



Royal Academy  
of Engineering | Enterprise  
Hub



# 10<sup>th</sup> Anniversary Impact Report

# Ana Avaliani

## DIRECTOR OF ENTERPRISE

“ Celebrating the Enterprise Hub’s 10<sup>th</sup> anniversary is a significant milestone. Our mission to accelerate engineering innovation for a sustainable society and inclusive economy stands true, as we reflect on a decade of support for the UK’s most exceptional engineering talent, which has allowed their businesses to succeed and thrive.

The past 10 years have seen the Enterprise Hub significantly enhance its offer. We have built a rich community of entrepreneurs and business leaders alongside our



prestigious network of Academy Fellows and experts, as well as strengthening local innovation ecosystem by establishing a physical presence in multiple locations outside London. Our unique, tailored programmes have also seen substantial investment, enabling us to support a greater number of the UK’s boldest and most disruptive entrepreneurs and business leaders to solve some of the greatest challenges of our lives.

Since formally launching in April 2013, the impact of Enterprise Hub founders has been transformative. From mOm Incubators preventing neonatal deaths with a collapsible incubator that maintains a regulated thermal environment; to Enzai’s world-leading AI governance platform; to one of our earliest portfolio company founders, Professor Mark Symes, being named as the Programme Director for

AWARDED OVER  
**£11 MILLION**  
IN GRANT  
FUNDING 

the Advance Research and Invention Agency; to Notpla being named the first UK winner of The Earthshot Prize for its biodegradable solution to plastic made from seaweed.

The Enterprise Hub has not only driven meaningful innovation in the UK; it has grown talent within both regional and national ecosystems, and – crucially – has led the conversation on progressive values in the engineering profession by championing entrepreneurs from all walks of life.”

# Dr John Lazar CBE FREng

ENTERPRISE COMMITTEE CHAIR

“ We are proud to have continuously delivered on our goal to connect exceptional talent with industry-leading expertise and investment over the past 10 years, having established a firm foundation and a strong, distinctive offering for entrepreneurs and business leaders across the UK. The powerful, thriving and diverse community of entrepreneurs and business leaders that has been created as a result is now solving the world’s most complex environmental, economic and societal challenges.



There is no doubt that the UK has some of the best scientific and engineering innovation globally. We are committed to the challenge of ensuring this is transformed into companies that grow the economy in a sustainable and inclusive way, making it vital that the Enterprise Hub continues to support and create opportunities for entrepreneurs across the country. With this in mind, we are setting firm ambitions on a period of substantial growth to further accelerate engineering and technology advancements over the next decade.

This includes ensuring the views of Enterprise Hub members are inputted into key policy discussions and consultations around innovation. In the past year alone, this has ranged from highlighting concerns around R&D tax reliefs and the availability of growth capital in advance of the spring

budget, through to publishing the third edition of our annual data report *Spotlight on Spinouts* in May 2023, to provide valuable quantitative evidence to a policy area that lacks data.

Over the next 10 years, we will continue providing more support for our alumni through lifetime Hub memberships, building an international network of entrepreneurs, Academy Fellows and allies, and expanding our regional Enterprise Hub networks. The future of the Enterprise Hub is extremely exciting; we have built a strong foundation, and now we have the opportunity to grow that to deliver an even greater global impact and ensure UK entrepreneurs have the necessary support and investment to thrive at an international level.”

# An introduction to the Enterprise Hub

**The Royal Academy of Engineering Enterprise Hub supports talented entrepreneurs and decision-makers to transform breakthrough engineering innovations into disruptive spinouts, startups and scaleups.**

We look for bold, IP-rich innovations from all areas of engineering and technology that can solve the world's most complex environmental, economic, and societal challenges.

## OUR ADVANTAGE:

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Our entrepreneurs benefit from the unique, prestigious national and global network of the Royal Academy of Engineering that brings together expert Academy Fellows, industry pioneers, like-minded innovators, funders, business leaders, researchers, and policymakers.

We have delivered 10 years of success, enabling our members to form a powerful, thriving, and supportive community. We run four programmes at multiple stages, from ideation to scale-up, with support for entrepreneurial engineers at different career points. We don't take equity, fees or IP. Thanks to our charitable status, we can focus on supporting excellence in engineering by helping innovators to fulfil their potential, founding and leading enterprises.

