

The background is a dark field filled with a bokeh effect of small, out-of-focus yellow and orange circles. Overlaid on this are several large, solid-colored circles: a purple one in the top left, a yellow one in the top center, a large red one on the right side, a smaller red one in the middle left, a yellow one in the bottom right, and a purple one in the bottom center.

# Nesta's challenge prizes

**Challenge  
Prize Centre.**

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by **nesta**

**Nesta is a global innovation foundation.**  
**We back new ideas to tackle the big challenges of our time.**

We use our knowledge, networks, funding and skills - working in partnership with others, including governments, businesses and charities. We are a UK charity but work all over the world, supported by a financial endowment.

**We see** Making sense of opportunities and challenges.

**We spark** Generating new ideas.

**We shape** Helping to test, grow and adapt promising solutions.

**We shift** Changing whole systems.

The kinds of big challenges we tackle include ageing; stretched public services; a fast changing jobs market and people feeling disempowered. We focus on areas where the combination of digital technology, empowered individuals, and better use of data and evidence can have the biggest impact.

**Nesta's Challenge Prize Centre** is a global pioneer of challenge-driven innovation. We run challenge prizes to help organisations reach ideas far beyond their own boundaries - providing partners all over the world with advisory and delivery services - and helping find solutions to some of the most difficult challenges we face.

# Challenge Prize Centre.

by **nesta**

## How Nesta is tackling the big challenges of our time: our challenge prizes

**We believe that the best innovation challenges engage the broadest community of problem-solvers, creating high quality, lasting and impactful solutions - pushing frontiers and advancing society.**

Challenge prizes are a method for innovation: they can be used to solve problems in almost any field by incentivising innovators to develop new solutions for neglected problems.

The formula is simple: offer a financial reward for the first or best solution to your problem, attract the best innovators, and give them the support they need to compete. Prizes specify a problem to be solved but incentivise solvers anywhere.

Our challenge prizes have taken us from smallholder farmers' fields in Nepal to the launch pads of Europe's spaceport in French Guiana.

Our rewards have ranged from a few tens of thousands of pounds to develop renewable energy generators for refugees, to £10 million to create accurate diagnostic tests that help the fight against drug-resistant infections.

The topics of our prizes vary, but there is a consistent logic behind them. Using a challenge prize to solve a problem is different from other innovation methods. It opens a problem up to the widest possible pool of innovators - far beyond the usual suspects. Prizes encourage change by rewarding new solutions.

Alongside our own portfolio of prizes, we also support other organisations to develop their own challenge initiatives. We have advised or supported a broad range of institutions - public, private, non-profit and intergovernmental. Some recent clients include the European Commission, Vinnova, the Government of Canada, USAID, the World Bank, Lloyd's Register Foundation and the UK Cabinet Office.

# Challenge prizes are a way of stimulating innovation

## Challenge prizes can:

- Build buzz and excitement around a topic or neglected issue.
- Shape the development of a new technology to benefit society.
- Accelerate progress or unearth brand new solutions.
- Form communities of problem-solvers, starting new collaborations.
- Create or shape markets.
- Encourage further investment.



Photo: Graham Flack/Nesta/DWP

Young person testing out Open Voice Factory - the winner of the Inclusive Technology Prize

