nesta
Challenges

Challenge Prizes
A Practice Guide

Contents

Introduction

⭐ **Challenge prizes inspire
new and better approaches
to stubborn problems.**

Challenge prizes offer a reward to whoever can first or most effectively solve a problem. They are a tried and tested method of attracting new innovators to change the status quo. At the same time, they also challenge incumbents to redirect their efforts or think about a problem in a new way. This leads to breakthrough solutions, creation of new cohorts of innovators, and can result in systemic change.

For innovators, the value of a challenge prize is much more than the winner's award. Participants that reach the finalist stage or go on to win often attract new investors and supporters, buoyed by the publicity and credibility of the challenge. The prize amounts are often modest by comparison.

When used to tackle the right kinds of problems, challenge prizes can act as a catalyst for change. In recent years, they have been responsible for advancing medical diagnostics, electric flight and driverless cars, cleaning up oil spills, improving access to banking, and developing alternatives to the wheelchair.

The prize can also raise much-needed attention. The Longitude Prize has raised public awareness of antibiotic misuse and the Open Up Challenge increased the public's understanding of the solutions enabled by open data.

Challenge prizes work best when they are carefully constructed to attract and motivate the right talent to address a problem. Designing a successful prize involves balancing a goal that is challenging enough with incentives and support that motivate teams to ensure the best ideas grow, evolve and make it to the end. Get these things right and challenge prizes solve both important problems as well as transform, or create entirely new, markets.

This guide has been developed to help you think about whether and how to develop a prize. We hope that it will help you ask the critical questions required to maximise the value of your challenge prize and incentivise the right innovators to participate.

What are challenge prizes?

What are challenge prizes?

Challenge prizes offer a series of incentives, with a final prize given to whoever can first or most effectively meet a defined goal.

They incentivise people to focus on a specific problem. The concept is straightforward: offer a reward for the solution to your problem, attract the best innovators, and support those that make the most progress in order to encourage commitment and optimise success. Winners can either be the first to meet set criteria (as was the case for NASA's $500,000 Vascular Tissue Challenge) or, more commonly, the best solution after a set period of time.

Challenge prizes need to be applied to the right kind of problem. They work well when you are clear about the problem but not sure where the best solutions could come from, or what they will look like. They are also cost effective, creating a pipeline of new and improved solutions instead of betting on just one. They incentivise action and reward success, rather than paying for untested solutions.

The value of a prize goes beyond the cash awards. Through the prize process, innovators develop skills and build capacity. This helps to break down barriers to participation and supports innovators' longer-term success. The attention generated by a challenge prize can also have a much wider systemic impact by raising awareness of a neglected problem and creating learning opportunities that shape policy and regulation.

Types of problems suited to challenge prizes

Problems that would benefit from the fresh thinking that comes from new innovators because the field is stagnant, has few players or there is a related field that is much more dynamic.

Problems where a prize could, within a reasonable budget and time scale, attract and incentivise new innovators.

Problems where the additional funding and attention from a prize could accelerate progress or incentivise solutions to scale.

Problems that are neglected and could benefit from a challenge prize raising awareness.
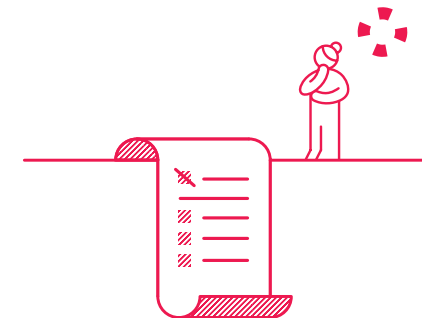
Common misconceptions

There are many common misconceptions when it comes to what challenge prizes are, when to use them, and what they can deliver.

Misconception 1: "They're all the same."

The terms 'prize', 'competition' and 'challenge' are used interchangeably to describe different types of programmes. Challenge prizes in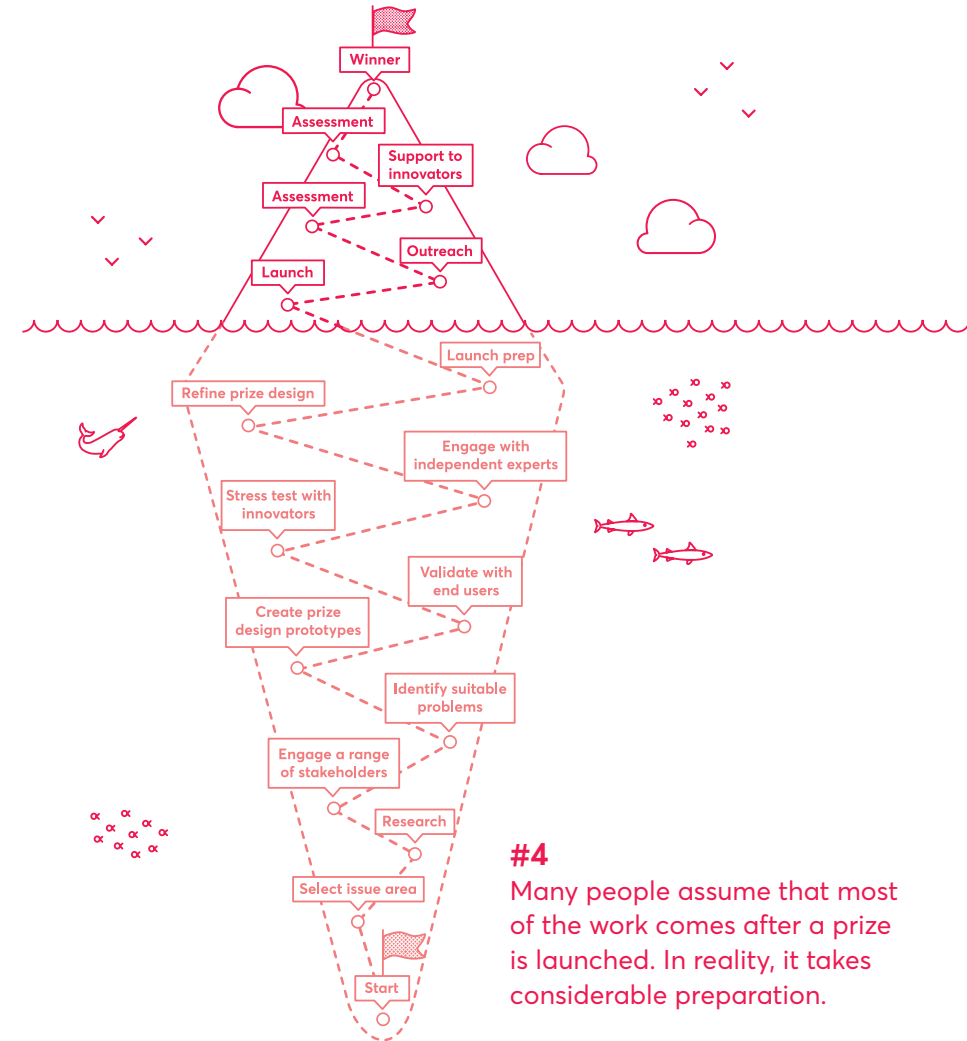centivise and reward action to solve a defined problem, rather than past achievements. Charles Laveran, for example, was awarded part of the Breant Prize, which sought a cure for cholera. But he won the 1907 Nobel Prize in Physiology or Medicine in recognition for his past work to treat malaria.

