Engineering Biology Innovation Network Launch event

Dana Heldt, Pedro Carvalho

Innovate UK Business Connect

19 June 2025

UKRI Innovate UK

The UK's innovation agency

Agenda

10:00	Welcome and housekeeping - **Pedro Carvalho** (IUK BC)
10:10	Engineering Biology and Innovation - **Scott Allen** (DSIT)
10:20	National Engineering Biology Programme & Technology Missions Fund - **Gordon Ford** (IUK)
10:30	Engineering Biology accelerator programme - **Lucy McGowan** (Science Creates)
10:40	Introduction to the Engineering Biology Innovation Network - **Dana Heldt** (IUK BC)
10:50	Attendee participation
11:05	Engineering Biology SPARK Awards - **Pedro Carvalho** (IUK BC)
11:15	Q&A
11:25	Networking and collaboration
11:55	Wrap and close
12:00	End

UKRI Innovate UK

We are the UK's innovation agency

As part of UK Research and Innovation (UKRI), Innovate UK is publicly funded to drive innovation and productivity across the UK.

We work for you to create a better future by inspiring, involving and investing in businesses developing life-changing innovations.

Department for Science, Innovation & Technology

UK Research and Innovation

Arts and Humanities Research Council
Biotechnology and Biological Sciences Research Council
Economic and Social Research Council
Engineering and Physical Sciences Research Council
Innovate UK
Medical Research Council
Natural Environment Research Council
Research England
Science and Technology Facilities Council

Innovate UK

Innovate UK System

Innovate UK

Innovate UK is the UK's innovation agency: a non-departmental public body operating at arm's length from the Government as part of UKRI.

Innovate UK Business Connect

Innovate UK Business Connect exists to connect innovators with new partners and new opportunities beyond their existing thinking - accelerating ambitious ideas into real-world solutions.

Innovate UK Business Growth

Innovate Business Growth empowers innovation-driven businesses to grow at pace and achieve their industry- and society-transforming ambitions.

UKRI Innovate UK

About us

Innovate UK Business Connect exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.

UKRI Innovate UK | Business Connect

Make powerful connections

Secure funding

Get expert insight

Keep up to date

Innovate UK

Engineering Biology and Innovation

Scott Allen
Department for Science, Innovation and Technology

UKRI Innovate UK

Department for Science, Innovation & Technology

Engineering Biology

and innovation

Scott Allen
Head of Engineering Biology
DSIT

June 2025

Department for Science, Innovation & Technology

MISSION-DRIVEN GOVERNMENT

- Kickstart economic growth
- Make Britain a clean energy superpower
- Build an NHS fit for the future
- Take back our streets
- Break down barriers to opportunity

Department for Science, Innovation & Technology

DSIT PRIORITIES

- Accelerating Innovation
- Technology For Good
- Modern Digital Government

Peter Kyle
Secretary of State

Lord Sir Patrick Vallance
Minister for Science

Department for Science, Innovation & Technology

ENGINEERING BIOLOGY CONTEXT

- Definitions and Scope
  - *The design, scaling and commercialisation of biology-derived products and services that can transform sectors or produce existing products more sustainably. It draws on the tools of synthetic biology to create the next wave of innovation in the bioeconomy.*
  - Product, process and enabling capabilities.

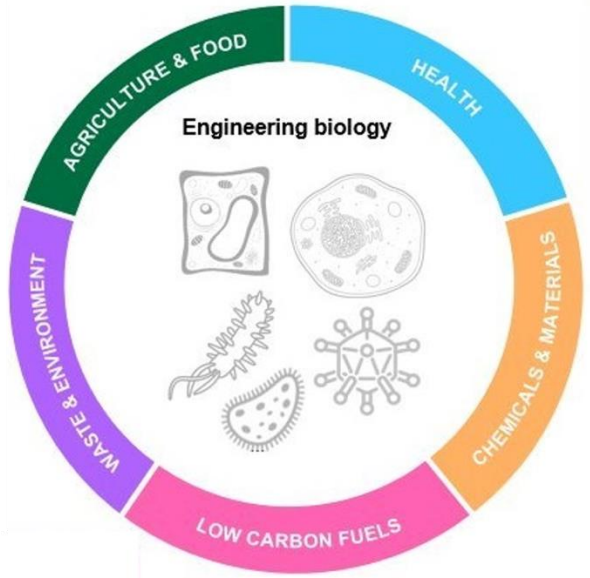
- Science and Technology Framework – 2023 – Critical Technology
  - *Sustainable environment*
  - *Health and life sciences*
  - *Digital economy*
  - *National security and defence*
  - *International comparison*
  - *Foundational*
  - *Market potential*
  - *Threats and resilience*

Department for Science, Innovation & Technology

DRIVERS AND PRIORITIES

- DSIT takes an **application agnostic** approach to our policy making. We look after the EB ecosystem at a strategic level.

- Primary key drivers:
  - Economic growth
  - Societal benefit
  - Environmental benefit
  - Further contribution to Government Missions:
    - Health
    - Growth
    - Net Zero



- We work closely with UKRI – IUK to ensure that critical applications can scale.

- **A close link between research, innovators and wider industry is key.**

Department for Science, Innovation & Technology

STRATEGIC CONTEXT

Spending Review – 11 June
Industrial Strategy – Summer 2025

Given we are application agnostic, our focus and priorities are the cross-cutting horizontals and getting them right for the sector:

- Infrastructure
- R&D funding and capacity
- Skills and talent
- Regulations and standards
- Business finance
- International – bilateral and multilateral
- Responsible innovation
- Public engagement
- Supply and value chain resilience
- AI-Bio