# When is a challenge prize the right tool?

## Challenge prizes work well if you can answer 'yes' to these questions:

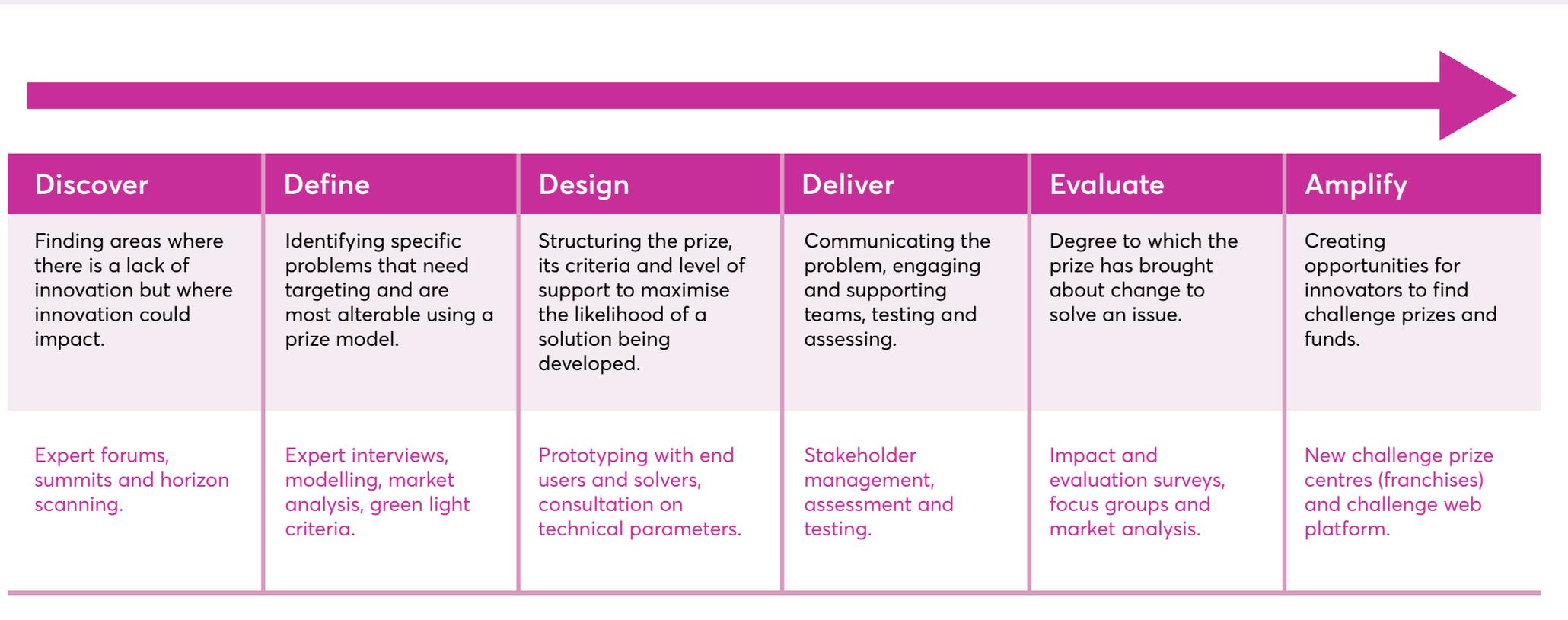
- Do you have a clear goal for innovators to work towards?
- Do you think that you could generate the best solutions by opening up the problem to a wider pool of innovators?
- Do you think you could motivate innovators to participate?
- Do you think it will make progress happen faster or better than it would otherwise have done?
- Do you think that the solutions will be adopted or taken to market?

# When is a challenge prize not the best option?

- If there is an organisation that is a clear frontrunner with unique skills or technology, it may be best to work with them.
- A field that is already well-funded and well-publicised may not benefit from a prize, unless the reward is very large.
- If either the challenge funder or the innovators expect a high level of secrecy, then the open nature of a challenge may not be suitable.

# The challenge prize process

The Challenge Prize Centre helps take prizes from discovery to reality:



The Challenge Prize Centre runs challenges on behalf of other organisations from governments to NGOs, foundations to private companies.

Our services include:

- End-to-end challenge prize support - from discovery through to evaluation.
- Defining problems and designing challenges for others to deliver.
- Hosting challenge websites, applications and judging on our challenges.org platform.
- Advice, support and consultancy.

## Our priority areas

The Challenge Prize Centre focuses on prizes in five priority areas:

**Global health:** Improving wellbeing and solving health problems around the world.

**Better markets:** Changing markets and guiding growth so that everyone benefits.

**Sustainable development and communities:** Building stronger and more resilient communities at home and abroad.

**Energy and environment:** Driving forward a cleaner environment and more sustainable energy production.

**New frontiers:** Harnessing new technologies for social good.

## Prizes that promote **global health**

**Good health is vital for people to fulfill their potential.**

**Our prizes include:**

### The Longitude Prize

We want innovators to reduce the lethal rise of drug resistant infections. Our flagship £10 million global challenge, the Longitude Prize, is developing new point-of-care diagnostic tests that can quickly, affordably and accurately tell people whether or not they need to take antibiotics. By reducing the amount of antibiotics taken for infections that do not need them, these diagnostic tests will help slow the tide of antibiotic resistance

Funded by Innovate UK and Nesta, the Longitude Prize was launched in 2014 and is supported by BIRAC (an Indian state enterprise), Amazon, BBC, Marks & Clerk and the Science Museum, London.