Misconception 2: "Challenge prizes only work for tech."

Challenge prizes can incentivise and support the development of new service driven solutions to social issues. Nesta Challenges' Giving Challenges stimulated social innovations in the giving of time, skills and resources to tackle two distinct social issues: addressing the isolation of older people and reducing waste.

Misconception 3: "It's all about the winner."

The winning solution often gets a lot of attention but challenge prizes are about more than the winner. Through a prize, you can support the development of a cohort of innovators while strengthening and testing a pipeline of solutions. For the Ansari XPRIZE, 26 teams spent $100 million chasing the $10 million prize, jump starting the commercial space industry. Challenge prizes are also an opportunity to drive wider change by raising awareness, shaping markets and informing regulation.

Winner
Assessment
Support to innovators
Assessment
Outreach
Launch

Launch prep
Refine prize design
Engage with independent experts
Stress test with innovators
Validate with end users
Create prize design prototypes
Identify suitable problems
Engage a range of stakeholders
Research
Select issue area
Start

#4
Many people assume that most of the work comes after a prize is launched. In reality, it takes considerable preparation.

Misconception 4: "Prizes are simple: just announce and let the innovators come to you."

Before launch, a carefully considered research and design process is essential to ensure that the prize will be effective. You can find an overview of this process in the 'how to' section of this guide. After launch, you'll need to invest in communications, assessment and testing, and a range of incentives and tailored support activity if you are to attract and support the innovators you need.

Why run a
challenge prize?

The impact of challenge prizes

Prizes create breakthrough innovations, help innovators thrive and unlock systemic change.

The impact of challenge prizes is wide-ranging and multi-faceted, from the immediate implementation of new innovations to broad, long-term impact on the ecosystem in which the prize exists. Large-scale impact often happens beyond the timescale of the prize. Depending on the goals of your prize, you may choose to focus on one of the following, or a blend of all three.
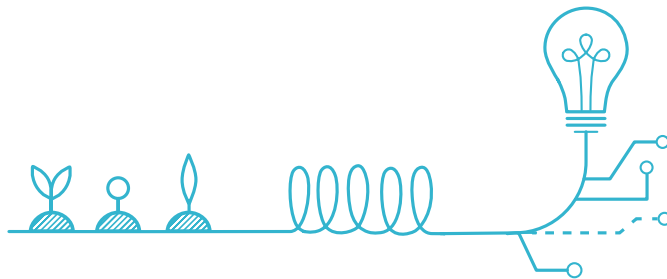
Create breakthrough innovations

By guiding and incentivising the smartest minds, prizes create more diverse solutions. Because prizes only pay out when a problem has been solved, you can support long shots, radical ideas and unusual suspects while minimising risk.

Help innovators thrive

Through cash and capacity building, prizes help to develop a cohort of thriving innovators around a problem. It's not just about one winner, they support and cultivate participating innovators by providing funding, expertise, profile raising, investment and networks.
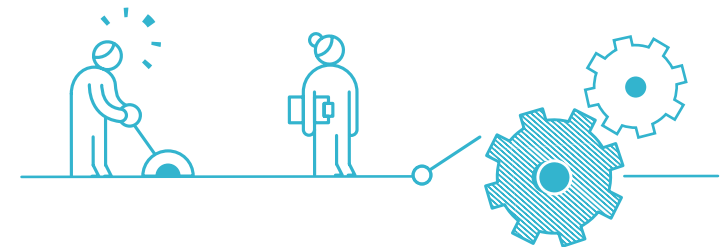
Unlock systemic change

The high profile of a prize can raise public awareness and shape the future development of markets and technologies. Prizes can help identify best practice, shift regulation and drive policy change.

Breakthrough innovations

⭐ **Prizes create breakthrough innovations. Using the power of the crowd, they solve problems quicker and better.**

