



LONGITUDE PRIZE ON DEMENTIA

Innovator Handbook

In partnership with



Delivered by



LONGITUDE PRIZE ON DEMENTIA

Innovator Handbook

Section 1: Introduction	3
Glossary	3
Foreword	4
Who's involved	4
How to use the handbook	5
<hr/>	
Section 2: About the Longitude Prize on Dementia	6
The problem	6
Challenge prize overview (methodology)	7
Challenge statement	7
Prize structure and timeline	8
Eligibility requirements to enter	9
Judging criteria	10
Assessment and judging process	10
<hr/>	
Section 3: What we are offering	11
Financial support	11
Non-financial support	11
Product evaluation with end-users	12
<hr/>	
Section 4: Making an application	13
Application process and guidance	13

In partnership with



Delivered by



Section 1: Introduction

Glossary

Assistive technology	Any product or service that aims to maintain or improve the ability of individuals with disabilities or impairments (such as dementia) to communicate, learn and live independent, fulfilling and productive lives.
Co-design	Design-led process using participatory methods to engage end-users (e.g. people living with dementia) in developing the outcomes (e.g. innovations).
Product evaluation with end-users	An independent study evaluating the effects of technologies on the lives of people living with dementia, and the resources needed to achieve those effects.
Open API	A publicly available application programming interface (API) that provides developers with programmatic access to a proprietary software application or web service.
Prototype	A first sample or early model of a product built to test a concept or process or function. A prototype aims to act as a demonstrator to be improved and developed iteratively, based on feedback from users.
UX testing	User experience testing: the process of testing different aspects of user experience to determine the best way for a website or other digital product/service to interact with its audience.
Artificial Intelligence (AI)	Technology based on machine learning that imitates human intelligence in terms of being able to learn from prior experiences.

Foreword

The Longitude Prize on Dementia is a multi-million pound challenge prize programme to drive the creation of personalised, technology-based tools that are co-created with people living with the early stages of dementia, helping them live independently for longer.

£3.42 million will be awarded in seed funding and development grants to the most promising solutions, with £1 million first prize to be awarded in 2026. In addition, wider support has been funded to provide innovators with crucial insight and expertise, facilitating whatever they need to bring their ideas to life.

Dementia is a progressive condition and there is no cure, but people can live well for years. As hospitalisations can increase the rate of decline, the hope is that assistive technology can help people stay safe and independent in their home for longer. The winning solution will use the latest advances in technology, artificial intelligence (AI) and machine learning in combination with user data and testing to provide personalised support for people living with dementia.

Who's involved

Funders



Alzheimer's Society

Leading UK dementia charity **Alzheimer's Society** is a vital source of support and a powerful force for change for everyone living with dementia. Alzheimer's Society is working tirelessly for people with dementia and their carers to live more fulfilled and less fearful lives, free from stigma and inequality. There are an estimated 900,000 people living with a form of dementia in the UK, with a further 225,000 expected to develop dementia this year, that's one every three minutes.

The charity provides help, supporting people living with dementia through some of the hardest and most frightening times, to improve their lives and help to avoid crises. And it provides hope, joining forces with people living with dementia, leading scientists and policy makers to push for cutting edge breakthroughs and societal change to improve the lives of people living with dementia, now and in the future.

The Alzheimer's Society has contributed £3.55 million to the prize programme. In addition, the prize has received generous support from UK donors through Alzheimer's Society, in particular: The Hunter Foundation, CareTech Foundation and Heather Corrie.



Innovate UK

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas, including those from the UK's world-class research base. Innovate UK connects businesses to the partners, customers and investors that can help them turn these ideas into commercially successful products and services, and business growth.

The prize has also received funding from the **Medical Research Council**. The MRC funds research at the forefront of science to prevent illness, develop therapies and improve human health.

Innovate UK have contributed £3.6 million and the Medical Research Council have contributed £500,000 to the prize programme.

Delivery



Challenge Works

Challenge Works is a social enterprise founded by a UK innovation agency Nesta. For a decade, we have established ourselves as a global leader in the design and delivery of high-impact challenge prizes that incentivise cutting-edge innovation for social good. In the last 10 years, we have run more than 80 prizes, distributed £84 million in funding and engaged with 12,000 innovators.

