge into a durable, scalable innovation engine.

What makes this partnership exceptional is its authentic reciprocity. EpiToGenX, a University of Aberdeen spinout, contributed commercial drive and disruptive platforms (EpiToPredikt™ and EpiToGen®), previously invented in the lab. The University of Aberdeen supplied deep domain knowledge, world-class facilities, resources and translational research expertise. NHS Grampian provided clinical insight and high-quality, validated samples. That mix created a virtuous loop: academic rigour-informed product design, clinical reality shaped R&D priorities, and commercial translation-led research questions. The result was not incremental improvement, but platform-level change; technologies that improved diagnostic sensitivity and specificity, are compatible with lab and point-of-care formats, and can be repurposed for vaccine development and other applications.

The partnership proved its credentials under pressure. During COVID-19 the consortium pivoted rapidly to produce validated serology tests recognised by independent authorities, demonstrating the KTP model's ability to mobilise resources, reduce time-to-impact, and build trust across sectors. Since then, the partnership has produced a superior Lyme disease test, a Type 1 diabetes screening prototype, plans for an autoimmune research centre to inform prognosis and treatment decision, multi-fold commercial growth, substantial investment, double-digit creation of high-skilled roles, >50 peer-reviewed papers, and commercialisation of hundreds of research reagents. Importantly, students and Associates have gained industry-ready skills and clear career pathways, embedding a culture of translation within the university.

This collaboration is special because each partner treated the KTP as a long-term ecosystem, and not a one-off project. Governance, joint IP strategy, shared milestones and iterative validation ensured risks were managed and benefits widely shared. That combination of speed, scale, sustainability and shared ownership exemplifies the "Art of Successful Collaboration".