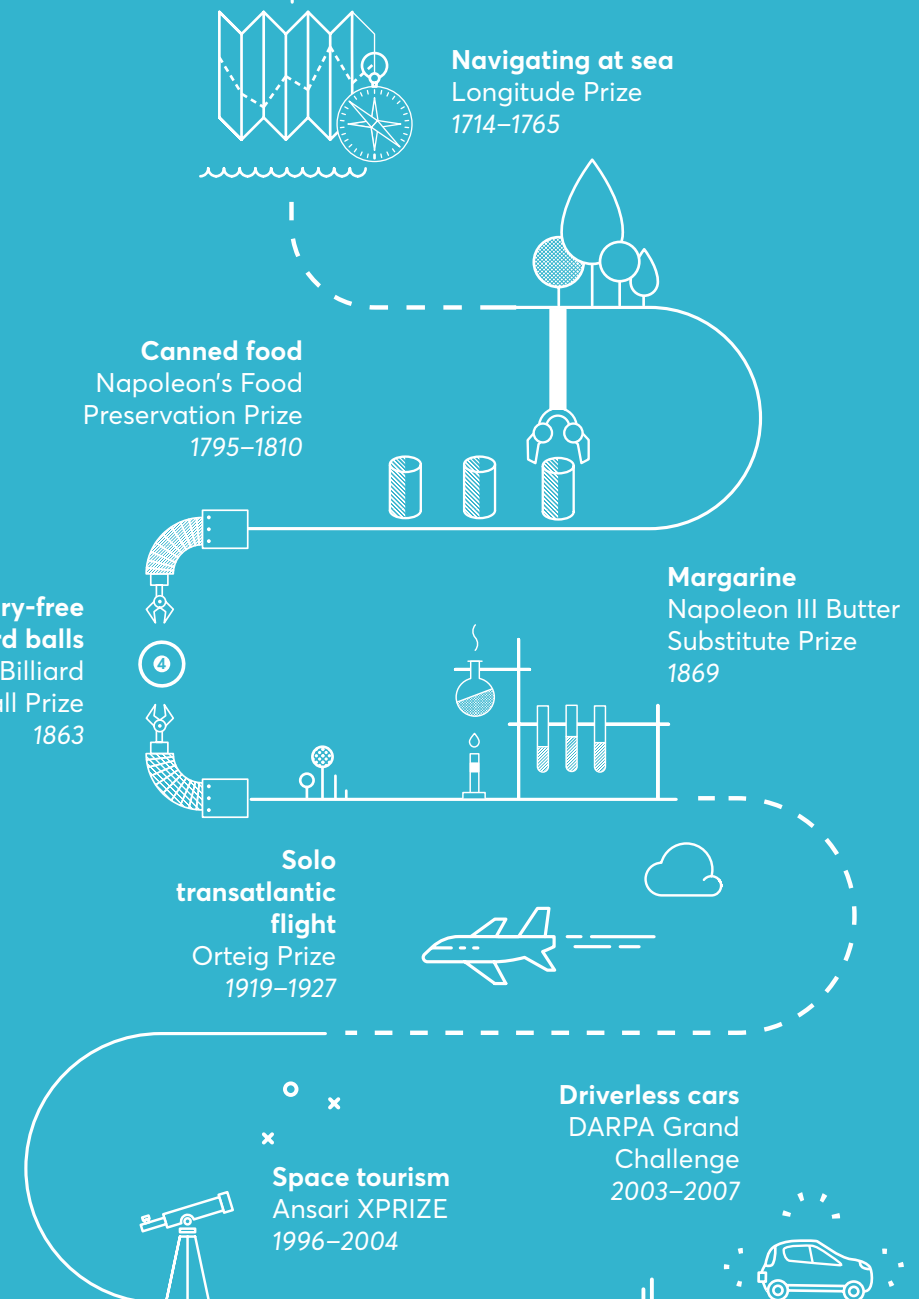Every day we're surrounded by transformative innovations developed thanks to challenge prizes. Challenge prizes provide the opportunity to break out of well-worn approaches that result in the same solutions from the same people. Prizes are suitable for problems that are complex and require more than one approach to solve them. Instead of having just one solution, different and often complementary approaches to the problem are developed.

By focusing prizes on outcomes instead of methods, teams aren't restricted to delivering a predefined approach. They're free to solve the problem in any way they wish – and often use radical, unusual or creative approaches as a result. Final ideas for the Find the Killer Frog Fungus challenge ranged from lamps, swabs and lasers to help to save thousands of amphibians worldwide.

Focusing on the outcomes also ensures that solutions are genuinely useful. Prizes that aim to create social good look for solutions that effectively respond to a real need or solve a real problem. The winners of the Global Learning XPRIZE designed their solutions around the needs of the 250 million children who can't read and write, and made their products open source to help stimulate further innovation.

Challenge prize innovations

Navigating at sea
Longitude Prize
1714–1765

Canned food
Napoleon's Food
Preservation Prize
1795–1810

Margarine
Napoleon III Butter
Substitute Prize
1869

Ivory-free billiard balls
The Billiard
Ball Prize
1863

Solo transatlantic flight
Orteig Prize
1919–1927

Driverless cars
DARPA Grand
Challenge
2003–2007

Space tourism
Ansari XPRIZE
1996–2004

Help innovators thrive

⭐ **Challenge prizes change the risk-to-reward ratio, making it possible to support radical innovations – wherever they come from – without betting everything on an unproven outsider.**

Challenge prizes make it possible to open up a problem to any innovator with a good idea and the drive to make it happen. Supporting new innovators might seem risky, but the reward from backing this untapped potential can be huge. Challenge prizes purposefully break down barriers to participation by lowering the bar to entry to ensure that the field is not slanted towards established players.

Challenge prizes provide innovators with the resources and support that they need to compete. This support can take the form of grants, upskilling in service design, testing and validation, or access to funders and networks. Tailored support develops their capacity, while the visibility, publicity, and validation they gain from participating in the prize helps them access investors and other sources of funding.

Challenge prizes must tap into the creativity, agility, and competitiveness of innovators, whoever they might be. But bold ideas can be impractical and there is a real chance they won't succeed. By supporting a cohort of innovators, prizes balance the teams who don't thrive with those who excel. They de-risk the process of finding better solutions by only rewarding tested, tangible solutions and innovators.

Dynamic Demand Challenge

75 teams responded to the challenge to propose new technology or services that shift electricity consumption away from peak periods. Graham Oakes had never worked in the energy sector when he formed his team, Upside Energy, specifically to take part in the Dynamic Demand Challenge. During the prize, each finalist received £10,000 and technical support from the National Physical Laboratory to develop and test their diverse ideas. Four years later, and despite not winning the challenge, Upside Energy had 35 staff, a deal with EDF Energy, and has raised almost £10m in equity finance and grants.

Unlock systemic change

⭐ **Prizes can drive broader advancement by generating evidence, raising awareness and informing policy change.**

While prizes typically focus on a specific problem or barrier, they often aspire to achieve broader systemic change. This is particularly true of larger prizes that reflect big leaps forward or especially difficult challenges to solve. This large scale and ambition often results in a noticeable shift in the whole system.

The high profile and public nature of these prizes also offers an opportunity to raise awareness and for funders to signal their intent to key stakeholders and the wider public. With their focus on impact, prizes are a concrete way to demonstrate commitment to delivering a longer-term strategy and vision.