## OUR MISSION:

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Our mission is to accelerate excellent engineering innovation to build a sustainable society and inclusive economy. We do this by creating lasting, exceptional connections between talent, expertise, and investment. Through expert-led training and mentoring, we develop engineers into bold and creative entrepreneurs.

## OFFER:

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We offer smart and flexible training, and access to the unique mentoring capability of the highly talented engineers and business leaders that make up the Fellowship of the Academy and the Hub's network of experts. The Enterprise Hub provides a dedicated presence across the UK with training and opportunities embedded into local ecosystems. Hub members gain long-lasting benefit and support from the Academy's global network and unmatched convening ability. Once you're part of the community, you're a Hub member for life.



## OUR OBJECTIVES:

We connect talent with expertise and investment to accelerate engineering and technology across the UK. Our Enterprise Hubs in England, Northern Ireland, Scotland and Wales strengthen local innovation ecosystems, and create opportunities for tech-specific networking in 'digital and physical infrastructures', 'climate and sustainability', and 'health and resilience'. We advance engineering innovation by:



Investing grants and training in entrepreneurs with IP-rich engineering ideas and products through our unique programmes



Building a rich community of Hub Members alongside our prestigious network of Academy experts



Leading the conversation on progressive values and trends in UK engineering entrepreneurship





The Academy does so much to help us engineers in the early stages of developing a business, which is particularly hard if you are working with new scientific discoveries/deep-tech and hardware, so it is the least we can do to hopefully give back one day and give other engineers a similar chance. Our success becomes your success, and that way we are one team working towards the same goal.

- DR LORENZO CONTI -  
Hub member, Founder of Crover  
and Exceptional Pledger











## ENTERPRISE HUB PROGRAMMES OVERVIEW

# Regional Talent Engines



**Regional Talent Engines (RTE) is a six-month pre-accelerator programme offering £20,000 funding, for early-stage founders in Northern England, Northern Ireland and Wales to transform their engineering ideas into a startup pitch.**

## SPOTLIGHT ON...

**Dr Sid Pourfalah** joined the RTE programme in 2022 to support the growth of his award-winning startup, Concrete4Change (C4C).

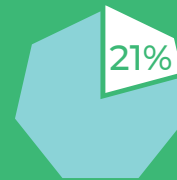
Concrete4Change (C4C) is an R&D company that is developing a groundbreaking technology to use and permanently mineralise CO<sup>2</sup> in concrete.

C4C's technology has won a wide range of awards including the United Nations (UN) Climate Challenge Cup at COP26 in Glasgow. Two of the largest concrete manufacturers in the world (Siam Cement Group and Goldbeck GmbH) have invested in the company. C4C is running several R&D projects and will commercialise its product by 2025 with a total investment of £4 million by 2023.

“The RTE programme was the first grant and support we have received in the UK. The programme was very useful in order to present our potential to investors and unlock multimillion-pound investments.”

# 76

early-stage  
founders  
supported



introduced a  
new innovation  
to market

# £13

MILLION

in total  
funding  
raised



Mathys & Squire have been delighted to help support the Enterprise Hub over the years. We have enjoyed sharing our Intellectual Property knowledge and empowering the Hub Members in devising and implementing their IP strategies. Working with a variety of accelerators and incubators, we have particularly been impressed by the quality and calibre of the individuals and businesses that have been part of the various cohorts of the Enterprise Hub – the level of engagement and consequential success of the businesses to come through and out of the programmes has been outstanding, which is a testament to the support offered by the Enterprise Hub.

- DR ANDREW J WHITE -  
Partner, Mathys & Squire









# Key Achievements

- Hub
- Awards
- Funding
- Regional
- Publications
- Programmes
- Hub Members

2013

The Royal Academy of Engineering formally launches the Enterprise Hub

Susannah Clark, founder of Embody Orthopaedic, is the first Hub member to confirm a sale in March 2013

Dr Niall Kent and Dr Alessia D'Onfronio win the Launchpad Competition and receive the JC Gammon award for their synthetic bone graft material

The Enterprise Hub holds its first Showcase

2014

2015

Enterprise Hub budget for funding entrepreneurs totals £1 million

Pathways to Growth, the Hub's first programme for SMEs, makes 20 annual awards

Illumnik, a laser technology company, is the first Hub Member company to be acquired in a deal with Tracerco, part of Johnson Matthey

