

Innovate UK

Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
EXACTMER LIMITED	Scaling-Up Nanostar Sieving for Manufacture of Exact Polymers	£99,933	£69,953

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

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Project description - provided by applicants

Polymers are long molecules comprising repeated chemical units known as monomers. Some polymers, such as polyethylene glycol (PEG), which comprises ethylene glycol (EG) monomers, are very useful as therapeutic agents and as parts of sophisticated nanomedicines, because they regulate the way that a medicine is transported around and retained in the body. Other polymers mimic naturally produced polymers including peptides and oligonucleotides (oligos). However it is extremely difficult to make polymers such as PEG and oligos accurately, because chemical techniques often add a few more or a few less monomers to the chain. For example, in making EG112, a PEG polymer with 112 repeated EG units and a molecular weight close to 5,000 Da, current processes also make EG111, EG113, EG110, EG114, and so on, so that the material is known as polydisperse. This is a problem when it comes to use as part of a medicine, because the different chain lengths can act in different ways in the body, and analysis of multiple species is harder to do accurately.

EXACTMER is a start-up company that has licensed a new technology invented at Imperial College London, Nanostar Sieving. A hub molecule with three or more arms is used to form a macromolecular Nanostar. Monomers are added to each of the arms, one by one, to form polymers with an exactly controlled sequence of monomers. After the addition of each monomer, all the debris are removed by molecular sieving through a specially designed membrane. The process is repeated over and over until the desired number of monomers has been added, and then the polymers are cut off the hub and recovered, with all molecules having the same, exact number of monomers.

This feasibility project aims to show that this completely new approach can scaled up to produce pure PEGs and oligonucleotides at scales of at least 10 g product per batch, and with rapid cycle times. If we are successful, this will be a breakthrough for PEG fabrication and will enable EXACTMER to launch a range of PEG products of high molecular weight and unprecedented purity. It will enable us to introduce Nanostar Sieving as an alternative to the widely used and expensive solid phase synthesis for peptides and oligonucleotides. We will develop Nanostar Sieving for the assembly of further, more sophisticated nanomedicines, and strive to become the UK based dominant global producer of exact, high value polymers.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
STREAMLINED FORENSIC REPORTING LIMITED	Streamlined Forensic Reporting of Medical Evidence	£352,614	£246,830

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Project description - provided by applicants

This project creates a secure online platform to streamline the process of medical evidence collection by the police.

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CONSUB LIMITED	Jacket Pile Gripper Connection	£400,567	£280,397
Edinburgh Napier University		£11,828	£11,828
OFFSHORE RENEWABLE ENERGY CATAPULT		£47,854	£47,854
SCOTTISHPOWER RENEWABLE ENERGY LIMITED		£0	£0

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Project description - provided by applicants

This project is being executed by **CONSUB Ltd** in collaboration with **ORE Catapult**, **Edinburgh Napier University** and **ScottishPower Renewables** (SPR) and comprises the development of an innovative **Jacket Pile Gripper** mechanism to connect offshore jackets to their foundation piles.

Hydraulically operated gripping mechanisms are commonly used in the offshore energy industry for temporary connections with long term connections typically achieved by using a grouted connection. This concept utilises a new type of mechanism to apply the gripping force and a mechanical system to lock that force in place creating a long term permanent connection without the need for hydraulic or grouted connections.

In a recent call for ideas by ScottishPower Renewables (SPR) and supported by ORE CATAPULT, this concept was selected as a winning concept and both parties have agreed to collaborate with CONSUB in developing the concept for use on offshore jackets supporting wind turbines.

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AGILITY SCIENCES LIMITED	ActiveLedger: Revolutionising global supply-chains through advanced Distributed Ledger Technologies	£494,961	£346,473

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Project description - provided by applicants

Agility Sciences began the journey to become a novel distributed ledger technology platform to businesses by investing heavily in an experienced team, development of the technology, and acquisition of knowledge. Specific retained knowledge now includes advanced distributed ledger development, cyber security, and applied DLT operation in supply-chains (sustainability, finance and marine supply-chains). Agility Sciences is seeking to bring a new DLT platform to market that will enable global deployment of DLT across the supply-chain market and unlock the associated benefits of cost, trust and efficiency.

ActiveLedger V2 is currently on Github with full source code and documentation. The version created in this project will be released to the public with 50 nodes across the globe. After completing the current ActiveLedger development, developers and businesses will be able to use the network to create various DLT applications. ActiveLedger will provide internal protocols and network layering, so business can focus on developing the application of the DLT tool only. The roadmap is available on [www.activeledger.io][0].

[0]: <http://www.activeledger.io/>

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
TRAYDSTREAM LIMITED	Traydstream Share - A Data and Document Sharing Product using Blockchain and IPFS Combined	£487,749	£219,487

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Project description - provided by applicants

Traydstream has developed four core technology solutions that are disrupting global trade finance. A Trade Finance document review by bank typically takes between 6-8 hours or as much as between 10 and 45 days between the four involved parties i.e. a buyer, a seller and a bank representing each of these, respectively.

Through automation, Traydstream has reduced (currently) a single party to less than 20 minutes.

Traydstream's disruptive ambitions do not end there. The company now wishes to advance its technology by developing a cutting edge software product that will gradually allow the current method of distribution, email and courier, which is sequential and unsecure, to a parallel and secure distribution method using Distributed Ledger Technology (DLT) and the so-called "new internet" called the Interplanetary File System (IPFS).

A successful outcome from this project would provide Traydstream with a way to meet its strategic processing target of 5 minutes or less for all four parties required to receive, process, approve & consummate the Trade Finance transaction. Against a current cycle average of 15 days it represents a time saving of 99.9% or almost 100 times faster than today.

Whilst there are benefits of efficiency and productivity gains in the early processing of the trade finance transactions a quicker resolution and distribution of the data and documents effectively helps close the deal sooner and free up large amounts of working capital. It means that cash to the seller and the sellers bank re-enters the market much more quickly and can thus be used to help fund the development of the next series of goods for export. Effectively the process of buying and selling is accelerated, bringing with it less risk and the potential for greater economic growth. On the Buyers bank side the earlier confirmation of approval from all four parties completes the purchasing process, thereby helping de-risk the sale and allowing banks to fund SME's who now require shorter term financing and for lesser amounts.

In the future the use of the product could be extended directly to other players such as shipping or inspection companies so they can provide their supporting documents more directly to the seller, and its Bank. There is also potential to extend the product into other industries such as insurance, health care, government, legal and the security services. New intellectual property developed for the software product will be submitted to the patent office.

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FORESIGHT INNOVATIONS LTD	Innovative Thermostatic Composites for Hyperthermic Eradication of Varroa Mites from Honey Bee Colonies	£74,969	£52,478
Nottingham Trent University		£32,013	£32,013

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Project description - provided by applicants

Einstein is sometimes misquoted as saying If bees disappeared off the face of the earth, man would only have four years left to live. There is no doubt that the honey bee is a very important pollinator of human food in addition to the hive products of honey and bees wax that they produce. In recent decades a new phenomenon, known as colony collapse disorder, has resulted in the loss of many honey bee colonies across the globe. Whilst there is no single known cause for this, it is thought that the rise in the presence of a parasitic mite, known as the Varroa mite, has played a significant role.

Beekeepers must regularly treat hives infested with the Varroa mite to prevent their eventual death which in untreated colonies are unlikely to survive more than two years. At the moment this is done with various chemical treatments which can be found in the honey and bees wax posing a potential concern to food safety. There are also treatments based on essential oils such as oil of thyme which whilst suitable for human consumption, leave a taint in the honey so are restricted to the time of year when they can be used.

It has been known for several years that these Varroa mites are killed at a lower temperature than that which honey bees are able to survive without negative health effects. This process is known as hyperthermia and has been demonstrated to be an effective treatment method. The systems which are currently available however require beekeepers to interfere excessively with the bees by moving parts of their hives to treatment stations or to use different hive designs to those which have become standard.

For the hyperthermia method to become mainstream it requires a simple system that works with existing hives, does not require the removal of the brood frames and can be used off grid where mains electricity is not available. This project will deliver an innovative design of equipment for hyperthermic eradication of Varroa mites from honey bee colonies that will only require connection to a standard 12V battery.

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AINOSTICS LIMITED	Anatomical Integrity Mapping (AIM): Non-invasive imaging driven patient identification, prognosis and stratification in dementia	£455,937	£319,156

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Project description - provided by applicants

In healthcare, the timely and personalised interventions have a crucial role in the ultimate effectiveness of both current and future treatments for a wide range of diseases. Rapid correct diagnosis is key in unlocking personalised approaches for degenerative diseases like dementia and fibrosis where stratification is mandatory for correct treatment. Early detection of these diseases would result in a significantly improved patient prognosis but there is a dearth of diagnostic options in these indications. AINOSTICS' technology represents a breakthrough that would provide an automated, extensible, and personalised healthcare platform for assisting the clinical diagnosis of tissue modifying diseases using multi-modal imaging and non-imaging MRI data; useful for both the treatment of patients and the development of therapeutics. AINOSTICS' technology can automatically and intelligently analyse scans to provide sensitive and accurate micro-structural information about key tissue and organ structures then compare this with information from healthy populations to detect the signatures of disease. We intend AINOSTICS' software to become a routine part of clinical practice and drug development as the results of our intelligent analysis will provide clinicians, researchers, and imaging centres a convenient and cost-effective means to get reliable and objective diagnostic data needed to inform on patient disease status. For serious global diseases, software AINOSTICS' technology has the potential to save time during patient assessments, accelerate clinical pathways, standardise the quality of care and improve patient outcomes in addition to making important contributions to the development of disease modifying therapeutics.