We believe no challenge is unsolvable. Challenge Works partners with organisations, charities and governments around the globe to unearth the entrepreneurs and their innovations that can solve the greatest challenges of our time.

Challenge prizes champion open innovation through competition. We specify a problem that needs solving, but not what the solution should be. We offer large cash incentives to encourage diverse innovators to apply their ingenuity to solving the problem. The most promising solutions are rewarded with seed funding and expert capacity building support. The first or best innovation to solve the problem wins. This approach levels the playing field for unknown and previously untested innovators so that the best ideas, no matter their origin, are brought to bear on the most difficult of global challenges.

How to use the handbook

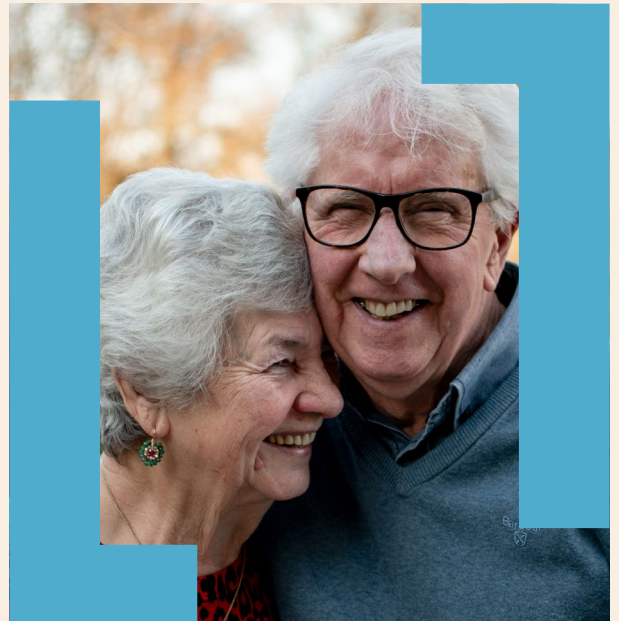
Welcome to the Longitude Prize on Dementia.

This document, along with the **Frequently Asked Questions (FAQs)** and **Terms and Conditions**, will provide you with all the information you need to enter the Discovery Award stage of the challenge, including:

- Background and objectives of the prize
- Prize structure and timeline
- Who can apply and the application process
- What is required to take part

We strongly encourage all applicants to read the entire handbook along with the full **Terms and Conditions** before entering the Prize.

If you have read the handbook and the **Frequently Asked Questions** and have more questions, please contact the team at longitudeprize.dementia@challenges.org



Section 2: About the Longitude Prize on Dementia

The problem

Some of the major crisis points in the journey of people living with dementia are driven by the decline in independence, social interactions and ability to carry out instrumental activities of daily living that are caused by cognitive loss. These crisis points can lead to increased care needs, hospitalisation and entry into care homes.

Because dementia is a disease that progresses over time and can impact many different parts of the brain in different ways, people living with dementia have highly varied needs that can also change over time. This makes it very difficult to offer the kind of tailored, appropriate support that can enable people to continue living at home and doing the things they love.

People living with dementia want to retain their independence

Unfortunately, the journey of people living with dementia is often characterised by a series of losses – in abilities, independence, choice and autonomy. Many people with dementia would like to retain their independence, both to reduce the burden on their loved ones and carers, and to retain their own dignity and sense of self. In the absence of a cure, we know that more innovative approaches are needed to help promote independence and maximise quality of life.

Research from the Alzheimer's Society in 2022 has identified six transition points corresponding with the NHS England [dementia well pathway](#). **At each of the transition points, if the support needs of people living with dementia are not appropriately identified and met, people living with dementia are at risk of losing their independence and ability to live well.**

Specific examples include:

- Inappropriate, inadequate or lack of timely information and support upon a dementia diagnosis (for example, information on continuing to drive and work);
- Informal caregivers are no longer able to manage caregiving duties; difficulties and barriers in finding appropriate support for keeping loved ones living with dementia at home (shortage of care workers, funding issues, challenges navigating social care);
- Avoidable hospital admissions, worsening dementia symptoms.

