NATIONAL CHALLENGE FUND

From Ingenuity to Research and Solutions

National Challenge Fund Webinar 26/01/2023

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Rialtas na hÉireann
Government of Ireland

Science Foundation Ireland sfi For what's next

Maoinithe ag an Aontas Eorpach
Funded by the European Union
NextGenerationEU

Science Foundation Ireland

Science Foundation Ireland is **Ireland's national foundation for investment in oriented basic and applied research** in the areas of science, technology, engineering and mathematics.

Vision

Ireland will be a **global innovation leader in scientific and engineering research** for the advancement of Ireland's economy and society.

Mission

Science Foundation Ireland **funds excellent and impactful research and talent**, and shapes the future of Ireland through anticipating what's next and widening engagement and collaboration.

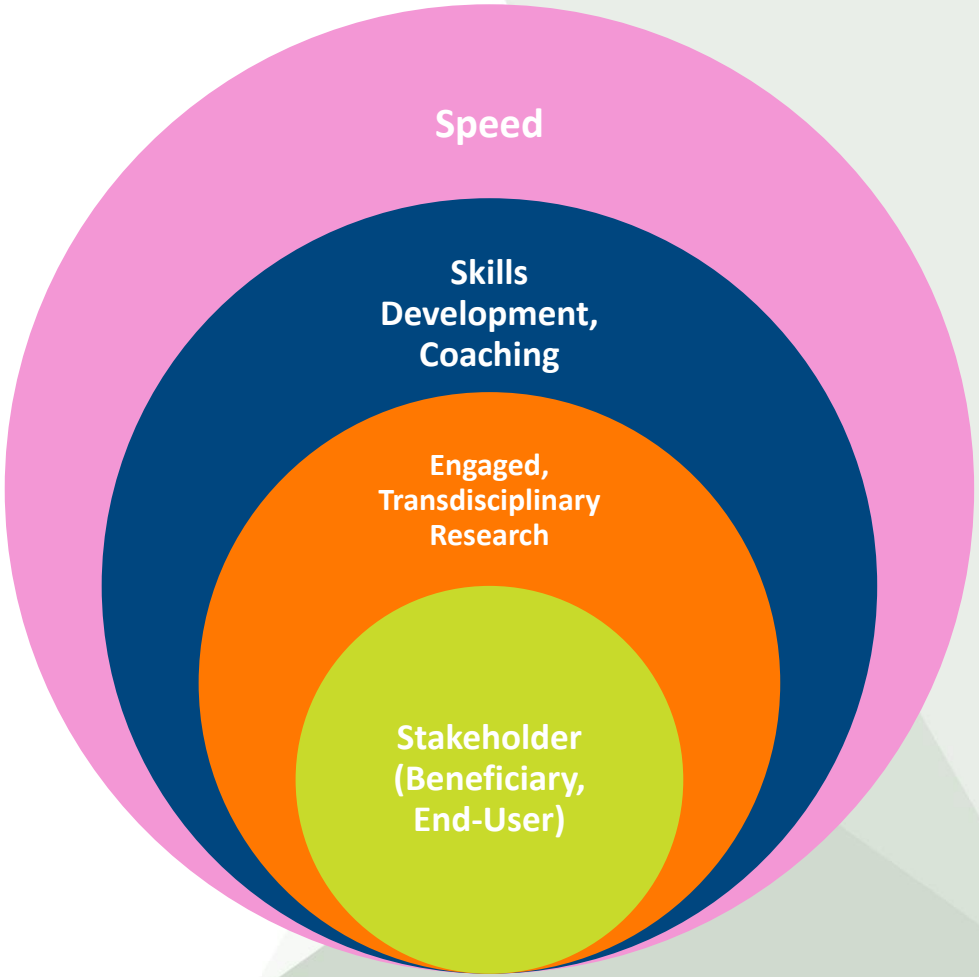
Challenge Funding

Scale and complexity of issues facing society require a **different response** from research.

