# ENGINEERS IN BUSINESS FELLOWSHIP

# ANNUAL REPORT
## 2022/23

# CONTENTS

# REVIEW OF THE YEAR

## Restrictions lifted, events scheduled and engagement increased

Winners of the Engineers in Business Champion of Champions Competition 2022

David Falzani MBE,
President

It was with absolute pleasure that we resumed our in-person activities with SMFs, engineers, engineering students and our university partners.

# PRESIDENT'S REVIEW OF 2021/22

## THE "NEW NORMAL" AND LOOKING TO THE FUTURE

This year, Sainsbury Management Fellows (SMFs) returned in numbers as we resumed our face-to-face events including the AGM, the annual dinner, SMF interview panels and the Champion of Champions Business Competition. However, we retained online formats for the Energy and Sustainability Group and the Investor and Finance Group meetings, as a growing number of SMFs living outside the UK had begun to participate in our online events and we wanted to encourage further international engagement.

We continued with our marketing and advertising plan to raise the profile of the award scheme and to reach a more diverse range of future candidates. The LinkedIn advertising campaign for the SMF scholarships generated many enquiries and quality applicants in 2022/2023. We increased our influence through social media which now focuses on LinkedIn, Twitter and Instagram and have engaged a new social media agency to support our growing activities. We are grateful to the Royal Academy of Engineering which pursued all possible avenues for promotion of the SMF Scheme through their various networks and business school contacts.

Lord Sainsbury's perennial challenge to us is: "Where do we want the scheme to be in 20 years' time and, are we on course to reach that goal?" These and other questions were the topic of a brainstorming session which was held in January 2023. A full review of the recommendations of the Engineers in Business Fellowship (EIBF) trustees is now being prepared and will be shared with all SMFs once it is approved.

## THE STEP CHALLENGE INITIATIVE

To ensure the continuity of the SMF Vision into the future, we asked all SMFs to step up and contribute to the scholarships to be awarded in 2023 – we hoped to raise £100,000 to fund two of the ten scholarships. The SMF Step Challenge culminated in a Giving Week, 22-28 March 2023. At the time of writing, with donations still coming in, I am pleased to report that we have exceeded our initial target. I would like to thank all the SMFs who have so generously contributed thus far. Thanks also go to those SMFs who contacted other members to ask for their support. We are aiming to foster an enduring culture of giving and will be holding another SMF Step Challenge Campaign next year.

## CHAMPIONING BUSINESS SKILLS TO YOUNG ENGINEERS

Sponsoring business competitions at universities has been an effective way for us to engage with young engineering students and engineers. The sponsorship is run in association with leading universities and colleges, leveraging existing competitions or elective modules and existing arrangements within higher and further educational institutions, such as those between engineering departments and affiliated business schools. The competitions encourage young engineers to get involved in business innovation and develop a passion for entrepreneurship at an early stage.

Our programme expanded this year in both size and engagement. We added seven new universities, which brings our total to 39 partner universities. Participation in business competitions increased by 40% over last year, with 8,172 students taking part. More than 325,000 students, graduates and postgraduates received EIBF messages - an uplift of 11% over the previous year. For more information on our university partner competitions and their winners, see pages 13–24.

As well as receiving cash prizes, and possibly being far more valuable, the winning team members from our university partners are also offered ongoing guidance and support from SMF mentors. Accordingly, we held a Champion of Champions Coaching Day on 27 October 2022 for the ten finalist teams which participated in the Champions Final the next day. To read more about our Champions' Coaching Day see page 25.
The Engineers in Business Champion of Champions Final gives us the chance to design and run our own competition and this was held in October with 17 universities sending 28 impressive entries. There were two competition categories: 'Big Ideas', an opportunity for participants to express their vision and personal potential through a combination of technology and business, and the more traditional category of 'Start Ups'. The event was held at the Royal Academy of Engineering in London and over 200 university partners, friends and family attended the competition at the Royal Academy or watched online. Ten finalist university teams, comprising engineering graduates and postgraduates, pitched their business innovations in the hope of winning a share of the £15,000 prize fund. Publicity before and after the event reached a cumulative audience of over 27 million. This included students considering engineering as a course of study, those already studying engineering and also practising engineers, some of whom may be future candidates for Sainsbury Management Fellows' Scholarships.


*SMF Nick Laird (back row 4th from left) helped to judge Invent for the Planet (IFTP) a 48-hour global collaborative hackathon at Swansea University.*

Our partnership with the Royal Academy of Engineering continues and allows us to interact with the brightest and best young engineers. In addition to mentoring entrepreneurial engineers in the RAEng's Enterprise Hub, EIBF participated in two further extremely exciting and innovative initiatives:

- SMFs Dolapo Koku and Sagnik Mukherjee provided support at the Engineering Leaders' Scholarship conference in October 2022. They delivered a talk, and question and answer session about the Sainsbury Management Fellows and possible pathways leading to an MBA.
- The Leaders in Innovation Fellowships Programme (LIF) aims to build the business skills of researchers within partner countries to aid in the commercialisation of their research. Participants receive training in entrepreneurship, together with access to and time with expert mentors to develop their business plans. This past year, I have been delighted to help support the programme.

We wish to thank all of the participant SMFs for their invaluable support.

We would also like to congratulate SMF Trustee Henning von Spreckelsen, who was elected to be a Fellow of the Royal Academy of Engineering in September 2022. It is hoped that more SMFs will be elected to the RAEng Fellowship in the coming years.

*Henning von Spreckelsen FREng*

## ENCOURAGING MEMBER ENGAGEMENT

After two years of being apart, "It's great to be together again!" was the unanimous sentiment at the Annual Dinner in May 2022. 120 SMFs and guests attended the event and were delighted to hear from Lord Sainsbury, who said "I am pleased to hear that the Sainsbury Management Fellows' Scheme adapted its programmes and successfully continued its work throughout the difficulties of the past two years. I would like to congratulate the trustees who worked very hard to keep everything going."

*SMF Annual Dinner 2022*

We also held several online events which attracted a large and diverse group of SMFs from around the world. Additionally, with more in-person business competitions being held at our partner universities this year, we were pleased to be able to provide SMFs to judge and award prizes at the EIBF-sponsored competitions:

**April 2022:** 25 SMFs attended the online Energy and Sustainability Group Meeting which was chaired by Tim Lowe, Head of Client Relationships at UK Water Utilities for Xylem Water Solutions UK & Ireland. A variety of topics were discussed.

**May 2022:** Imoni Akpofure, Hersh Shah and Henning von Spreckelsen FREng participated in the Interview Panels to select new SMFs.

James Gardiner presented the Engineers in Business Prize to Team 'Excelerex' at Anglia Ruskin's Big Pitch 2022 Event.

Graham Hastie presented the Engineers in Business Prizes at the University of Highlands and Islands CREATE Awards Ceremony.

Hersh Shah was one of the judges at the University of Exeter's Elevate 2022 Competition.

**June 2022:** Kwok-Gam Ng presented the Engineers in Business Prizes at the University of Hertfordshire's Flare Ignite competition.

Jayshan Ratnakumar presented the Engineers in Business Prize at Imperial College London's WE ELEVATE Competition.

**September 2022:** 27 SMFs attended a second online Energy and Sustainability Group Meeting which was chaired by Tim Lowe, Head of Client Relationships at UK Water Utilities for Xylem Water Solutions UK & Ireland. Presentations were made by David Parkin, Director, Progressive Energy; Chris Shelley, CEO, Solar Botanic Trees; George Fowkes, Director, Base Power and Sam Cockerill, CEO, Libertine. Gordon Wylie announced the launch of a new political party – The Sustainable Growth Party.

