Innovations in health and food: apply for business funding

Businesses can apply for a share of £15 million for projects that support SMEs to develop innovations in health and life sciences.

Innovate UK has up to £15 million to invest in innovative business projects in agriculture, food and healthcare.

Projects must involve a small or medium-sized business and focus on one of the following priority areas:

- increasing yield, quality and sustainability in agriculture and food production
- improving precision medicine, advanced therapies, pre-clinical technologies
- advancing biosciences in healthcare and agriculture and food production

A growing and ageing global population, increased burden of disease and greater wealth are all accelerating demand for food and improved healthcare.

The food and drink sector represents 30% of the $20 trillion global economy and healthcare 10%. There is a £250 billion global market opportunity for improvements in agriculture.

At the same time, advances in bioscience, medical research, engineering and physical sciences are making new business innovation possible.

Find out more about how Innovate UK is supporting health and life sciences.
Innovations in health and food: apply for business funding

This competition aims to stimulate innovation in health and life sciences under a number of themes:
• increasing agricultural productivity
• improving food quality and sustainability
• precision medicine
• advanced therapies
• pre-clinical technologies
• biosciences

Competition information
• the competition opens on 12 September 2016, and the deadline for registration is at noon on 9 November 2016
• projects must include at least one SME. An SME can apply on its own for funding of up to £100,000
• we expect to fund some projects lasting up to 12 months with total costs of up to £100,000 and other projects lasting between 12 and 36 months with total costs between £100,000 and £2 million
• businesses could attract up to 70% public funding of their eligible costs
• a briefing event for potential applicants takes place on 19 September 2016

Find out more about this competition and apply.
Emerging and enabling technologies: apply for innovation funding

Businesses are invited to apply for a share of £15 million to develop the innovative products, services and industries of the future.

Innovate UK is investing up to £15 million in projects that will stimulate the new products and services of tomorrow. These new innovations will have the potential to unlock billions of pounds of value to industry and disrupt existing markets.

Emerging technologies

An emerging technology is one that is progressing in, or has recently emerged from, the research base. It allows us to do something that was not possible before. Because of this, it disrupts existing markets and enhances value to customers. It can improve our lives and lead to new sources of wealth generation.

Enabling technologies

Enabling technologies underpin the development of high-value products and services in many industrial sectors and markets. They improve performance and productivity.

Projects will:

• harness emerging and enabling technologies across the economy
• develop and scale-up research and development to bring ideas, processes and products closer to availability at scale and commercial release
• use design processes to understand customer motivations and behaviour and use that insight to create better products, services and processes

We are looking to fund a portfolio of projects that include:

• technical feasibility
• industrial research
• experimental development

Competition information

• this competition opens on Monday 3 October 2016
• the registration deadline is Wednesday 30 November 2016
• the application deadline is Wednesday 7 December 2016
• we expect projects to range from total costs of £35,000 to £2 million
• projects should last between 6 months and 3 years
• a business must lead the project but can work with others
• each project must involve at least one SME
• there will be a launch event in London on Friday 30 September 2016 (also available via webinar)
• there will be briefing events for potential applicants in Manchester, Belfast and Cardiff in October

Find out more about this competition and apply

Find out more about Innovate UK’s emerging and enabling programme
Evaluation of drones for defence: apply for innovation funding

Organisations can apply for a share of £3 million to show and evaluate the benefit of using swarms of unmanned air systems for defence.

The Ministry of Defence is to invest up to £3 million in this ‘Many drones make light work’ competition. The aim is to find technology solutions that show and evaluate the benefits of using drones for defence.

The challenge is to operate swarms of more than 20 unmanned air systems (UAS), also known as drones. A single operator should be able to coordinate these drones to fly closely coupled. They must be usable for military purposes in a contested environment. They must be also usable across the electromagnetic spectrum. This means ranging from visible frequencies through to low frequency radio waves.

The competition challenges are:

• open, modular UAS
• mission management of UAS swarms
• development of technology enablers for UAS swarms

As well as developing technology components, proposals should show integrated system solutions. These should comprise technology components from more than one supplier.

This is a Small Business Research Initiative (SBRI) competition run in partnership with Innovate UK. The competition has 2 phases:

**Phase 1**

Up to £1 million is available. We expect to fund several projects, allocating between £40,000 and £80,000 each. Projects should last up to 6 months.

**Phase 2**

Up to £2 million is available. This phase is open only to projects funded through phase 1 of the competition.