Awareness or public support is one kind of systemic impact. A prize can also aim to attract new investors to a field, generate evidence of best practice, or shape new technologies and approaches as they emerge.
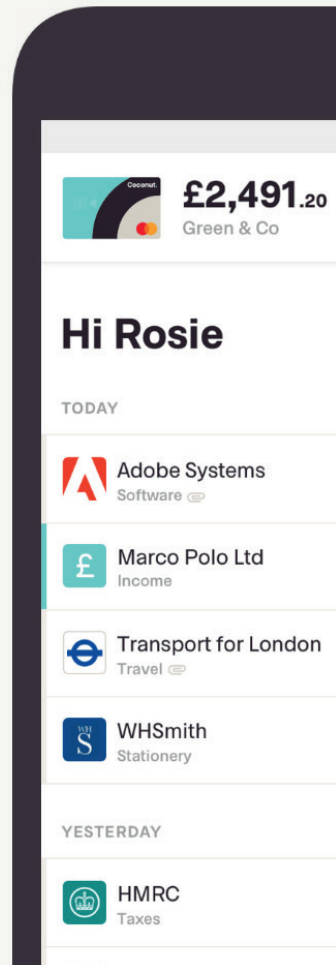
Prizes are a chance to reorientate and shape markets, as they create opportunities to develop insights into the problem area and learn from innovators who otherwise might not participate. They are increasingly used as a tool to shape policy and regulation, often in concert with other initiatives that also aim to achieve systemic change.

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Hi Rosie

TODAY

Adobe Systems
Software

Marco Polo Ltd
Income

Transport for London
Travel

WHSmith
Stationery

YESTERDAY

HMRC
Taxes

Coconut was one of six companies to win the Open Up 2018 Challenge

◄ **Open Up 2018 Challenge**

The Open Up 2018 Challenge was a £4.5 million challenge prize to radically improve the financial services available to the UK's five million small businesses, by creating a more vibrant and innovative marketplace for banking services. Applicants were invited to develop new products and services enabled by recently-introduced open banking regulations. The Challenge was backed by the Competition and Markets Authority, which gained insights into the cutting edge of innovation in financial services. These insights informed the evolution of open banking regulations.

How to run a challenge prize

How to run a challenge prize

⭐ **You increase the likelihood of success by clearly defining the problem, iterating on your prize design and ensuring first-class delivery.**

A challenge prize is a big investment in time and resources. It's not just the money that's handed out in awards, but the efforts of the team that runs it, the engagement of end users, and the hard work of the innovator teams as they strive to meet your target.

It pays to get this right.

Fortunately, running a good challenge prize just takes a bit of know-how and good planning. The key to a successful challenge prize lies in making the right decisions throughout three key phases of work.

First, as you **discover and define** your prize, focus the challenge on a topic where fresh thinking is needed. Understand the landscape you're working in, who the key players are, and the impact you want to achieve. Research who might enter your challenge and who might use their solution. Understand what's possible within the budget and the constraints you have. Then, make a pragmatic decision about whether a challenge prize is the best approach – and if it is, what to focus it on.

Co-creation event for the Fall Armyworm Tech Prize

How to run a challenge prize (continued)

Then, as you **design** your challenge, make the right decisions about how your challenge will work. Create clear and straightforward criteria, so innovators and judges alike know exactly what is expected. Build a structure that supports the most promising teams and eliminates the weakest. Plan how you'll support them – not just with the final award, but during the prize through grants, support and access to facilities or other in-kind support. Check your thinking with potential entrants and end users to make sure you've got it right.
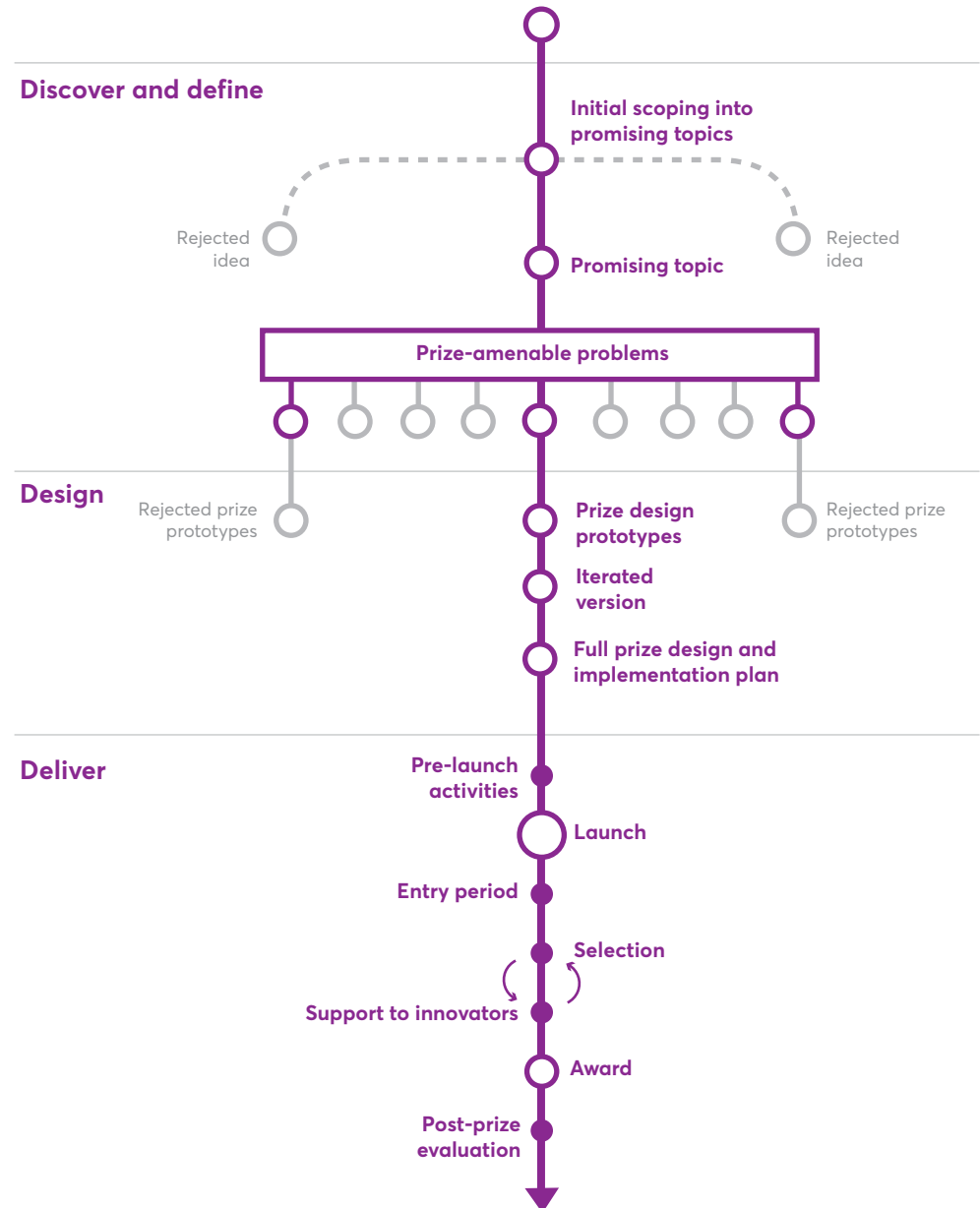
Finally, as you **deliver** your prize, put into practice what you discovered, inviting innovators to work on the problem you defined and guiding them through the prize process you designed. This needs great project management as you keep moving forward. It needs hard work on everything from innovator support to public relations, impact measurement to financial management. It needs the right partners and contractors so you have the expertise you need. And it needs fair, robust and impartial decision making to judge the prize and select the winners.

