

# Future Digital Challenge

## Challenge Handbook

### The Future Digital Challenge

The Future Digital Challenge will support researchers in creating disruptive digital technologies that will lead to new digital products, processes or services that will unlock transformational societal and economic impact for Ireland.

#### Why Apply?

The Future Digital Challenge gives academic research teams an opportunity to contribute towards making Ireland a digital transformation leader. Following successful review of applications, teams will receive funding of up to €200k and training to accelerate development of their idea. A number of teams will then be selected as finalist and receive up to €500k to further develop their idea before an overall winner is selected for the €1M Prize Award.

#### Who Can Apply?

Postdoctoral, early career or established researchers may lead teams in the Future Digital Challenge. Teams will consist of a minimum of two academic researchers with complementary skillsets. At the application or during the first phase of the award, teams must also include a third member who will bring specific knowledge or experience of the societal challenge the team will address.



## How To Apply?

Complete a short 6-page form that asks you to describe your team, the specific challenge or problem you will address, the solution you propose and how it will create impact. Register and upload your application to SFI's grant management system before the deadline.

Teams should note that they will also be required to upload their CVs and other supporting documentation described in the call document.

## What Are We Looking For?

The Future Digital Challenge aims to support ambitious ideas to develop cutting edge digital solutions that will unlock transformational societal and economic impact for Ireland. Examples of potential areas of interest are science, manufacturing, construction & housing, agriculture, transport, energy.

## More About the Future Digital Challenge

The Future Digital Challenge will support researchers in creating and applying disruptive digital technologies that will lead to new digital products, processes or services that will unlock transformational societal and economic impact for Ireland. The Future Digital Challenge will build leadership in deep tech and, by demonstration of impact potential, inform future approaches, research priorities and policy on how digital transformation can enhance our society and economy.

Under this challenge, researchers are invited to develop innovative and sustainable future products, processes or services, based on cross-cutting digital technologies including, for example: Sensors; Mobile Communication Systems; Internet of Things (IOT); Data (incl., Small, Big, Open) and Analytics (incl., Artificial Intelligence and Machine Learning); Distributed Ledger Technology (e.g., Blockchain); XR (i.e., Mixed Reality); Simulation and Digital Twins.

### Key Dates

August

8

**August 8, 2022** –  
Call opens for  
applications

October

21

**October 21, 2022**  
(13:00, Dublin Local Time) –  
Application Deadline

November

2022

**November 2022** –  
Successful teams  
notified

## Areas of Interest

Applications that identify challenges from any sector are welcome, however, particular focus should be placed on sectors where digitalisation can bring transformational opportunity. Such areas may include (along with illustrative examples of high-level research questions):

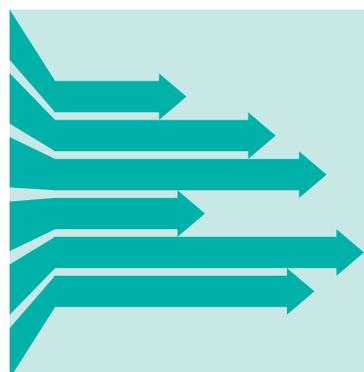
- ▲ **Science and Knowledge Creation** – How can digital technologies, such as AI, be applied to accelerate how new knowledge is created? How can the democratisation of scientific knowledge and data be advanced?
- ▲ **Manufacturing, Value Chains and Logistics** – How can digital technologies increase the competitiveness of the Irish manufacturing sector? How can supply chains be made more adaptive and sustainable?
- ▲ **Construction, Buildings and Cities** – Can digital technologies increase the efficiency and reduce the environmental impact of the construction sector? How should buildings be designed to better suit our future needs? How can we better design cities?
- ▲ **Agriculture** – How can digital technologies increase the productivity and reduce the environmental impact of the agriculture sector?

- ▲ **Transportation** – How can route planning be optimised to reduce the emissions from transportation modes? How can public transport be made more accessible and efficient using digital technologies?
- ▲ **Energy and Natural Resource Management** – How can energy demands be predicted more reliably, and renewable energy integrated more efficiently and effectively? How can natural capital quantification be undertaken more efficiently using digital technologies?

## Digital Responsibility

Leveraging data and digital technologies has transformative impact potential to address some of the most pressing societal challenges such as climate change, biodiversity loss, and sustainability. However, the ubiquity and power of digital technologies requires that creators and users act responsibly to ensure they are utilised in an ethical way that reflects values such as safety, fairness and inclusion, transparency, and privacy. In this context, digital responsibility requires that ethics issues be considered, monitored and managed across the full life cycle of a digital asset or system.

Applications submitted to the Future Digital Challenge should consider the ethical issues associated with digital assets or systems proposed and ensure that appropriate measures are in place to identify, monitor and manage risks across the full life cycle of the digital asset or system.



**Challenge research is an approach to research funding that provides participants with an opportunity to accelerate progress toward delivering tangible impact from research. In addition to funding, researchers participating in the National Challenge Fund will be provided with significant training and mentoring to support them in this process.**

## Further Information

For all information on the 2050 Challenge, please visit the website: <https://www.sfi.ie/funding/funding-calls/future-digital-challenge/>. Applicants are advised that they should consult the call document for all details and eligibility criteria for the call in advance of preparing an application. For any further queries, please contact the SFI Challenge Team at [challenges@sfi.ie](mailto:challenges@sfi.ie)