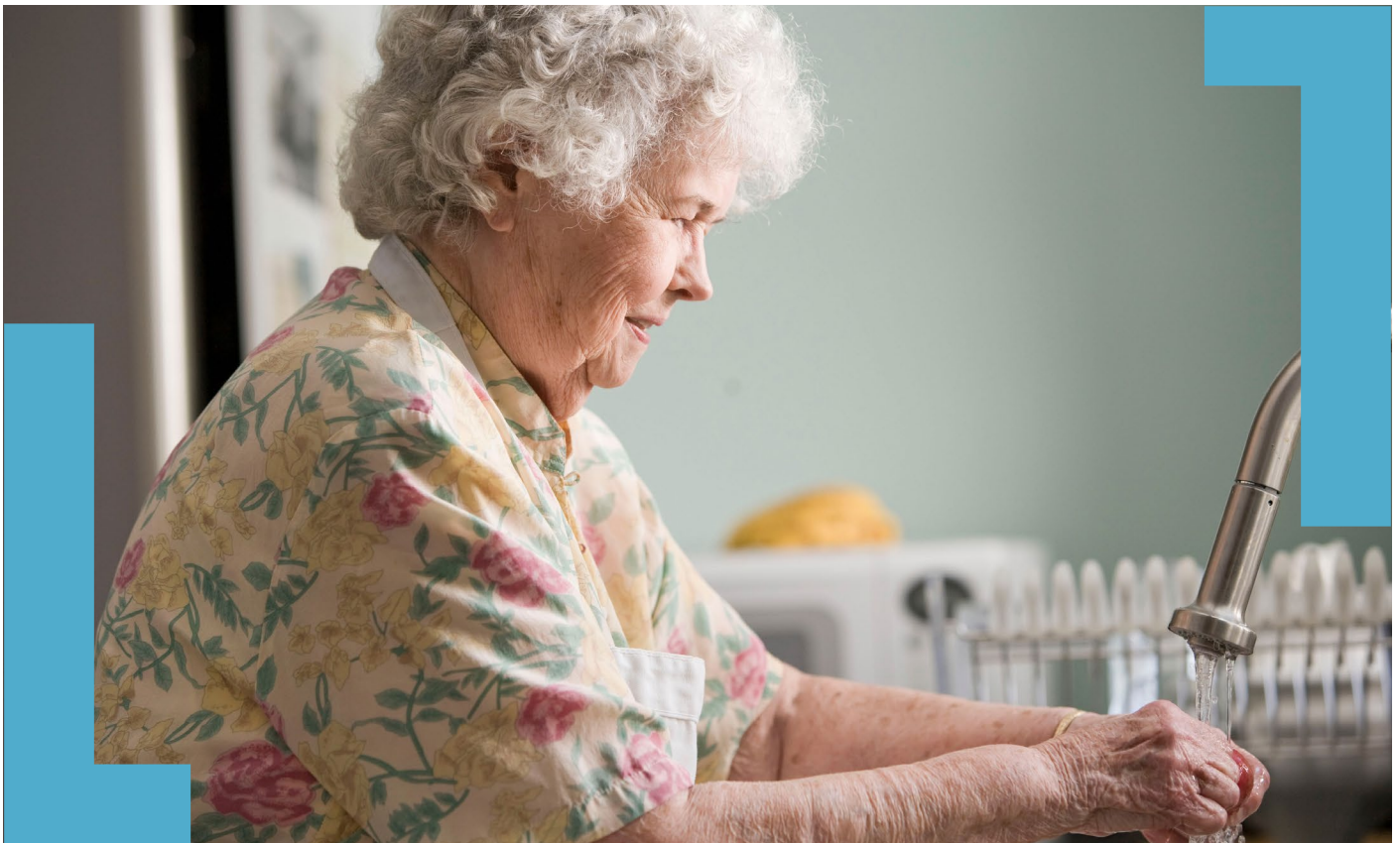
There is no one size fits all with dementia support

Beyond the typical associations with memory loss, dementia can affect many different parts of the brain and its effects are therefore highly individual. For some people, one of the first symptoms of dementia is difficulty with speech and word finding, which can have a significant impact on their ability to express themselves and communicate with others (known as expressive and receptive aphasia). Others may struggle with sensory issues and find themselves easily overwhelmed by auditory and visual stimuli.