This section will guide you through these crucial steps.

Challenge prize process diagram
Using an iterative approach, each phase will help you create and carry out a challenge prize that reflects your aim.

Considering setting up a challenge prize?

Discover and define

Initial scoping into promising topics

Rejected idea

Rejected idea

Promising topic

Prize-amenable problems

Design

Rejected prize prototypes

Prize design prototypes

Rejected prize prototypes

Iterated version

Full prize design and implementation plan

Deliver

Pre-launch activities

Launch

Entry period

Selection

Support to innovators

Award

Post-prize evaluation

Discover and define

⭐ **Before embarking on a challenge, you need to be clear about what you're trying to achieve – and whether a prize is the right approach.**

## Questions this phase will answer

- What would help achieve the change I want? Is innovation really what's needed?
- Have I identified and spoken to the right stakeholders?
- Do I know enough to confidently articulate what the root problem is?
- Do the topics I'm exploring meet the strategic priorities I have for the programme?
- Do they meet the challenge prize green light criteria?
- Is a challenge prize the right approach or should I try something else?

What you do in this phase

The **discover** phase is about understanding the field and how a prize might fit in. You then **define** your focus to find one or more problems to explore. Look for areas where entrepreneurs, end users and independent experts can agree that innovation would help. Talk to people with lived and professional experience about what good would look like. If the field features problems or barriers that need new solutions, new innovators or a new approach to the market, then a challenge prize could be effective.

In this exploratory phase, it's crucial to hear the views and judgements of as many experts as possible, even if you are quite familiar with the area. That will help you find out whether there is scope for a challenge prize – and if so, define exactly what it should focus on. Nobody has a monopoly on knowledge; it's important to engage with a range of experts – including end users and innovators. This will ensure that your prize not only reflect your priorities, but also those of people and communities who are affected by the problem. Engaging with experts also helps you pick a problem that can realistically be solved – and where you could incentivise innovators to work.

When defining its Drug Checking Technology Challenge, Impact Canada engaged with people with lived experience of the opioid crisis and staff at supervised drug consumption sites, as well as technical and academic experts. Working with Nesta Challenges, Impact Canada used these insights to frame the challenge around creating innovations that would be useful for the end users. It also taught them that innovators would likely need support with exemptions from the Controlled Drugs and Substances Act if they were to compete successfully in the prize.
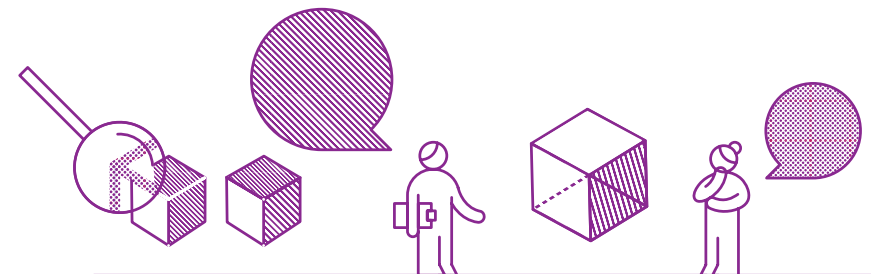
Discover and define (continued)

Why this phase is important
While challenge prizes can be used for almost any topic, not all problems are suitable for a prize. Focus innovators on the wrong problem (or one that's badly defined) and you risk wasting effort and money. But get this right, and a prize's impact can be huge. Prizes work best when they are clearly defined around specific barriers or problems that they could help overcome, or opportunities that they could exploit. We created our green light criteria, see page 32, to help identify whether a problem is suitable for a prize.

What can go wrong
In this phase it's important to understand how much you know and how much you don't. While the process of discovery can be a lot quicker and simpler if your organisation already has relevant expertise, it always pays to test your thinking externally.

Listening to a broad range of voices to understand the underlying issues and whether a prize is appropriate is the basic due diligence you need to do before launching a prize. Fail to do so – or fail to find the right stakeholders – and your money could be wasted on something pointless or even counterproductive.

	Challenge prizes	**Grants**	**Impact investing**	**Accelerators & incubators**	**Procurement**
Funding given for	Success and achievements based on outcomes and impact	Estimated costs and promise of outcomes	Estimated costs, projected impact and financial return	Development of early stage ideas and models	Estimated costs and promise of outcomes
Solutions	Diverse and novel	Typically established approaches	On trajectory to impact	Highly variable, early stage	Predictable and well established
Degree of openness	Low barriers to entry, active outreach	More restrictive, track record required	Highly restrictive, evidenced proposition required	Highly selective, focus on cohorts	Highly limited, pre-qualification needed
Ability for teams to innovate/ pivot	High and encouraged	Low, approval required	High, with agreement	High and encouraged	Low and discouraged
Risk of solution failure	Low, payment by result	Medium, dependent on due diligence	High, failure anticipated	High, failure anticipated	Medium, dependent on contractual terms

Comparing innovation methods
Your research in this phase will often uncover topics which are important but where challenge prizes might not be the best approach – or where challenge prizes would fit in well alongside other initiatives. This table outlines some of the differences between four other common innovation funding mechanisms. For more information on innovation methods and how to use them, we recommend Nesta's 'Compendium of Innovation Methods'.