**October 2022:** Simon Bonini, Ian Peerless, Andrew Hogwood and Henning von Spreckelsen FREng joined me at the Royal Academy of Engineering for the Champion of Champions Coaching Day for the ten finalists of our Champions' Competition. The following day, former SMF President Chris Shelley was head judge, joined by Caroline Cake and Kwok Gam Ng at the Champion of Champions Grand Final.

**December 2022:** The SMF Christmas Curry Networking Event was held in London and seventeen SMFs attended.

**January 2023:** A brainstorming session with the trustees was held to discuss the future of the SMF Scheme.

**February 2023:** Andrew de Rozairo and Michael Patton were judges at Kingston University's Bright Ideas Competition.

Nick Laird was a judge at the Invent for the Planet Competition at Swansea University.

**March 2023:** Rauf Khan and Farid Singh were members of the Dragon's Den Panel for the "Starting a Business" module at Warwick Business School.

## INTERNATIONAL WOMEN'S DAY

Sixteen SMF women were featured on social media to celebrate International Women's Day:


The SMF Investor and Finance Group Networking Event was held online and 25 SMFs participated. SMF Michael Hill hosted this fast-paced session with presentations by Farid Singh, Phil Westcott, Ed Snow, Patrick Macdonald and Mike Astell. The Investor Group's purpose is to network in order to facilitate investments in building early stage companies.

Throughout the year, many SMFs volunteered to be mentors to EIBF business competition winners and several others agreed to be case studies. We wish to thank all those SMFs who participated in events, those who volunteered to assist at EIBF business competitions and the many who are now mentoring young engineers and students.

## SECURING THE FUTURE OF THE SCHEME

We are grateful to Sainsbury Management Fellows for donating over £100,000 to the Step Challenge Campaign. As this initiative was held during the last week of the financial year, some of the donations have come into this year's accounts with more coming in during the 2023/24 financial year. With interest, Gift Aid and subsequent matching, approximately £250,000 will be has been added to the Scholarship Fund. All donations from Sainsbury Management Fellows will be used directly to fund SMF scholarships (unless the donor has made a specific alternative request, such as supporting the university competition scheme).

Creating a culture of giving is essential to ensure the continuity of the SMF Scheme into the future. All new SMFs are required to make a monthly donation to SMF as soon as they have begun their jobs post MBA, in effect giving back to provide scholarships for others. We hope that all SMFs will be motivated to contribute double the amount of the current scholarship value over the course of their careers, estimated to be forty years. At present, this would be the sum of £100,000. We encourage all SMFs, whatever they may have already given, to aspire to this goal.

Finally, I would like to thank our Patron, Lord Sainsbury of Turville, for his continued support of the Sainsbury Management Fellows, the Gatsby Trustees for their guidance and the Royal Academy of Engineering for its partnership.

**David Falzani MBE**
*President*

# THE BUSINESS OF THE FELLOWSHIP

**Engineers in Business Fellowship (EIBF) is a registered charity that promotes the importance and value of business education for engineers and the performance of the UK and global economies. The Sainsbury Management Fellows is the MBA scholarship scheme of Engineers in Business Fellowship.**

EIBF empowers engineers to become leaders in UK industry, helps them achieve their full potential and attain career goals, and inspires a passion for business innovation amongst undergraduate engineers. It does this through:

- Sainsbury Management Fellows MBA scholarships – up to £500,000 awarded each year
- Fundraising campaign to sustain the scholarship scheme and help more engineers gain an MBA
- Career and entrepreneur mentoring
- Business competitions aimed at engineering students and recent graduates

Engineers in Business Fellowship is guided by the vision formulated by its patron, Lord Sainsbury of Turville, of a high calibre cadre of engineers with an international business education who occupy leadership positions in British industrial companies and who serve as examples to engineering students and young engineers.

## MEMBERSHIP

Members of Engineers in Business Fellowship have each received a Sainsbury Management Fellowship Award, which helps them study for an MBA at a leading international business school. The awards began in 1987 and are administered by the Royal Academy of Engineering and are funded by the Gatsby Charitable Foundation.

## BUSINESS PLAN

The Fellowship's activities are collated in the business plan. This includes a fundraising campaign which began in FY2014.


*Mario Carandente graduated from MIT in June 2022.*


*Bavly Obaid graduated from IMD in December 2022.*

**President:**
David Falzani MBE BEng MTech MBA CEng FIMechE

**Treasurer:**
Mope Ogunsulire BSc MSc MBA

**Secretary/Director of Communications:**
Cathleen Breeze BA MBA

Imoni Akpofure BEng MSc MBA CEng

Mike Astell BEng MBA CEng FIMechE

Adam Bazire BA MBA CEng FIET

Simon Bonini MEng MBA CEng FIChemE

Hersh Shah MEng MBA CF

Henning von Spreckelsen MEng MBA CEng MIET FREng

Nigel Thomas BSc MIoD

## TRUSTEES

The Fellowship is governed by the above Board of Trustees which meets quarterly. Officers and members receive no financial remuneration from the Fellowship.

## DISCLOSURE OF DIRECTORSHIPS

Several members of the Executive Committee and Board of Trustees hold directorships of British and foreign corporations, a list of which is available from the Director of Communications. None of the directorships are with companies which do business with EIBF.

## STEERING COMMITTEE

The Fellowship liaises with the Royal Academy of Engineering via a Steering Committee chaired by Mr Tim Chapman FREng. Other members include Fellows of the Royal Academy of Engineering: Professor Clive Buckberry and Dr Rajapillai Ahilan, RAEng Visiting Professors: Dr Adrienne Houston and Mrs Anusha Shah and RAEng staff members: Dr Rhys Morgan, Ms Lynda Mann and Ms Lauren Pattle. Representing EIBF are SMFs Mike Astell, David Falzani MBE, Henning von Spreckelsen FREng and Cathy Breeze. Strategy and management of the award scheme and links with other RAEng programmes and the activities of Engineers in Business Fellowship are reviewed on a regular basis.

## SOURCES OF INCOME

Although funded to some extent by subscriptions from its members, the Fellowship has received the vast majority of its funding from The Gatsby Charitable Foundation. Gifts from members which have been received this year as part of the fundraising campaign have been added to the Expendable Endowment Fund, established to fund future Sainsbury Management Fellowship Awards.

EIBF received no grants or awards from public bodies during the year.

**Cathleen Breeze**
*Secretary*

# SMF AWARD WINNERS

## Shrilekha Appicharla CEng MICE, MEng, Imperial College London

Prior to starting her MBA at INSEAD, Shrilekha's professional experience was primarily in Operations Consulting with Deloitte. She advised Fortune 50 companies on strategic initiatives to transform their global operations, increasing profitability and incorporating sustainability principles. Her experience in consulting allowed her to work with a range of stakeholders and manage multidisciplinary teams to deliver positive impact for clients.

## Chris Holmes CPEng PMP, MEng, Durham University

Chris is a Chartered Professional Engineer and Project Manager with over seven years' international project management experience working on flagship digital and infrastructure projects, including Network Rail's Intelligent Infrastructure programme, Transport for London, Crossrail, Melbourne Airport Rail and Sydney Metro. Leading his most recent project Chris was passionate about blending engineering with new technology to provide decision optimisation software for network rail. After his MBA at Imperial College Business School, Chris is determined to contribute to making the UK's energy transition a success by working in clean technology and renewable energy.

## Peter Kummer CEng MICE, MEng, University of Sheffield

Peter works in the nuclear energy sector. As a civil engineer he set out to learn the end-to-end civil engineering supply chain at Hinkley Point C. Over the years he worked as a designer, detailer, main civil works contractor, and client. He applied his Building Information Modelling experience to progress his career, which has, so far, taken him to 3 separate employers, working across the UK, Europe, and India. More recently Peter assumed the Head of Discipline position, having developed from scratch a civil engineering department of 20 team members. He would like to complement his first strides in business development with an MBA from INSEAD.