Areas of opportunity for innovation in the problem area

Recent years have seen a proliferation of personalised technologies that can adapt to individual and changing needs, from smart speakers to fitness trackers, driven by advances in the field of artificial intelligence (AI) and other breakthroughs in science and technology harnessing big data. Unfortunately, however, many of these exciting products are not user-friendly and accessible for those with cognitive challenges, especially as their condition progresses and their cognitive abilities change. At the same time, current assistive technologies for people living with dementia are yet to integrate these advanced technologies to develop something that can meet the changing requirements of users.

There is an urgent need and opportunity for breakthrough innovations that overcome ethical, technological and design challenges associated with developing smart assistive technologies for people living with dementia. Drawing on advances in computer science and technology, as well as co-design practice, these solutions could adapt to the user's individual and changing needs whilst being user-friendly enough for people living with dementia to use themselves. Ultimately, this will play a transformative role in enabling people living with dementia to continue living at home and doing the things they love for as long as possible.



Challenge prize overview (methodology)

Challenge Prizes are a tried and tested method for supporting innovation. They offer a reward to those who can first or most effectively meet a defined challenge. They act as an incentive for meeting a specific challenge,

rather than being a reward for past achievements. Prizes are also a means of throwing open a challenge beyond the 'usual suspects', thus facilitating the engagement and participation of anyone who can solve the challenge.

Challenge statement

The Longitude Prize on Dementia will be awarded to the creator of a breakthrough technology that learns from a person living with dementia, adapting and compensating for their condition as it progresses, and enabling them to continue living independently for longer.

The winning solution will be a digital device or service designed for use by people living with dementia as the primary users. It must be able to demonstrate a transformational improvement in the lives of users, helping them to retain independence in one or more of the areas that contributes to their wellbeing and quality of life, including: essential activities of daily living, communication and social interactions; and other

activities that enable them to lead a fulfilling life doing things they enjoy.

Using advances in science and technology, such as AI and applications of big data, the winning innovation will be tailored to individual users and adapt to their changing needs over a sustained period of time. These technologies must be empowering for the user, overcoming existing ethics, design and technology challenges to develop a solution that is easy and enjoyable to use for people living with dementia as they transition through some of the pivotal transition points along the journey through the early to mid-stages of dementia.

Prize structure and timeline

An overview of the Longitude Prize on Dementia structure is below, outlining the key stages plus both the financial and non-financial support that will be provided to applicants.

Initial Entry

Who: Interested applicants as described in the eligibility requirements to enter

What: Submit an online application form via Submittable (see Section 4 of this handbook for more details)

- Entries will open on **26 September 2022** and submissions must be received by the deadline of **26 January 2023** at 23:59 GMT. Late entries will not be accepted.
- Entries should be at the **proof of concept** stage (and should reference existing technologies and processes to back up claims). Submissions will require written answers on an application form.

When: 26 September 2022 to 26 January 2023.

Outcome: Entries will be evaluated by independent assessors and judges against the criteria (see later in this handbook for details on the criteria). **24 Discovery Awardees will be selected to move forward in the Prize.**

Discovery Awards

Who: 24 Discovery Awards

What: Grants of £80,000 will be provided to the Discovery Awardees to support the development and validation of their solutions. Discovery Awardees will participate in 12 months of further capacity building support (see Non-Financial Support on [page 11](#)) to help consolidate plans for developing solutions. Discovery Awardees will also be expected to participate in the following activities:

- **Onboarding session** – An induction session will be held within four weeks of the Discovery Awardees being notified of their success

and contracting being completed. This induction touch point will be an opportunity to establish what discovery finalists can expect from the prize programme.

- **Preparation for product evaluation with end-users** – Discovery Awardees will engage with a group of independent academic experts to build their understanding of the solutions in development to help them finalise plans for the product evaluation study expected in the Finalist Phase.

When: June 2023 to May 2024

Outcome: At the end of this phase, the 24 Discovery Awards will be expected to have developed their solution to a prototype level, with a technology whose core features are usable independently by the target population. Solutions will need to have been tested with a spectrum of real users at different stages of progression (at early-mid stages of dementia), to demonstrate initial evidence of adaptability. Awardees will be required to submit a detailed submission for evaluation by the judges against the criteria (see later in this handbook for details on the criteria). **Five Finalists will be selected to move forward in the Prize.**

Finalist Awards

Who: 5 Finalist Awards

What: Grants of £300,000 will be provided to the Finalists to support the development and validation of their solutions. Finalists will participate in **15 months** of further capacity building support to help consolidate plans for developing solutions. Finalists will also be expected to participate in the following activities:

- **Onboarding session** – An induction session will be held within four weeks of the finalists being notified of their success and contracting being completed. This induction touch point will be an opportunity to establish what finalists can expect from the prize programme.
- **Product evaluation with end-users:** An independent evaluation study evaluating the effects of technologies on the lives of people living with dementia, and the resources needed to achieve those effects (see [page 12](#)).

