

## Transforming Systems through Partnership 2023 grant call – Theory of Change

### OBJECTIVES

To promote **challenge-led research and innovation** that uses engineering to address sustainable challenges in partner countries, the UK and globally

To establish partnerships in **course design and delivery** that equip the next generation with skills to address sustainable development challenges

To facilitate **collaboration and knowledge exchange** that creates a strong evidence base for building better systems for the world we want to live in

### INPUTS

Grants totalling £15 million, with match funding

Network of universities and industry partners in the UK and in partner countries

Time and expertise of the staff and Fellows of the Academy

Academy prestige

Staff time and expertise of in-country collaborators

Societal and industrial challenges

In-kind contribution of the partners

Additional and follow-on funding from the universities and industrial partners

Programme awareness raising events

Previous research

### ACTIVITIES

Forming and managing partnerships

Joint research projects among the partners (including bilateral visits, learning)

Innovation (technology, research approaches)

Development of curricula

Training activities for students and early career researchers (e.g. placements)

Deep engagement with diverse communities

Networking activities (online, in-country)

Workshops, seminars

Dissemination activities (e.g. conferences, papers, books)

Community engagement and citizen science

Programme-level activities by the Academy and support from ICTs

### OUTPUTS

Partnerships operational and successful

Research outputs (articles, reports etc.)

IP created: patents, copyrights, licenses

New technology produced

Better partnership management in universities

New curricula, new training programmes designed and delivered

Students and early career researchers trained

Better skilled lecturers

New collaborations created

Engaged communities

New networks developed

Results produced by the partnerships are disseminated to various audiences (inc. media coverage, profile raising)

Opportunities for intra-programme knowledge sharing and new relationships catalysed

### SHORT-TERM OUTCOMES

New products, services, processes are developed

New technologies are explored

Spin-out companies established

Students and early career researchers have acquired adequate skills

Next generation of engineers has established itself

Better international networks for universities

Best practice and knowledge are shared

Communities are aware / sensitised to relevant new research and innovations

Improved bilateral relations between countries

Increased cross-partnership awareness and knowledge sharing

### LONG-TERM OUTCOMES

Improved mobility of engineers and researchers (living bridge)

Solutions to the great challenges are found

Increased quality and relevance of research

Increased quality and relevance of education

Enhanced research capabilities and workforces for local industries

Increased commercialisation of research

Increased sustainability of partnerships by leveraging funding from other sources

Increased reputation of awardees

Benefits for the UK generated (e.g. enhanced reputation, UK as a trusted partner etc.)

Increased understanding of sustainable development challenges and the role of engineering in solving them

### IMPACT

More robust and vibrant innovation ecosystem

Engineering contributes to addressing great challenges and solving the SDGs

Great challenges are addressed in line with SDGs

Strengthened industry, such as job creation, increased revenue, reputation

Improved education systems

Improved quality of life and a safer world

Increased appetite to tackle global societal challenges

Increased "soft power" of the UK

**Assumptions:**

- The model for the industry-academia partnerships is based on the principles of equity and trust among the partners
- The external context in the countries, such as the regulatory environment and/or political situation is conducive to international partnerships
- Students and early careers researchers have an appetite for involvement in research topics and collaboration
- Partnerships able to develop effective knowledge dissemination and influencing strategies including outreach, engagement and communications within and beyond their own institutions
- There is sustained funding for the partnership
- There is sustained commitment from the partners
- The research and innovation activities appropriately address a societal need in partner countries
- Academic and industry partners have complementary skills, expertise, and resources
- There is continuous appetite for industry-academia collaboration

**Risks:**

- Lack of funding / too many conditions for funding
- Relationships do not work
- Objectives becoming too broad
- Covid-19 pandemic / other global crises
- Issues linked to international programme and project management