

Innovate UK
Technology Strategy Board

**Government
challenges**

**Ideas from
business**

**Innovative
solutions**



SBRI

What is SBRI?

SBRI, the Small Business Research Initiative, enables the public sector to tap into new ideas and technologies and speeds up their adoption. It helps government departments connect with innovative businesses to solve the tough challenges facing the public sector.

Meeting public sector challenges

Government departments and other public sector bodies have no easy access to the ground-breaking new technologies that could provide solutions to the challenges and problems they face.

Supporting business innovation

It can be difficult and confusing for businesses with innovative ideas to engage with the public sector. It can be hard, too, for them to get the support and funding they need to test and demonstrate their projects.

Connecting government and innovation

SBRI brings these two groups together, enabling the public sector to engage with industry during the early stages of development. Contracts are issued to businesses offering the most promising solutions to a specific problem.

The SBRI programme offers an excellent opportunity for businesses, especially early-stage companies, to develop and demonstrate their new ideas, supported by an intelligent lead customer.

The story so far

More than 2,200 SBRI contracts valued at over £270 million have been awarded since April 2009. They have generated new business opportunities for many companies and benefited more than 70 government organisations.

“We’ve been very impressed with SBRI as a process of working with industries that can provide the kind of skills and capabilities that we just don’t have in-house.”

Geraint West, Director of National Marine Facilities, National Oceanography Centre

“We have experienced many benefits including access to small and medium enterprises... reduced risk of our investment... we are delighted.”

Dr Vicky Robinson, Chief Executive, National Centre for the Replacement Refinement & Reduction of Animals in Research.

Helping government

SBRI helps government organisations solve the tough challenges they face by connecting them with innovative businesses.

Helping business

SBRI offers innovators the chance to win a government contract of £1 million (or more) to help demonstrate and develop their new technologies.

Government: how SBRI can help

As a government organisation, you face unique and often complex challenges.

We know it can be difficult to access the ground-breaking new technologies you need to meet these challenges. SBRI can help by connecting you with the UK's most innovative businesses and supporting them to develop the solutions you need.

An SBRI competition can reach out to organisations from different sectors, and to small and emerging businesses, and so speed up the development of these new technologies. Typically, testing the feasibility of an idea (phase 1) is completed in under six months and prototype development (phase 2) is completed within two years.

You can explore new ideas through a phased development programme that will minimise risk and help you identify the most promising projects.

Innovators: how SBRI can help

If you're an innovator with a great idea for solving a specific public sector challenge, it can be difficult to get the funding and support you need.

SBRI can help. SBRI offers you the chance to win a government contract of up to £1 million (or more) to help you develop and demonstrate your idea.

If you're successful, you'll receive a contract for the full cost of testing your idea and making sure it will work. You will also have the chance of getting additional funding to develop a prototype. The contract will provide you with a reliable source of early-stage funding and a potential route to market, as well as helping you establish the credibility you'll need to attract further investment.

Having a government department as a lead customer will help you shape your technology to fit a real need and gain more insight into the market. You'll also retain your intellectual property rights once the contract is complete.

Each competition focuses on a particular challenge that the lead government agency has identified. More than 70 government organisations have already taken part in the scheme including the NHS, the Ministry of Defence and the Department of Energy & Climate Change.

SBRI competitions are open to all UK businesses although the scheme's simple structure makes it especially suitable for small and medium-sized enterprises (SMEs). You don't have to be an established business to apply – even pre-start ups are eligible although you'll need to register as a business if you're awarded a contract.

Your proposal will need to address the publicised challenge and you'll need to demonstrate that you have a route to market for your product or service.

Key features for government

- Competitions are driven by the challenges you identify
- You remain in control throughout the contract
- You will be the first to benefit from innovative new products and services
- SBRI operates under the EU Pre-commercial Procurement Framework
- Taking part can bring major improvements to your service

See competitions
and apply at
sbri.innovateuk.org

Key features for innovators

- The application process is fast-track and simple
- You get a fully-funded development contract - not a grant
- SBRI is particularly suitable for SMEs
- You keep your intellectual property
- You're free to develop and sell your innovation in other markets

How does it work?

SBRI is a simple process. All competitions are based around a need that has been identified by the lead government organisation. This need is a desired outcome of the project, rather than a required specification. Typically, competitions are split into two phases:

Phase 1

Proposals focus on proving the scientific, technical and commercial feasibility of the project. The results of phase 1 determine whether the project should continue to phase 2 – not all projects will progress to the second phase.