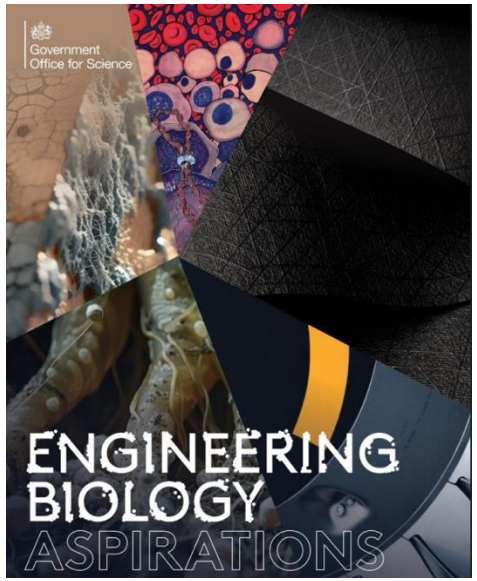
Press release

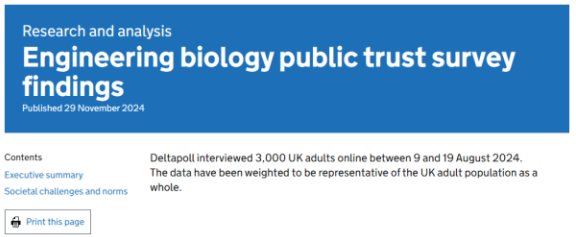
Transformative £86 billion boost to science and tech to turbocharge economy, with regions backed to take cutting-edge research into own hands

Funding package worth more than £22.5 billion a year in 2029 will boost Britain's world-leading status in research and innovation.

Not final product

Department for Science, Innovation & Technology





Research and analysis

Engineering biology public trust survey findings

Published 29 November 2024

Contents

Executive summary

Societal challenges and norms

Print this page

Deltapoll interviewed 3,000 UK adults online between 9 and 19 August 2024. The data have been weighted to be representative of the UK adult population as a whole.

DSIT AI-Bio Survey

Closes Friday!

Scott Allen

engineeringbiology@dsit.gov.uk

National Engineering Biology Programme & Technology Missions Fund

Gordon Ford
Innovate UK

UKRI Innovate UK

National Engineering Biology Programme & Technology Missions Fund

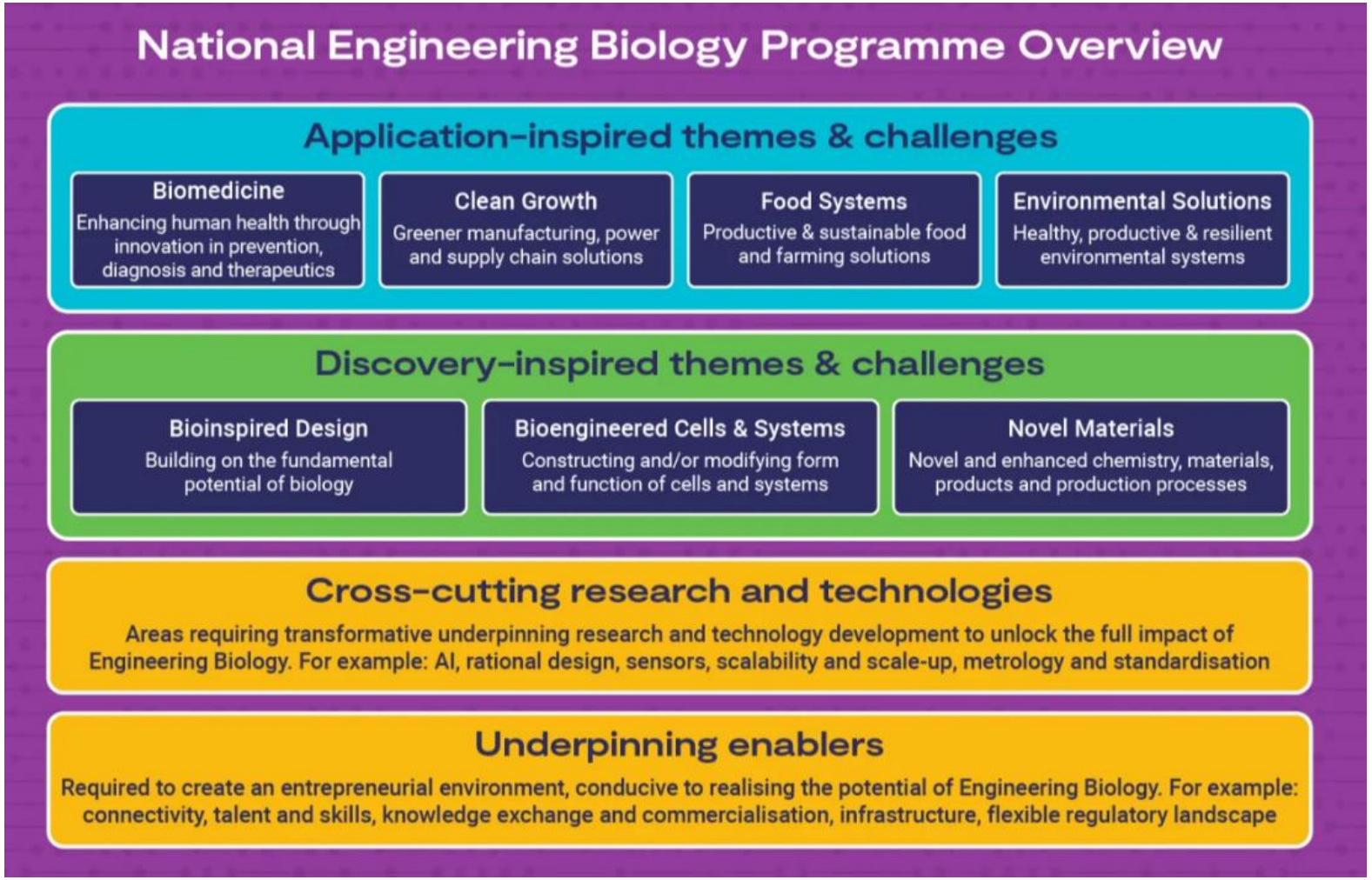
June 2025

UKRI Innovate UK

National Engineering Biology Programme

Engineering Biology is a **strategic priority area** for UKRI – since 2007 we have **invested over £800 million**

Our overarching investment strategy for engineering biology is encapsulated in the **National Engineering Biology Programme (NEBP)**



Technology Missions

£250m to secure the UK's world-leading position in technologies of tomorrow

6 March 2023

Today (6 March 2023) UK Research and Innovation (UKRI) confirms £250m to be invested in artificial intelligence, quantum technologies and engineering biology.