When: August 2024 to November 2025

Outcome: At the end of this phase, the five Finalists will be expected to have a working model whose full features can be intuitively activated and used by the target population. The technology should have been tested on a wide population sample, including stress testing with extreme user behaviour, and should have a demonstrated ability to adapt to a change in circumstances. They will also be expected to have a business plan with a clearly demonstrated route to market.

Awardees will be required to submit a detailed submission for evaluation by the judges against the criteria (see later in this handbook for details on the criteria).

Winner

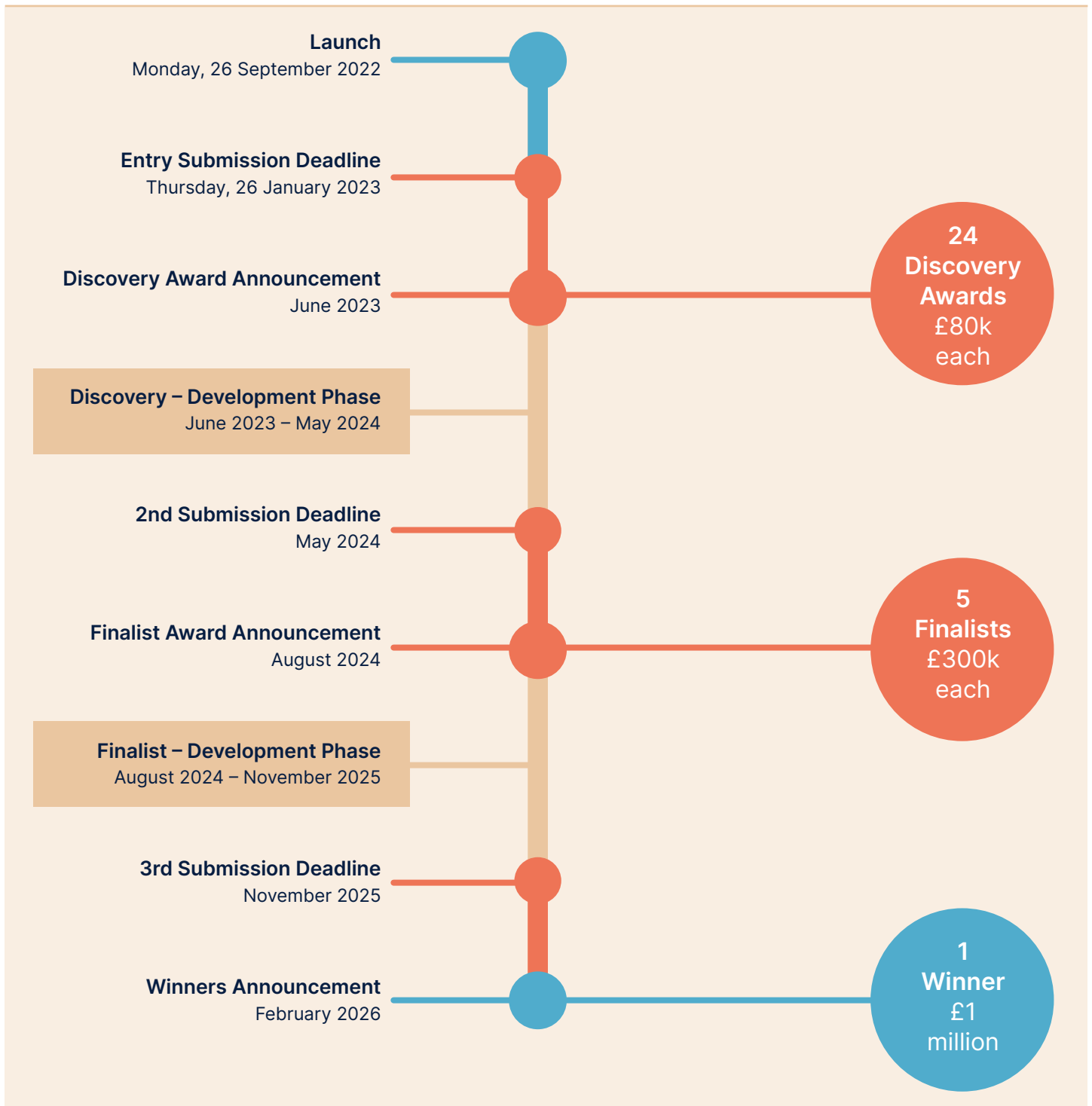
Who: 1 winner

When: February 2026

What: One winner will be selected to receive a prize of £1,000,000 (£1m)

Outcome: The winning solution selected will be a digital device or service designed for use by people living with dementia as the primary users.

The diagram below outlines the timeline for the Longitude Prize on Dementia phases of activities:



Eligibility requirements to enter

This section outlines the requirements entries must satisfy to be eligible to enter the Prize:

- The prize is open to individuals and academic groups, companies or non-profits, as well as partnerships between these.
- The prize is open to innovators worldwide but entries must be in English.
- Applicants must commit to co-designing their solutions with people living with dementia.
- Applicants must commit to maintaining a high standard of data ethics.

Judging criteria

In addition to the prize criterion, the Judging Panel and Programme Board reserve the right to consider the balance of the portfolio for the five Finalist selection e.g. nature of solution (challenge being addressed), technologies and geographical balance. If two or more similar solutions score highly, a balanced portfolio will be prioritised. This would be achieved by promoting the next highest-ranking proposal offering a different solution, and dropping the lowest-scoring team with a similar solution. This section outlines the criteria by which entries will be assessed and judged throughout the challenge process.

C1. Breakthrough innovation that helps people live independently for longer

Innovation: Demonstrates significant advances in technology or the use of technology, and design for people living with dementia.

Insight: Demonstrates, through meaningful engagement and co-design, that the application objectives show insight into the needs and desires of people with dementia.

Impact: Demonstrates potential to deliver transformative impact in one or more of the issues that compromise the continued independence for people living with dementia.

C3. High standards of technical excellence

Technological feasibility: There is a strong evidence base demonstrating the suitability and reliability of the technologies underlying the solution.