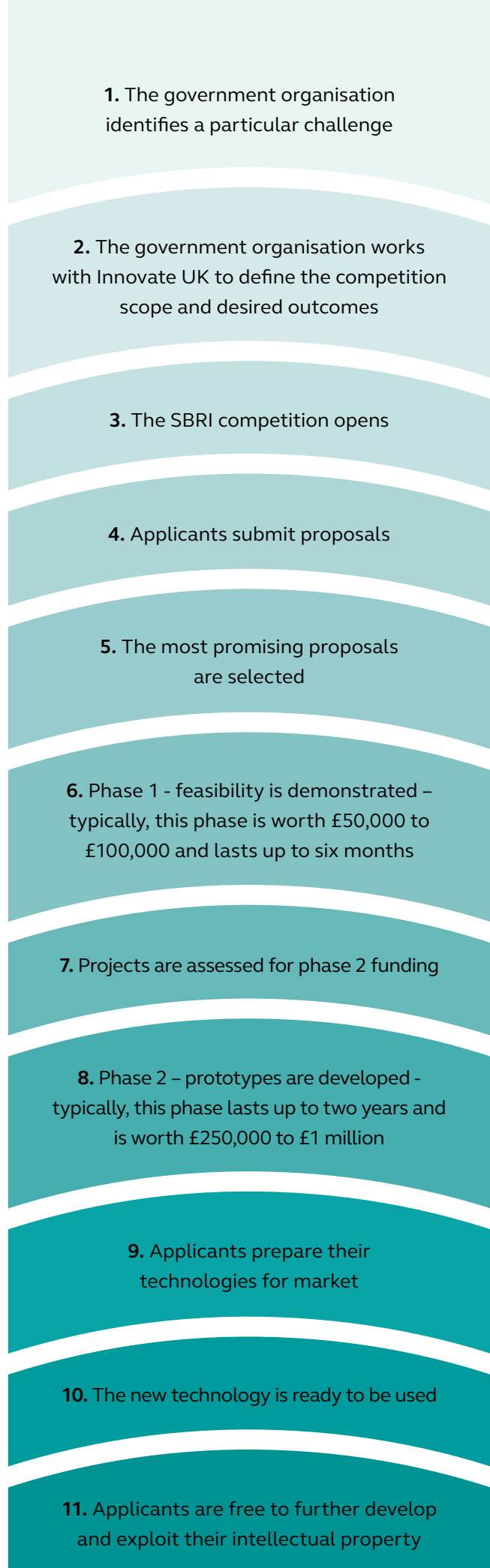
Phase 2

Prototyping is undertaken in phase 2. Projects that successfully complete phase 2 are then ready to be commercialised and offered to government departments and other public sector organisations through the normal procurement process.



“Using SBRI... resulted in the solutions to the challenge being deployed at less than half the predicted cost of traditionally procuring a solution.”

Northern Ireland Tourist Board



Case studies

Light fantastic: LED 'sleep mask' tackles diabetes-related sight loss

Twelve years ago, Paris-based British artist Richard Kirk had a chance meeting over a pint in Soho - and discovered a new world. He became fascinated by a small piece of electroluminescent material powered by a simple battery at his table.

Despite having no scientific background, he embarked on a journey that's led to the development of medical devices that can be used to treat some of the most common causes of blindness.

With the support of an SBRI contract, PolyPhotonix is on the verge of revolutionising treatment for degenerative sight-threatening conditions caused by age and diabetes, with Noctura - non-invasive devices that look like a sleep mask.

The Noctura devices prevent damage caused during sleep by hypoxia (lack of oxygen) when the eye adapts to darkness. This in turn prevents the growth of abnormal blood vessels, which are a symptom of the disease and contribute to loss of vision.

Richard Kirk commented: "The biggest impact of SBRI Healthcare funding has been in accelerating the commercial side of the business and to considerably increase the pace of activity with the NHS. Driving adoption of the technology will both save the NHS budget and improve the quality of life for the patient."

"The potential costs, both human and financial, facing health services around the world are deeply sobering. There's an urgent need for an effective, repeatable, value for money treatment. The Noctura 400 has the potential to save more than £1 billion per year from NHS budgets."

Richard Kirk, CEO, PolyPhotonix

SBRI Healthcare

SBRI healthcare competitions are managed on behalf of NHS England by the Eastern Academic Science Health Network and the Eastern Innovation Hub – Health Enterprise East. The SBRI Healthcare programme aims to support the life science industry, encouraging economic growth and healthcare innovation.



Economic impact

Following successful patient trials, the sleep mask is now commercially available with sales for 2015 to 2016 estimated to be in excess of £3 million. PolyPhotonix's workforce is expected to triple over the next two years to 60 employees directly created as a result of SBRI Healthcare funding. Approximately £2 million of additional investment has also been secured by the company.

Based on company forecasts and health/financial modelling, the estimated saving to the NHS is around £1 billion per year for treatment of diabetic retinopathy and other eye conditions.

C-Enduro: A boat that goes the distance

Autonomous Surface Vehicles (ASV) has been building a business in unmanned marine systems for defence and oil and gas customers since 2010. But it wasn't until it entered an SBRI competition that it found a way to move into the market for oceanographic research.

"We were struggling to break into oceanography so when the SBRI competition came along we decided to go for it," said Dan Hook, Managing Director of ASV. "We had a brainstorming session and came up with an initial design."