Nesta Challenges' green light criteria

If you're thinking of running a challenge prize, take a look at these criteria before you progress to design. They will help you consider whether a prize could be a good response to your problem, need or opportunity.

The problem is well defined and there's a clear goal for innovators to work towards.

Whether narrow or broad, challenge prizes need a well-defined problem. If you're unsure, refer back to the **discover and define** section to understand more about 'how to'.

The best solutions will be generated by opening up the problem to a wider pool of innovators.

Challenge prizes open a problem up to new innovators. If there is an organisation that is the clear frontrunner with unique skills or technology it may be more effective to work directly with them.

Solutions will be adopted or taken to market.

Challenge prizes are intended to create impact. If the solutions developed through a challenge prize will not be not adopted or taken to market, then the prize will not achieve its goals.
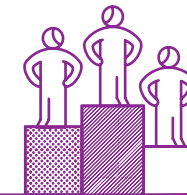
A prize will accelerate progress.

The competitive aspect of challenge prizes galvanises action. You should be able to articulate how a prize could accelerate the creation of better quality solutions.

A prize could provide the incentives needed to motivate innovators.

Innovators are key to the success of any challenge prizes. Exploring how to incentivise and motivate them is part of the **design** phase.

Design

⭐ **By testing different versions of your prize with key stakeholders, you can make sure your plan matches your ambitions.**

Questions this phase will answer

- Does my prize have a narrow or broad goal?
- What kind of innovations will my prize need to support? Will they be early-stage ideas, scaling solutions or solutions transferred from other sectors?
- How could the prize take key barriers into account?
- How will my prize fit in and contribute to wider systems change?
- How ambitious is my challenge? Do I have the correct incentives and support to attract the right innovators?
- How will my prize help mitigate risks and allow anyone with a good idea to participate?
- Do I have the resources (budget, time, expertise and networks) to effectively deliver this prize?

What you do in this phase

This phase is an opportunity to carefully construct a prize through an iterative process using prize design prototypes. Each prototype takes a different approach or tackles a different aspect of the problem or goal. The number of protoypes you explore will depend on

what you learn through the **discover and define** phase. They are invaluable for getting feedback from stakeholders on the strengths and weaknesses of the different options. Think carefully about who you ask for feedback and consider what points of view you might be missing. Through this process, prototypes are improved or discounted until the best option is worked up into a full prize design, which includes:

- **Problem definition:** Summarises the problem, with causes, effects and key barriers to innovation
- **Challenge statement:** Call to action that sets out the target problem, clarifies whether the goal is narrow or broad, articulates incentives and what success would look like, without prescribing what solutions should be
- **Eligibility criteria:** Specifies any restrictions on who can enter the prize as well as requirements of participants once they are selected
- **Judging criteria:** Outlines how participants will be assessed and judged throughout the prize
- **Structure and incentives:** Sets out the timeline with any stages and associated incentives for innovators, ranging from grants to in-kind support to develop innovators' capacity
- **Implementation plan:** Sets out how you'll deliver the prize, from grant management to communications and evaluation. The plan should include an assessment and selection process that articulates how innovators' success will be tested and measured

Farmerline, finalists in the Fall Armyworm Tech Prize

Motivating innovators

How will you know what motivates them to get involved? It's important to engage with innovators during the creation of your prize. Find out how you can tap into their passions and interests.

People most likely to take on a challenge prize have three key characteristics:

Creativity

Innovators often bring ideas from one field to another. This makes the freedom and boundary-pushing nature of challenges attractive to them, enabling them to put their ideas into action.

Agility

Innovators are agile in their approach, understanding the need to adapt, change and pivot their ideas in response to new insights or changes in environment.

Competitiveness

Entrepreneurial behaviours are underpinned by a competitiveness that challenge prizes tap into. Participants are likely to invest far more time and energy than would be purchasable for the same cost.

Design (continued)

Three key factors considered in this phase will determine the variables of your design prototypes and the likelihood of success:

Your goal: *What would success look like and what are the barriers to achieving it?*
Trying to do too much will dilute your efforts and may not achieve the impact you intended. The threshold for Google's $30 million Lunar XPRIZE, for example, was set too high and innovators struggled to overcome the technical and regulatory hurdles. Prioritise your goals and the type of impact you want to achieve. Consider what success looks like and how it could be judged.

Your innovators: *Who are they? What do they need?*
Decide who you are trying to attract (and why) and identify what motivates them, what barriers they may face or risks they might have to take on. There is a wide range of positive incentives, but more is not always better. Consider if there may be any negative consequences from the incentives you're proposing. After learning about some negative impacts of participating in 100&Change, the MacArthur Foundation introduced an 'organisation readiness tool' that helps applicants consider applying to the programme.

Your resources: *Do your resources align with your goal?*
This process will likely identify several suitable options. Due to the public nature of a prize, it's key to pick the one that best fits your priorities and resources. Consider how you might need to reallocate your resources if the prize does not go according to plan, if you need to extend the deadline or offer innovators other support. At the height of the #MeToo movement in 2017, the 21 semi-finalists of the Women's Safety XPRIZE were given a six month extension to develop their prototypes.

Design (continued)

Why this phase is important

If done poorly, it will result in wasting time and resources on a prize that is misaligned with your goals, unable to deliver change or attract innovators. It's important to take the time now to make a solid plan. Balance your interests with those of the innovators. For example, getting access to innovators' intellectual property rights may seem appealing, but will affect the number and nature of entries you receive. Rushing into decisions that can't be undone could damage your reputation if your prize proves unsuccessful and disappoints stakeholders who have championed and supported your prize. Getting too attached to your initial plan can hold you back. Be sure to get feedback early and often from a range of stakeholders and take their feedback seriously.

What can go wrong in this phase

If you can't find innovators interested in your prize design, or stakeholders tell you it wouldn't help, take their feedback on board. Dig into their reasons and motivations. Consider what elements of the design could be adjusted. You may find that the field is very crowded and there are already other initiatives doing similar things to you. Look at the initiatives and the system as a whole. Is a prize needed? If so, where would it add value? Explore neglected pressure points and opportunities for collaboration.