Challenge funding is a **solution-focused approach** that directs research activities at specific, often complex, challenges or problems.

It employs **stage-gated funding, defined timelines and incentive prizes** to **accelerate translation** of research to impact.

Stakeholder engagement is central in this approach.



National Challenge Fund

€65M*

Challenge Fund

Part of Government's National **Recovery and Resilience Plan** (funded through EU's Recovery and Resilience Facility.)

8

Challenges

National Challenge Fund comprises 8 challenges: Digital Transformation (x 3) Green Transition (x 5).

90

Teams

Teams comprise different disciplines and stakeholders - academic and non-academic.

*** Direct Grant Costs.**

Overarching Objectives

Collaborate

Enable **collaboration between researchers and societal stakeholders** to inform challenges.

Mobilise

Support **mobilisation of transdisciplinary research teams** to develop solutions.

Accelerate

Accelerate impact for Ireland, inform national & European policy.

Challenges

Round 1 - Closed

Round 2 - Application Deadline: 10 February 2023

Round 3 – Opens Q1 2023

Healthy Environment for All

Challenge of restoring and maintaining a resilient environment that ensures clean and healthy air, water and soil for humans, animals and plants.

- Under this Challenge, applications would be considered in areas including but not limited to:
  - **Adaptation** – solutions to make our environment resilient to current and future impacts of climate change
  - **Measurement and modelling** – solutions to enable improved monitoring of environmental quality parameters for soil, air, water and biodiversity in order to understand and address the sources of environmental damage
  - **Pollutant prevention and removal** – solutions to remove pollutants at source or those already in the environment.
  - **Restoration** – solutions to restore and protect for future generations our natural environment.
  - **Natural capital** – solutions to understand the value and benefits of nature for our society and economy.

Energy Innovation Challenge

Challenge of accelerating Ireland's transition to a clean and secure energy system.

- Under this Challenge, applications would be considered in areas including but not limited to:
  - **Energy Storage** – solutions to enable storage and ubiquitous use of energy generated from clean sources in application areas such as grid-level storage, transport and domestic use.
  - **Energy Materials** – solutions to advance clean energy technologies based on novel or innovative materials or through improved production and recycling technologies.
  - **Energy Efficiency** – solutions to reduce our energy usage or to transition to cleaner energy sources, for example, through the reduction of energy usage in high-demand sectors.
  - **Low-carbon fuels** – solutions for the production, distribution and usage of sustainable, low-carbon fuels, for example, biofuels, synthetic fuels or hydrogen.
  - **Energy Management** – solutions to address challenges across the full breadth of energy management from the generation, transmission, distribution, and usage of energy.

Digital for Resilience Challenge

Challenge of using digital technologies to make Ireland more resilient.

- Under this Challenge, applications would be considered in areas including but not limited to:
  - **Epidemiology** – solutions that employ digital technologies to predict, monitor or manage the emergence, progression and impact of transmissible diseases
  - **Emergencies** – solutions that leverage digital technologies to anticipate, prepare, respond and recover from natural, technological and human-caused emergencies
  - **Economy and Enterprise** – solutions that leverage digital technologies to model/identify economic vulnerabilities, plan for disruption and adapt to interruptions in, for example, supply of raw materials, resource demand, delivery of services/supply chains, energy
  - **Public Services** – solutions that leverage digital technologies to maintain critical government operations and services for the public in times of crisis and uncertainty

OurTech Challenge

Challenge of enhancing the connections between government, communities, and people.

- Under this Challenge, applications would be considered in areas including but not limited to:
  - **Knowledge, Learning & Skills** – solutions that leverage digital technologies to make remote learning more accessible and impactful
  - **Trust, Privacy and Security** – digital technologies solutions to build trust between people while ensuring privacy and security
  - **Health Systems and Health Care** – solutions based on digital technologies that enhance the efficiency of delivery and effectiveness of health care
  - **Public Policy** – digital technologies to develop and promote inclusive, sustainable and ambitious national policies
  - **Government Processes and Public Services** – digital technologies to transform the delivery of government processes and co-created public services

What Are We Looking For?