Critical Technologies:

- **Engineering Biology**
- Artificial Intelligence
- Quantum Technology
- Future Telecoms
- Semiconductors

TMF overarching objectives:

- Increase technological readiness levels
- Leverage industry and investor support
- Retain the UK's international ranking
- Increase UK's global influence

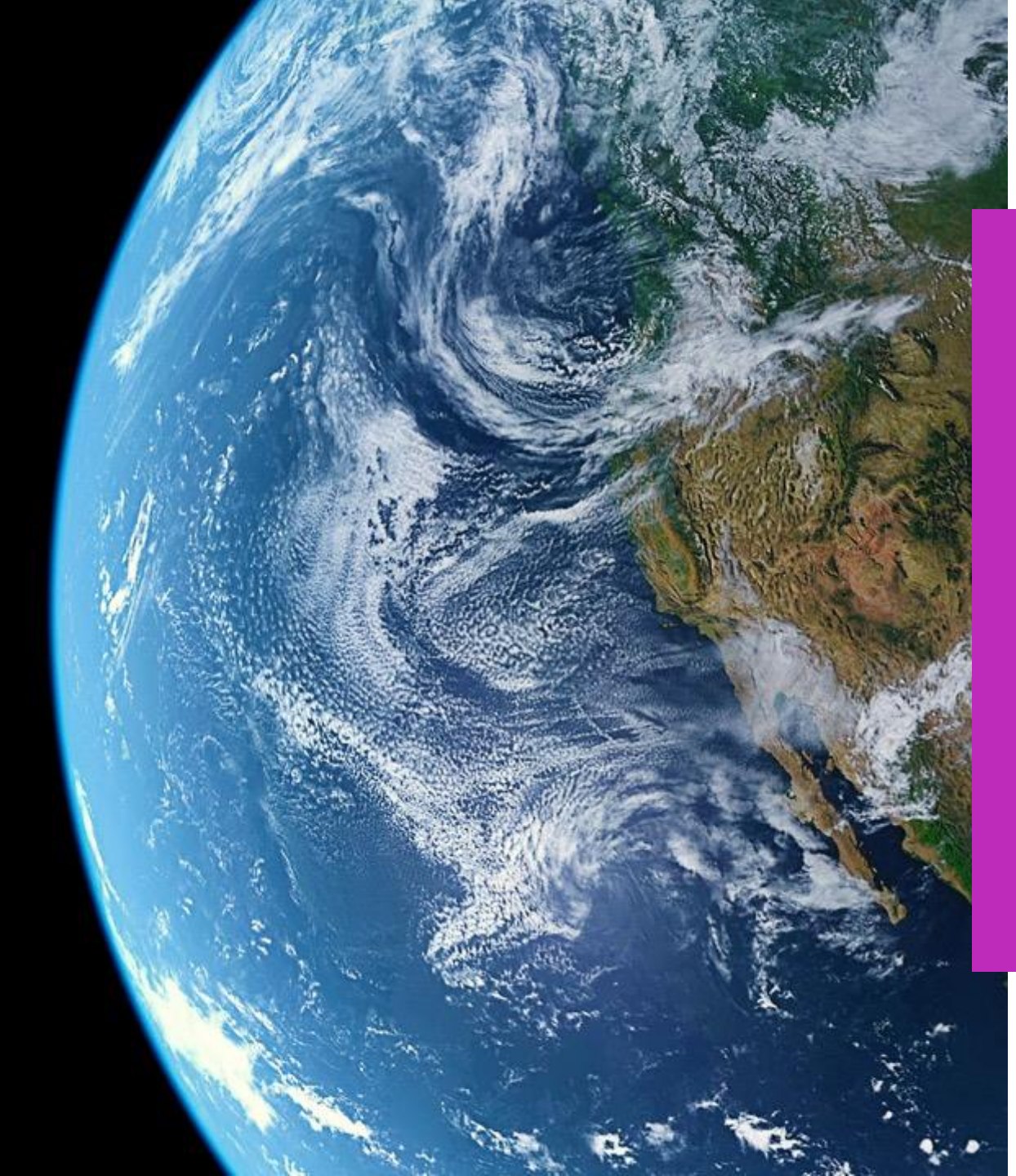
UKRI Innovate UK

Technology Missions – Engineering Biology

£125M across four application themes

- **Mission Hubs -** Led by BBSRC
- **Mission Awards -** Led by BBSRC
- **Seed Corn Fund** - led by BBSRC
- **Proof of Concept Funding -** Led by EPSRC
- **Collaborative Research and Development Awards -** Led by IUK
- **Engineering Biology Accelerator & Feasibility Awards** Led by IUK

UKRI Innovate UK



Technology Missions – Engineering Biology

48 CR&D projects
20 Feasibility projects

UNIVERCell: an engineered red blood cell line to unlock a new, universal therapeutic modality
Scarlet Therapeutics

P.A.I.N.T.S (Production of Alternative, Innovative and Natural-based Technologies for Styrene)
Crown Paints

Engineering cyanobacteria into bio-solar cell factories for scalable carbon capture utilisation and storage
Cyanocapture