If you come up with a great prize design but it's too expensive, go back to your aims. What would be more proportionate with your resources? Consider what is needed to deliver change and don't assume bigger budgets will be more effective. Think carefully about how best to maximise your resources.

Innovators at the launch of the Data Driven Farming Prize in Nepal

Deliver

To implement a challenge prize well, you need a robust plan with appropriate resourcing and partnerships to carry it out.

Questions this phase will answer

- Is the approach I've taken to engaging and motivating innovators to enter my prize proving effective?
- Have I built systems that will allow me to learn, and adjust my plans throughout delivery to ensure success?
- What partners will I need to deliver different aspects of the prize?
- Once innovators are selected, how will we ensure that the support we're providing is effective?
- What data needs to be collected to measure success?
- What resources do I need to collect and analyse that data?

What you do in this phase

Here is where you put the design into practice. The appropriate level of resources and partnerships must be in place to effectively deliver your prize. There is no single way to deliver a challenge prize. It all depends on your aims and the problem you are tackling. Typically, this phase includes pre-launch preparation, call to action, broad communications, profiling innovators and their journeys, assessment and judging, providing support to innovators, and events.

Why this phase is important

To ensure the best chance of success, it's critical to give the right type of support to innovators in order for them to thrive, whether that's financial, technical, or by providing access to expertise. This phase provides a working knowledge of real solutions and innovators, and an opportunity to connect them to a broader network of people – end users, other beneficiaries and industry – to support their work. Delivery provides tangible support to drive solutions forward, transforming ideas into market-ready solutions that will benefit end users.

What can go wrong in this phase

Prizes are not maintenance-free. If you fail to place enough importance on the call to action and don't maintain a steady pace of communication, your prize is unlikely to succeed. Assessment and judging need time to effectively evaluate solutions or you risk rewarding the wrong team. Likewise, if you don't have clear enough criteria, or don't collect the right data at the right time, it's difficult to establish whether the prize resulted in the right outcomes.

Challenge prize blueprints

Challenge prizes are diverse; their shape, size and duration vary significantly depending on their primary objective.

Challenge prizes are problem driven. Because of this, while the fundamentals of the approach remain the same, the shape, size and duration of a given prize can vary substantially depending on the problem it's trying to solve and the goals it has prioritised. This can make it difficult for someone thinking about running a challenge prize to visualise the different forms their prize could take and understand what the most appropriate approach would be.

We've created six challenge prize blueprints to help. The blueprints are intended to be a tool to help people to think about how prioritising different aims can influence the design of their prize. These blueprints are not intended to be definitive. Treat them as illustrations of how much the design of a challenge prize can vary. Don't be afraid to mix and match different elements of these blueprints to tailor your prize to the problem you're trying to solve and the goal, or goals, you've prioritised.

Breakthrough prize
Creating transformative solutions to a difficult problem

Scaling prize
Scaling transformative solutions to achieve wider impact

Startup challenge
Building early stage innovators' capacity, supporting their entry to market

Community-centred prize
Bringing innovators and communities together to develop better solutions

Spotlight prize
Shining a light on a neglected issue or problem

Testbed challenge
Stimulating innovation in support of policy or regulatory objectives and informing future policy

Breakthrough prize

Prize objective
To create transformative solutions to a difficult problem

Defining characteristics
- Ambitious and tightly-defined goal
- Technological solution
- Large prize pots, longer timeframe often required

Design guidance
- Focus on developing a technological fix to a known barrier
- Focus on developing innovations that don't yet exist, or are in relatively early stages but facing a barrier to their further development
- Structure criteria around the key attributes the solution must have in order to solve the problem you have set

Participant in the Longitude Prize

Longitude Prize

Nesta Challenges' Longitude Prize aims to stem the tidal wave of antibiotic resistance – one of the greatest challenges of the 21st century. The £8m prize incentivises the creation of a novel, rapid, point-of-care diagnostic test to reduce and/or better steer the use of antibiotics. The winning test will ensure that people get the right treatment at the right time, potentially saving millions of lives and preserving antibiotics for future generations.

Mobile-based innovation

Haiti Mobile Money Initiative

Launched by the Bill & Melinda Gates Foundation and USAID, with endorsement from the Central Bank of Haiti, the challenge was to create a well-designed and well-supported delivery model that would enable people to use their mobile phones for banking. The prize was awarded in two stages: a First to Market award of $4m and a Scaling award of $6m. This incentive for providers to scale quickly led to the rapid design and launch of two mobile money services within seven months. In the first two years, over 800,000 users had signed up to the services.

Scaling prize

Prize objective
To scale transformative innovations so that solutions achieve wider impact

Defining characteristics
- Rewarding impact at scale, aiming to kickstart a clear potential market
- Creating scaling incentives where the market has failed to do so
- Quantifiable targets that reward innovators who reach scale
- Typically targeting a small pool of innovators with relevant skills and expertise

Design guidance
- Focus on innovations that have been proven at a small scale and are known to have potential impact at scale
- Your structure and incentives must take into account barriers to scaling
- Structure your criteria around market uptake and the impact the innovation is to have
- Beware perverse incentives, ensure you are promoting scaling that is sustainable and impactful

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Startup challenge

Prize objective
To build capacity of early stage innovators, supporting their entry into the market

Defining characteristics
- Broad goal with a focus on bringing new innovators and new ideas into the field
- Emphasis on building innovator capacity, in response to the lack of innovators being identified as a key barrier to the development of new solutions
- Larger numbers of entrants and prize participants funnelled through multiple stages with increasing levels of support

Design guidance
- Set challenge goal to be broad so a wide pool of innovators and innovations are eligible
- Establish a low bar to entry by accepting early stage ideas and simplifying the entry process
- Seed grants and other support are particularly important, so criteria should be broadly defined to allow fair scoring of disparate ideas
- Multiple stages allow for a wide range of innovators to be funnelled through the prize process. Efficient use of resources is supported by weighting support to the later stages
- Balance smaller prize amounts against significant investment in capacity development support and grant funding during the prize

Finalists in the Inventor Prize

Inventor Prize

This prize was delivered by Nesta Challenges and funded by the UK Government Department for Business, Energy and Industrial Strategy to discover the UK's best 'hidden inventors' and support them to develop innovative products that would make people's lives better. Prior to entering the prize, seven of the ten finalists had not brought a product to market before. Through their participation in the prize, eight of the finalists were able to secure additional funding, partnerships, clients and/or attract new investments for their solutions. All finalists reported that the prize offered them credibility as an individual or team, and validation of their product.