Teams

Motivated, **transdisciplinary research teams** that want to make a difference.

Ideas

Ambitious ideas to address challenges.

Impact

Transformative, **stakeholder informed**, solutions.

Why Apply?

Funding

Significant **grant funding** to develop your transformative idea.

Training

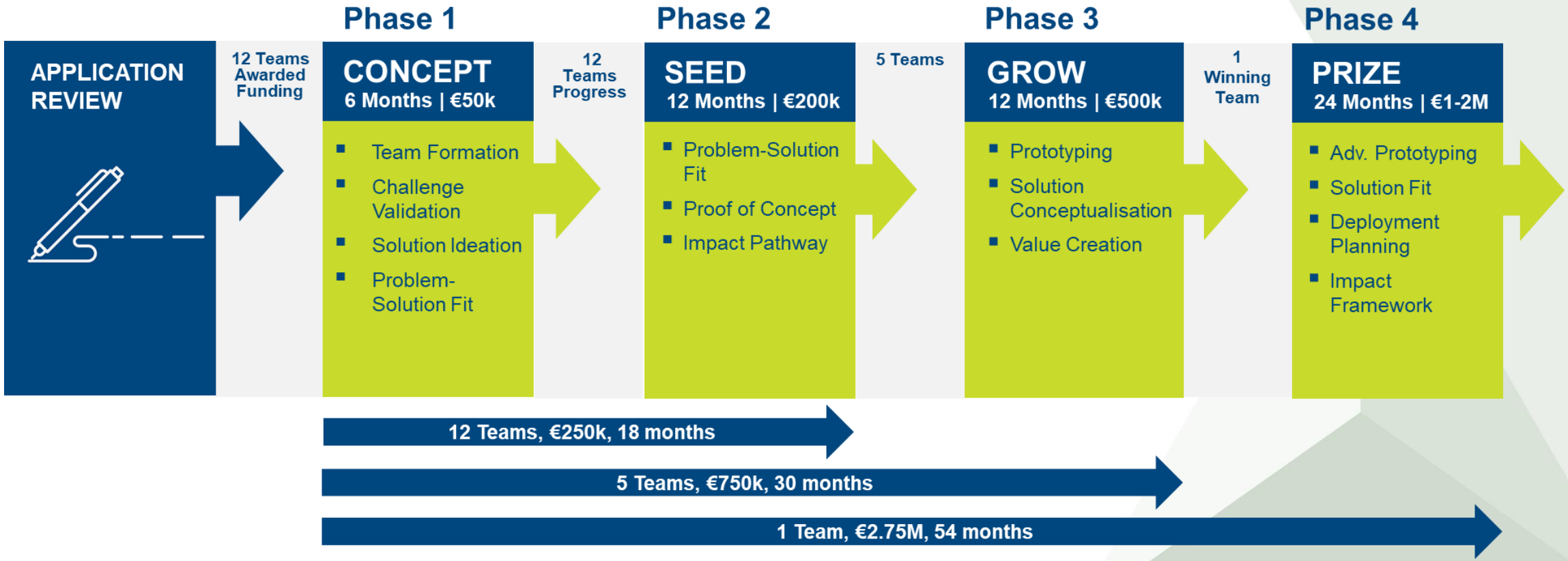
Training, **skills development** and mentoring from experts.

Pathway

A **pathway** to making a difference.