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PFL HEALTHCARE LIMITED	BRAHMS - Breathing Resistance Assessment via Home Monitoring of Sleep	£221,699	£155,189
University of Sheffield		£87,680	£87,680

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Project description - provided by applicants

Sleep disordered breathing (SDB) is debilitating condition that affects a significant proportion of the population. One of its most serious forms is obstructive sleep apnoea (OSA), in which the walls of the throat relax and narrow during sleep. This interrupts normal breathing, leading to severely interrupted sleep. People with OSA experience fatigue and daytime sleepiness, which may be a danger to themselves or others (e.g., driving, operating heavy machinery). In addition, poorly controlled OSA may increase the risk of stroke, heart attack, high blood pressure and type 2 diabetes.

The project team are investigating new developments in machine learning, particularly deep neural networks, to develop a smartphone based solution for self-monitoring of sleep disordered breathing.

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OXFORD MOLECULAR BIOSENSORS LIMITED	Novel Biosensors for immediate, low cost and remote monitoring of Biological Oxygen Demand (BOD) in wastewater	£302,619	£211,833
WATER RESOURCE ASSOCIATES LLP		£9,294	£6,506

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Project description - provided by applicants

Oxford Molecular Biosensors (OMB Ltd) is a spinout from the university of Oxford. Our aim is to translate ground-breaking synthetic biology research into sets of useable chemical and biological monitoring tools and products for application worldwide.

In this project we aim to develop a new sensor which is able to rapidly detect an important measure of water quality; Biological Oxygen Demand (BOD). Current measures take up to 5 days and can cost £50-200 per measurement, however with our novel biosensor we believe we could reduce this time to between 20 minutes and 3 hours, at a reduced cost. Our new technology is based on a suite of novel biosensors that can quickly detect metals, organics and biological toxins at very low concentrations.

These can be deployed to monitor and manage environmental pollution, provide new and unique solutions to waste remediation and assist in metal and waste recycling.

It would allow us, and our customers to detect polluting effluents in rivers, lakes and the environment quickly, cheaply and effectively. The new biosensor would give rapid results at any site of interest, and could be used for a wide range of applications spanning from industrial waste, agricultural effluents and in river systems global y.

With water security of paramount importance, our new biosensors offer a rapid and sensitive method to detect toxicity and pollution.

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RADSENSE IMAGING TECHNOLOGIES LIMITED	Multimodal Cancer Imaging Agents	£249,696	£174,787

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Project description - provided by applicants

Radsense Imaging Technologies is developing a disruptive imaging agent technology. The technology will be exploitable in clinical imaging of multiple disease states including cancer, gastrointestinal disorders, kidney diseases and liver diseases.

In this project, we apply the technology for clinical cancer imaging by developing novel 'multimodal and tumour-targeted' imaging agents. The imaging agents will improve cancer diagnostics by promoting early cancer detection and cancer treatment selection by promoting accurate cancer staging.

Typically two or more imaging techniques, selected from MRI, CT, US and PET, are required for cancer detection/staging with each imaging technique requiring administration of individual imaging agents. Our imaging agent technology will: 1) eliminate the need of individual imaging agent administration by administering a single (multimodal) imaging agent and 2) enable targeted contrast enhancement at the disease site.

Our imaging agent technology will revolutionize cancer healthcare by significantly improving the effectiveness/efficiency of cancer imaging, and the accuracy/precision of cancer detection/staging process, ultimately leading to an estimated 30-50% reduction in average patient mortality and 4-5x increase in average patient survival.

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ABOVE SURVEYING LTD	SolarGain - Using pattern recognition and AI to identify thermal defects and resulting power loss in solar farm performance	£334,000	£233,800
Loughborough University		£112,648	£112,648

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Project description - provided by applicants

Above Surveying uses drones, thermographic and visual cameras and automation to survey and identify under performing solar panels in utility scale solar farms.

Using drones and automation ensures the data that is produced is consistent across all types of solar assets and across the seasons of the year which makes the data even more valuable for the customer (asset owners, asset managers, operations and maintenance providers and technical advisers) and the industry (component manufacturers, insurers and lenders).

SolarGain is the product name for the Patented market leading inspection service and innovative reporting portal developed by Above Surveying. It delivers insightful and actionable data analytics across portfolios of solar farms assisting the owners and operators of solar farms to:

- * produce more renewable energy;
- * reduce operating costs and down time;
- * increase the life of the solar farm; and
- * reduce energy cost to consumers.

Above Surveying is the European leader in the use of drones and data analytics in the solar sector. This project will help Above Surveying stay ahead of its global competition, continue growing its UK customer base and increase its international presence through a drone partner network.

Through the use of the Computer Vision, Artificial Intelligence and Deep Learning techniques, this project will deliver a step change in the level of automation used during the data and image processing stage of the service. This will allow Above Surveying to scale up quickly and turnout inspection reports quicker to the end client, greatly increasing its market attraction.

If successfully funded, this project will allow a start up technology business based in the UK to internationalise and scale its service far in excess of what is capable by its competition.

An average 5 megawatt (MW) solar farm in the UK has 410 defects or a defect rate of 2.4%. Without this type of service, solar farms will produce less electricity and have a shorter life than is possible which has a detrimental impact on the global economy and environment. The value of the service is already understood and international demand is increasing in line with solar deployments.

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STRUCTOR.IO LTD	Distributed Ledger Integration of Construction Contracts (d-LINC)	£93,771	£65,640

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Project description - provided by applicants

Construction is the third largest industry in the UK, worth ~£99bn or 6% of GDP, employing 2.7m people directly, ~8.5% of total employment. Worldwide, construction spend will grow by \$8tn to >\$17.5tn by 2030, 57% of all global growth. Robust contract administration is essential to help keep the industry competitive. Yet the industry is far from efficient -- there is a clear need for digitisation leading to automation; higher trust and fewer legal disputes; and timely payments.

This project develops a Distributed Ledger Technology (DLT) solution, which streamlines contract administration processes, keeps immutable record of major contractual events for audit purpose, and enables instantaneous payments across the supply-chain. We see potential positive impacts across clients/employers, contractors and sub-contractors. The result will be increased transparency, lower rate of manual mistakes and points of conflict, leading to new collaborative models for construction.

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SERELAY LIMITED	Sensor Based Attestation for Mobile Devices	£327,006	£228,904

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Project description - provided by applicants

Attestation of mobile devices based on sensory input

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STRATASTEM LIMITED	Stratification of sporadic Alzheimer's disease for intelligent drug screening	£499,262	£349,483

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Project description - provided by applicants

Recent advances have deepened our understanding of the pathology of Alzheimer's disease and resulted in revised criteria, clinical trial assessment and disease management with a focus on early-stage manifestations of the disease. Using iPSC technology, StrataStem have derived pluripotent cells from clinically diagnosed fAD patients and differentiated these to neuronal networks using a rapid and novel proprietary method. We have established a number of bespoke _in vitro_ cellular assays to detect specific phenotypes typical of preclinical AD neuronal pathology. Of significant importance, our analysis has demonstrated that discrimination (stratification) between specific gene mutations is possible, even within neuronal networks exhibiting an ****immature**** foetal phenotype. In addition, our novel network analysis approach predicts several key causal upstream regulatory pathways that are not currently associated with AD and suggests that the later stage of amyloid deposits and Tau protein tangles are a very late stage ****effect****, and not a cause, of the disease. Therefore, we believe that AD results from abnormal cellular processes starting within the foetus and occurring throughout life, eventually manifesting as an observable phenotype in the older patient. Our paradigm shift in AD pathology cause-effect may explain why drugs which target late stage effects of the disease are ineffective in clinical trials. In this project we will build upon our novel and exciting results by deriving iPSCs from clinically diagnosed sporadic late-onset AD patients (representing approximately 95% of all AD cases), with full clinical and lifestyle histories, to determine AD-associated phenotypes and use RNA-seq analysis to allow phenotype-genotype stratification compared to healthy age-and gender-matched donors. This funding will allow us to generate a patient biobank with anonymised clinical, lifestyle, genetic and phenotypic information that will be the key product for our future growth to provide an intelligent screening model for compound discovery that enables the ****right drug**** to be given to the ****right patient**** at the ****right time****. In the longer term, this will deliver significant social and economic benefits to society and facilitate earlier intervention and life planning for individuals with this devastating disease.