2017

The Taylor Centre, the physical space for the Enterprise Hub, launches

Total follow-on funding raised by Hub members reaches £57 million

SME Leaders programme (formerly Pathways to Growth) relaunches

Hub member and audio technology startup, Sonobex, is acquired by Merford UK

2019

The Enterprise Hub holds the last Launchpad Final

Enterprise Fellowships are awarded twice a year

2016

The first merger takes place between Hub Member software spinout, TribeHive, with Opta, and IMG to form InCrowd

The 1851 Royal Commission Enterprise Fellowships begins, with three awards a year

Total follow-on funding raised by Hub members reaches £30 million mark

2018

The Enterprise Hub makes its 100<sup>th</sup> award

SME Leaders programme starts running twice a year

Hub members raise over £100 million in additional funding to date

The Hub team holds the first Reverse Pitching event

The Enterprise Hub celebrates its 5<sup>th</sup> anniversary

2021

Dr Simon Thomas, CEO of Paragraf, is the first alumnus elected as an Academy Fellow

Academy publishes the first annual Spotlight on Spinouts report, an annual examination on the UK spinout landscape

The Shott Scale Up Accelerator is launched following a considerable donation from Ian Shott CBE FREng for the Academy to strengthen its offer to SMEs.

Regional Talent Engines programme launches

Enterprise Fellowships increases to eight graduates a year, making 24 awardees a year in total

Hub Member and AgriTech company Wootzano secures £300 million and a 10-year contract

2020

First regional Enterprise Hub, based at Ormeau Baths in Northern Ireland, launches

Hub Member and software company, Gravity Sketch fundraises £25 million

Shott Scale Up Accelerator annual intake increases to 30 SME leaders

The EXPLORE programme embarks on its first international mission to Boston with five life sciences entrepreneurs

The Enterprise Hub publishes The Entrepreneurs' Handbook, a practical guide for aspiring academic entrepreneurs

Enterprise Hub awardees secure nearly £140 million in additional funding in one year, an increase of 56% on the total secured since the programme began

Hub Member and sustainable packaging startup Notpla becomes the first UK winner of the £1 million Earthshot Prize

2022



2023

The Enterprise Hub celebrates its 10th anniversary

Hub Member companies, Paragraf and nPlan, are named finalists for the 2023 MacRobert Award, the UK's longest running and most prestigious prize for engineering innovation

Enterprise Hub Wales launches

The Enterprise Hub secures funding for its Scotland Hub, the third regional base.

The *Engineering, Economy and Place* reports offers a new framework and database to explore the role of engineering in regional economies

EXPLORE makes its second international mission to San Francisco

19 awardees from the Regional Talent Engines early-impact programme secure over £3.6 million in follow-on funding within six months of completion

Hub Member Odin Vision, a cloud-connected AI endoscopy company, is acquired by Olympus Corporation (Olympus) for up to £66 million

Microprotein producer ENOUGH, led by Hub Member Craig Johnson, raises €40 million in growth funding





## ENTERPRISE HUB PROGRAMMES OVERVIEW

# Enterprise Fellowships

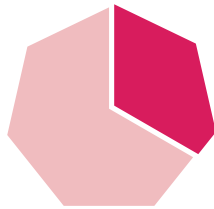


Enterprise Fellowships offer a 12-month programme, with up to £75,000 of funding for talented university researchers and graduates to commercialise breakthrough engineering innovations as disruptive spinouts and startups.

## SPOTLIGHT ON...

With support from the Enterprise Fellowship programme, **Dr Susannah Clarke** co-founded Embody Orthopaedic, an Imperial College London spinout. Embody began by developing unique instruments designed specifically for a one-person surgical intervention and then embarked on development of the H1 implant. The H1 implant is the first non-metal hip resurfacing device in clinical use and is set to be the first with regulatory clearance. It has been implanted 250 times in clinical investigations.

**£385**  
MILLION  
follow on  
funding raised



3rd most active  
UK accelerator

**157**  
spinouts and  
startups launched



The Enterprise Fellowship programme has had a huge impact on my career. In my opinion, this is far and away the best scheme for providing early-career entrepreneurs with essential skills and contacts. My company Embody and I have benefited hugely.”