Data Driven Farming Prize participants

Data Driven Farming Prize

Technology has enormous potential to transform agriculture, but too often the data is locked away in government and research institutions, out of farmers' reach. Nesta Challenges' Data Driven Farming Prize, sponsored by USAID and Feed the Future, challenged innovators to use technology to improve agricultural productivity and the livelihoods of smallholders in Nepal. 13 finalists received seed funding, as well as workshops on business development, mentoring from a field partner and help developing a business plan. Four winners, two from Nepal and two who hadn't worked in Nepal before, shared $300,000 in prize money.

Community-centred challenge

Prize objective
To develop better solutions by bringing innovators and communities together

Defining characteristics
- Response to communities being neglected or underserved by existing solutions
- Typically features multiple stages with emphasis placed on facilitating meaningful interactions and collaboration between innovators and the communities affected by the issue
- Innovations could be technology, product or service based

Design guidance
- Criteria should ensure that the innovations are well suited to the community they are designed for
- Build in extensive interactions between innovators and end users
- The focus of the prize should be on relatively early-stage innovations that need to be tested and developed
- Invest considerably in co-creation, mentoring and events – these may be as valuable as the final prize. Innovators and community members aren't necessarily separate groups of people

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Spotlight prize

Prize objective
To shine a light on a neglected issue or problem

Defining characteristics
- Similar to the breakthrough prize, but highlights a broader problem to attract a wider range of innovators
- Problems that these prizes focus on suffer from a lack of awareness that constitutes a key barrier to innovation – existing solutions lack nuanced understanding of end users' needs
- Typically features significant investment in PR and communications

Design guidance
- Define an ambitious goal with the aim of developing a broad range of innovations focused on end users' needs
- Consider how best to ensure that innovators build a clear understanding of their end users and meaningfully involve them (e.g. through eligibility criteria or judging criteria requirements during stages)
- As part of communications and PR activities, look at how to use the excitement of the prize to build greater awareness of the issue
- The prize should ideally be part of a broader programme or strategic priority

Photo from the induction event for the Mobility Unlimited Challenge

Mobility Unlimited Challenge

Mobility devices can be life changing, but the pace of innovation is frustratingly slow. The Toyota Mobility Foundation partnered with Nesta Challenges to launch the $4 million Mobility Unlimited Challenge. It aims to support radical improvements in the mobility and independence of people with lower-limb paralysis through smarter assistive technology as well as raise awareness of the mobility barriers they face. Finalists range from an exoskeleton on wheels to a self-balancing wheelchair. Outreach activities have included 'My Mobility Unlimited', an online campaign that invited people with lower-limb paralysis to share their life experiences and highlight what they want from their mobility devices.

Courtesy of SRA

Legal Access Challenge

Only one in three people in the UK with a legal problem get expert advice when they need it. To improve access to legal services, Nesta Challenges has delivered the £500,000 Legal Access Challenge in partnership with the Solicitors Regulation Authority. The challenge's goal was to support solutions that help people better understand and resolve their legal problems. Solutions that came through include converting complex forms written in legalese to plain English, helping people to combine forces to seek legal redress, and online tools that provide speedy redress to busy small businesses. It's helping to overcome the challenges faced by innovators seeking to stimulate interest in the growing lawtech sector.

Testbed challenge

Prize objective
To stimulate innovation in support of policy or regulatory objectives and inform future policy

Defining characteristics
- Aim to inform policy and regulation, for example to identify barriers to innovation or the need for new rules
- Used by governments and regulators with an interest in safely bringing new innovations and technologies to the market
- May include providing safe testing environments – physical or virtual – in which innovators can experiment in a controlled fashion
- Open to a range of innovators, often with a focus on new entrants and disruptors

Design guidance
- Define clearly what can be learnt from the challenge that could inform policy, and build this into the challenge process
- Consider how best to structure the challenge to make it attractive to a wide range of high quality innovators, not just market incumbents. Financial prizes may be less important than other incentives the policy maker can offer – for example, data or regulatory support
- Investment may be required to provide a physical or virtual environment that gives innovators and policymakers the freedom to experiment, iterate and learn (e.g. a test facility, access to data)

Closing thoughts

Funding is increasingly mission-oriented in order to better focus minds and resources on delivering impact and achieving measurable change. This works because innovation thrives on clear goals that, for example, extend our healthy lives or return people to the moon and beyond.

Our most pressing challenges need to be exposed to disruptive innovators who thrust us forward, rather than incumbents who inch us towards progress.

In this landscape, the role of challenge prizes as an agent for transformation is becoming increasingly relevant. They open up the field, tapping into ingenuity and bringing new ideas to the fore. It was this approach that historically helped us to navigate effectively at sea, preserve food and fly across the Atlantic. The new wave of challenge prizes is helping us to clean up ocean oil spills, tackle drug-resistant infection, and open up entire new sectors like driverless cars and open banking.

At Nesta Challenges, we are independent supporters of change to help communities thrive and inspire the best-placed, most diverse groups of people around the world to take action. We support the boldest and bravest ideas to become real, and seed long-term change to advance society and build a better future for everyone.

It's up to you what innovation the next challenge will bring. Visit our website for more resources, or get in touch with us through the contact details below.

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We are Nesta Challenges

⭐ **We are challengers.
We are innovators.
We are game changers.**

Nesta is an innovation foundation. For us, innovation means turning bold ideas into reality and changing lives for the better. We use our expertise, skills and funding in areas where there are big challenges facing society.

We work with partners around the globe that bring bold ideas to life to change the world for good.

Nesta Challenges exists to design and run challenge prizes that help solve pressing problems that lack solutions. We shine a spotlight where it matters and incentivise people to solve these issues. We are independent supporters of change to help communities thrive and inspire the best-placed, most diverse groups of people around the world to take action. We support the boldest and bravest ideas to become real, and seed long-term change to advance society and build a better future for everyone. We are part of the innovation foundation, Nesta.

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