That design got them £50,000 funding to test its feasibility via phase 1 of the competition. The result was the concept for the C-Enduro, a rugged self-righting vehicle that uses solar panels, a wind generator and a lightweight diesel generator as energy sources to keep the vessel at sea for three months at a time. This got them to phase 2 of the competition where they were awarded £390,000 to build a prototype.

Dan added: "It's a growing market with a huge number of opportunities. We've got really good core technology and great team of people and I think ASV is going to grow rapidly over the next two to three years."

The competition was run by the National Oceanography Centre (NOC) and co-funded by the Natural Environment Research Council (NERC), the Defence Science and Technology Laboratory (Dstl) and Innovate UK.

Geraint West, Director of National Marine Facilities at NOC, said: "Oceanographic research is very costly so new technologies that are cheaper and more efficient are really attractive. We've found that SBRI has been a very effective way to identify and engage with new suppliers with novel solutions to our needs."

Economic impact

Within three months of officially launching the C-Enduro, ASV delivered two orders, one from NOC and another from Heriot-Watt University, and the company now aims to sell five or six a year. Since taking part in the SBRI competition, ASV has almost doubled the size of its staff.



"SBRI has been fantastic for us. It's helped us move from an idea to a product that we know suits the need of the end user."

Dan Hook, Managing Director of ASV

Converting biomass waste into energy

A cost effective and efficient process of converting biomass waste into energy has been developed thanks to SBRI.

Organic matter that's left after an area of land has been cleared, either as part of routine maintenance or to conserve wildlife habitats, is often burned or left to decompose, releasing carbon dioxide into the atmosphere.

Woodland and wetland management specialists, AMW, have been working in partnership with the Institute of Biological, Environmental and Rural Sciences (IBERS) to develop an integrated system that will preserve the natural balance of the wetlands and be both energy and carbon-efficient.

The project is based in the Cairngorms National Park. Invasive reeds, rushes and willow are harvested and turned into briquettes that can then be used as fuel. The production of these briquettes also generates bioenergy through a system of advanced anaerobic digestion which, in turn, delivers enough thermal and electrical energy to power the entire process.

An additional result of the project is that native grasses have been allowed to flourish and the previous decline in the numbers of wild birds has been reversed.

The competition was funded by the Department of Energy & Climate Change and managed by the Royal Society for the Protection of Birds.



Leading light Zeta

“How many companies does it take to change a light bulb?” asks Philip Shadbolt. Answer: one - Zeta Specialist Lighting. Thanks to SBRI funding, this small British company has come up with an ingenious idea that revolutionises how we think about light bulbs. With the best cost, performance and technology in the world, it is expected not only to cut carbon emissions but to create jobs and boost the UK economy.

Zeta’s LED Life Bulb provides instant light, lasts 10 years and does not flicker. It also has no warm-up time and contains no glass or mercury, so it doesn’t need specialised recycling – and it also works well with dimmer switches.

The competition was funded by Defra through SBRI to support its policy of reducing carbon emissions.



MyTourTalk

Innovative digital business MyTourTalk helped tourist boards in Northern Ireland and Wales to develop new ways to inspire visitors, after winning two SBRI contracts. The company’s apps have provided the tourist boards with new ways of adding to the experience of visitors, using smart phones and audio-visual techniques.

“Winning this exciting competition has given MyTourTalk the opportunity to bring to market the perfect travel companion in a really useful and easy to use iPhone and Android app,” said Julie McNeice of MyTourTalk.

In February 2014, the company, now renamed OLI (Outside Looking In), announced an exciting partnership to develop 15 digital destination guides, branded as ‘Snout’, for The Guardian, one of the world’s largest digital newspapers.



Fantastic AlphaFox

A cunning device has been invented to combat online identity fraud. Called Crystal Key, it consists of a card containing a unique pattern of crystals that can be held up to a smart phone camera and used to identify its owner.

Invented by AlphaFox Systems, the innovation could satisfy the urgent need to cut the fraudulent use of stolen or fictitious identity details. However, the innovation may never have seen the light of day without the help of a £50,000 SBRI contract. This meant AlphaFox Systems could carry out a feasibility study, which has attracted the attention of at least one ‘household name American company’ over commercialisation of Crystal Key.

The competition was funded by the Home Office to stimulate new solutions to counter the threat of online theft and fraud.

Innovate UK is the new name for the Technology Strategy Board – the UK's innovation agency. We know that taking a new idea to market is a challenge. We fund, support and connect innovative businesses through a unique mix of people and programmes to accelerate sustainable economic growth.

The Technology Strategy Board is an executive non-departmental public body sponsored by the Department for Business, Innovation and Skills, and is incorporated by Royal Charter in England and Wales with company number RC000818. Registered office: North Star House, North Star Avenue, Swindon SN2 1UE

Telephone: 01793 442 700

Email: support@innovateuk.gov.uk

www.innovateuk.gov.uk

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