The prize has also been part of an international public engagement campaign to raise awareness of antibiotic misuse, including public events, news articles and even a mobile game called *Superbugs*.



The Longitude Prize teams are developing low-cost diagnostic devices

Photo: Longitude Prize Team

So far, 250 teams in 41 countries are taking part in the competition. The first team to produce a test that fulfils the prize will win.

Running alongside the Longitude Prize are the Discovery Awards, which are rounds of seed grants for teams developing new diagnostic tests to win the prize, sponsored by MSD, GSK and BIRAC. So far, 29 promising teams have been supported with grants of up to £25,000.

## The Smart Ageing Prize

The first Smart Ageing Prize was won by two Belgian brothers who developed Memoride, an exercise bike that allows people to 'cycle' through Google Street View, helping them stay active. Following their €50,000 win, their company gained a new investor and forged links with business partners across Europe.

Following this success, the EU-supported Active and Assisted Living (AAL) Programme has funded a second Smart Ageing Prize to find digital products and services to help Europe's ageing population achieve the quality of life they aspire to.



Photo: John Stevens

Memoride, the winner of the first Smart Ageing Prize

## Prizes that create better markets

We want markets to work better for everyone. Our prizes help create opportunities for innovators who want to change the economy for the better. Our prizes include:

### The Open Up Challenge

We want to transform how small businesses - a core but neglected part of the UK economy - make their financial decisions. New smart tools can transform how they access credit, manage cash flow and generate business insights.

Banking is changing: new regulations are forcing banks to open up accounts, so they can be managed by other companies' apps and services. The Open Up Challenge was launched to take advantage of this opportunity - and to make sure it works for consumers.

The first phase of the Open Up Challenge supported 20 teams with cash awards of £50,000 and exclusive access to a data sandbox that simulates the new open banking system, equipping them to compete in the market as soon as open banking standards came online.

## The Inventor Prize

We know that people across the UK have ideas that, with a bit of support, could be developed into fantastic products that help people's lives. In reality it's not that easy. The Inventor Prize, funded by the UK Government, is looking for the UK's best inventions, with £50,000 awarded to the best and £20,000 shared by the runners-up. The finalists, which range from a smart gum shield that monitors head movements to an ebook reader for Braille users, also receive support developing their businesses and products.



Photo: Beth Crockatt

Finalists from the Inventor Prize

## Prizes that support sustainable development and communities

We support livelihoods and create happier, more resilient communities, both in the developing world and closer to home. Our prizes include:

### The Nepal Data Driven Farming Prize

The data revolution can support an agricultural revolution. New services can take data on weather, prices or crop diseases, and turn them into recommendations that help poor farmers increase their production - supporting their families' income and their communities' nutrition.

The Data Driven Farming Prize, delivered on behalf of USAID, invited innovators to create smart tools to support farmers in producing more food in Nepal.

Over 140 teams applied from around the world - with 13 finalists given additional support to develop their product. Four winners split a \$300,000 prize pot, for services ranging from plant diagnostics to soil moisture monitoring.

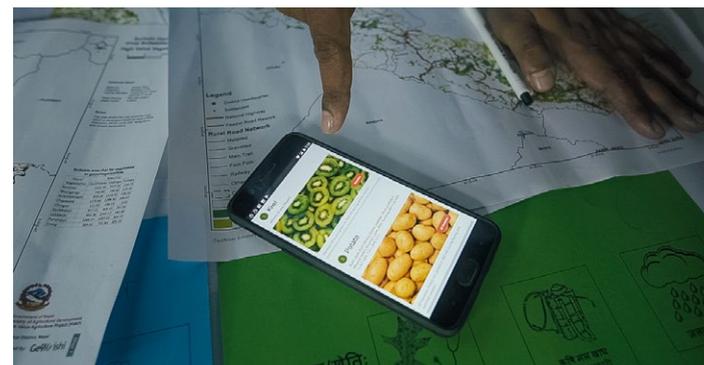


Photo: Nesta/USAID

The Nepal Data Driven Farming Prize

## The UNDP Renewable Energy Challenge

This challenge sought solutions to provide off-grid power to refugees returning to their homes after the civil war in Bosnia and Herzegovina, at a cost of below €5,000 per unit.