https://www.discover.ukri.org/ukri-technology-missions-fund-2025/

UKRI Innovate UK

Bring your Engineering Biology idea to life

The UK-wide accelerator programme for Engineering Biology

Lucy McGowan

Science Creates

UKRI Innovate UK

ScienceCreates

UK Research and Innovation

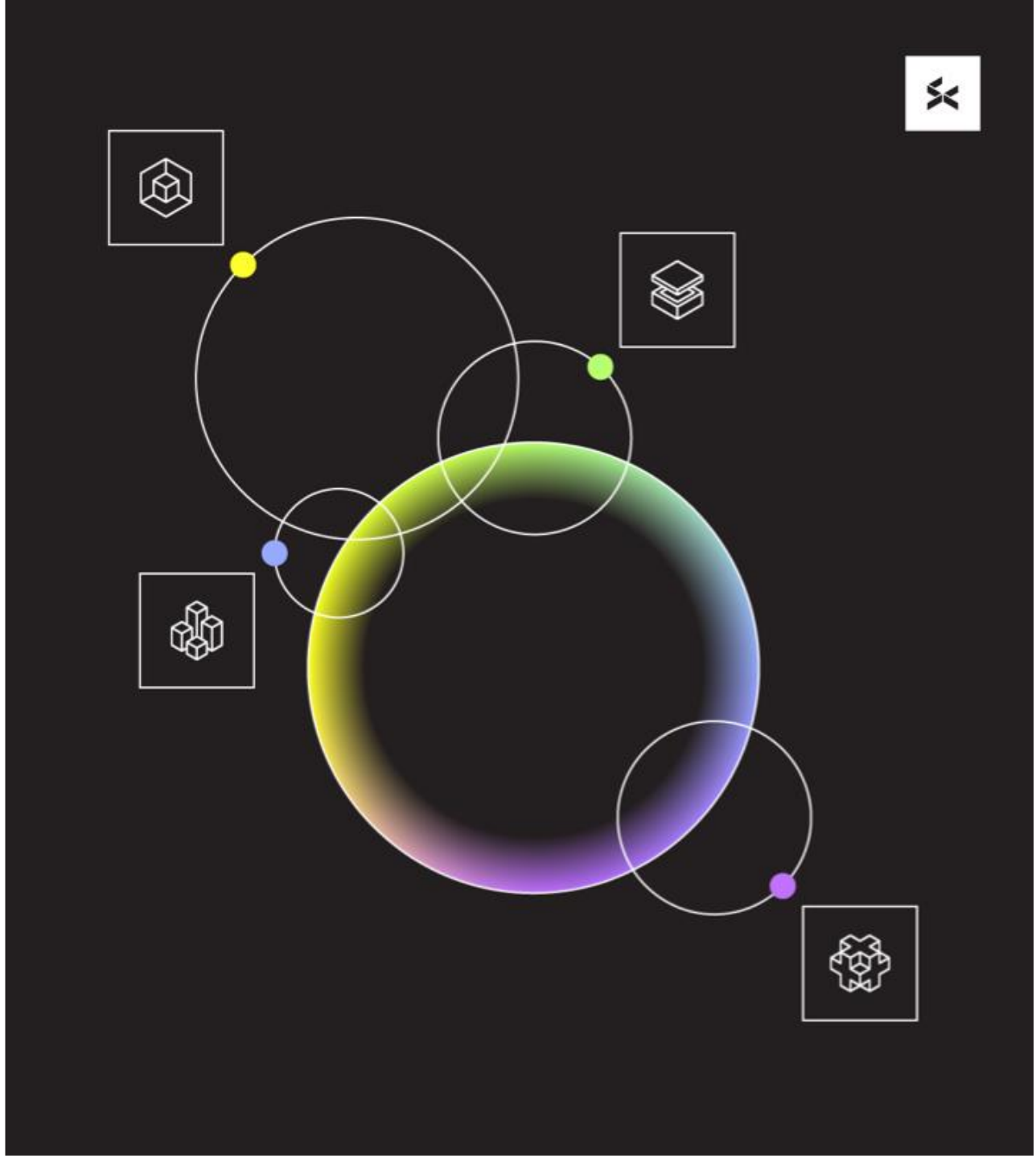
Bring your Engineering Biology idea to life

The UK-wide accelerator programme for Engineering Biology

19 June 2025

Ecosystem

- Incubators
- VC
- Platform
- Outreach



ScienceCreates

UK Research and Innovation

Engineering Biology Accelerator Programme

- UK-wide
- 9 weeks
- Full-time
- Fully funded

Our 5 key areas of focus

Technology

Guidance from the perspective of scientist-VCs alongside training and long-term support from multinational biotech service providers to advance your tech.

Grant funding

Expert guidance on strategically identifying and successfully applying for grants as well as opportunities to apply for UKRI EngBio feasibility funding post-programme.

Individual

Whole-cohort business leadership and coaching complement bespoke psychometric evaluation and 1:1s with psychology experts to elevate your founder mindset.

Investment

Training, pitch feedback, advice and mentorship from a network of experienced entrepreneurs, venture builders and internationally-renowned VC partners.

Team

Cultivating companies with meaningful values and cultures to attract talent, and joining a supportive cohort of likeminded early-stage EngBio founders.

12 expert webinars

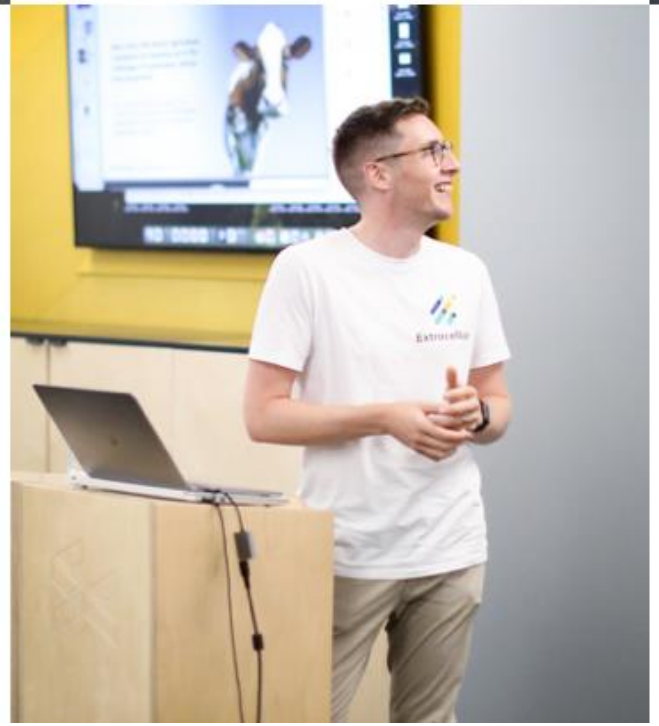
Deep Tech Investor ask-me-anythings, example pitches by later stage EngBio startups, and business support webinars on legals, IP, insurance, tax, accounting and more.

5 pitch days

4 iterative themed pitch days with feedback from our global network of leading Deep Tech investors, plus a post-programme UK-wide investor showcase attended by >70 people.