## Jonathan Lister MEng, MA, University of Cambridge

Prior to starting his MBA at INSEAD, Jonathan's professional experience focussed on digital transformation, where he helped businesses and public institutions use technology to become more competitive. He has significant international experience, having worked in Tel Aviv for a fintech start-up, in India for a TATA cancer hospital and across Europe, the Middle East and Africa (EMEA) with IBM. In 2017 Jonathan joined IBM, initially focussing on software development and technology architecture, before progressing into corporate strategy, including taking on the role of Chief of Staff to the EMEA Managing Partner for Strategy & Market Development.

## **Sanyam Mahajan** B.Tech, Manipal Institute of Technology

Prior to starting his MBA at INSEAD, Sanyam's professional experiences spanned internationally – working in India at the Maruti Suzuki assembly plant, working in Turkey at an automotive SME, and working in the UK at Stanley Black & Decker (SBD). At SBD, his career progressed working across sales, product marketing, and eCommerce functions in an EMEA wide scope. Most recently, Sanyam led eCommerce category management, across all SBD brands and business units, creating a new go-to-market strategy for winning on online marketplaces. In June 2022, he gave an industry wide keynote speech on eCommerce transformation in London.

## **Konstantinos Moustidis** MICE MEng, Aristotle University of Thessaloniki

Prior to starting his MBA at IMD Business School, Konstantinos' experience was in the nuclear infrastructure sector, as a design manager based on the Hinkley Point C construction site. Leading a multinational team of draftspersons and engineers he supported the construction team to deliver the reactor building of the nuclear island. Earlier in his career, he advised major UK companies on key projects as a civil design engineer for the Thames Water asset management plan, the Heathrow expansion project and Sizewell C nuclear power plant.

## **Giovanni Sobrero** CEng MIET, MSc (Eng), University of Leeds, BSc (Eng) Università delgi Studi di Genova

Prior to starting his MBA at Imperial College Business School, Giovanni's professional experience was primarily in the manufacturing and operations environment, initially with Rolls-Royce, where he started as a graduate engineer to develop into a production manager. Giovanni decided to take the next step in his career and make the move to Amazon, focusing on operational excellence and strategic operational improvement. In his current role, as a Senior Program Manager, Giovanni supports the strategic long-term improvement of DPMO and scan compliance for the EU Exports Operations Network.

## **Enrico Tranchina** MSc, University of Bristol

Prior to starting his MBA at Imperial College Business School, Enrico's professional experience was in the energy industry with BP in upstream exploration and development across Africa, the Caspian and the Middle East. He started out as a geologist, progressing through technical and strategic roles into subsurface team leadership. Passionate about the energy transition, he acted as Business Advisor to senior leadership through bp's transformation into an Integrated Energy Company. His last job was leading the subsurface team responsible for reviewing bp's non-operated joint venture investments in Angola, Algeria & the North Sea.

# MEMBERS' HIGHLIGHTS

## BY GRADUATION YEAR

### 2022

**Jeremy Bateman Williams (INSEAD)** is now a consultant at LEK.

**Mihir Bhushan (MIT)** is now a Technical Production Manager at Adobe.

**Mario Carandente (MIT)** has joined McKinsey as Engagement Manager, Advanced Industries, and was working in the US. He has recently transferred back to the UK to focus on the future of mobility and will be working with UK OEMs and mobility companies.

**Gordon Irving (LBS)** is now working as a consultant for Bain in Australia.

**Rebecca Grady (LBS)** has joined McKinsey's operations practice in London on their Capital Excellence team.

**Abhay Soorya (INSEAD)** is now Senior Director, Strategic Solutions for C3 AI, which is an AI scale-up based off Silicon Valley and is a provider of enterprise AI software for digital transformation. Abhay is expanding the company's offerings in the pan-European Energy & Utilities space.

**Sam Vennin (LBS)** is now a consultant for IQVIA.

### 2021

**Kieran Chandler (INSEAD)** is now Strategic Partnerships Senior Associate at Wagestream.

**Xavier Echegaray (INSEAD)** is now Manager at Copenhagen Infrastructure Partners in Denmark.

### 2019

**Ian Taylor (Stanford)** is now Head of Scouts for Sequoia Capital based in California.

### 2018

**Deviyani Misra-Godwin (Harvard)** was recently appointed as a Director at SCF Partners.

### 2017

**Jon Dyson (LBS)** is now an Associate Principal in the Energy Practice of Charles River Associates.

**Sinead O'Sullivan (Harvard)** recently joined the Board of IMMA, the Irish Museum of Modern Art.

### 2016

**John Collins (INSEAD)** is now working as an Associate Director at Arup.

**Christopher Mannion (MIT)** is now CEO of Sonar Talent.

### 2014

**Hersh Shah (IMD)** recently joined Portman Dental Group as Group Business Development and M&A Director and is a member of the Board.

**Ozan Yalniz (MIT)** is now Founder and CEO of Materially, a procurement and supply chain solution for construction aggregates, bringing together buyers, suppliers, and truckers on one seamless digital platform.

### 2012

**Mahipal Ganeshmal (IMD)** was recently promoted to Finance Director with Amazon and moved to the USA to lead Amazon's Pharmacy there.

### 2010

**Themis Gomes (INSEAD)** is now CEO of Behaven Kids, a provider of mental health services for children who have been diagnosed with autism spectrum disorder, behavioural challenges and/or other mental health conditions, based in the United States.

### 2008

**Dan Rynehart (LBS)** is now Strategic Partnerships Commerce Lead for BP Pulse, where he is leading global strategic partnerships with automotive OEMs for BP's electric vehicle charging business.

### 2007

**Mark Futyan (Columbia)** is now a professional NED, actively building his NED portfolio. Mark is on the board of Anesco and has also joined the board of Origami Energy, an energy tech platform provider.

### 2006

**Graham MacGregor (INSEAD)** is now Partner Energy Transition, ESG Strategy and Transformation for PwC Australia.

### 2004

**Emma Coles (IESE)** has been working as Director of Data and Healthcare Relationships for Voeding Leeft in the Netherlands.

### 2003

**Jo Hallas (INSEAD)** was recently appointed to the board of Smith & Nephew as an NED. The company is a British multinational medical equipment manufacturer, headquartered in Watford, England.

**Richard Smith (INSEAD)** is now CFO of Qualus, the leading provider of sustainable solutions for the leather industry.

### 1995

**Graham Hastie (INSEAD)** has recently been appointed Associate Dean of LBS, looking after their degree programme portfolio, including graduate and specialist Masters, MBA, EMBA and the Sloan Fellowship.

### 1994

**Henning von Spreckelsen (IMD)** was recently elected as a Fellow of the Royal Academy of Engineering.

### 1991

**Andy Doe (INSEAD)** recently joined the board of www.ViridiCo2.co.uk, a spin out from Southampton University that has developed an innovative technology to turn $CO_2$ into useful chemicals.

### 1989

**William Burton (INSEAD)** has been elected to the board as a Director of the Chartered Institute of Marketing for 3 years from December 2022.

### 1988

**Tom Delay CBE (INSEAD)** recently joined the board at Severn Trent plc as an NED.

# ENGINEERS IN BUSINESS COMPETITIONS

**For nine years, EIBF has run competitions which challenge engineering students to create a unique product that meets a need in society and demonstrates the use of engineering skills in the creative process. The aim is to encourage engineering students to consider business courses as part of their education.**

This past year, the number of active partner universities rose from 26 to 39 and the message of 'Engineers in Business' reached a record number of 325,071 students and graduates – 11% higher than in 2021. This success is due to three factors; first, the proactive marketing of the EIB prize fund to universities, second, the growing relationship with our partner universities leading to their own efforts to promote their EIB-sponsored competitions to students (and in some cases local media), and finally, because most universities have returned to face-to-face teaching which enabled higher engagement with students to encourage their participation.