Funding and Duration

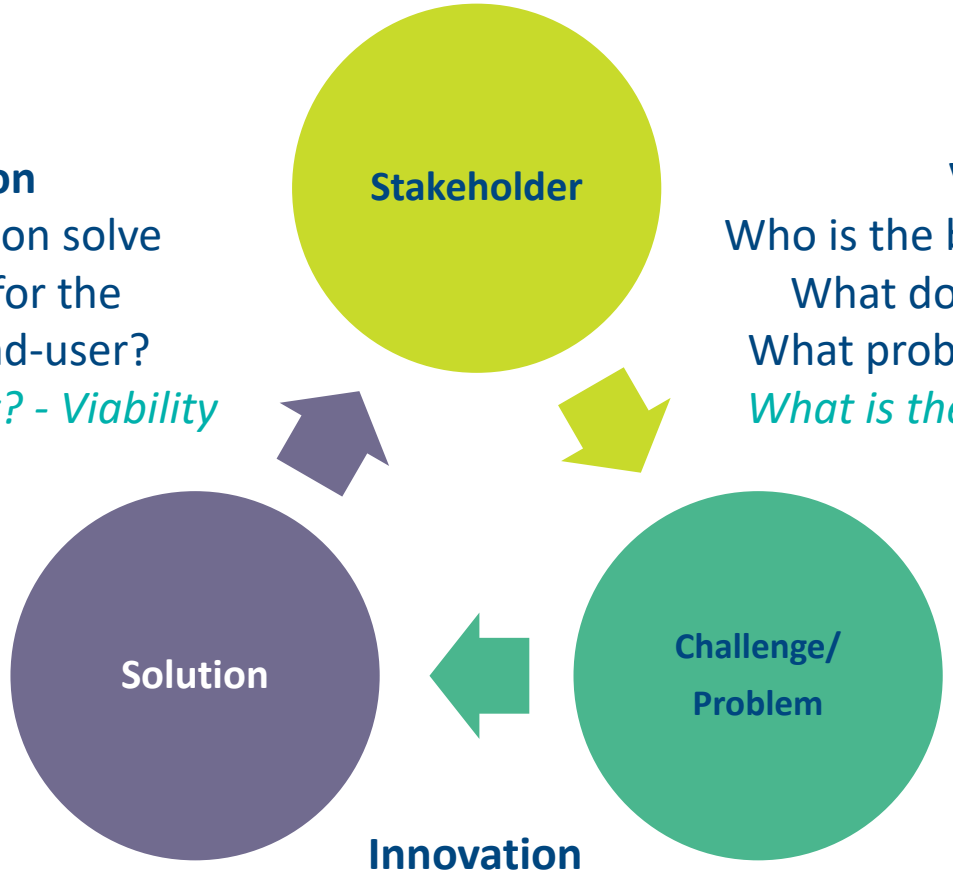
Each challenge will comprise four phases: **Concept, Seed, Grow and Prize Award**



*** Team numbers and award amounts are indicative and may vary with challenge.**

Human-Centric Innovation Process

Validation
Does the solution solve the problem for the beneficiary/end-user?
Should we solve it? - Viability



Validation
Who is the beneficiary/end-user?
What do they care about?
What problem(s) do they face?
What is the need? - Desirability