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ABLY REAL-TIME LTD	ABLY Realtime Data-Stream-Exchange (DSX): incorporating cutting-edge, elastic, globally distributed, replicated Message-Storage-Processing-Layer	£488,468	£341,928

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Project description - provided by applicants

Ably's ambition is to be a global leader in the "data-in-motion" revolution, providing a cloud platform to enable high-value realtime data exchange between global businesses. Ably are an established global player commercialising a number of industry firsts. As such they have a deep understanding of the problems organisations face in the realtime space.

As the creation and consumption of realtime data continues to grow exponentially (RT Insights, 2018), the engineering and investment required to share this data becomes more complex, preventing widespread participation in the data economy. At global scale, this is placing unprecedented demands on infrastructure and conventional integration technologies.

Ably are seeking Innovate UK funding for a cutting-edge element of their newly launched Data-Stream-Exchange (DSX) platform, being-an elastic, globally distributed Message-Storage-Processing-Layer. This is a technical enabler within the DSX platform, which will enable global liberation of realtime data so producers and developers can distribute it to _any_ number of consumers, without needing to invest in infrastructure regardless of scale. This will reduce unfair advantage, currently in favour of tech giants who can engineer streaming data-distribution solutions in-house, enabling more developers to monetise and share datasets as well as create new value-chains within the realtime data exchange ecosystem.

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OMMA.TECH LIMITED	Autonomous insect pest detection and identification for early warning and prediction	£291,697	£204,188

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Project description - provided by applicants

Omma.tech develops specialised systems for detecting, identifying and monitoring insect pests. Insect pests represent a huge cost to the global economy. In this project we will investigate how our technology can be applied to improve decision making in the use of pesticides by providing real-time information on insect populations. This has the potential to dramatically reduce the damage done by insect pests and the costs of treatment. It will also enable a reduction in pesticide use and the protection of desirable species, such as bees.

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Total available funding is £14 million

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
WEIGHTSHIFT LIMITED	Transforming 3D character animation with physical simulation and optimal control methods	£98,268	£44,221

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

"Transforming 3D character animation with physical simulation and optimal control methods" is an experimental development project that will explore the use of physical simulation and machine intelligence techniques to accelerate the production of realistic creature animation by visual effects studios.

Traditionally animators have used labour intensive methods to animate creatures like dinosaurs, dragons and super-heroes for films. The availability of computing power and development of simulation and machine intelligence techniques raises the possibility that automating large parts of this process may be possible, whilst still allowing animators to retain their artistic control.

The project seeks to develop a prototype version of a tool that can be used to animate shots under real-world conditions and time pressures. This prototype would then allow us to develop a product that has the potential to change the animation industry, drastically speeding up the animation process as well as improving the quality.

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: Open Grant Funding Competition: Round 3

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
SIGNLYNC LTD	Signlync, an intuitive and engaging app providing a secure and safe service connecting the deaf community to interpreters	£282,797	£127,259

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

Signlync is an app that safely connects the deaf and hard of hearing community to British Sign Language (BSL) interpreters. We aim to disrupt the current administration led services that are costly and dysfunctional. Through our game-changing innovation we aspire to be the leading business for the deaf and hard of hearing community. Our vision is to expand to other special needs segments including helping anyone with a disability or long-term health condition connect to community support workers and the Access to Work scheme. The next stage will be to take either or all of these special needs to the global level. There is also the potential to roll out the service to cover the entire language services support system

The simple aim has a huge social impact - we describe it as _"Uber for interpreters_"

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

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Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
INHERITING EARTH LIMITED	Stopping Ocean Plastic at source - The reduction and removal of microfiber plastic from waste water discharge in washing machines	£147,140	£102,998
BEKO PLC		£41,085	£20,542
JNDC LIMITED		£29,790	£20,853
University of Glasgow		£16,596	£16,596

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

Microfibres are the most abundant form of microplastic pollution in our rivers and oceans. Unlike microbeads, which are easily excluded from our toiletries and cleaning products, microfibres are formed through damage to a vital resource, our clothes. Wear and tear caused by abrasive forces in our washing machines result in the fragmentation of man-made textiles, forming hundreds of thousands of microfibres, less than 5 mm in length, which leak from our homes and drainage networks into the ocean. The filters in our washing machines cannot catch these fibres, and wastewater treatment plants cannot remove the millions that pass through them every day. Currently, secondary level water treatment removes around 98% of the microplastics that pass through them, however, the small proportion that escapes still equates to tens of millions of fibres per treatment works per day. Unfortunately, even fibres removed from the water and subsequently may be passed to the environment as digested "sewage sludge" spread on agricultural land.

Inheriting Earth is working to stop the flow of plastic waste into the ocean. The project aims to reduce the level of microfibers released to the environment by understanding which washing methods create the most fibres (allowing people to minimise wear to their clothes as well as limiting the production of fibres) and by developing specialised filters able to catch the fibres we do create. This latter approach uses an innovative design that can be plugged into any machine and installed in a few minutes. It will filter fibres and other tiny particles smaller than a human hair to create a solution that everyone can be a part of. In achieving this we will also create a new reliable plastic resource which can be used to make new products, lessening the need for new plastics and increasing participation in the circular economy. Inheriting Earth will kick-start this process by partnering with major recyclers to repurpose the fibres, diverting the millions heading into the environment.

The funding provided will bring together some of the best names in the UK industry including Adam Root the founder of Inheriting Earth (a winner of the young innovator of the year award), Dr Natalie Welden of Glasgow University, Dean Carran of JNDC Design consultancy and BEKO the international white goods manufacturer. Together, they aim to create a total solution capable of capturing plastic from our waste water and take plastic out of our food chain.

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

Innovate UK

Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
DYNISMO LTD	Affordable, immersive, high fidelity driving simulator for simulation of autonomous vehicles	£221,809	£155,266

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

****CAV Simulator****

This project will develop an affordable, immersive, high fidelity driving simulator for simulation of Connected and Autonomous Vehicles

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: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
ALPHABOND TECHNOLOGIES LIMITED	Development of a Safer 'Super Cool Meltpoint' Colour Indicated Hot Melt Adhesive	£163,748	£98,249

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

Development of a Safer 'Super cool Meltpoint' Colour Indicated Hot Melt Adhesive.

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: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
BEACONSOFT LIMITED	BeaconAD+ - Detecting and eliminating Ad-fraud through an advanced blockchain and AI-enabled machine learning web analytics tool.	£149,368	£104,558

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

Digital advertising has grown significantly with many companies adopting social media platforms to supplement their marketing activities. The current market for digital ads is worth over £145 billion and is expected to exceed £250 billion by 2020. While digital marketing is helping companies around the world reach out to existing and potential clients, its full potential is not being realised and companies are losing significant amounts of their ad-spend because of the existence of Ad-fraud. Business Insider UK estimates that global advertising revenue wasted reached £11.6 billion in 2017.

To counter this, we are developing the first ever Ad-fraud elimination platform that **combines three innovative technologies in a new and unique manner** to both generate accurate conclusions and insights about the validity of user activity on a digital asset using digital journey mapping and use a peer validation process to confirm their authenticity. The platform effectively filters out fraudulent and non-genuine activity in real time, thus alleviating the problem of Ad-fraud.

This is a ground-breaking concept, incomparable to the current state-of-the-art. Our solution will offer the following advantages over technologies available on the market:

1. Enhanced Ad-fraud predictive power -- BeaconAD+ is equipped with adaptive machine learning, through which the platform continuously learns from false positives and improves the predictive power over time, both globally and on a per click basis.

2. Blockchain technology means that the validity knowledge base (which anonymously records the validity or otherwise of a given entity (whether they are a bot or not)) is kept in secure and non-manipulatable blockchains.

3. Proactive -- the combination of blockchain and journey mapping gives BeaconAD+ powerful predictive capabilities, enabling it to act on fraudulent action before a page loads, thereby protecting ad banners against random spikes in bot traffic and skewed analytics.

4. Accurate Ad-fraud determination -- all the system efficiencies combined enable BeaconAD+ to identify up to 99.9% of all fraudulent activity, be it human based or based on 'bot' technology.

5. Interoperability -- BeaconAD+ works on all digital platforms and protects digital ads on all ad servers, no matter its geographical location.

Our mission is to drive transparency, authenticity and intelligence in online marketing. There is presently no solution on the market that combats Ad-fraud by adopting a triple-pronged approach such as ours. Through BeaconAD+ we aspire to eliminate digital Ad-fraud, unlocking the true potential of digital marketing, to improve business productivity and help businesses better understand and serve society.