Interoperability: Where appropriate, the solution provides open data, interoperability and/or application programming interfaces (APIs), as well as compatibility with different hardware, to help integrate it with other tools and services that users and their carers may use and mitigate against obsolescence.

C2. Adapting to user needs to deliver tailored support, contributing to wellbeing and quality of life

Adaptability: Learns from and adapts to the individual and changing needs of a person with dementia, compensating for their condition as it progresses.

Safety, security and data ethics: Goes beyond basic data security standards to reassure users and communicate transparently about how data is used and stored, and minimises bias in the data and models used and produced.

Usability and user experience: Solution is easy and enjoyable to use and effective for a broad user-base of people with dementia, having been tested with different demographics and backgrounds to reduce bias, as well as people at different stages of the disease. It should interact with them in a way that is ethical and takes into consideration users' vulnerability.

C4. Credible path to sustainability and scale

Market potential and affordability: There is a clearly demonstrated route to market (in their chosen market), with consideration given to how their entry will be scaled and made financially accessible to a broad cross-section of people living with dementia, whatever their circumstances.

Team capabilities: The team has the capabilities, skills and experience required to deliver the proposed technology, service and business model.

Assessment and judging process

After the deadline on **26 January 2023**, all entries for Discovery Awards will be assessed against the judging criteria by suitably qualified assessors. This information will be provided to the independent judging panel who will make recommendations of which entries should receive funding and advance through the Prize programme.

You can expect to hear about the status of your entry in April 2023. Information you provide in your entry may be shared with our partners (including our judges, and any due diligence providers) for the purpose of administering the Prize. For more information on how we use your data, please have a look at our [Privacy Policy](#) and the [Terms and Conditions](#) of the Prize.

Section 3:

What we are offering

Financial support

Awards	Number of awards	Prize pot
Discovery Awards	24	£80,000 each
Finalist Awards	5	£300,000 each
Winner	1	£1,000,000

Non-financial support

During the Longitude Prize on Dementia, in addition to financial support, grantees at both the Discovery Award and Finalist stages will have access to capacity development support and a package of tools to help develop their solutions.