Innovation
How will we solve the problem?
Can we solve it? - Feasibility

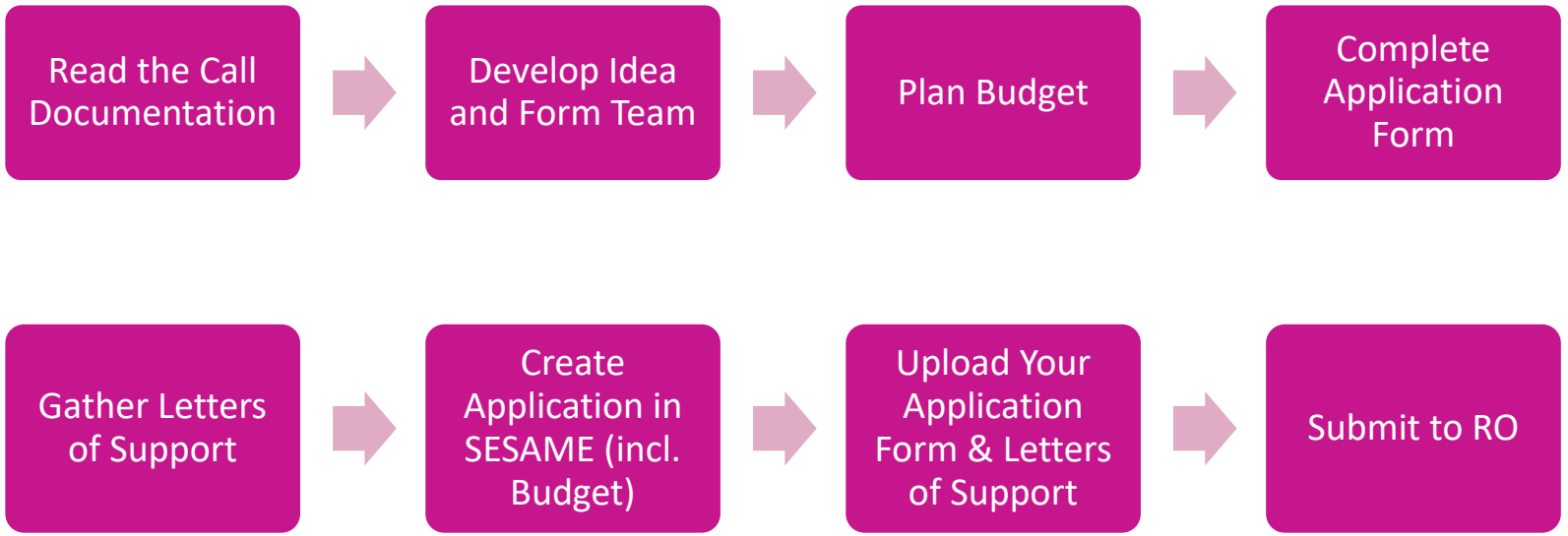
NOTES

- Throughout the programme, teams will **work with societal stakeholders to determine problem-solution fit** using a human-centric innovation process (i.e., design thinking).
- Engagement with stakeholders is the **primary activity in the Concept Phase**. It runs in parallel with solution development in the Seed, Grow and Prize Phases.
- **Your idea may change** and the direction of your project may change – that's OK. The process is designed to accommodate this.

Questions?

The Application Process

- To apply to a challenge, you should:



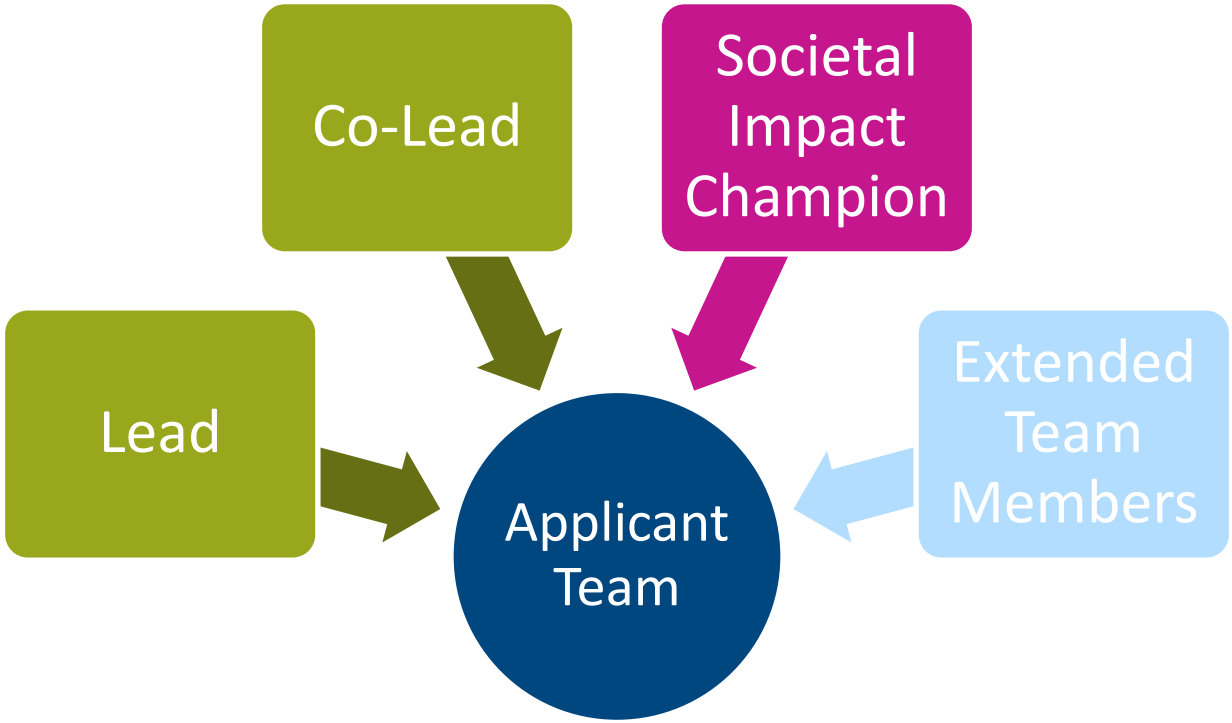
NOTES

- Read the call document carefully, if you have questions contact the RO or SFI.
- Know the **budget limits** for a challenge and understand are **eligible costs**.
- Start the application process in SESAME **as soon as you can**.
- The **RO submits your application** to SFI.
- Once you submit your application on SESAME, it goes to the RO for approval. The RO may need to get back to you for clarifications before submitting to SFI.
- Work with your RO and give them time to work.

Applications Submitted by Teams

- The NCF will support **highly motivated, transdisciplinary teams** committed to developing transformative, sustainable solutions
- Applications must identify two academic researchers as Lead and Co-Lead.
  - Lead and Co-Lead can come from AHSS or STEM fields.
  - Lead and Co-Lead should come from different disciplinary backgrounds.
- In addition to academic researchers, applications should identify a Societal Impact Champion.
  - Societal Impact Champion should ideally come from outside of academia.
  - If Societal Impact Champion is not in place at time of application, plan for identification must be provided as part of application. If team is successful in its application, Societal Impact Champion must be in place by Month 3.
  - Societal Impact Champion should have sectoral knowledge, specific expertise. Is considered part of the leadership team.