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

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Innovate UK

Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
REINFER LTD.	Re:Infer - Deep Learning Conversational Automation	£492,688	£344,882

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

Increasing complexity of business practices, changing market and customer requirements and intensifying competition means that the need for process automation is becoming increasingly critical. Regardless of sector or size of operation, significant volumes of conversational data are generated daily through the interaction between a business and its customers as well as through internal communications. Despite the potential value of this data to improve its customer experience, operational activity and competitiveness, the ability to truly analyse the content of complex interactions generated by the large volume of phone calls, emails, on-website chat generated by internal and external customer communication is far from optimal with a current reliance on manual interpretation to perform this activity. With significant variations in content, the ability to automatically extract both the meaning of a communication as well as the intent is a highly complex task which is not possible through current call analytics products or AI based solutions which rely on specific metadata, key phrases or sentiment analysis. Since 2016, advancements in Natural Language Processing have proven the ability to extract and respond automatically to structured data from natural language. However, despite this potential, current approaches have focussed on understanding well written text and typically require significant volumes of structured annotated data for the systems to be trained. These technologies are therefore not designed to be deployed in commercial application where there is little annotated training data and where communication can vary significantly in grammar, spelling, content containing business specific terminology

With potential across multiple sectors (initial target being large Financial and Insurance companies as well as Ecommerce and Telecomms), and based on the use of proprietary Deep Learning technology and a unique system design, Re:Infer offers the first automated conversational intent recognition system capable of interpreting unstructured communications data from any form of communication converting this from natural language to structured data -- without the need for software expertise or additional coding input. With market need validated and with support through Innovate UK, an 18-month programme of research is required to deliver a prototype which will be validated in a user trial. If successful in development, the solution has the potential to disrupt the way customer communication is currently analysed providing greater insight into a customer's behaviour, offering improved operational intelligence and process efficiencies through automation as well as increased sales through better direct marketing efforts.

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: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
4AX TECHNOLOGIES LIMITED	Production of prototype internal blade inspection system for offshore wind turbines including cost benefit analysis.	£70,360	£49,252
OFFSHORE RENEWABLE ENERGY CATAPULT		£28,224	£28,224

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

Production of a prototype internal blade inspection system for use inside Offshore Wind Turbine blades including a cost benefit analysis.

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

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Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
FIBRE EXTRUSION TECHNOLOGY LIMITED	Advanced Hollow Filament Process	£163,136	£114,195

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

FET's experience from our client interactions is that there is a market need for new and better hollow filament forms. made from a range of polymer formulations, for use in specialised filtration.

They are seeking small scale / pilot equipment for making high performance hollow filaments for use in filter membranes and cartridge systems within the medical, healthcare and other technical sectors. They are looking for bespoke solutions enabling them to satisfy demanding niche markets where the capability of present equipment falls below required levels of performance.

We now see an opportunity to address their concerns and to potentially deliver mutual benefits to Fibre Extrusion Technology (FET), its customers and users of specialised filtration systems.

We wish to carry out Industrial Research to create the data and know-how to break through the technological barrier to progress in a Project at a cost of £156,000 and have in-house the necessary expertise to succeed in such a project, but need financial assistance to avoid cash flow limitations and complete the work within a 18-month time frame.

The developed know-how will allow us to demonstrate our capability to achieve performance leaps to users to help them differentiate their product ranges and for FET to achieve sales by providing technology and custom-built equipment.

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

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
PRIMORITY LTD	Food Supply Chain AI Anomaly Detection and Digital Ledger	£259,789	£181,852
University of Portsmouth		£88,236	£88,236

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

Primority is a UK based food safety solutions company that helps some of the UK's best known food brands manage food safety information to global food safety standards and national food safety laws. Their 3iVerify solution already manages food supply chain information through online, collaborative supplier and food material approvals, corrective action management, document management and supply chain data gathering. We wish to extend our solution to next generation Artificial Intelligence and Digital Ledger Technologies to improve food safety and industry competitiveness.

This project focuses on bringing together Artificial Intelligence (AI) and Digital Ledger Technology (DLT), like 'blockchain', to enable a predictive, shared learning food safety platform that all of the food industry can use to improve food safety and food business performance.

We will do this by applying AI and Machine Learning Algorithms, already proven to work in the Aviation sector, to food supply chain and internal food operational data. By making connections between products, raw materials, countries of origin and day to day food production data we will be able to proactively highlight risks and threats to food safety and to the finances of the food business.

Like the Aviation sector, we will enable anonymous shared learning and publish this using Digital Ledger Technology so that the global food industry may share information securely, learn and receive alerts on issues that may affect the safety and quality of their products.

This will have a positive effect on the whole food supply chain with food companies benefiting from a reduction in food recall and rejection risk. The effect of this will be to release money back into the food chain that is currently tied up in burdensome compliance and monitoring costs.

Regulators will be able to better understand global and local supply chain food safety issues without knowing the identity of individual food businesses. This will lead to higher levels of trust in the food sector and improved food safety standards.

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

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
PRAXIS WORKWELL LIMITED	Supporting SME Productivity Through Development of a Full Commercial Pilot Based On the Successful Feasibility Study Ref:1701_FS_HEAL_BMC_ApplicationVer s3.1_94696-556383	£199,904	£139,933

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

Praxis Workwell uses a multifactorial approach to promote wellbeing and reduce health risk. The system is based on internationally established programmes that assess an individual's health factors, such as disease risk, mental health, dementia, and frailty. The Workwell AI system links these risks to lifestyle-related causes (eg diet, activity, social interaction, sleep and stress); environmental causes (e.g. home, local, services, pollution and the workplace); life pressures (e.g. family, financial, work and commuting); life events (e.g. deaths, injury, and relationship breakups) and genetic predisposition (by examining family history). The AI relates the current health status of each individual to these causes in rank order and suggests changes needed to promote good health.

It was recognised from the Workwell AI data that, for many, the workplace has a significant impact on health, particularly mental health, and this in turn affects health-related productivity. To examine the commercial appetite for a health-related productivity package, Praxis Workwell, supported by Innovate UK, ran a successful feasibility study that demonstrated SMEs have a strong commercial appetite for, and interest in, utilising the proposed health productivity programme to increase profitability. This would be achieved through providing direction on changes to management practice and advice on lifestyle changes to improve employee wellbeing. This productivity improvement process is based on a systems approach that is underpinned by employers' commitment to making several small, achievable changes across a range of areas, and employees being given advice and direction on how to improve their quality of life, thereby reducing both physical and mental health risk. Additional hidden benefits from the programme would be an improvement in corporate culture, achieved by employers and employees cooperating to attain a common objective. This would lead to improved quality of life, increased job satisfaction, enhanced company loyalty and better work-life balance.

During the initial Feasibility Study, Praxis Workwell devised and tested the scientific algorithms and analytics required to drive the productivity dashboard. This project aims to take the components and findings from that study through a process of experimental development to provide the depth and quality of data necessary to enable the requisite deep learning for the predictive algorithms to power an SME health-related productivity programme.

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

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Results of Competition: Open Grant Funding Competition: Round 3

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
BETOMORROW UK LIMITED	SEESAI	£417,228	£292,060
FOSTER + PARTNERS LIMITED		£21,261	£0
NATS (SERVICES) LIMITED		£12,936	£0
SKANSKA CONSTRUCTION COMPANY LIMITED		£14,897	£0
SLAMCORE LIMITED		£9,889	£0
VODAFONE GROUP SERVICES LIMITED		£20,001	£0

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

****Overview****

This project will enable a proprietary blend of human and autonomous drone control. The aim of the project is to build a proof of concept of a service that has the capacity to match or exceed what's currently possible with a drone using conventional 'visual line of sight' rules - with significant cost, flexibility and scale advantages.

****Team****

Lead: BeTomorrow (BTO). Our senior team has over 100 years of combined experience across engineering, sales and marketing - at Apple, ARUP, CERN, Cognizant (Zone Digital), Google, Landrover BAR, McLaren Automotive, McLaren Racing and Oracle Team USA.

Partners: Skanska, Foster + Partners, NATS, Vodafone and SLAMcore.

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

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Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
VECOTECH LIMITED	VecoB - A novel spatial insect repellent	£279,853	£195,897

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

More than 50% of the global population are at risk of vector-borne diseases such as malaria, Dengue fever, Yellow fever, Zika and Lyme disease, causing 1 billion cases and 1 million deaths per year. Environmental changes are causing an increase in the range and abundance of disease vectors such as mosquitoes and ticks worldwide. The socio-economic cost of these diseases is significant: Zika virus caused GDP losses of ~\$18BN in Latin America and the Caribbean in just 2 years (UNDP,2017). Annually, the UK has 481,000 A&E attendances for insect bites, costing the NHS £59.6 million per year (£124 per visit). For many vector-borne diseases there are no available vaccines and drug resistance is increasing, with insect control and repellent products essential to prevent disease outbreak. Given the rise in resistance to insecticides and emerging evidence of resistance to existing repellents (e.g. DEET), amongst other environmental and health concerns, novel solutions are urgently needed to tackle growing arthropod-related public health problems.

To address this challenge, Vecotech has identified a novel, natural, plant-derived repellent which has proven to be topically and spatially effective in feasibility tests against several key species of mosquitos, midges and ticks. Building on this work, this project aims to develop an advanced formulation that provides stable protective efficacy and can be incorporated into a biodegradable material for use as a best-in-class wearable or household repellent product with a minimal environmental footprint. Compared to current wearable repellent devices, which have a protective efficacy of <2 weeks, Vecotech's solution will show long-lasting protective efficacy over 3-5 months, representing a >5x increase on current state-of-the-art.

