

Innovate UK

Results of Competition: UKI2S Accelerator Programme for Technology Development Projects: Round 5

Competition Code: 1901_UKI2S_R5

Total available funding is £909,379

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Cytoseek Limited	Re-engineering T-cell membranes for efficacy against solid tumours	£613,886	£306,943

Note: you can see all Innovate UK-funded projects here: <https://www.gov.uk/government/publications/innovate-uk-funded-projects>

Use the Competition Code given above to search for this competition's results

Project description - provided by applicants

In 2018, more than 9.5 million people worldwide died from cancer, with more than 18 million new cancer incidences reported. A new approach using human immune cells to attack tumours is showing promise in the clinic. Within this exciting new field, CAR-T therapy has been shown to be effective against blood-based cancers, such as acute lymphoblastic leukaemia. Unfortunately, cancers that involve the formation of solid tumours, which make up 85% of cancer deaths worldwide, are resistant to current cellular immunotherapies, which severely limits the range of treatments available to the public. In an effort to overcome this limitation, CytoSeek has teamed up with the University of Birmingham (UoBi) to develop a new class of smart CAR-T that can attack solid tumours. The collaboration involves applying CytoSeek cell painting technology to "supercharge" the immune cells and allow them to invade and kill cancer cells in solid tumours.

Note: you can see all Innovate UK-funded projects here: <https://www.gov.uk/government/publications/innovate-uk-funded-projects>

Use the Competition Code given above to search for this competition's results

Results of Competition: UKI2S Accelerator Programme for Technology Development Projects: Round 5

Competition Code: 1901_UKI2S_R5

Total available funding is £909,379

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
GyreOx Limited	An automated macrocycle discovery platform targeting intracellular protein-protein interactions	£706,100	£353,050

Note: you can see all Innovate UK-funded projects here: <https://www.gov.uk/government/publications/innovate-uk-funded-projects>

Use the Competition Code given above to search for this competition's results

Project description - provided by applicants

There are two major classes of drugs: "small molecules", and, "biologics". Both have their limitations: small molecules do not address complex disease targets; whilst biologics are not able to get inside the human cell, and also have to be injected. Members of a new drug class, called "macrocyces", combine desirable properties of both these classes, in that they can be administered orally, penetrate into the cell, and can tackle disease-causing processes therein. The pharmaceutical industry is seeking novel and patentable macrocyces for use in conditions such as cancer, inflammation, and auto-immune disease, amongst a range of other diseases. GyreOx's proprietary technology generates a range of novel and highly modified macrocyces (termed 'gyrocycles'), but our production platform ('MACRO') is currently restricted to creating only 10's of different ones for testing as drugs.

This project will develop the process further to allow hundreds of novel gyrocycles to be generated more quickly and more cheaply, by automating the process from end to end. In particular, it will shorten the time necessary to explore new ideas for optimising gyrocycles for use as drugs. In tandem with the development of the platform, GyreOx will also tackle a specific target in cancer, where traditional approaches have made some headway, but have become stalled because they are unable to get the potential new drugs inside the tumour cell where the target resides. We will use our understanding of the properties of gyrocycles to rationally design in the necessary ability to cross the cell membrane. We will create a novel lead series of gyrocycles, demonstrating proof-of-principle.

By the end of the project, GyreOx will have developed a new drug discovery platform capable of being used against a range of targets in many different disease areas, and a first demonstration of its utility with an industry-relevant drug target. We will be able to deploy this new platform on both our own internal targets and those from Pharma partners, in a wide range of diseases of considerable unmet clinical need, including cancer, inflammation and auto-immune disease. The Company then aims to raise significant investment to take the new gyrocycle drugs through to clinical testing in patients.

Note: you can see all Innovate UK-funded projects here: <https://www.gov.uk/government/publications/innovate-uk-funded-projects>

Use the Competition Code given above to search for this competition's results

Results of Competition: UKI2S Accelerator Programme for Technology Development Projects: Round 5

Competition Code: 1901_UKI2S_R5

Total available funding is £909,379

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

Participant organisation names	Project title	Proposed project costs	Proposed project grant
Inductosense Limited	Wireless, battery-free sensing of composite structures	£498,771	£249,386

Note: you can see all Innovate UK-funded projects here: <https://www.gov.uk/government/publications/innovate-uk-funded-projects>

Use the Competition Code given above to search for this competition's results

Project description - provided by applicants

The aim of this project is to develop new types of wireless, battery-free, sensors for integration with composite structures. The sensors will be permanently installed on or inside the structure to monitor non-visible damage through the life of the structure. This technology will allow more accurate and more frequent in-situ monitoring to detect potential failures/defects earlier, enabling predictive maintenance, reducing unscheduled downtime and ultimately lowering operating costs.

The project will focus on integrating both ultrasonic and strain/overload sensors into a range of different composite structures including a wind turbine blade, a composite aerospace component and composite repairs. At least three demonstrators will be built based on different representative composite structures to show the potential of this technology to customers and progress towards development contracts. Throughout the project Inductosense will work with a number of industrial partners across different industries who will help to define the end user requirements and samples where possible. These companies also offer potential routes to market.

The project builds on the development of sensors for corrosion monitoring originally conceived at the University of Bristol and commercialised by Inductosense and extensive research on non-destructive testing of composites undertaken at the University of Bristol. There are a number of innovative concepts that will be developed under this project, the key ones being: (1) the design of the ultrasonic, battery-free, wireless sensors utilising guided waves, (2) the design of wireless battery-free sensors to measure strain and overload, (3) the integration of the ultra-thin sensors with the composite structure, (4) the analysis of the signals to identify defects with the required level of sensitivity.

Note: you can see all Innovate UK-funded projects here: <https://www.gov.uk/government/publications/innovate-uk-funded-projects>

Use the Competition Code given above to search for this competition's results