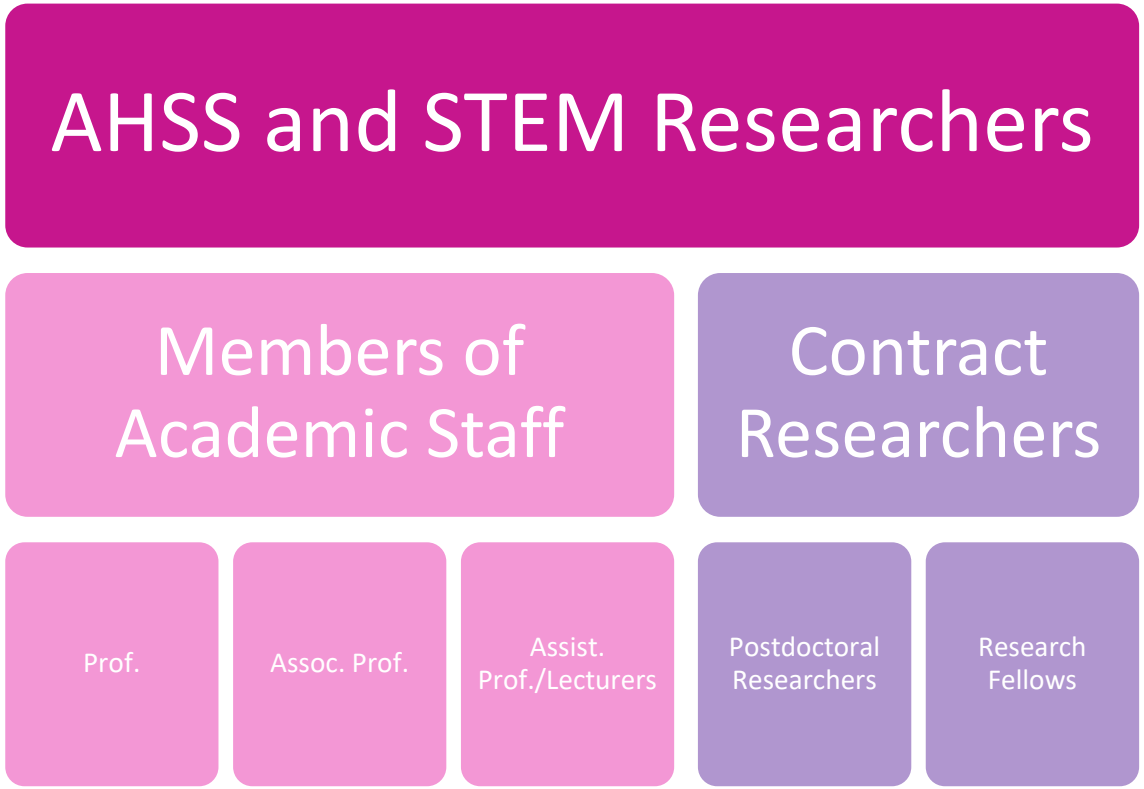
Applications Submitted by Teams



NOTES

- In addition to Lead, Co-Lead and Societal Impact Champion, an application can include other teams members (which combined make up the broader challenge team). These could be other societal stakeholders, researchers etc. The **Team Profile** section of the application provides a way to describe this challenge team).
- Multiple researchers may be involved in a team but there can **only be one Lead and Co-Lead respectively**.
- Multiple societal stakeholders may be involved in a team.
- Team can change over time.

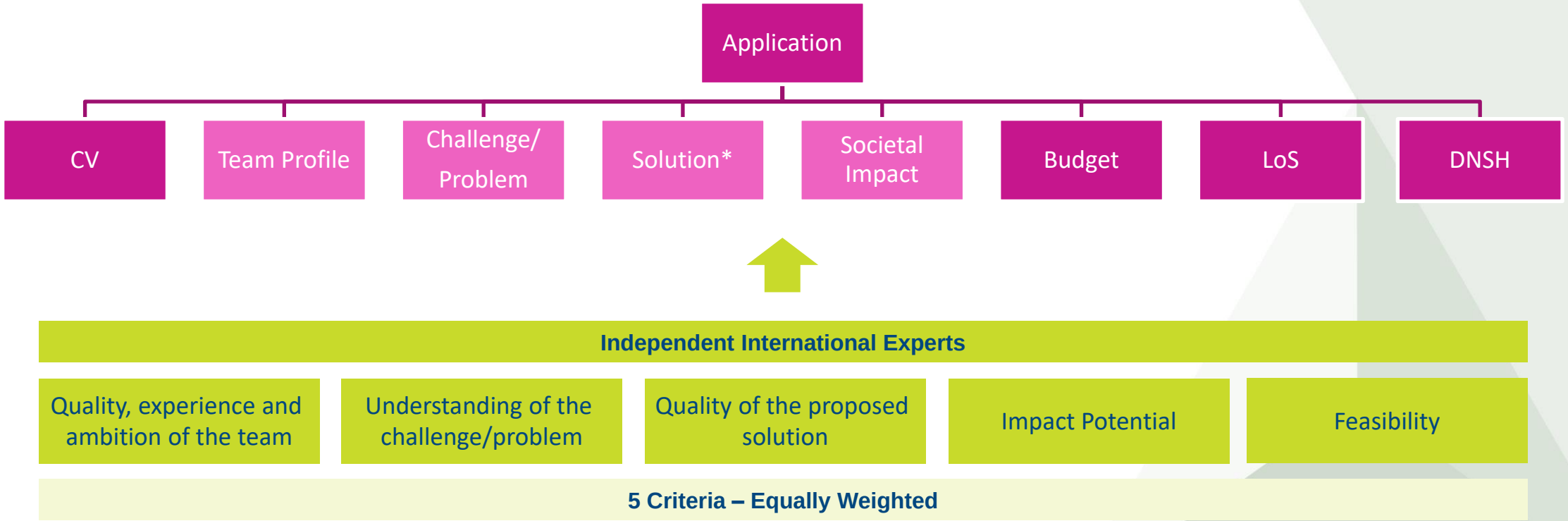
Who Can Apply As Lead/Co-Lead?