Success in this project will enable Vecotech to bring a range of market leading wearable and home-based spatial repellent products to the market, with global exploitation potential within the insect-repellent market forecasted to be worth £5.39 billion by 2026, increasing company revenue and profit to support continued growth and competitiveness. The VecoB solution is anticipated to contribute to reductions in global morbidity/mortality rates of vector-borne diseases, aligned with the World Health Organisation's recommendations for elevated insect-control measures to prevent vector-borne epidemics. This will help to reduce the economic costs of lost working days and medical costs associated with vector-borne diseases. As a naturally-derived product, VecoB-based products will be safe, have a high public acceptance and will selectively target medically important vectors with no risk to the health of humans, wildlife or the broader environment.

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

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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
Microfoam	Cutting-edge heat pipes for improved electronics cooling	£99,472	£69,630

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

Many of the most profound technological advances in modern society have been enabled by a relentless increase in the computing power of electronic devices. We have become accustomed to significant yearly advances in the functionality of these devices, along with reduction in weight, improvements in lifetime, and many other features. This technological push has brought these devices right to the physical limits of the processes on which they rely. One particular bottleneck that is becoming increasingly prominent is the thermal management of consumer electronics. Heat pipes have become the technology of choice for the thermal management of laptops, high-end cell phones, and several aerospace applications. However, this technology has not evolved sufficiently fast to keep up with the cooling requirements of modern computer chips, and, as a result, computer chips are now programmed to limit their computing power to avoid thermal damage.

The core material used in current heat pipes relies on thermal sintering of copper powder, which is a slow and energy intensive process and is unable to satisfy the cooling requirements of modern electronic devices. _Microfoam_, a University of Cambridge spin-off, seeks to optimize and scale-up a disruptive new metal foam to capture a share of the rapidly growing heat pipe market. The heat pipe technology developed by _Microfoam_ is a manufacturing process that is faster, less energy intensive, allows for the fabrication of thinner heat pipes with new form factors, and, importantly, enables a step-improvement in performance of commercial devices that have not seen significant changes in four decades.

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

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Total available funding is £14 million

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
BIOPAXIUM TECHNOLOGIES LIMITED	Replacing non-recyclable black plastic: Development of the first fully compostable, oven-proof, long shelf-life tray for 'ready- meal' and modified atmosphere packaging	£499,019	£349,313

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

****AMBITION****

Our aim is to reduce and replace the use of black non-recyclable plastic for modified atmosphere packaging for ready-meals and ambient food items with development of a natural, fully compostable alternative packaging technology.

Over 1.3 billion black plastic trays are used in the UK each year (~10 billion globally- [Greenpeace][0]) however low recycling rates (45% plastic recycling rate UK; 9% globally-Defra;2018) and the inability of IR recycling plant sensors to the colour black mean that 99% of black plastic food trays end up in landfill, or even worse in the ocean.

Although work is being done to increase the recyclability of black plastic, high recycling costs coupled with low recycling rates mean that what is needed is move away from plastic all together, towards natural, sustainable alternative materials.

****FOCUS****

Working with a strong consortia of sustainable packaging and manufacturing experts, the project focuses on design and development of a fully compostable (6 weeks), heat-resistant (up to 240oc), microwavable and freezable food tray with unique biopolymer coating using seaweed algae and corn starch to provide up to 21 days atmospheric protection for ready-meal and ambient raw meat/fish market.

Made solely out our natural materials, the tray will be designed and tested using a number of FSA (UK), EU and FDA (US) approved protocols to ensure it meets the required oxygen transfer, water vapour transfer, temperature, disease and thickness requirements of each food safety agency and target food producer customers

****SIGNIFICANCE****

Despite an increased focus on reducing plastic waste and significant consumer and supplier demand, the technical challenges associated with replacing black plastic with natural alternatives for modified atmosphere food packaging have not been solved. Our strong biopolymer barrier technology therefore represents a step-change in the industry, still dominated by black plastic. Furthermore as a fully-compostable solution, it is both significantly cheaper and easier to dispose of than recycled plastic alternatives.

In line with UK GOVs 'Plastic Pact' 2025 commitment, all our materials are naturally-sourced and therefore have the potential to reduce the UK's reliance on plastics in this area significantly -- opening up a £32m turnover opportunity for us by Y5\ . We have already been in advanced discussions with Iceland and Kerry Foods regarding early adoption of the technology when developed and see this as having global potential -- environmental friendly and significantly cheaper than developing new plastic recycling infrastructure.

[0]: https://www.huffingtonpost.co.uk/entry/why-cant-black-plastic-be-recycled_uk_5b18f4e1e4b0734a993b00d0?utm_hp_ref=uk-lifestyle

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: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
SMARTIFY CIC	Driving the digital transformation of visitor experience	£322,320	£225,624

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

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Project description - provided by applicants

There are 75,000 museums globally with over 1 billion visitors per year (AAM, 2018). The average visitor spends £20 per visit on ticketing, retail, audio guides and donations. However, it is a hugely inefficient market in which museums are making only £9bn coming predominantly from retail and ticketing (93% of visitor-generated revenue); with donations at 5%; and audio guides just 2% in spite of the fact that providing engaging, educational experiences is a key aim for museums globally (__analysis from annual reports of 25 of the world's most visited museums 2017/18)._ The main barrier for museums to embrace technology are high costs of tailor-made digital solutions, lack of staff time and digital expertise. As museums are under increasing financial pressures, technology solutions are fundamental to the sector's future success.

Smartify can answer this need by bringing to the market a highly scalable and cost-efficient product based on disruptive technologies and team's expertise in the fields of art digitisation, digital content management and award-winning user experience design.

Smartify will deliver a full-stack SaaS digital platform that will include digitalisation and publishing capacity; commercial transactions and sales; advanced audience data capturing and AI targeted marketing; and an elegant AR end-user experience for connecting with works of fine art. The objective is to allow British and global institutions to leverage the existing rich cultural capital and monetise it via digital platforms using advanced audience data and AI targeted marketing coupled with an elegant end-user experience for connecting with works of fine art.

The project is innovative because it will use cutting edge technologies to enable a step-change in the digital capacity and long-term financial resilience of museums in the UK and globally. At the same time Smartify will provide the hundreds of millions of museums' visitors globally with a tool to discover and engage with art. If you consider what Spotify has achieved for music, Smartify will deliver the equivalent B2B2C software platform for art.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
RECORD SURE LIMITED	Sentiment	£264,370	£185,059

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

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Project description - provided by applicants

It's not what you say, but how you say it. This is the limiting factor preventing automatic review of financial service calls, to ensure products are fairly sold, customers are well informed and vulnerable individuals are protected. But, although software can effectively analyse written text, conversations (from recorded audio) remain extremely challenging. Analytical programs are hindered as a significant proportion of the communication within conversations is the result of way something is said (ie. the paralinguistic features) rather than solely the words that are used. Consequently, manual review of financial service calls are required to ensure advice to consumers is accurate. This protects both organisations and consumers in cases of non-compliance, but is costly and time consuming. These costs are ultimately passed on to consumers in the form of higher priced services. In this project we will develop a new software application (Sentiment) which will enable the automated review of financial service calls. Sentiment will protect employees and customers, lower operating costs and further build consumer trust in the financial service industry.

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

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
BIORELATE LIMITED	Chemeia: A synergistic AI integrated architecture for augmenting high value dark-data.	£287,688	£201,382
INTELLEGENS LIMITED		£146,926	£102,848

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

Data curation across scientific research and development (R&D) environments is a critical process for ensuring results from in-house experiments and external publications are effectively structured & integrated for further reuse, reinterpretation & reference. It supports a number of broad downstream activities associated with big data analytics, such as compound selection in drug discovery informatics or process optimisations in advanced materials manufacturing. These high value activities attract a broad range of competitive algorithmic software solutions (e.g. Reaxsys, Ingenuity Pathway Analysis, MaterialUniverse, EBI, IBM Watson) - all geared towards maximising existing content & are often reliant on data curation to produce it.

Current methods of scientific data curation are wholly insufficient: up to 85% of scientific research is potentially wasted and 90% of scientists believe there is a reproducibility crisis (Munafò et al., 2017) - a global issue costing billions. This is largely down to the complexity of the task requiring experts to manually assess text & data - too slow and costly for scaling. Modern Artificial Intelligence (AI) approaches are still too inaccurate; nor do they address sparse-data completion - a common problem when integrating experimental data. Here we describe Chemeia ('Chem-ee-a'), an entirely new solution to general data curation that combines two state-of-the-art AI-centric technologies for turning static, pre built, experimental databases into more complete, reliable, and continuously monitored resources for use in these high-value R&D environments.

Biorelate and Intellegens are two high-technology companies specialising in applying novel AI techniques to solve well known problems in optimising data curation for R&D. Biorelate have developed Galactic AI, an innovative platform unifying data mining, natural language processing & deep learning for curating textual data. It has been used to deliver for large pharmaceutical and biotech companies focusing on early stage drug discovery. Intellegens have developed Alchemite, which builds on existing numerical curated resources (sparse data) by using AI to predict ranked unknown data-points and uncertainties. No other solution on the market can replicate Alchemite's low cost modelling, prediction, error detection & parameter optimisation for big, sparse, numerical data.