As well as a €20,000 cash prize, the winner was awarded the chance to pilot their invention in the real world, with up to 50 returnee families supported by UNDP.

## The European Social Innovation Competition

Nesta leads the consortium delivering the European Commission's annual European Social Innovation Competition. The competition looks for early-stage ideas to tackle a social problem faced across Europe. Previous topics have included unemployment, inequality and the integration of refugees and migrants. Winners of the 2017 competition included Feelif, a multimedia tool which lets blind and partially-sighted people feel shapes on a flat screen.



Photo: Dani Osorio (CC BY SA 4.0)

Feelif, the winner of the 2017 European Social Innovation Competition

## Prizes that protect the environment and support clean energy

Our future relies on delivering prosperity within environmental and resource limits. We uncover areas where greater innovation can advance solutions in resource management, clean energy and tackling pollution. Our prizes include:

### The Dynamic Demand Challenge

To cut emissions we need to shift electricity demand out of peak periods. We also need to prioritise renewable energy over fossil fuels.

This prize stimulated new products, technologies or services using data to achieve these goals. As well as a £50,000 prize, finalists were offered business support.

Several teams have made significant progress thanks to the prize. Second-placed contestant Upside Energy, which balances demand in the grid with energy stored in electric vehicles, domestic heating systems and UPS devices, was set up in order to compete in the prize and has since attracted investment of over £5 million.

Finalist Powervault, which makes a home energy storage device, has also gained new investors since the prize was awarded.

## The Big Green Challenge

We designed this prize to encourage and support community-led responses to climate change. Over 350 groups came forward with imaginative and practical ideas for reducing carbon dioxide emissions in their communities.

We supported the 100 most promising groups, with four winners sharing a £1 million prize fund, including a project on the Isle of Eigg which combined renewable energy production, energy efficiency measures and education. Finalists reduced CO<sub>2</sub> emissions in their communities by 10-46 per cent.



Photo: Eduardo Martino

Back2Earth, a finalist in the Big Green Challenge.

## Prizes that open up new frontiers in technology

We search for breakthroughs in science and technology that have the potential to change the way we live our lives. Emerging technologies can be guided so they maximise social benefit as well as commercial return. Our prizes include:

### Mobility Unlimited Challenge

Breakthroughs in artificial intelligence, sensors and computing have transformed the economy. Smartphones today have more power than desktop computers did just a few years ago.

The Mobility Unlimited Challenge seeks to bring these new technologies to assistive devices such as wheelchairs - overcoming small and fragmented markets, regulatory burdens and frustratingly slow progress in the field. Run by Nesta for the Toyota Mobility Foundation, it is a \$4 million challenge seeking radical improvements in the mobility and independence of people with lower limb paralysis through intelligent personal mobility devices.

New devices might incorporate artificial intelligence that will help predict user intent, or longlife or fast-charging batteries that will give people the freedom to move for weeks at a time without worrying about power. They could even be something the world hasn't even realised is possible.

## Flying High

Drone technology has advanced at an incredible pace - but little thought has been given to how all the uses for drones will integrate together. And nobody is asking the public or city governments what they want - even though the technology could have huge impacts on our cities.

Flying High is challenging drone engineers to put social good at the heart of this new technology. We have recently held a competition to select five UK cities that will work to reimagine the future of drones - and then set challenges to technologists and manufacturers to ensure drones bring urban benefits, such as help with transporting medical supplies, or search and rescue support.

## European Space Launch Prize

Nesta supported the European Commission in the design of the European Low Cost Space Launch Prize, a €10 million prize to develop a new generation of smaller, lighter rockets. The prize will support European teams to develop viable space launchers to capture this promising new market.



Photo: Nesta

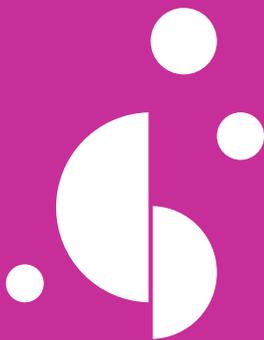
Flying High

If you'd like to find out more about Nesta's challenge prizes, please contact [challengeprizes@nesta.org.uk](mailto:challengeprizes@nesta.org.uk) or visit [www.challengeprizecentre.org](http://www.challengeprizecentre.org)

If you want to host your challenge on our web platform, visit [www.challenges.org](http://www.challenges.org)

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