**Competition information**

• This competition is open now
• The application deadline is Thursday 3 November 2016
• There will be a briefing for potential applicants at the CDE Innovation Network event on Thursday 22 September 2016

Find out more about this competition and apply online
Innovate 2016: a global showcase for UK’s best innovation talent

Innovate 2016 will bring together the UK’s most exciting innovators and explore the technologies and innovation opportunities of the future.

Organisers are expecting more than 2,500 delegates to attend Innovate 2016. These will include high-growth innovative businesses, investors, academia and government.

Among the diverse range of innovative organisations taking part, cutting-edge UK innovators will be showcasing their latest innovations including:

- **Synoptica** – developers of wearable technology that works with your sense of touch and your body’s natural response to rhythm to keep you calm and focused
- **Amphibia BASE** – an R&D start up specialising in design, building and research projects using bamboo
- **Tookie** – a healthcare business developing innovative products including a vest for oncology patients that improves patient wellbeing
- **OpenCapacity** – a tech startup working with Transport for London to develop a real-time bus capacity forecasting platform

About Innovate 2016

Innovate 2016 takes place 2 to 3 November at the Manchester Central Convention Complex.

Businesses can find out about the range of research expertise and government support available. They can connect with global corporates and find export opportunities and investors.

There are also opportunities for informal and formal networking.

Day 1 of the event will explore the impact of digital technologies on manufacturing. It will also focus on the new challenges and opportunities of our growing urbanisation.

Day 2 will look at how new technologies are revolutionising healthcare and biosciences. There will also be a focus on the technologies that have the potential to create brand new industries.

On both days we will be running ‘How to…’ workshops. These will give businesses practical advice on:

- scaling-up
- navigating R&D tax and investment schemes
- going global

Innovate UK and the Department for International Trade will host the event.

Register online now for Innovate 2016

Credit: Innovate UK
Astronaut Major Tim Peake highlights Healthcare Innovation at Harwell

Harwell Campus has hosted an ‘Accelerating Healthcare Innovation’ event that was the official launch of its healthcare research and innovation cluster.

The conference highlighted the Campus’s unique capabilities in collaborative research and its expanding role in bringing public bodies such as STFC together with the private sector and academia to accelerate healthcare innovation, a field of global significance in addressing key issues including environmental exposure and human diseases, ageing and drug discovery.

The event attracted over 200 delegates to the Oxfordshire site where ESA astronaut Major Tim Peake, Sir John Bell, Regius Professor University of Oxford, George Freeman MP and chair of the Prime Minister’s Policy Board and Lord Drayson shared their views on this exciting sector and how inter-disciplinary collaboration and research is bringing about new discoveries in healthcare detection, prevention and management.

Major Tim also talked about his own experiences of living and working on the International Space Station and the health related experiments he conducted there that will aid research back on earth. He said “Keeping humans healthy in space is an extraordinary achievement. This is only possible through collaboration across different disciplines - a winning approach which also works to keep humans healthy on Earth.”

STFC’s Dr Barbara Ghinelli, Business Development Director at Harwell, said “Collaboration at Harwell between key science facilities, academia, the public sector and industry is now feeding the growth of a research and innovation cluster in healthcare that’s set to complement the existing space cluster here on campus, forging a crossover between space, advanced technologies and the life and biomedical sciences.”

The UK’s Human Spaceflight Capitalisation Office at Harwell was also launched at the conference. The office, led by Dr Simon Evetts will help to harness the endeavours of all UK space activities and assets related to human space flight, with the specific aim of contributing to meeting the Government’s ambition to expand the UK’s share of the space market to £40bn by 2030 and to create over 100,000 new jobs.

Sir John Bell, Regius Professor at the University of Oxford and keynote speaker at the Accelerating Healthcare Innovation event said “The Oxfordshire life science cluster is one of the most successful in the world and we are keen to exploit Harwell’s unique research capabilities in the physical sciences and data analysis to accelerate innovation in this vital field.”
Unique code-generating software makes weather and climate forecasting easier

Developers of atmospheric and oceanographic computer models got a chance to hear about a truly innovative and unique piece of software being developed by scientists at the Science and Technology Facilities Council (STFC) in a project funded by the Hartree Centre.

Dr Mike Ashworth from STFC’s Scientific Computing Department showcased PSyclone, a software framework that automatically generates the parts of the code necessary to run on supercomputers at the 2016 MultiCore 6 workshop on 13-14 September in Boulder, Colorado.