Earlier this year, both companies independently improved the volume and quality of content in a customers database and realised that each approach was limited by its ability to validate new results & predictions. Combining these two technologies so that they function synergistically, combining strengths & solving validation issues will result in a system that is capable of generating more detailed and accurate data.

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

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
NU QUANTUM LTD	Feasibility study for next-generation light source for Satellite Quantum Key Distribution	£130,411	£91,288
DOTQUANTUM LTD		£55,000	£38,500
University of Cambridge		£69,950	£69,950

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

Quantum computers will soon be powerful enough to crack current encryption protocols in seconds - a global threat to all industries, governments and individuals. Quantum cryptography provides a robust solution. Governments are acting now - only within Autumn 2018, over £2 bn public investments in Quantum Technologies have been announced across Europe.

One of the already-marketed quantum cryptography solutions is Quantum Key Distribution (QKD). Here, secret keys used to encrypt messages, are sent from A to B encoded in quantum objects: in single-photons. The most efficient way of achieving long-distance QKD is via Satellite. Ground-based optic fibre will most-likely enable short distances.

Efforts towards the implementation of Satellite QKD (SatQKD) have started, with over 21 missions across the world encompassing governments, space agencies, start-ups and established industrial players.

The main problem faced by SatQKD is the low rates of communication. All current SatQKD missions use lasers as photon sources. Lasers are ill-equipped to deliver single-photons (instead were designed to deliver trillions of them), yielding low rates that will result in an early data transfer bottleneck. In addition, they are usually large and power-hungry objects.

Nu Quantum, recent spin-out from the University of Cambridge, has developed and patented a method to fabricate true single-photon sources. Each source is predicted to deliver over 10x higher rates than a laser. Further, our technology allows to fit hundreds of sources per square centimetre, it is on-a-chip and has low power requirements.

This technology will be the key enabler of high-throughput, next-generation Satellite QKD.

This project will allow Nu Quantum, with the University of Cambridge as academic partner (Physics and Materials Science Departments), to run a key feasibility study on the performance of these sources for SatQKD. This is the world's first attempt to use true quantum light sources for SatQKD. Commercial partner Dot Quantum, QKD expert and quantum cryptography consultant, will model the sources to benchmark against existing solutions. The project also includes a market strategy report focused on user needs, which will inform Nu Quantum's exploitation plan towards raising private investment.

A commercial opportunity at the interesting intersection between Space Tech, Cybersecurity and Quantum.

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

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Innovate UK

Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

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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
AQDOT LIMITED	CORE - Cucurbit[n]urils Ongoing Resource Efficient Process	£496,820	£347,774

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

Aqdot has developed a proprietary technology to bring innovation to the performance chemistry industry with applications in agrichemicals, household and personal care. CORE is a game-changing project which will bring the new chemical compounds, cucurbiturils (Aq(tm)Bit) to the global market via a disruptive manufacturing process based on continuous-flow chemistry that will increase production capacity and cost-efficiency, as well as reduce environmental impact.

AqBit has commercially relevant characteristics enabling unique properties in chemical formulations for consumer and industrial products. However, due to difficulties in its manufacture, it has never been available in commercial quantities. By building upon successes achieved at Aqdot's initial scale-up work, AqBit will become available in multi-tonne quantities (up to 200 tonne/annum), ready to be incorporated into products that will be supplied to some of the world's largest chemical manufacturers, formulators, and fast-moving consumer goods companies. This availability will lead to a multi-million-pound added value export market to UK's industrial chemicals sector, long term job growth and uptake of the cutting-edge technology in materials chemistry.

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

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Innovate UK

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Competition Code: 1809_OPEN_R3

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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
CUFFLINK.IO LTD	Cufflink - Secure and Link your Personal Information	£141,399	£98,979

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 value and importance of personal information is clearer than ever as a result of recent high profile and well publicised data breaches combined with an ever greater scrutiny of the way internet giants like Facebook, Google and Amazon use and commercialise the personal information we entrust with them. But the services to help Individuals manage their own personal information remains very primitive with the lack of incentives having resulted in the centralisation, silo-ing and duplication of data.

The motivation for this project is to encourage Individuals to become more "data aware" whilst also

giving them somewhere to safely store and manage their own personal information. Cufflink aims to do this by providing a secure, structured and easy to use tool (in the form of a Mobile Application (App)) whilst also controlling the who, how and when any of the information stored can be accessed. We believe this will lead to user empowerment, more secure persona and personal data management, greater user participation & understanding and a user-led push for technology adoption and industry standardisation.

We believe there is an opportunity to create this secure, mutually beneficial relationship between Individuals and Organisations by highlighting the benefits to both parties of more accurate and timely user information without the burden of existing data storage, maintenance and regulatory constraints.

The Cufflink Service aims to improve the current state-of-the-art by developing an innovative, regulatory compliant, structured and encrypted personal information data store.

We will create an entirely new App and Distributed Ledger (DLT) integrated platform and the purpose of this feasibility study is to firstly, demonstrate a need and target market for the User application whilst secondly, assessing whether there is the appetite and enough of a financial incentive within organisations for combining and leveraging such a solution.

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

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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
UBIQUTEK LTD.	Battery powered backpack for electrical weed control as professional alternative to chemical knapsack	£416,667	£187,500

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

Need for weed control growing as world's population increases. Herbicide market under significant pressure because 1) weeds are increasingly becoming resistant to herbicides, 2) regulators have started to ban their use because of health and environmental concerns, and 3) costs of litigation against herbicide manufacturers are increasing.

Electricity is a scalable and sustainable alternative to herbicides and addresses the fundamental shortcomings of herbicides, thermal, and mechanical methods.

Project will create battery back-pack version of professional hand-weeder to allow gardeners, groundskeepers, and contractors to treat weeds with mobile product without using chemical herbicides at lower cost than competing technology.

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

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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
RESPIRA LTD	Self-supervised fluency therapy for people who stammer: methodology design and implementation	£227,870	£159,509
THE BRITISH STAMMERING ASSOCIATION		£0	£0
University of Reading		£97,635	£97,635

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

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Project description - provided by applicants

About 1.3% of the population stammers (Reilly et al., 2009). This condition has distressing symptoms that deeply affect social and professional interactions and can define the life choices of those people who stammer (PWS): 60% of PWS suffer from social anxiety disorder (SAD) (McAllister et al., 2017). Even if it is not currently possible to cure stammering, there exist a series of practices that, when mastered, help PWS to gain fluency levels similar to that of a non-stammerer. In addition to mainstream therapist led approaches, several companies such as the Starfish, DelFerro or McGuire Program, currently run courses worldwide to help people to overcome their stammer via these learned techniques.

The largest challenge to a PWS is turning these practices into habits, as this requires patience and dedication. We believe that technology can help in this endeavor: with the support of Innovate UK, we are developing a prototype of the first wearable device, RespiraBelt, that tracks breathing and speech patterns, providing real-time feedback and performance history to help PWS turn fluency promoting techniques into habits. Respira will also provide a platform to share the user's performance data with the SLT, who will supervise and customize the therapy. Finally, a discretionary pool of anonymous data will be shared with the scientific community researching stammering. Respira acts as virtual coach for PWS; as a therapeutic tool for SLTs; and a scientific instrument. We have patented the innovative technology behind the RespiraBelt as it is the first of its kind, and in December 2016 our idea was awarded the Terence Barry Grant Award from the Stammer Trust (ST). Detailed information about Respira can be found at www.respira.io and <https://goo.gl/6mE4gC>.

The current project aims at defining the extent to which Respira can be used in a self-supervised manner, and therefore the amount of SLT involvement required for each PWS. This project is conducted by a consortium comprising of the British Stammering Association (BSA), which is in charge of designing and coordinating the experimental trial; the University of Reading (UoR), which will objectively analyze the data gathered and assess the efficacy of the different therapy methods; and Respira Ltd (RespiraLtd), which will lead the project and provide the necessary hardware, software and technical support.

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

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
PDR FLOW LIMITED	Formulating polymers in-situ via High Speed Sintering (FISH)	£103,400	£72,380
NAZDAR LIMITED		£82,506	£41,253
VOXELJET UK LIMITED		£251,626	£125,813

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

This project is a collaborative industrial research project involving Voxeljet UK Limited, Nazdar Limited and PDR Flow Limited. The consortium will develop novel polymer and ink technologies which enable the in-situ formulation of polymer parts during Voxeljet's High Speed Sintering additive manufacturing process. In-situ formulation, and our novel methodology for modifying part properties in-situ, will streamline the process of producing additive manufactured parts that are tailored to specific end use applications in the automotive and consumer goods sectors. The project will reduce material costs, increase material choice and reduce product development times in High Speed Sintering. The project will produce demonstrator parts which highlight the benefits of the technology in automotive prototyping and in future automotive serial part production.

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

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Competition Code: 1809_OPEN_R3

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
BFB LABS LTD	Developing a digital graded exposures model and immersive gaming engine to better treat anxiety in young people	£244,029	£170,820

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

Anxiety disorders are the most common mental health disorders in childhood, and untreated childhood anxiety can have a significant impact on employment, income and relationship stability in adult life. Cognitive behavioural therapy is a well-evidenced approach recommended for treating anxiety in children, but it is expensive to deliver, and patients often face long waiting times for treatments.