8 bootcamp days

A diverse range of expert-led, in-person training, workshops and talks for the whole cohort to build business and leadership skills as well as networking for cohorts to meet Science Creates community.



10+ 1:1 sessions

Tailored remote 1:1 sessions with qualified experts, providing confidential advice on tech, investment, business mentorship and grant writing, with additional in-person drop-in surgeries.

We take no equity

Leaving you in the driving seat

We pay for your time

So you are free to focus on your company

We keep things flexible

So you can be based anywhere in the UK

We tailor your experience

Providing you with bespoke expertise and high-impact support

Who can apply?

Individuals

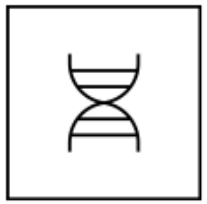
Individuals with an EngBio idea / technology who are in a position to launch a company during the programme.

Companies

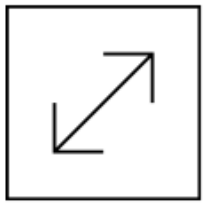
Very-early stage EngBio companies who have not exceeded the minimum financial assistance limit (only one person within a company may participate).

Engineering Biology scope

“The application of rigorous engineering principles to the design and fabrication of biological components and systems, from modifications of natural systems to new forms of artificial biology"

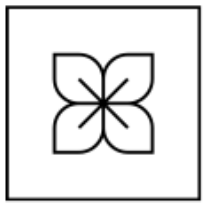


Biomedicine



Clean Growth

Food Systems



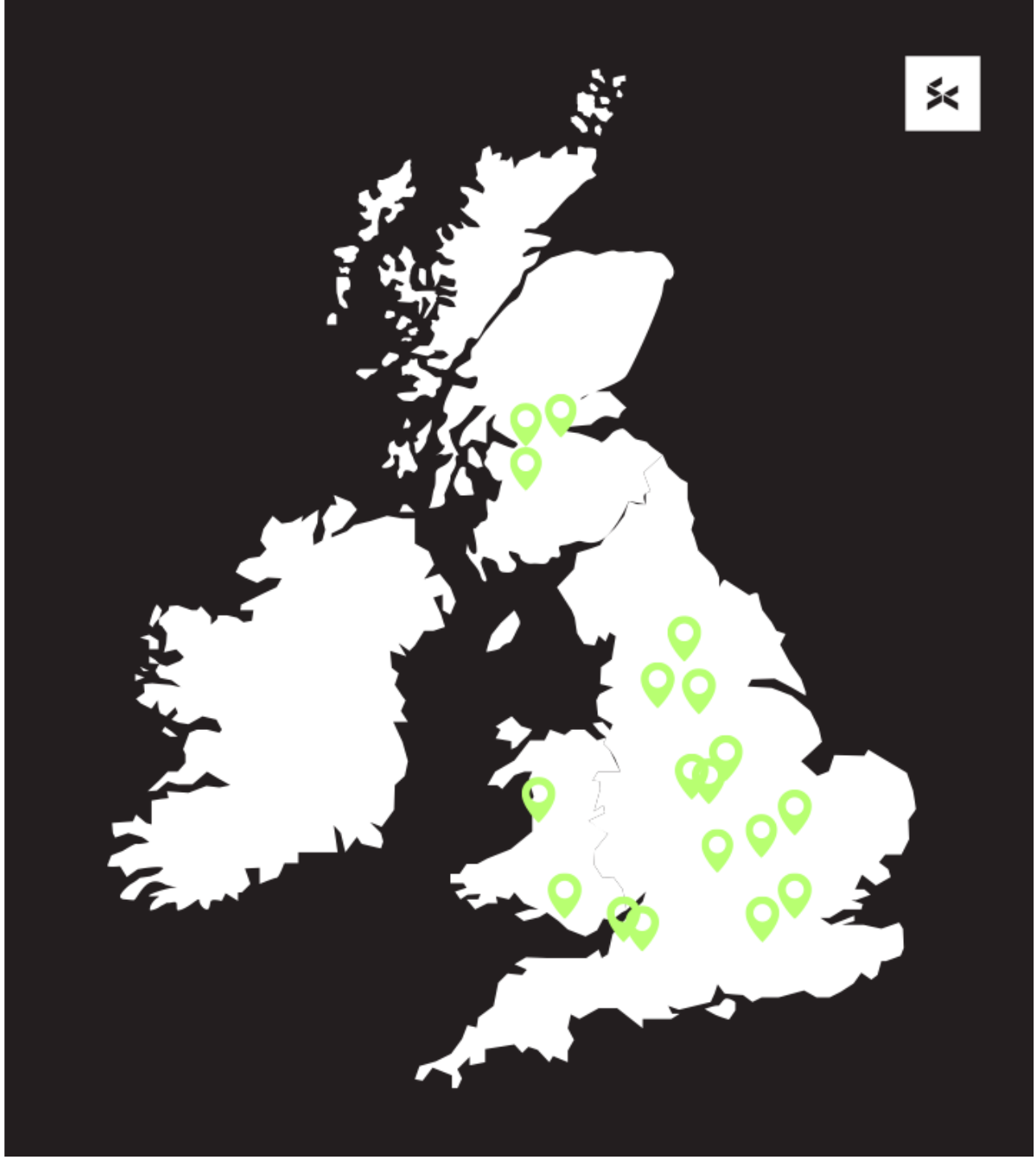
Environmental Solutions

Previous cohorts

2 cohorts comprising EngBio scientists from 18 regions across the UK

Tackling critical challenges across:

- advanced therapeutics and diagnostics
- cell and gene therapy
- agriculture and novel foods
- wastewater treatment
- sustainable fashion
- antimicrobial resistance
- carbon emissions and climate
- sustainable energy, chemicals and materials



Accelerator output to date...

43 scientific founders trained

35+ companies supported

17+ new UK EngBio companies founded

20 UKRI feasibility grants awarded

£2.1M+ in grants raised

£3.8M+ equity investment raised

Data from Cohorts 1 & 2; 33 companies currently active; data accurate December 2024; total grant funding includes UKRI feasibility funding.