PSyclone was developed for the UK Met Office and is now a part of the build system for Dynamo, the dynamical core currently in development for the Met Office’s ‘next generation’ weather and climate model software.

By generating the complex code needed to make use of thousands of processors, PSyclone leaves the Met Office scientists free to concentrate on the science aspects of the model. This means that they will not have to change their code from something that works on a single processing unit (or core) to something that runs on many thousands of cores.

“This is quite a radical approach to the challenge of running models on different kinds of computer architectures,” said Dr Ashworth. “It significantly reduces the potential for errors and will make weather forecasting and climate modelling simpler and more efficient on the high performance computers of the future. It will be of particular interest to those developers who focus on trying to adapt such models for novel and emerging highly parallel computer architectures.”

PSyclone can help a user to parallelise and optimise the code for a particular architecture. Its ability to generate both MPI- and OpenMP-parallel code has enabled the UK Met Office’s prototype dynamical core to go from serial execution to running on more than 50,000 cores with no change to the scientific code base.

The development of PSyclone was funded by the STFC Hartree Centre as part of the GungHo project, a collaboration between STFC, the UK Met Office and the Natural Environment Research Council (NERC).

Read the full news item here.
Doors Opened to 4,000 people at the Royal Observatory Edinburgh

Nearly 4000 people explored exciting science and engineering at one of the UK’s iconic sights, the Royal Observatory in Edinburgh.

On the 24 and 25 September, as part of the city-wide ‘Doors Open Day’, visitors of all ages arrived to explore the furthest reaches of the galaxy using virtual reality goggles, to see how a comet is made, and even touch meteorite fragments which are older than the Earth.

The weekend saw staff welcome people who live nearby but also some who had travelled miles into the city for the open days.

Children were inspired by the science as they got to grips with building model Lego SKA telescopes, seeing the world through an infra-red camera, walking to the top of the Victorian Observatory dome and hearing about the history of astronomy in Edinburgh.

Comments received by staff members from members of the public included:

“I want to be an engineer now.”

“He really wants to work here as soon as he is old enough, how soon can he get work experience?”

“There are so many knowledgeable people here – thank you so much for an amazing day.”

Visitors took to Twitter to share their pictures using the hashtag #ROEopen:

Using Lego, guests were able to build their very own Square Kilometre Array (SKA) telescope...

and place it on our very own desert landscape!

Children were encouraged to travel round the site, picking up stickers as they went to complete their passport and collect their prize at the end.

It seems everyone had a good day...

...well, almost everyone!
Northern Ireland-based aircraft components manufacturing business takes off thanks to support from Innovate UK.

Advanced engineering manufacturer, IPC Mouldings, is seeing increasing global demand for its aircraft components after taking part in a Knowledge Transfer Partnership (KTP).

The company specialises in developing advanced engineering polymers and processing techniques. It provides plastic injection moulding, design and tooling from concept to manufacture. Managing Director, Joanne Liddle, explains: “The next time you are on a commercial aircraft there is a high probability that the seat you are sitting on was not only manufactured in Northern Ireland but that the plastic visible parts were all manufactured by IPC Mouldings.”

University links help company to expand worldwide

IPC Mouldings has been taking part in a KTP with Queen’s University Belfast. The KTP scheme works as a 3-way partnership between a business, an academic institution and a graduate. The university or college employs a recently-qualified graduate who works at the company. The graduate, known as the ‘associate’, brings new skills and knowledge to the business. Invest Northern Ireland (INI) co-funds the scheme in partnership with Innovate UK.

Joanne adds: “Over the past 12 months we have introduced 70 new components into the aircraft industry and this has secured our long-term future with new contracts. Our KTP associate has added real value to the company and this has proved to be a very successful collaboration. Bringing in someone new to the business with such a high intelligence and making them part of the team has lifted the performance of the team as a whole.”

IPC Mouldings has contributed to the manufacture and export of the world’s leading narrow body seat. This has meant supplying enough components to build 750,000 seats.
External Innovations and Innovations Club

The External Innovations team manages the activities that aim to realise the impacts and benefits that flow from STFC’s investments in science and technology towards commercialisation through one to one brokering, events and a range of funding schemes.

If you wish to contact the teams for more information please see the following contacts and email addresses.

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The Innovations Club newsletter contains a selection of articles drawn from our partner organisations that we think you will find interesting. We welcome your comments innovationsclub@stfc.ac.uk