The purpose of this industrial research is to develop and validate a graded exposures model that can be used in a game engine to power immersive digital games that can be used to provide managed exposure to anxiety triggers (a key aspect of treatment for anxiety). The project aims to combine the latest understanding of anxiety management in young people with what BfB Labs has learned about creating engaging and immersive games to develop a new anxiety management product - fun to use, with high adherence, with evidence base to support use in a clinical setting.

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

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Innovate UK

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
ENTOTEM LIMITED	TaCT Tracking and Communication Technology	£264,560	£185,192

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

Convert Technology Ltd. has identified a location, communication and networking technology platform based on Long Range Low Power Wireless Network (LRLP) for personal tags which is scalable, low-cost, and accurate. The novel use of this technology will enable personal communications and monitoring for vulnerable people, enabling greater independence and more active lives, whilst improving individual security and well-being.

Unlike GPS receivers (for location tracking) and GSM telephony (voice and data communications), low-power radio tags have low power consumption and battery life of up to 1 month. Location accuracy is possible to within 1m, both indoors and outdoors, specific to ground or upper (and lower) floors, over ranges up to 100m indoors and 1km outdoors. Unlike other location technologies, LRLP also offers a secure data channel to gateway and wider networks, over which voice communication will be implemented across the TaCT system, enabling a worn telephony device for the user.

The primary target market for this TaCT (tracking and communication technology) programme is the care home sector, enabling patient location, personal communications, well-being and health monitoring. TaCT addresses a critical need in the social care system for an integrated care and communication technology platform; with residential care concentrating into larger establishments, and more people living in sheltered domiciliary settings.

We propose to licence this technology to UK and non-UK companies and anticipate it leading to significant business growth of Convert Technologies. Our 12-month project addresses the Healthy Ageing challenge by adding location and health data monitoring to simplified personal communications, allowing older and vulnerable people to remain independent, in-touch and active. TaCT also provides system infrastructure to address the UK Public Health agenda for using personal data to improve health, well-being and preventing disease.

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

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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
KYRULEM THERAPEUTICS LTD	Novel therapies for the treatment of resistant antimicrobial infections including N. Gonorrhoeae	£453,454	£317,418

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

Novel therapies for the treatment of resistant antimicrobial infections including *N. gonorrhoeae*

There are over 800,000 *N. gonorrhoeae* infections per year. Due to the rapid emergence of resistance, there is now only one recommended treatment - with evidence of emerging resistance. A recent strain of *N.gonorrhoeae* was resistant to all approved antibiotics (BBC news, March 2018). Therefore there is a significant unmet medical need for new, safer treatments.

The aim of this project is to be a 1st line direct acting bactericidal agent taken once orally targeting patients with *N. gonorrhoeae*. This will allow for improved patient compliance and speed of recovery. It is expected that the series will have no cross resistance with other developmental antibiotics. In addition, the compound will demonstrate activity against *Chlamydia trachomatis*, often co-infecting with *N. gonorrhoeae*.

Additionally the series will also be a 1st or 2nd line direct acting bactericidal agent targeted towards hospitalised patients with suspected/confirmed Gram-positive infections including sensitive and multidrug-resistant *S. aureus*. Over 80,000 invasive MRSA infections and 11,285 related deaths per year (2011) and with data for drug-resistant *Streptococcus pneumoniae* (notifiable to CDC) showing 4 million disease incidents and 22,000 deaths. Over the last decade, there has been a reduction in MRSA related deaths, but in 2016, an upward trend in MSSA and MRSA infections has been observed (thepharmaletter.com, 2016).The emergence of reduced drug effectiveness for bacterial infections has created an urgent need for the development of new antibacterial agents that circumvent bacterial resistance mechanisms.

We have designed an exciting new series of molecules which target bacteria in a unique fashion to any known antibiotic and demonstrate potent activity against a range of Gram-positive and selected Gram-negative organisms, including clinically-relevant and drug-resistant strains.

Bacterial susceptibility testing has confirmed that the series retain activity against strains resistant to many known treatments and this new class of antibiotics are bactericidal in action. The aim of this grant application is to utilise the proprietary technology to develop candidates for pre-clinical selection with improved primary potencies and safety profiles.

Kyrulem's ultimate aim is to deliver efficacious and safe therapeutics targetting multi-drug resistant infections, leading to better outcomes for patients with reduced burden on healthcare providers

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

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
APPLIED MATERIALS TECHNOLOGY LIMITED	Metelled – METal Evolved by Linear LasEr Deposition	£120,216	£84,151
TWI LIMITED		£50,604	£50,604

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

Metelled conceives a new method in additive manufacturing (AM) creating both new exploitation strategies and employment opportunities. It could offer a new avenue to the applicability and diversity that metal AM technology offers. New larger scale deposition, with micro features, optimal energy management and low cost production will be possible using the process.

The Metelled project uses atomic layer deposition to construct 3D structures. The rapid deposition process is used to produce kilo tonnes of high purity metals in other industries. Low temperature processing is possible because there is no melting of metal, therefore residual stresses are minimised, inclusions and porosity are eliminated.

The Metelled process consumes feedstock is lump metal instead of powders. All the components can be recycled within the equipment, and no expensive shielding gases are required or vented. This feasibility study constructs a deposition cell to study laser effects on linear deposition through glass.

The innovation arises because the process is:

- * The lowest energy method to produce a metallic part from a raw ore.
- * The deposition process is low energy and low temperature.
- * Chamber build volumes can be large.
- * Low residual stress may eliminate post-processing costs and energy.
- * Easy to handle lump feedstock is used instead of powders.
- * Quick change of feedstocks gives a plug-and-play approach.
- * Fine resolution, from atomic level deposition.
- * Wide area deposition also possible.
- * Homogeneous X, Y, Z strength.
- * Rapid z height deposition.

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

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
FRONTM LIMITED	Blue Economy Messenger	£386,846	£270,792
INMARSAT GLOBAL LIMITED		£0	£0
NLA INTERNATIONAL LTD		£106,724	£74,707

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

We are on a mission to protect the global marine fishing ecosystem, improve regulatory compliance, and save fishing operators money. Our vision is of a safer, fairer and more sustainable industry where the main source of protein for ? of the world's population is secured.

To achieve this we need to tackle the problems of illegal, unregulated and unrecorded fishing practice, especially the problem of bycatch and discards. If these problems are not tackled then the fishing ecosystem and its industry will decline. We believe this can be accomplished through use of Edge Intelligence Technology (Edge AI) delivered to captains, crews and shorebased stakeholders at point of operation.

****FrontM is an AI platform company**** focussed on overcoming digital poverty in remote and isolated environments, such as the Blue Economy. The [World Bank][0] defines the blue economy as the _"sustainable use of ocean resources for economic growth, improved livelihoods and jobs, while preserving the health of ocean ecosystem."_

We're partnered in this venture by ****Nick Lambert Associates International****. They are a [Blue Economy][1] solutions company creating concepts and projects to provide socio-economic benefit in the marine and maritime environments. We're also partnered by ****Inmarsat Global**** ([LSE][2]: [ISAT][3]) is a British [satellite telecommunications][4] company, offering global mobile services.

Blue Economy Messenger (BeM) is FrontM's AI powered product to transform how fishermen plan their routes, catch fish, log the catch, abide to regulations and sell their catch.

[0]: https://en.wikipedia.org/wiki/World_Bank

[1]: <http://nlaltd.com/the-blue-economy>

[2]: https://en.wikipedia.org/wiki/London_Stock_Exchange "London Stock Exchange"

[3]: <https://www.londonstockexchange.com/exchange/searchengine/search.html?lang=en&x=0&y=0&q=ISAT>

[4]: https://en.wikipedia.org/wiki/Communications_satellite "Communications satellite"

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: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

Total available funding is £14 million

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
TRL9 LIMITED	brOWSER: 2D Materials for Efficient Industrial Oil and Water Separation.	£84,832	£59,382
BROOMHAUGH MANAGEMENT LIMITED		£69,482	£48,637
Loughborough University		£49,932	£49,932

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Project description - provided by applicants

This project enables the development of a simple, rapid, inexpensive and scalable method to fabricate a nano-coated metallic mesh capable of the efficient separation of oil and water emulsions, typically found in the oil and gas industry and resulting from oil extraction techniques. The innovation works on the same principle as fish scales with the combination of relatively large and small holes (micro and nano-sized porosity) which together create a surface that likes water and intensely dislikes oil. This relationship allows water to easily pass through the membrane while leaving the oil behind, separated from the mixture. Current technology either relies on the use of additional chemistry to separate oil and water mixtures, creating secondary effluent streams. Alternatively electrically powered filtration systems are employed which are expensive and energy demanding and rapidly become blocked by the oil content. These pressurised systems often rupture making the current process of separation cumbersome and unproductive and potentially polluting.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
THE BUSINESS SOFTWARE CENTRE LTD	SaaS Subscription Execution Platform	£242,103	£169,472

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Project description - provided by applicants

SaaS will account for ~\$73.6bn of software spending in 2018; a Compound Annual Growth Rate (CAGR) of 19.9% - this growth rate is approximately 5x faster than on premises software. This significant growth and wide-scale adoption and attractiveness of SaaS applications is attributed to ease of consumption, purchase, installation and maintenance, and BYOD trends where users can access apps anywhere. However, SaaS has also created a whole fresh set of pitfalls that cost companies billions annually through redundancies, unused licenses and assumption-based purchasing decisions. Gartner states cloud spending will represent [24%][0] of the IT budget by 2020 while at the same time, [30%][1] of software license costs are wasted through insufficient management. Furthermore, recent research reported in ITAM review estimates that by 2020 over £23bn per year will be wasted on unused SaaS subscriptions.