Within 1 year of accelerator completion...

58% companies grew their teams

52+ jobs active within companies

9 startups won competitions

>50% companies generated new IP

>20% companies filed a patent

Data from Cohort 1; accurate December 2024.

33 active UK EngBio company alumni

N.B. Some graduate company logos are not yet available or companies are not yet public.

Cohort feedback

86

Cohort 1 programme graduate NPS score

90

Cohort 2 programme graduate NPS score

89%

Cohort 1 graduates ranked the EngBio accelerator first versus other programmes they did

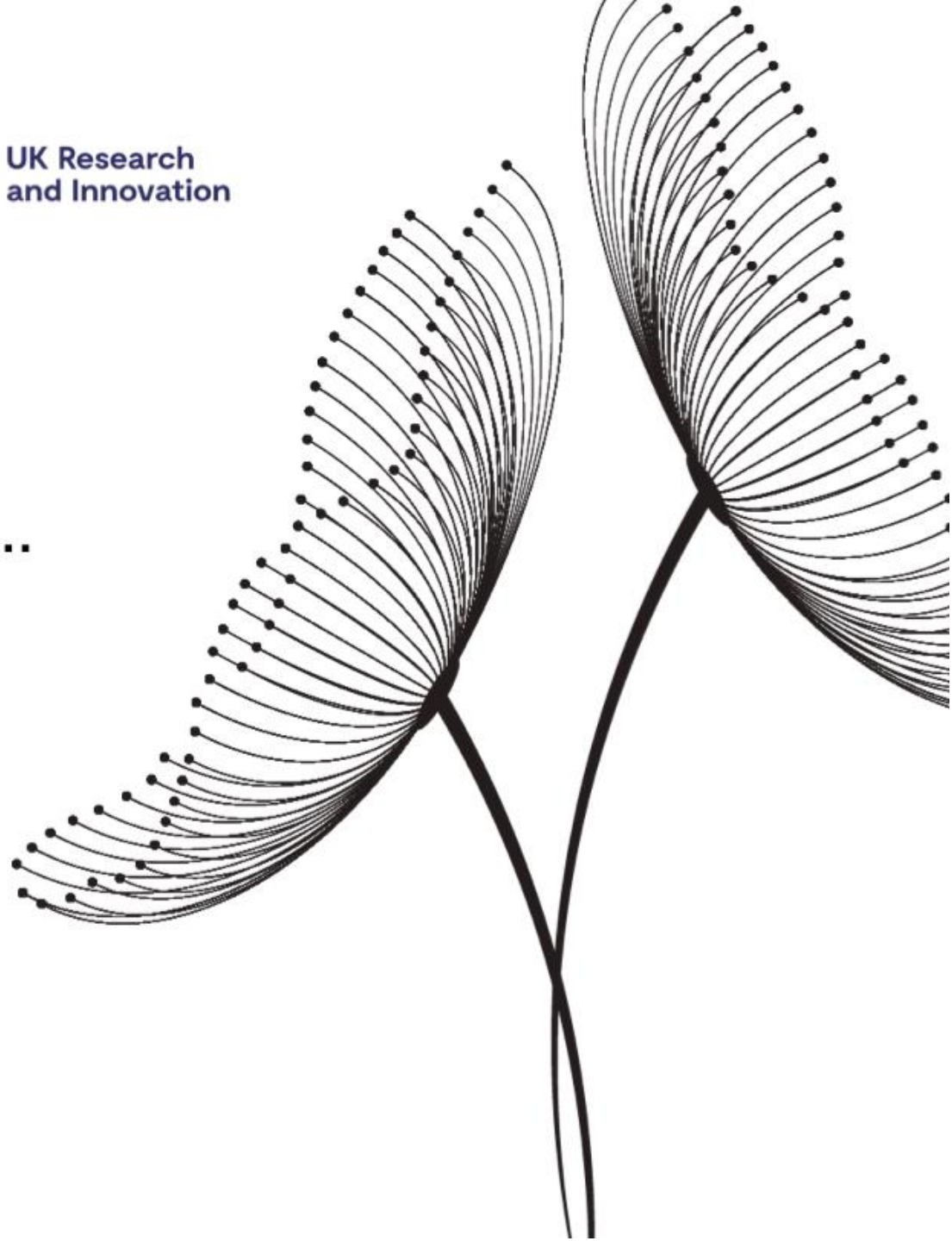
98%

said the accelerator was essential / very important in developing their founder skills