NOTES

- Teams can be led by researchers from AHSS or STEM backgrounds. However, an **application must describe a technological innovation** that forms part of or enables a solution to be developed/deployed.
- Postdoctoral researchers (incl. Research Fellows) can:
  - Apply as Lead or Co-Lead.
  - Request salary costs.
  - Apply with view that contract may be subject to receipt of the award.

Application Review



*** Include information on *state of the art*.**

CV and Team Profile

Credit: Gino Santa Maria

Budget

- You apply for **18 months** of funding up to **€200k/€250k.**
- Budget information must be input into SESAME:
  - Applications must include budget for Concept (€50k) & Seed Phases (€150k/€200k).
- Budget requests must comply with SFI Grant Budget Policy.
- Strongly advise **budget request should be maximised**.

- **Teaching replacement costs** (for Technological Universities/Institutes of Technology) is permitted under the National Challenge Fund
  - Up to a maximum of 50% of teaching load for the duration of each phase.

- **No Equipment costs can be requested under the Concept Phase** (Staff, Travel, M&Cs).
- Societal Impact Champion - Salary or fees not permitted, expenses may be eligible.

Round 2 Challenges
Budgets and Durations

	A Healthy Environment For All	Energy Innovation	Digital for Resilience	OurTech
Concept - No. of Teams	12	12	10	10
Concept - Duration (Months)	6	6	6	6
Concept - Funding (€)	**50k**	**50k**	**50k**	**50k**
Seed - No. of Teams	12	12	10	10
Seed - Duration (Months)	12	12	12	12
Seed - Funding (€)	**200k**	**200k**	**150k**	**150k**
Grow - No. of Teams	4	4	3	3
Grow- Duration (Months)	12	12	12	12
Grow - Funding (€)	**500k**	**500k**	**500k**	**500k**
Prize Award - No. of Teams	1	1	1	1
Prize Award - Duration (Months)	24	24	24	24
Prize Award - (€)	**2M**	**2M**	**1M**	**1M**

Remit of the National Challenge Fund

- Proposed **solutions informed by a STEM innovation.**

- **Green Transition:** research and innovation that focuses on the low carbon economy, resilience and adaptation to climate change.

- **Digital Transformation:** digital-related research and innovation.

- **Excluded R&I Areas**: Further use of fossil fuels, including downstream use (i.e., related to coal, lignite, oil/petroleum, natural gas) as well as research related to incinerators or landfills

- **Technological Neutrality** – Challenge themes developed to be technologically neutral, i.e. without preference for any given technological solution.

Do No Significant Harm (DNSH)

- All activities supported under the National Challenge Fund must comply with the ‘Do No Significant Harm’ (DNSH) principle.
- DNSH safeguards that an economic activity is environmentally sustainable in relation to the six environmental objectives:
  - climate change mitigation
  - climate change adaption
  - the sustainable use and protection of water and marine resources
  - the transition to a circular economy
  - pollution prevention and control
  - the protection and restoration of biodiversity and ecosystems.
- Applicants to calls required to complete assessment outlining how the proposed outputs are compliant with the principle of DNSH.

Questions?

Contact

For further information:

https://www.sfi.ie/challenges/national-challenge-fund/

challenges@sfi.ie