This in-kind support will be tailored to the needs of innovators while ensuring equity of support and access. The nature of this support will be discussed with competitors applying to the Discovery Awards in September 2022.

Lived-Experience Advisory Panel (LEAP)

To support innovators with the development of novel technologies in the field of dementia care, Alzheimer's Society has invited people with lived experiences of dementia (people living with dementia, carers and former carers) to form an Advisory Panel (LEAP).

Throughout key Prize milestones the panel will review and engage with innovator designs, ideas and give insights into how technologies could support and enable independent living for a person with a diagnosis of dementia.

There will be some variation in the type and/or level of support provided to cater for different levels of experience, capabilities, and needs. However, there will be some core non-financial support that will be provided to all innovators.

In the entry period, support will focus on offering application support and resources to ensure equity and inclusion for underrepresented groups of innovators.

Other types of support that could be provided to innovators who are selected to participate in the

Discovery and Finalist Phase include:

- Application support
- Co-design support
- Business development
- Investment readiness
- Data and other technology related support
- Peer-to-peer support

Product evaluation with end-users

During the Finalist Awards phase ([page 8](#)), an independent group of academic experts will conduct an evaluation study with the five selected Finalists.

Preparation for the product evaluation study

The group will first engage with the Discovery Award cohort between June 2023 and May 2024 to build the evaluators' understanding of the solutions in development to help them finalise plans for the product evaluation study that will be conducted in the Finalist Award phase (August 2024–November 2025). This initial engagement during the Discovery Award phase will not be formally part of the product evaluation study.

Product evaluation study

A product evaluation study will be conducted during the Finalist Award phase between August 2024 and November 2025. This study will inform the discussions and decisions of the Judging Panel to select the Prize Winner by evaluating the successes of the five Finalists by reference to the prize judging criteria (please see [page 10](#) for criteria).

The primary objective of the study will be to examine the effects of technologies on the lives of people living with dementia, and determine what resources are needed to achieve those effects. A second objective is to conduct action research and share findings along the way with the five Finalists to help them reflect on how their work is progressing as they develop and test their technologies. Lastly, the evaluation will look at the processes of co-design and innovation.

A key output of the study is to produce five case studies for the public domain describing the findings of how each of the Finalists co-designed and tested their innovations (publishing findings will be subject to any intellectual property or commercial interest constraints that may be pertinent). The group aims to publish study findings in a peer-reviewed journal for the evaluation community. These findings will also be shared with people living with dementia, carers and other family members, and relevant staff in health and social care systems.



Section 4: Making an application

Application process and guidance

All entries for Discovery Awards for the Longitude Prize on Dementia must be submitted by **26 January 2023 at 23:59 GMT**, using the **[online application form](#)** (on Submittable) available via the Prize website. The organisation leading any partnership or consortium will need to submit this form.

Before submitting your entry, please ensure that:

- You have read and understood the Prize **[Terms and Conditions](#)** and **[Privacy Policy](#)**;
- Your application is aligned with the challenge statement and assessment criteria;
- Your application meets the eligibility to enter.

We are aiming to make sure the application process is as efficient and practical as possible, ensuring ease of access for organisations and individuals. If you have any challenges with the submission process please email the team at **longitudeprize.dementia@challengeworks.org**

All applications for the Longitude Prize on Dementia must be submitted online via Submittable before the deadline of 26 January 2023 at 23:59 GMT in order to be accepted as an entry. Late entries will not be accepted.

[Click here for the application form](#)



LONGITUDE PRIZE ON DEMENTIA

**CHALLENGE
WORKS**
a nesta enterprise

58 Victoria Embankment
London EC4Y 0DS

+44 (0)20 7438 2500

longitudeprize.dementia@challengeworks.org

 @LPDementia

 [linkedin.com/company/longitude-prize-on-dementia](https://www.linkedin.com/company/longitude-prize-on-dementia)

dementia.longitudeprize.org

Nesta is a registered charity in England and Wales with company number 7706036 and charity number 1144091. Registered as a charity in Scotland number SC042833. Registered office 58 Victoria Embankment, London, EC4Y 0DS.