ScienceCreates

UK Research and Innovation

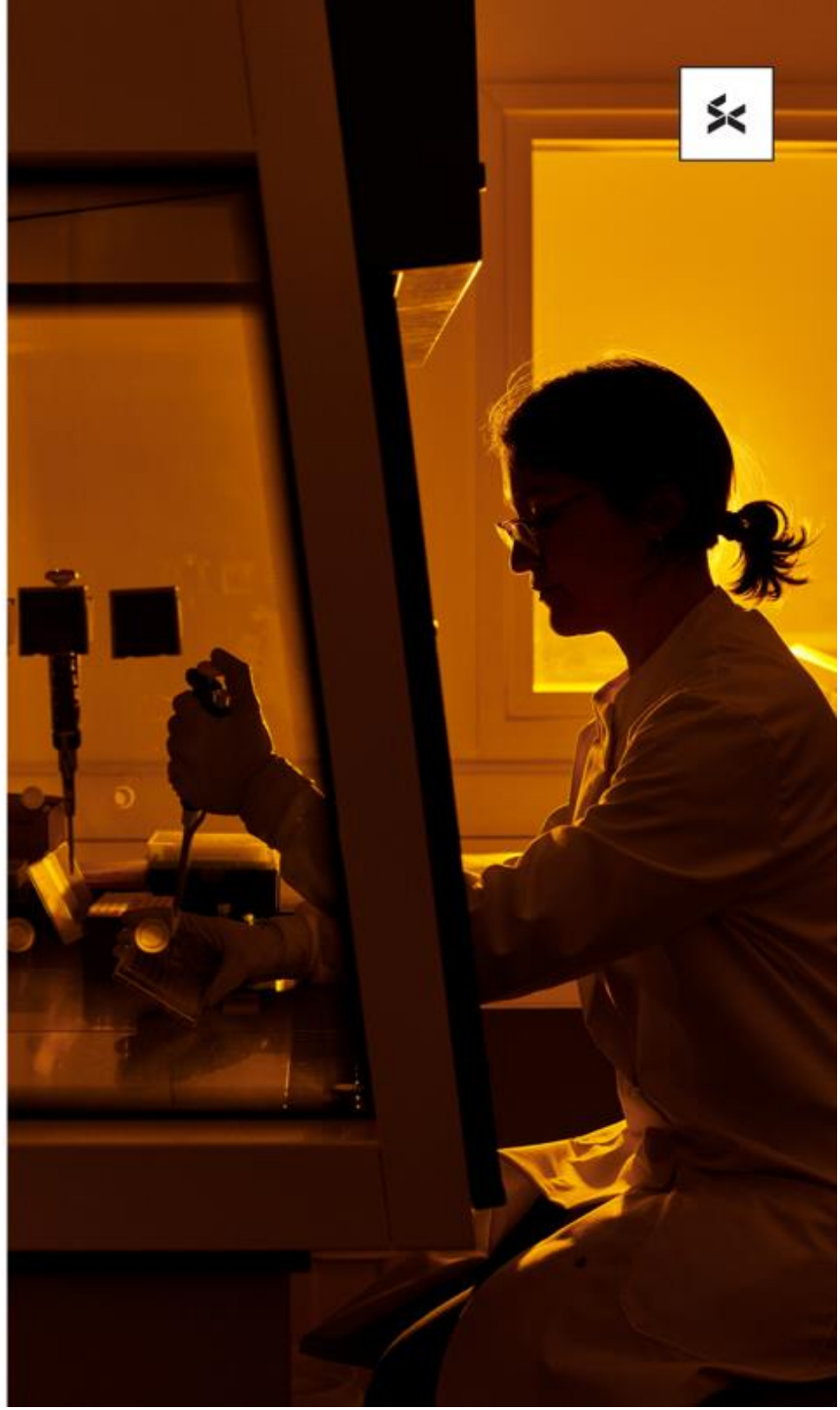
Third accelerator coming soon...



Provisional dates: Cohort 3

Dates may be subject to change

01 Jul 25	EOI applications open
31 Jul 25	EOI application deadline
26 Aug 25	Full application deadline
20 Oct 25	Programme starts
18 Dec 25	Programme graduation



EngBio Roadshow —July 2025

10 Jul	Bristol
15 Jul	Norwich
16 Jul	Nottingham
23 Jul	Glasgow
TBC	London

Check our website or LinkedIn for updates and registration info

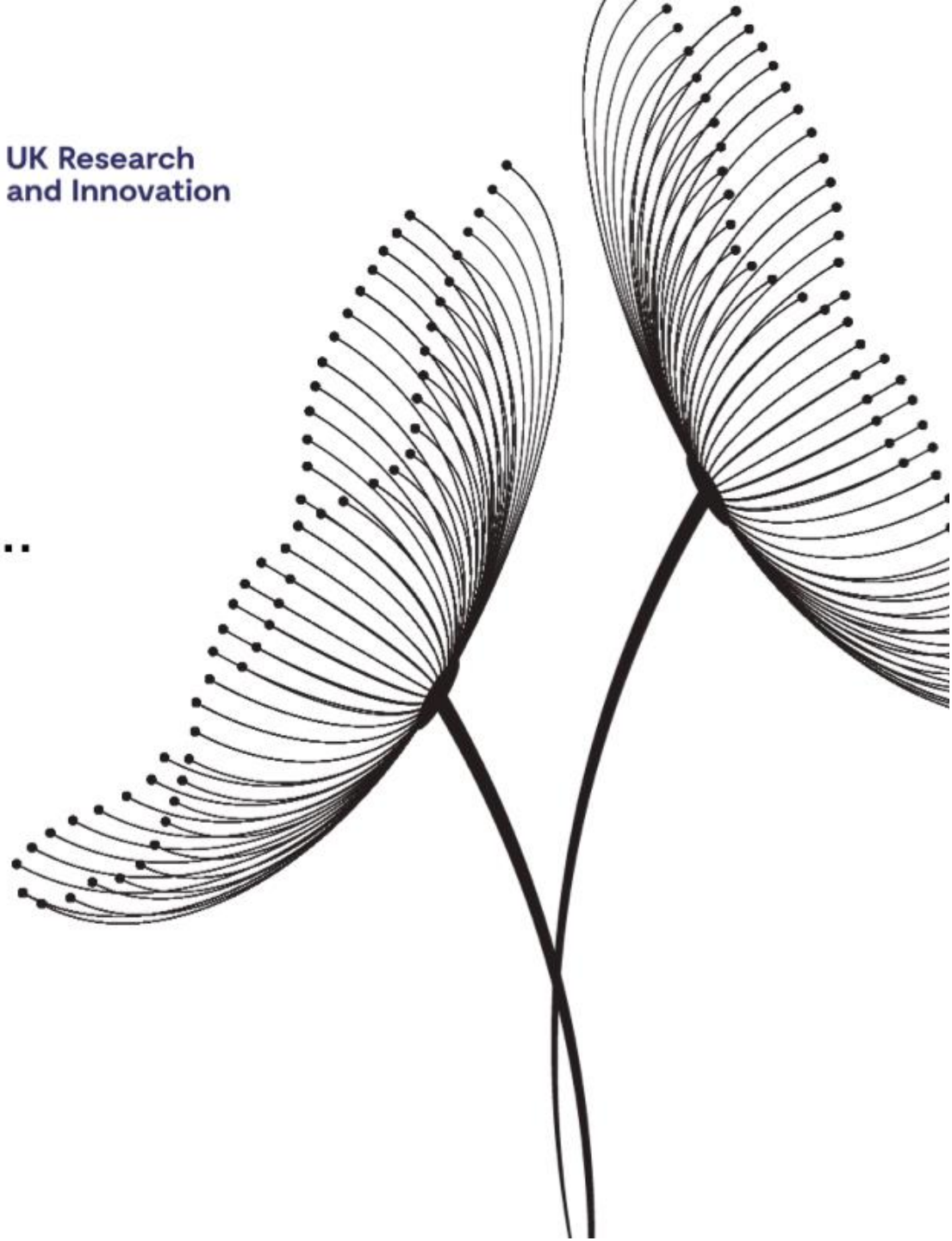
ScienceCreates

UK Research and Innovation

Third accelerator coming soon...

www.sciencecreates.co.uk

accelerate@sciencecreates.co.uk



Introduction to the Engineering Biology Innovation Network

Dana Heldt

Innovate UK Business Connect

UKRI Innovate UK

Engineering Biology

Synthetic biology is the design, engineering, and re-engineering of biological parts, devices, and systems.