Other measures of success for the Engineers in Business Competition also increased; the total number of students/graduates who participated in university enterprise competitions in 2022 rose by 40% to 8,172, and the number of engineers who participated rose by 11% to 2,437. We also received many requests for SMFs to participate in judging university competition finals, as well as requests from prize winners for mentors.

The reach of our media campaign for our 2022 Champion of Champions national competition far exceeded the previous year, reaching a worldwide audience of more than 32.3 million, a 116% rise over 2021.

We were delighted to welcome on board the following universities: Kings College London, Cardiff Metropolitan University, Goldsmiths University, University of Lincoln, Canterbury Christ Church University, University of East London, Loughborough University and Nottingham Trent University. We are also pleased to welcome the return of universities who temporarily stepped back, including Swansea University and the University of Edinburgh.

The following pages describe the diverse and exciting business ideas created by the winning university teams.

## CARDIFF UNIVERSITY
## Inspired Engineers

The Inspired Engineers Award encourages and promotes entrepreneurial and commercial thinking among student engineers. Students in the Civil, Electrical and Mechanical Engineering Departments can either develop their curricular project work towards their entry or enter their own independent start-up or innovation ideas. The key requirement is that entries aim to solve a problem with real-world impact. The Inspired Engineer Award presented six Engineers in Business awards of £500 each.

Simon Betts created Atlantic Innovations, a platform that promotes the use of self-driving vehicles. The first project, an autonomous race series, will see teams pitted against each other in a challenge to develop real-world artificial learning to navigate a vehicle around a race circuit in front of a real audience. This promotes the development of self-learning and self-driving technology which can be licensed to improve safety on our roads, whilst also creating sponsorship, engagement and learning opportunities through the public events.

*Simon Betts, fourth year Electrical and Electronic Engineering Student, who won a £500 Engineers in Business prize for Atlantic Innovations*

> ***"The Inspired Engineer Award is a great opportunity to get students thinking about the business potential of their ideas and to develop a more entrepreneurial mindset. Engineering is all about invention and innovation, so the award is a perfect place to introduce enterprise as a possibility for their future careers."***
>
> Prith Biant, Innovation Project Officer, Cardiff University

## UNIVERSITY OF BRISTOL
## New Enterprise Competition

The New Enterprise Competition is a business start-up initiative that allows students, staff and alumni to pitch for a share of £35,000 (including the Engineers in Business prize), legal support and business acceleration services, to develop a commercial or social enterprise.

Founded by a team of technologists, researchers and clinical specialists, including Zeke Steer, Milbotix is creating innovative digital technologies to enable better care for people experiencing communication difficulties, including people living with dementia. One innovation, 'smart socks' alerts carers to signs of (unverbalised) distress caused by pain, anxiety or frustration. The smart sock aims to deliver a range of benefits to the 1.5 million people in the UK living with dementia, an autism spectrum disorder, or a learning disability. The product has the potential to improve quality of life, reduce agitation, decrease the burden on families and carers, and save costs for health and social care.

*Engineers in Business £1,000 prize winner, Zeke Steer (centre), a Robotics and Autonomous Systems PhD Student with former New Enterprise Competition winners Hazel McShane (left) and Amber Probyn (right)*

> ***"The Engineers in Business prize fund allows us to flexibly support engineering students and engineering innovations through our established New Enterprise Competition. We've had the pleasure of receiving this funding for several years and the types of ideas it supports are always varied, exciting and inventive."***
>
> Faye Tromans, Senior Enterprise Adviser, University of Bristol

## BIRMINGHAM CITY UNIVERSITY
## Leading Engineering Endeavours Project

The Leading Engineering Endeavours Project is undertaken by second-year engineering students. Students work in interdisciplinary teams drawn from mechanical, automotive, electronic, and manufacturing disciplines. The teams were set a challenge by the Environment Agency to design and prototype a low-cost anemometer. The context was to provide a means of measuring air pollution dispersion in urban environments by using a network of anemometers.

The Avatar Air team won its Engineers in Business prize for developing a solution that utilised three orthogonal tubes, each containing a sensitive impeller feeding rotational data back to a Raspberry Pi computer. Avatar Air also developed a working prototype using 3D printing technology to 'manufacture' the moving parts.


*Avatar Air make their pitch to the judges (from L to R): Joseph Pearce; Mohammad Rathore; Isabella Warman and Stephen Ebeneezer*

> ***"The students really bought into the idea of the project. The design brief was provided by the Environment Agency, and the prizes offered by the Engineers in Business Fellowship helped to incentivise them even further. It made the students think about engineering solutions in a much more contextual and commercial way. The top performing groups produced outstanding work that exceeded our expectations.."***
>
> Roger Wall, Senior Lecturer, Birmingham City University

## ABERYSTWYTH UNIVERSITY
## InvEnterPrize

The InvEnterPrize competition provides a yearly opportunity for entrepreneurial students and recent graduates to develop a business concept or social enterprise idea and pitch it to a panel of successful Aberystwyth University alumni in a virtual Dragons' Den style event. The competition rewards the entrant with the best business idea.

BreezeLabs' core product and service is the hardware and software of advanced modular robotics that allows for highly customisable and versatile robots, while being more environmentally friendly and cost-effective than today's competitors. The core offering is complemented by two other available services, web hosting and on-demand manufacturing, enabling the creation of a self-sustaining business that allows for reduced overhead costs for the software, hardware, and development for the modular robotics.


*Thomas Breeze , a Computer Science Postgraduate won a £3,000 Engineers in Business prize for founding and launching BreezeLabs.*

> ***"The EIBF prize offered as an 'Extra Prize' for our annual InvEnterPrize competition is a great incentive for all students, particularly applicants from the Computer Science, Physics & Maths Departments within the university. It's a significant addition and helps to raise the profile of this Student Ideas Competition within the university and wider community and is much appreciated."***
>
> Tony Orme, Careers Service, Aberystwyth University

## IMPERIAL COLLEGE LONDON ENTERPRISE LAB: WE Innovate

WE Innovate is Imperial's flagship female entrepreneurship education programme that supports the next generation of women entrepreneurs to accelerate their start-ups.

Team Repair is a subscription-based STEM learning programme which sends strategically broken electronic gadgets to 8 to 12-year-olds to fix along with the necessary tools and an accompanying app to guide them through the activity. The 12-month programme teaches children critical STEM knowledge and fixing skills. When finished, they return the gadget to Team Repair for reuse and keep the tools for future repairs.

*Team Repair: Design Engineers Anais Engelmann and Megan Hale were presented with a £3,000 Engineers in Business prize by SMF Jayshan Ratnakumar, Co-Founder @Stance.*

***"Women entrepreneurs need resources, funding and support to excel in their innovation. Engineers in Business is an essential award to help teams with engineering backgrounds break boundaries and scale their innovation. Imperial Enterprise Lab is, once again, pleased to be working with the Engineers in Business Fellowship to support engineering students, graduates, and postgraduates in their participation in entrepreneurship."***

Sarah Ranchev-Hale, Head of Imperial Enterprise Lab, Imperial College London

## IMPERIAL COLLEGE BUSINESS SCHOOL Entrepreneurship

Imperial College Business School provides two entrepreneurship courses for undergraduate engineers and scientists - Entrepreneurship Online and Entrepreneurship (face-to-face). Students taking part in these modules participate in a pitch competition and are also selected through excellence in achievement based on their validation report coursework assignment, where students conduct experiments to test the hypotheses underlying their business ideas.

MyLife is an app focused on making it easier for friends to meet up and create authentic memories away from social media.