Despite being recognised as a critical business challenge (at both government and individual organisation levels), there are few existing technologies (Binadox/Aspera/Snow/Scalable) designed to help companies overcome the problem, with manual practices being common (90% of cases) -- if software is tracked at all. These technologies are limited by poor interfaces, difficulty of connections, inaccurate reporting or they only track specific SaaS (not all information), high cost handling or difficult to set up and scalability.

It is recognised that a new approach is needed to move beyond current limited offerings, to provide a universal solution, generating real benefits in terms of reduced costs and improved efficiencies. The Business Software Centre (TBSC) seeks to address these challenges through the development of 'SSEP' an advanced, accurate and automated intelligent software and services efficiency execution platform based on SQL database platform -- capable of accurately tracking and analysing an organisations software usage (universally across all SaaS), and providing personalised recommendations for improvement (reports on subscription savings/re-harvesting non-used SaaS etc) -- ultimately enabling individual organisations to optimise efficiencies, reduce costs and meet compliance requirements.

The project builds on desk-based research to validate market need, with support from Microsoft; extensive competitor analysis indicating full Freedom-to-Operate; and an established route to market with significant interest expressed. This project aims to prove the technical feasibility of SSEP through proof-of-concept prototype development and testing (TRL5).

The project represents excellent value for money and is strongly aligned to the Open Competition scope. The project will deliver significant export led growth, a substantial ROI, increased employment and further opportunity for R&D investment.

[0]: [http://www.informationweek.com/cloud/infrastructure-as-a-service/gartner-sees-\\$1-trillion-shift-in-it-spending-to-cloud/d/d-id/1326372](http://www.informationweek.com/cloud/infrastructure-as-a-service/gartner-sees-$1-trillion-shift-in-it-spending-to-cloud/d/d-id/1326372)

[1]: <http://www.gartner.com/newsroom/id/3382317>

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Innovate UK

Results of Competition: Open Grant Funding Competition: Round 3

Competition Code: 1809_OPEN_R3

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
DEEP BRANCH BIOTECHNOLOGY LTD	Polluters to Producers: Converting industrial waste gas (CO2) into animal feed protein via gas fermentation.	£199,981	£139,987

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

Deep Branch Biotechnology Ltd. transforms the polluters of today into the producers of tomorrow. The Deep Branch process converts carbon dioxide directly from industrial gas that would otherwise act as a greenhouse gas, into a sustainable and high quality alternative current animal feed proteins (soy and fishmeal).

This project will prove feasibility of the Deep Branch process on-site at Hanson Cement's Ketton cement works. This will translate the technology from the lab bench to a commercial setting, with cement kiln off-gas being converted on site into nutritionally verified single cell protein. Feasibility of this process will provide an essential platform for the progress towards commercial launch, by providing the necessary on-site evidence that the process works with industrial waste streams.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
DYNAMIQ ENGINEERING LIMITED	HX50 Revolution – Development of a High-Performance, Low-Cost Helicopter Using a Strategic Technical and Business Model Supported by the Civil Aviation Authority	£1,848,164	£1,293,715
COMPOSITE INTEGRATION LTD		£141,526	£99,068

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Project description - provided by applicants

During this ambitious and innovative project, our consortium will develop a next-generation private helicopter that delivers reduced environmental impact, lower noise levels and unprecedented levels of safety, comfort and performance at a game-changing price point. Existing helicopters suitable for private ownership are noisy, uncomfortable and have very poor load carrying capacity. Limited engine power also means that the pilot must always be aware of flight limitations to maintain safe operation. They are also expensive to purchase with high depreciation, operating and maintenance costs.

The innovation within this project is focused on solving well-known deficiencies of existing helicopters to deliver an aircraft with improved flight characteristics, structural safety and which requires substantially less maintenance. The project will result in a helicopter that will appeal to a new global market -- private owners that are looking for a practical, luxurious, affordable and well specified 5-seat helicopter with low running costs (£15k per year). Research reveals that there is high demand for this specification, which is not being met by existing manufacturers. This market segment is ready for rapid commercial exploitation and we will produce helicopters from our UK manufacturing base in Cornwall.

The aircraft, the HX50 Revolution, will use a suite of next-generation technologies. Key innovations include a modern turbine engine capable of running on a variety of fuel types, including biofuels. It includes advanced inlet, outlet and engine bay silencers and it will increase the power to weight ratio of the aircraft, providing improved flight characteristics and load carrying capacity for passengers and luggage. A newly designed composite airframe based on advanced materials provides a lightweight, damage tolerant and impact resistant structure and HX50 will also benefit from a new approach in rotor and hub design. This will provide superior flight performance, benign handling and superior bird & wire-strike protection. Low aerodynamic drag improves fuel consumption, whilst a luxurious and quiet interior will improve comfort.

This project will utilise the above innovations to develop the first HX50 helicopter, which will be flight tested and ready for subsequent commercialisation. This is made possible by our unique business model which reduces both development & production costs. We are also able to accelerate market access and ensure that the HX50 delivers excellent value-for-money, transforming the sector for private helicopters globally. This project will create growth and new jobs in the South-West and re-invigorate the UK's helicopter industry.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
PRECISION VARIONIC INTERNATIONAL LIMITED	Enabling technologies for Cd-free Quantum Dot Light Emitting Diode Displays and Signage (QANDELA)	£391,448	£274,014
Brunel University London		£440,128	£440,128
DST INNOVATIONS LIMITED		£101,198	£70,839
JOHNSON MATTHEY PLC		£317,416	£158,708
SHARP LABORATORIES OF EUROPE, LTD.		£219,398	£109,699

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Project description - provided by applicants

The QANDELA project addresses the development of key materials and deposition process to enable the manufacture of the next generation of display technology. Cadmium free quantum dots offer enhanced brightness, range of colour and low power operation. However, today they are limited in their application due to high specific material performance requirements and poor resolution printing techniques. QANDELA addresses these shortcomings directly by developing superior nanomaterials and novel printing techniques that can manufacture devices by depositing materials for each pixel at a time.

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Participant organisation names	Project title	Proposed project costs	Proposed project grant
ARTERIUS LIMITED	First-in- Human (FIH) Trials of a Novel Bioresorbable Coronary Scaffold (ArterioSorb™)	£1,330,183	£931,128
AFORTIORI DEVELOPMENT LTD		£439,614	£307,730

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Project description - provided by applicants

Arterius Ltd, a UK SME based in Leeds, and Afortiori Ltd, a UK based SME are planning to initiate first human trials of its novel bioresorbable scaffold (stent) (BRS), ArterioSorb-BRS in 2019, having passed pre-clinical evaluations with an excellent data due to the support of the Innovate UK grants. ArterioSorb-BRS is designed to treat coronary artery disease -- narrowing of the coronary arteries due to fatty deposits within the vessels. This device has the potential to improve the lives of the 92,000 people who undergo percutaneous coronary intervention (PCI) procedures within the UK every year.

The ArterioSorb-BRS scaffold is made from a biocompatible, bioresorbable polymer poly(L-lactic acid) (PLLA), and it has a wall thickness of 95 microns (finer than an average human hair), which is significantly thinner than first-generation BRS. This will lead to lower rates of late stent thrombosis, caused by disruption to the arterial blood flow by the struts and causing turbulent flow. Less thrombosis means less repeat vascularisations, each costing approx £17,500 per procedure, a considerable saving to the NHS. The thinner struts will also allow the treatment of smaller diseased arteries (<2.5mm), currently unavailable to the current BRS.

ArterioSorb's novel design was developed in collaboration with University of Southampton, and the manufacturing process is based on a proprietary die drawing technique originally developed in collaboration with polymer IRC team at the University of Bradford to significantly increase the material's strength. ArterioSorb-BRS is the thinnest and strongest non-metallic biodegradable scaffold in the world, and independent tests back this up. This First-Human trial of the ArterioSorb-BRS device is an innovative project which aims to commercialise the next-generation BRS. During this project, the company will complete the first in man (FIM) clinical trials with this product. The completion of the FIM trials will allow the company to enter the CE Mark trials and undertake commercialisation by 2023. Commercialisation of the ArterioSorb-BRS BRS will allow Arterius to grow and develop further innovative vascular bioresorbable products to treat a range of pathologies, enhancing the quality of life of many people. It will also create a range of new skilled jobs and increase the reputation and competitiveness of West Yorkshire region as a biotechnology hub within the UK.

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