Engineering biology is the wider capability and ecosystem that supports the use of synthetic biology to tackle big societal and economic challenges.

UKRI Innovate UK

Engineering Biology Innovation Network

Driving the development of a joined-up UK innovation ecosystem to ensure synthetic biology tools, technologies and processes can be developed and adopted by industry.

Progress innovations, foster new consortia and create a commercially focused community, across the UK and globally.

UKRI Innovate UK

Engineering Biology Innovation Network - Focus areas

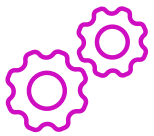
Agriculture and food - Contributing to food security and minimising greenhouse gas emissions.

Energy and low carbon fuels - Creating a sustainable and green transport and energy sector.

Health - Enabling the development of precision medicine, cell therapies and innovative solutions to fight diseases.

Materials and chemicals - Reducing reliance on petrochemicals in manufacturing and addressing challenges associated with end-of-life.

Waste recycling - Contributing to the circular economy by transforming waste into valuable products.



Tools - Developing synthetic biology tools and methodologies that support application of engineering biology.

UKRI Innovate UK

Engineering Biology Innovation Network - activities

Webinars and showcasing

- share knowledge
- spotlight innovations
- build partnerships

Workshops and community-led insight gathering

- define public sector and industry challenges
- identify opportunities and needs e.g. on future funding priorities
- inform Government and Innovate UK

Cross-sector collaboration

- solve technical challenges and drive commercialisation

Global opportunities and partnerships

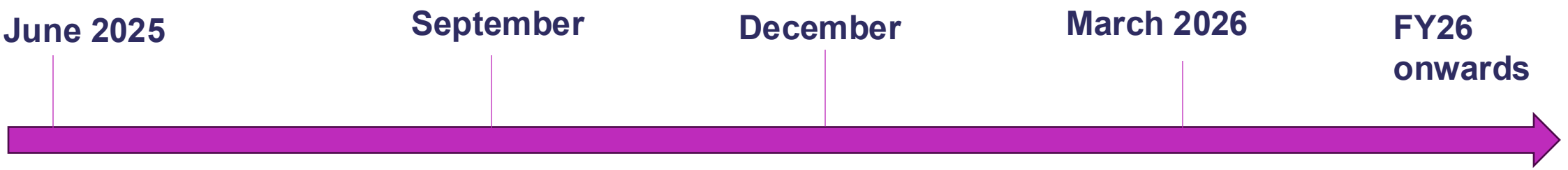
- identify international opportunities,
- foster strategic partnerships
- maximise global impact and economic potential

Investment and funding (SPARK Awards)

- Investor Readiness training
- provide grant funding for collaborations
- drive the translating of engineering biology innovations into real-world products and market-ready solutions

UKRI Innovate UK

Delivery Roadmap (Anticipated timeline)



Investor Readiness Training

Webinars and Showcasing Innovators

Funding Call

Collaborative SPARK Award Projects

SR2 activities scoping workshops

Scoping International Opportunities

SR2 Activities

Innovate UK

How to get involved

Stay informed via our Engineering Biology Innovation Network webpage and sign up to be part of the Network

IUK Business Connect IN delivery - Sector Teams

AgriFood

Chemistry & Industrial Biotechnology

Health

Materials & Manufacturing

Emerging & Enabling Technologies

Lead Contacts (Business Connect)

Pedro.Carvalho@iukbc.org.uk - KTM AgriFood

Dana.Heldt@iukbc.org.uk - KTM Synthetic Biology

Innovate UK HLA

Tom Jenkins

Gordon Ford

Tim Padgett

UKRI Innovate UK

Engineering Biology SPARK Awards

Pedro Carvalho
Innovate UK Business Connect

UKRI Innovate UK

Engineering Biology IN - SPARK Awards

Will fund UK academic institutions or RTOs to deliver engineering biology projects that help UK SMEs tackle challenges or progress towards developing new products, processes, or services.

Competition opens:
2 Jun 2025

Competition closes:
9 Jul 2025

Project size:
£15,000

Total budget:
£225,000

Project length: up to **6 months**
Projects start: **1 Sep 2025**
Projects finish: **28 Feb 2026**

https://iuk-business-connect.org.uk/opportunities/engineering-biology-spark-awards/

If you need further information email: EngBio@iukbc.org.uk

UKRI Innovate UK

Engineering Biology - SPARK Awards Scope

Projects must fall within thematic areas:

- Agriculture and food production
- Health
- Materials and chemicals
- Energy and low carbon fuels
- Waste recycling
- The development of novel synthetic biology tools and technologies

Your application must:

- Demonstrate how the work supports the needs of the SME
- Define how it will support progress towards developing new products/services or address the SME challenge
- Demonstrate how your innovation relates to engineering biology/draws on the tools of synthetic biology

Projects we will not fund:

- Fundamental research
- Literature review/market research without a practical element
- Focused on a product that is already on the market
- Conducted to anything less than the highest standards of animal welfare
- Clinical trials or preclinical evaluation of therapeutics
- Not focussed on the competition focus areas

Projects would be out of scope if they: do not apply synthetic biology principles, e.g. the design, engineering and re-engineering of biologically based parts, devices, and systems.

https://iuk-business-connect.org.uk/wp-content/uploads/2025/05/Engineering-Biology-SPARK-Awards_Competition-Brief-V2.pdf

If you need further information email: EngBio@iukbc.org.uk

UKRI Innovate UK