***"The prize fund helps to increase the level of participation in business idea competitions by engineering undergraduates and graduates enabling them to gain more commercial education and business skills."***

Tim Weiss, Assistant Professor of Innovation and Entrepreneurship,Imperial College Business School

*MyLife, a team of four Mechanical Engineering students, won first prize in the Entrepreneurship competition: pictured (front) are Anna Parker, Pallavi Ojha, (back) Thomas Allen and Vinzenz Freigassner. MyLife was awarded a £500 Engineers in Business prize.*

## UNIVERSITY OF EAST LONDON
## Capstone Project

*Left to right: Masum Zain (Computer and Engineering Technician); Professor David Tann (Dean of School of Engineering); Lyn Carol Brown (MP of Westham & Shadow Minister of Foreign Commonwealth and Development Affairs); Josh Bowyer (Construction Engineering Management Student, £1,500 Engineers in Business prize); Professor Fawad Inam (Head of School of Engineering, Computing and Built Environment) and Amer Syed (Visiting Fellow and aviation expert).*

The University of East London's Capstone Project is designed for final-year students in the Engineering and Construction clusters at the School of Architecture, Computing and Engineering. A Capstone Project must include evidence that students have 'applied analytical judgement' in the context of an engineering or construction-related subject. Projects are assessed based on three tasks: Development of a Project Plan, a Project Written Report and an Oral Presentation of the Report.

Josh Bower won first prize for his thesis The Feasibility, Practicality & Desirability of Renovating Heritage Buildings in a Net Zero Carbon Environment.

Josh's thesis examined whether heritage dwellings whose material fabric is protected by statute due to their aesthetic, evidential, communal or historic value have a future in providing accommodation in a net zero carbon world. His research examined the current retrofitting technologies available to heritage dwellings and how they may affect their protected heritage fabric.

> ***"The award fund has also provided us with the means to evaluate and acknowledge the performance of our final-year students, based on the innovation and impact of their projects. Students were encouraged to perform high and think outside the box to explore existing industry needs in the engineering and built environment sectors."***
>
> Dr Nikdokht Ghadiminia, Lecturer in Construction Engineering Management, School of Architecture, Computing & Engineering (ACE), University of East London

## CANTERBURY CHRIST CHURCH UNIVERSITY
## Engineering Design Competition

As part of this year's Introduction to Engineering Design module, the School of Engineering, Technology and Design, in collaboration with an industrial partner, inspired students to conceive, design, implement and operate an innovative lock mechanism for the automotive industry.

The students had to design a high-security lock for commercial vehicles that works on both sliding and rear-hinged slam doors. The students' designs had to work on multiple models of commercial vehicles, making it a particularly challenging project for students. Additionally, the moving locking parts had to perfectly integrate with the standard euro lock module and not have breakable/penetrable options for any would-be thieves.

This winning group developed a set of moving lock parts with a re-imagined slide bolt component, which was counter sprung and re-designed to be significantly stronger than existing products; a design that won them the Engineers in Business prize.

*The £3,000 Engineers in Business prize was won by the Slam Lock team which comprised four Product Design Students. Pictured left to right are three team members: Harry Solly, Joe Shepperson and Adam Bayliss-Field who are with (far left) Dr Abdullahi Ahmed, Director of Engineering and Built Environment and (far right); Dr Salman Saeidlou, Project Lead and Stuart Lambert, Senior Lecturer in Product Design.*

***"By funding the prize award, Engineers in Business provided us with an opportunity to evaluate the efficiency and depth of our deliverables, based on the performance of our engineering graduates within a real-world industry project. Participants of the project were inspired to develop their engineering technical skills with respect to their prospective career goals."***

Dr Salman Saeidlou, Senior Lecturer in Mechanical/Material Engineering Programme,
Director of Manufacturing Degree Apprenticeship, Canterbury Christ Church University

## UNIVERSITY OF NOTTINGHAM
## Ingenuity

The Ingenuity Programme works with students, graduates and under-represented communities to help create exciting new ventures that can achieve significant social and environmental impact. Rooted in the University of Nottingham's commitment to civic entrepreneurship, Ingenuity and its partners provide skills and training, mentoring, networking and funding to early-stage social enterprises.

Ben Keeble developed Mobiliaid, a seat raiser which makes it easier for older people to sit down and stand up. Having noticed the impact that a lack of socialisation can have on older people's mental health, Ben wants to make it easier for people struggling with mobility issues to leave the house, giving them back their freedom and a sense of independence, whilst decreasing the burden on families and carers, and saving costs for health and social care.

*Physics graduate Ben Keeble received a £1,500 Engineers in Business prize from former Ingenuity Programme Director, Elizabeth Smith.*

***"The competition funding provided by the Engineers in Business Fellowship enables us to support a small but significant group of students and graduates to reach their full potential, find solutions to shape business and society, and make a real impact in the world."***

Elizabeth Smith, Former Ingenuity Programme Director, Haydn Green Institute for Innovation and Entrepreneurship
University of Nottingham

## LANCASTER UNIVERSITY
## Second Year Engineering Business Development Project

The Second Year Engineering Module (ENGR205 Business Development Project) covers entrepreneurship, innovation, idea generation, business planning, marketing, presenting and pitching. The module is assessed in groups through the submission of a Business Plan and the subsequent pitching of the business idea. A panel of judges, consisting of representatives from academia, student innovation and enterprise and industry, convenes to assess the business concepts which are presented in the final session.

Moddies are customisable and programmable robot STEM toys, designed to spark passion and enthusiasm in children for coding. Moddies will allow children to make their toys come to life, whilst, through play, they will be developing highly sought-after skills in critical thinking, technology and innovation. Moddies are based on a modular design, which allows for easy attachment and removal of both aesthetic and controllable parts. This in turn lets children decide not only how their Moddies looks, but what it does.

*The Moddies Team won a £3,000 Engineers in Business prize. Left to right are team members, Lucas Palmer (Mechanical Engineering); Nathan Lister (Mechatronic Engineering); Mischelle Thomas; Joseph Lantos (both studying Chemical Engineering); team leader Stephanie Humphreys and Sean Henley (both studying Mechanical Engineering).*

> ***"By funding the prize award, Engineers in Business provided us with an opportunity to evaluate the efficiency and depth of our deliverables, based on the performance of our engineering graduates within a real-world industry project. Participants of the project were inspired to develop their engineering technical skills with respect to their prospective career goals."***
>
> Professor Allan Rennie, Professor in Manufacturing Engineering and Director of Engagement, School of Engineering, Lancaster University

## NOTTINGHAM TRENT UNIVERSITY
## Grand Challenge

The Grand Challenge is a three-week project during which students work in cross-disciplinary and cross-year teams to conceptualise, design and produce a product. Each team produces a business case and promotional video and then demonstrates a prototype at a Trade Show to peers, staff and industry contacts.

Astreus is a cleaning mechanism for space vehicles such as NASA's Curiosity Rover. Rovers typically utilise solar panels, which can suffer a significant decrease in efficiency due to dust build up. The Astreus belt cycles a clear transparent film over the solar arrays when a decrease in illumination is detected, and the Astreus bladeless wind turbine provides an alternative source of power when a rover is in storms or in the shade.

> ***"The prize provided additional motivation and a sense of competition to an already popular project; there was a tremendous buzz around the engineering department throughout the project."***
>
> Dr Rebecca Margetts, Principal Lecturer | Course Leader for BEng & MEng Mechanical Engineering, School of Science and Technology, Department of Engineering

*Team Astreus, winner of the Industry Award, left to right: Dr Rebecca Margetts, Grand Challenge Lead with Ines Pinho Bastos Dos Reis Guerreiro (Sports Engineering); Mark Jeavons (Biomedical Engineering); Yazan Imeir, Alex Ingman, Izadmehr Jamali-Poor, Harry McGugan (all Mechanical Engineering students); James King (Electronic & Electrical Engineering) and Steven Brooks from Pepsico, Chair of NUT's Industrial Advisory Board. The team won a £1,000 Engineers in Business prize.*

## ANGLIA RUSKIN UNIVERSITY
## Big Pitch

Anglia Ruskin University's Big Pitch is an annual business ideas competition for undergraduate and postgraduate students. The university supports enterprising and entrepreneurial students across the university; equipping them with an entrepreneurial mindset so that they can become a positive force for change, and transform lives, industries and communities.