Hip resurfacing is an alternative type of hip replacement that allows the patient to return to a higher level of activity and is linked to lower mortality. Metal hip resurfacings have been withdrawn owing to safety issues, leaving a huge gap in the market. The H1 implant replaces the metal bearing surface with ceramic, thereby removing the metal-related safety issues.





## ENTERPRISE HUB PROGRAMMES OVERVIEW

# Shott Scale Up Accelerator



Aimed at high-growth SMEs, the Shott Scale Up Accelerator is a 12-month programme that empowers senior leaders with leadership skills and insight, and a £10,000 grant to access leadership training anywhere in the world.

## SPOTLIGHT ON...

Shott Scale up Accelerator 2022 alumni **Craig Johnston** is a Co-Founder of ENOUGH, a Glasgow-based foodtech company producing a high-scale, sustainable source of food protein. ABUNDA® mycoprotein aims to tackle the combined issues of feeding a growing global population and the unsustainable impact of traditional protein farming.

Craig's personal goal in joining the programme was to refresh his learning and leadership in the context of an expanding company progressing to Series C funding. He highlights the formal leadership training and

mentoring as being key tools to support this. In August, the team has just confirmed a recent raise of £34 million.

Craig sees the impact of the Shott Scale Up Accelerator as helping refine ENOUGH's five-year plan. This prioritises increasing capacity to 60,000 tonnes at its site in the Netherlands, exploring a second location and considering options for extra expansion, remaining a B2B producer and exploring product format and diversification opportunities.

“The programme brought together a fantastic cohort with professional scale-up training and personal development. Through a combination of coaching and external training materials, I was able to develop strategy and grow personally.”



**£133**  
MILLION  
in grants  
received



**£1.76**  
BILLION  
increase in  
business  
valuations



**£976**  
MILLION  
equity  
investment  
raised



**OVER**  
**150**  
leaders of  
high-growth  
SMEs





“ The EXPLORE programme and international mission to Boston helped us to bridge our network into the local biotech ecosystem that otherwise seems opaque and impenetrable. This has enabled us to effectively land and expand in Boston and access new business and investment opportunities.”



## ENTERPRISE HUB PROGRAMMES OVERVIEW

# EXPLORE programme

**EXPLORE is an exclusive programme for Hub Members that supports up to five deep-tech entrepreneurs to increase their visibility, connections and exposure to investment in new overseas ecosystems.**

## SPOTLIGHT ON...

**Tom Fleming** is Arctoris's Co-Founder and COO. Tom was a Royal Commission of 1851 fellow on the Enterprise Fellowships programme at the University of Oxford, and then joined the Academy's SME Leaders programme. He has a background in medicinal chemistry, computational drug discovery, and laboratory automation in academia, contract research and big pharma.

Arctoris is a tech-enabled biopharma platform company founded and headquartered in Oxford, UK. Its US operations are based in Boston and its Asia-Pacific operations are based in Singapore. Arctoris combines robotics and data science with a world-class team for small molecule and biologics

discovery. Ulysses®, Arctoris' unique technology platform, enables the company and its partners to conduct their R&D significantly faster, and with considerably improved data quality and depth.

Bringing together the expertise of seasoned biotech and pharma veterans with its proprietary technologies, Arctoris leads to higher success rates and an accelerated progression of programmes towards the clinic. Arctoris pursues an internal pipeline of assets in oncology and neuro and also collaborates with select biotech and pharma partners in the US, Europe, and Asia-Pacific. Tom joined EXPLORE's first mission to Massachusetts to strengthen his connections in the life sciences ecosystem and strategise for expansion.



A five-day international mission to the ecosystem-in-focus packed with unmissable meetings, insights and networking opportunities

## 10 DAYS

of expert-led workshops on industry insights centred on capital, talent, market, and intellectual property



1:1 business coaching and mentoring from international and UK advisors

Up to  
**£12,000**

in equity-free funding to embed the programme's learning and connections



Supporting the work of the Enterprise Hub at the Royal Academy of Engineering is an investment in the future of engineering, innovation, and progress. I believe that by nurturing and empowering graduate engineers and academics to embark on entrepreneurial ventures, we can forge a path towards a sustainable and prosperous future. I encourage individuals who share this vision to join me in supporting the Hub and help create a better world for generations to come.

- MARIA DRAMALIOTI-TAYLOR -  
Managing Partner, Beacon Capital and  
Royal Academy of Engineering Enterprise  
Committee Member