Exelerex designs modular safety systems for heavy goods vehicles with the purpose of decreasing the likelihood of road traffic accidents. The Truck Safety System (TSS) is modular in nature, and each component is designed to acquire different types of data for different purposes; its modularity enables customers to choose, according to their unique needs, what components of the TSS they wish to purchase. The TSS can be integrated into modern HGVs and retrofitted into older vehicles.

*SMF James Gardiner, Managing Director at Natural Resources (2000) Ltd, presented the £3,000 Engineers in Business prize to the founders of Exelerex: Asima Rafique, Enrico Iraldo (both Medical Science) and Joseph Ashton (Mechatronics and Robotics Engineering).*

> ***"The Big Pitch competition helps students with bright business ideas to turn them into reality. The Engineers in Business award endorses that and gives our engineering students an extra boost to appreciate the value and importance of their engineering skills and combining them with business ensures they are prepared for the growing technological business revolution."***
>
> Marcia Baldry-Bryan, Enterprise and Entrepreneurship Support Manager, Anglia Ruskin University

## UNIVERSITY OF YORK
## Business Innovation & Entrepreneurship Course

The Business Innovation & Entrepreneurship course is a practical introduction to the creation and development of enterprises that generate and sustain value from ideas, inventions and opportunities. The aims of the course are to develop students' interest in business innovation and entrepreneurship, to introduce participants to the factors involved in taking new technology to market, to enhance employability through greater business awareness and confidence, and to encourage students to explore ambitions around launching or joining early-stage businesses and thereby develop their potential to become job creators.

Plantiful Beauty is a cosmetic range that is sustainable and recyclable. It offers a refill service, so that packaging waste is reduced and the products are fully vegan and cruelty-free. Plantiful Beauty also offers a subscription plan to its customers.

*Emily Patterson, Heather Niven, Associate Lecturer Business, Innovation, Enterprise and Business, Legal & Professional Issues, Hannah Pope, Ben Dillon, Lewi Walker, Tian Tian Yang, Madison Lui, all Interactive Media Undergraduates*

## UNIVERSITY OF DUNDEE
## Venture

Venture is an annual business idea competition for University of Dundee students, staff and recent graduates. With the award of an Engineers in Business prize fund, Venture has incorporated a dedicated prize for the most innovative idea from science and engineering students.

Ryan Anderson's innovation is Gyroscope post-processing video stabilisation software, for cases where motion data is available. Some videos can be unstable or shaky and this product solves the problem by using motion data to compensate for unwanted movement. The main use of the software is with racing-style drones, where motion data is readily available because the control software provides an option to record this data separately. This means that any video from any camera can be stabilised using Gyroscope.

*The Best Engineering Award was won by Computer Science graduate, Ryan Anderson (right) for his innovation, Gyroscope, for which he received a £3,000 Engineers in Business prize.*

***"Engineers in Business' support for the Venture competition has been invaluable in several ways: helping to raise the profile and credibility of the competition, providing crucial funding that allowed the competition to reach a record prize fund £41,000, and to allow us to have a Science and Engineering specific category which drew out strong applicants across different engineering disciplines and from graduates and current engineering students."***

Brian McNicoll, Head of the Centre for Entrepreneurship, University of Dundee

## UNIVERSITY OF HERTFORDSHIRE
## Flare Ignite

Flare Ignite is a highly competitive annual competition that gives students and alumni entrepreneurial support and training to bring their business ideas to life. Flare Ignite is designed to be inclusive to allow a wide range of participants.

NiveshaQ is an investor education and awareness-focused initiative, which intends to help people between 16 and 55 to keep their financial knowledge up to date in a fun and interactive way. A one-stop platform for everyone to learn and build an investment portfolio and diversify their assets. Users simply enrol into the digital platform, play fun quizzes, earn badges, and redeem exciting rewards. Users will receive articles, infographics, comics and much more to help strengthen their financial knowledge.


*The Best Engineering Award was won by Computer Science graduate, Ryan Anderson (right) for his innovation, Gyroscope, for which he received a £3,000 Engineers in Business prize.*

***"We believe that every single student should be given the opportunity and confidence to explore their entrepreneurial ideas. Engineers in Business Fellowship has enabled us to go one step further, providing our engineering award winners with that all-important funding to put their innovations to the test, plus the platform to gain recognition for their ideas."***

Kate Serby, Enterprise Adviser and Flare Ignite Competition Lead, University of Hertfordshire

## UNIVERSITY OF SURREY
## Surrey Electrical and Electronic Engineers in Business Competition

*Ecostep Team, left to right: Toby Pollington; Henry Clarke; Jack Connolly; Ellis Green; Ollie Cory; Dillan Mercer; Aikaterini Papakosta and David Patyk (all undergraduate Electronic & Electrical Engineering students) won a £1,500 Engineers in Business prize.*

The University of Surrey's Enterprise Project embraces the Surrey Electrical and Electronic Engineers in Business Competition. The Enterprise Project is a year-long group project for second-year students from the Department of Electrical and Electronic Engineering. Students work in groups to create innovative concepts relating to the Information Communications Technology, Electronics and Computing sectors that have the potential for commercialisation. In the final stage of the project, each group produces a business plan report and pitches their concept to a multi-disciplinary panel of judges from industry and academia during a Dragon's Den style event and the winners receive seed funding to further develop their business concept.

Ecostep will manufacture piezoelectric power producing panels (PPPP) which provide a novel solution to green energy production by converting the energy of footsteps into useable power. The floor panels can be installed in a wide range of configurations to meet the needs of the customer due to their modular design. Each panel houses an array of piezoelectric generators which convert mechanical stress into electrical energy. Once installed the power produced from all the panels can be stored in batteries, used for LED lighting, or used as an alternative power source for other devices.

> ***"This year we saw the best range and highest quality of applicants ever in our enterprise project and Engineers in Business Competition. Engineering students are becoming smarter, more worldly and equipped for their future, with entrepreneurial and intrapreneurial skills fostered through the EIBC. Huge thanks once again for offering tangible rewards of mentorship and cash prizes to value the efforts of our students."***
>
> Kat Mack, Student Enterprise Manager, University of Surrey

## UNIVERSITY OF SHEFFIELD
## Engineering You're Hired

*The River Revival Team (left to right): Cheryl Xuan Lo, Civil Engineering; Ayana Superville Blackford, Bioengineering; Menno Recordon, General Engineering and Evie Dalton, Electronic Engineering together won a £500 Engineers in Business prize.*

Engineering You're Hired is an intensive one-week activity for all second year students within the Faculty of Engineering. Students first choose their problem and are then placed in multi-disciplinary, multi-cultural teams to work on a conceptual design and a plan for a project to take the design to the proof of concept stage.

Taking part in the competition gives the student engineers the skills that will make them highly employable engineers. Students gain the experience of working as professional engineers do, facing some of the challenges of the real workplace. The competition covers effective working, time management to meet deadlines and the need to cope with the fluidity of changing situations, collaborative working and presenting ideas to a range of people including prospective clients.

The River Revival scheme is a way of preventing plastic waste and other litter from entering the ocean. The system consists of a bubble barrier that is capable of lifting heavy plastics and guide litter into a particular area, where it would be collected by a conveyor, which would then lift the plastic waste into a bin. When full, the bin would be switched-out via personnel in a boat.

> ***"The opportunity for students to work in multi-disciplinary groups is invaluable to their growth and development as engineers and the incentive given by the Engineers in Business prize fund helps them focus and appreciate better the need to maintain a commercial understanding of engineering in context, as well as personally benefiting them for their efforts in participating in this national competition"***
>
> Michael Wright, Faculty Teaching Experience Officer, University of Sheffield

## UNIVERSITY OF GREENWICH
## Enterprise Challenge

The Enterprise Challenge is an annual competition that provides mentoring, training and funding for entrepreneurial students who want to pursue an idea. All students and recent graduates are eligible to participate in either the Social Stream, if the business will have a positive environmental or social impact, or the Commercial Stream, for general business ideas.

Dinul Wijetunge founded UMMACH, a revolutionary low-cost and environmentally friendly air-conditioning device that can be retrofitted to existing fan units, helping to reduce the impact of air conditioning on the environment. The UMMACH unit will bring affordable, environmentally friendly air conditioning to people living in very hot countries. The product could help tackle health risks and deaths associated with humidity exhaustion caused by the rise in global temperature.

*Mechanical Engineer, Dinul Wijetunge (left), was presented with a £3,000 Engineers in Business prize by competition judge Gabi Slemer, Founder of start-up Finasana.*

## UNIVERSITY OF THE HIGHLANDS AND ISLANDS
## UHI Business Competition

The University of the Highlands and Islands Business Competition is open to all students across 13 UHI sites. The competition aims to inspire, encourage, and support participants to develop enterprising and entrepreneurial behaviours and skills, and encourage them to consider their role in solving societal problems through innovation.

The Best Engineer Award was won by Calum Macdonald for his farming innovation. Calum developed a small modular vertical farming unit that integrates sensors. It is standalone, but can also be integrated with other units. The aim is to produce an affordable system for enthusiasts and commercial growers alike in rural and urban areas with an emphasis on flexibility. The business is built around the supply of the units, sensors, seeds and consultation.

> ***"The Engineers in Business Fellowship supports students and staff from across the University of the Highlands and Islands, and community members across the region, to spark into action their innovative and creative ideas which can contribute to more positive and sustainable futures."***
>
> Professor Vicky Johnson, Director of Living Sustainability, University of the Highlands and Islands

*Calum Macdonald (right), Energy Engineering Student, won a £1,000 Engineers in Business prize. Calum was presented with his award by SMF Graham Hastie, Managing Director at Bellfield Consulting.*

ENGINEERS IN BUSINESS COMPETITION

# Champion *of Champions* | COACHING DAY

*The ArJiCat Team from the University of Oxford give an impromptu interview on arrival at the Royal Academy of Engineering to participate in the Engineers in Business Champion of Champions Final.*

**On 27 October 2022 we warmly welcomed ten teams of student innovators, who were competing in the Champion of Champions Final, to a Coaching Day at the Royal Academy of Engineering. With a mix of excitement and nervous energy the students embraced the day wholeheartedly, from the moment they arrived and were interviewed by the camera crew to their in-depth one-to-one sessions with their Sainsbury Management Fellows coaches.**

After a welcome by EIBF President David Falzani MBE, the teams were introduced to their SMF coaches who worked with them throughout the day, listening to and reviewing their pitches, and giving constructive critiques that enabled the teams to hone both their presentations and verbal pitches. The students spoke very highly of their experiences with their coaches, with many saying that they hope to maintain contact with their coach.

The finalists also rose to the challenge of giving video and social media interviews about their innovations and aspirations as well as posing for photographs with their coaches. Such material is vitally important in enabling EIBF to promote the Engineers in Business competition during the grand final and on an ongoing basis to help us reach more universities.

*EIBF President, David Falzani MBE welcomes the Champion of Champion Finalists*

# HERE ARE THE COACHES AND THE TEN FINALISTS:

**COACH – HENNING VON SPRECKELSEN FREng** is a serial entrepreneur with extensive experience in manufacturing who is currently running several SME businesses including the award winning Plastecowood. Henning coached **Mobiliaid, Plastic Powered Train** and **GOAB BioEngineers**.

**FINALIST – University of Nottingham, Mobiliaid** is a mobile seat raiser that gently lifts elderly people with mobility problems from a seated position.

*University of Nottingham physics graduate Ben Keeble, inventor of Mobiliaid, networking at the Coaching Day*

**FINALIST – University of Birmingham, Plastic Powered Train** aims to transform electric trains into hybrid-hydrogen trains which are more environmentally friendly.

*Vanessa Chigariro, University of Birmingham, discussing her Plastic Powered Train innovation with her coach, SMF Henning von Spreckelsen*

> ***"The mind of an engineer is keen and adventurous, which can be applied to solve problems, whilst a business mind focuses upon risk and profits. Armed with both, the potential of students is unlimited."***
>
> VANESSA CHIGARIRO

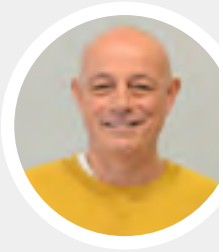
**COACH – DAVID FALZANI MBE,** a professor of entrepreneurship at the University of Nottingham, David also works with clients in a variety of sectors including energy technology, software and charities, helping with business and financial development, technology projects, marketing and strategic planning. David coached **Team Repair** and **Amara Automotive.**

**FINALIST – Imperial College London, Team Repair** – the first sustainable subscription service that teaches children science, technology and the life skill of repair, through fixing strategically broken electronic gadgets.

*Team Repair from Imperial College London - left to right: Patrick McGuckian, Anaïs Englemann, Oliver Colebourne, Megan Hale and Oscar Jones with Coach, EIBF President, David Falzani MBE*

**FINALIST – University of Southampton, Amara Automotive** creates sustainable vehicles – the first innovation is the Elecy four-wheeled e-bike designed for cycle lanes.

*Tamara Ivancova, founder of Amara Automotive, from the University of Southampton with coach, EIBF President, David Falzani MBE*



**COACH – SIMON BONINI** has global experience in the oil & gas sector with decades in the liquid natural gas business in the USA, Caribbean and Europe with large corporates and private equity-backed companies. He has run and successfully sold a privately backed engineering recruitment company, co-founded a gas export company in Houston, Texas and most recently he helped found, and is a major investor in, Lightning Fibre which brings hyper-fast broadband to consumers and businesses in Eastbourne, England. Simon coached **Atlas Smart Technologies** and **UMMACH.**

**FINALIST – Queen's University Belfast – Atlas Smart Technologies –** created Smart Bell, a smartphone-controlled dumbbell with adjustable weight levels and a complementary gamified workout tracking app.

*From Queen's University Belfast, (left) Peter Gillan and (right) Jack Fullerton, founders of Atlas Smart Technologies with coach, SMF Simon Bonini*

**FINALIST – University of Birmingham – Plastic Powered Train** aims to transform electric trains into hybrid-hydrogen trains which are more environmentally friendly.


*Dinul Wijetunge from the University of Greenwich, founder of UUMACH, with coach SMF Simon Bonini*

**COACH – IAN PEERLESS** is at the cutting edge of technology and leads a dynamic business, ExRobotics, which specialises in developing rugged robots for harsh, hazardous or remote operations. Ian coached the **Moddies** and **ArJiCat Robot** teams.

**FINALIST – Lancaster University – Moddies** offers a range of collectable, customisable and programmable robot STEM toys, designed to spark passion and enthusiasm for coding amongst children.

*Lancaster University's Moddies Team - left to right: Sean Henley, Joseph Lantos, Danielle Akua Asantewaa Forjour, Mischelle Thomas (kneeling), Lucas Palmer, Nathan Lister and team leader, Stephanie Humphreys*

**FINALIST – University of Oxford – ArJiCat Robot** is aiming to prevent hospital medicine waste, resulting from hospital prescription cycles, by introducing 'just in time' medicine dispensing.

*The University of Oxford's ArJiCat Team, left to right – Arjun Bhanap, Catherine Ning and Jiale Wang with coach, Ian Peerless*

**COACH – ANDREW HOGWOOD,** has more than 20 years' experience in Telecoms, Financial Services, and Fintech sectors. He has worked in start-ups, private equity backed scale-ups and large corporates, focusing on driving scale through digital transformation. Andrew coached **My First Carbon Kit** and **AMRSS**.

**FINALIST – University of Birmingham – My First Carbon Kit** aims to help consumers offset their carbon emissions at home.


*Max Wade, from the University of Birmingham, with coach SMF Andrew Hogwood*

> ***"Engineering is about solving practical problems and running a business is about identifying the problems people need solving. In my view, you can't have one without the other."***
>
> MAX WADE

**FINALIST – University of Southampton – AMRSS** develops AI solutions for real-time aerodynamic performance analysis to help engineers improve decision-making throughout design, test and deployment stages of new innovations.

*University of Southampton's Christian Toma, co-founder of AMRSS with coach SMF Andrew Hogwood*

**It was an exciting and fun day for all involved, not only for the students but for the Sainsbury Management Fellows coaches as well.**

*The ArJiCat Team from the University of Oxford are coached for their video interview.*

*Vanessa Chigariro from the University of Birmingham discusses her innovation on the steps of the Royal Academy of Engineering.*

*David Falzani MBE coaches Team Repair from Imperial College London.*

ENGINEERS IN BUSINESS COMPETITION

# Champion *of Champions*

## GRAND FINAL 2022

*Lancaster University's Moddies team present their robot STEM toy at the Champion of Champions Final with host Rob Bell.*

**On 28 October 2022, EIBF hosted the Engineers in Business Champion of Champions Final at the Royal Academy of Engineering and live-streamed the event via YouTube. Ten university teams, comprising engineering students and graduates, pitched an impressive array of business innovations to win a Champion of Champions award and a share of the total prize fund of £15,000, together with mentoring from Sainsbury Management Fellows and prizes from our sponsors, PurpleCV and Cambridge University Press. TV presenter Rob Bell was the compere for the event.**

The finalists competed in two categories: **Big Ideas** and **Start-ups**. Big Ideas was for younger students who wished to express their potential to tackle a big problem by combining business and technology, whilst the Start-ups category was for those who had already started or hoped to start a company.

## THE JUDGES

Left to right SMF Caroline Cake, Entrepreneur in Residence at Oxford Science Enterprises; SMF Kwok Ng, Strategy Programme Manager, The Crown Estate; Dr Terri Holloway, Ingenuity Lab Manager and Entrepreneur in Residence, University of Nottingham, and Head Judge SMF Chris Shelley, Chief Executive Officer, SolarBotanic Trees

# HERE ARE THE 2022 CHAMPIONS!

## FOR THE BIG IDEAS CATEGORY


*Big Ideas triple prize winner Tamara Ivancova, founder of Amara Automotive, from the University of Southampton, won three prizes!*

One finalist won three prizes – **Amara Automotive** from the University of Southampton won the Big Ideas first prize of £3,000, the pre-show People's Vote and the Audience Vote, for which Tamara received further £1,000. Amara Automotive's outstanding success was for the Elecy, a four-wheeled, weatherproof e-bike which has several environmental benefits, including minimising emissions during both the production and use stages.


*Big Ideas Runner-up Dinul Wijetunge, from the University of Greenwich won a £1,500 prize.*

The runner-up prize of £1,500 was awarded to **UMMACH** from the University of Greenwich. UMMACH is a low-cost, environmentally friendly, 12V air-conditioning device that can be retrofitted to existing fan units creating cooler environments for people living in very hot countries but who cannot afford traditional air conditioning systems.

## FOR THE START UP BUSINESS CATEGORY

*Start-up prize winner Team Repair, from Imperial College London. Left to right: Patrick McGuckian, Anaïs Englemann, Oliver Colebourne, Megan Hale and Oscar Jones*

First prize winner of £3,000 was **Team Repair** from Imperial College London. Team Repair is the first sustainable subscription service that teaches children science, technology, and the life skill of repair. Children are sent electronic gadgets with carefully planned faults, and all the tools needed to fix them, together with an app to teach them the science and technology concepts and repair procedures.


*Start-up runner-up, Christian Toma from Team AMRSS representing the University of Southampton*

The runner-up prize of £1,500 was awarded to ***AMRSS*** from the University of Southampton. AMRSS provides AI solutions for real-time aerodynamic performance analysis, to enable engineers within the automotive, aerospace and renewables sectors to improve decision-making throughout the design, test and deployment stages.

# ENTERPRISE AWARD


The top award, the Enterprise Award of £5,000, for the start-up with the best commercial potential was awarded to Atlas Smart Technologies from Queen's University Belfast. **Atlas Smart Technologie**s invented SmartBell, a smartphone-controlled dumbbell, that offers twenty-six weight levels, which can be used in conjunction with Stronger Mobile, a gamified workout tracking app, which turns people's workout results into fun and shareable workout statistics. At the point of the competition, 30,000 people had downloaded the app.

*Enterprise Award winners, Jack Fullerton and Peter Gillan of Atlas Smart Technologies representing Queen's University Belfast*

---

Head Judge SMF Chris Shelley, Chief Executive Officer, SolarBotanic Trees commented on the judging process:

***"This was an exceptionally talented group. It was very difficult to separate many of the presentations. The improvement in presentations, following their coaching sessions from the initial submissions, was noticeable in everyone. In the end, the overall winner of the Enterprise Award, Atlas Smart Technologies, won by demonstrating the traction and momentum that motivated the founders. But every contestant pitched a great idea with passion, and they should be very proud of winning an award or simply making it to the Champions Final."***

---

Engineers in Business Fellowship would like to thank **Purple CV** for providing packages to the winners and to Cambridge University Press from providing copies of the books "Digital Innovation and Entrepreneurship" to the winners.

ENGINEERS IN BUSINESS FELLOWSHIP
A COMPANY LIMITED BY GUARANTEE

# TREASURER'S REPORT FOR 2022/23

## SUMMARY

The Charity ended the year with a surplus of income over expenditure of £246,933 (2022: £88,207). Net Assets at the end of the year were £2,463,065 (2022: £2,216,132). The value of the Expendable Endowment Fund stands at £2,104,206 (2022: £2,094,873). The Restricted Funds balance stood at £300,712 at year end (2022: £66,916).

Overall the Fellowship's finances are in a solid position with reserves in place in line with our financial policies and funding secured for the next year to ensure the various programmes can continue as planned.

## INCOME

Income sources were donations and subscriptions. Total income for the year was £1,094,075 (2022: £985,954).

**DONATIONS**

The major source of our income continues to be from The Gatsby Charitable Foundation, of which Lord Sainsbury of Turville is the patron, who contributed £1,010,000 in donations this year. A notable addition to the Charity's income this year came from donations from Fellows made during the Step Challenge Campaign. A part of these donations represent a significant portion of the increase in income from 2022 to 2023.

## EXPENDITURE

During the year expenditure decreased slightly to £847,142 compared to last year's £897,747. This was largely due to an underspend on scholarship grants, the Business Competition and administrative costs. Eight scholarships rather than the usual 10 were awarded in 2022/23 resulting in an £100,000 reduction in scholarship expenditure.

Overall administrative costs reduced by £50,000 compared to 2021/22. Spending on advertising and marketing, communications and scheme administration went down compared to the previous year more than offsetting an increase of about £24,000 in venue hire.

## OTHER

The accounts for the year just finished will be subject to a statutory audit by a regulated auditor and submitted to Companies House and to the Charity Commission before the relevant deadline.

## NEXT YEAR

The Charity's activities have, as anticipated and hoped, rebounded after the restrictions imposed by the Covid pandemic. Attendance at the 2022 Annual Dinner reached the numbers seen in the pre-pandemic years. Engagement with SMFs continued to be active as evidenced by the encouraging response to the Step Challenge Campaign.

Adam Bazire has stepped down as Treasurer and I thank him for his patient guidance, assistance and the excellent records I inherited as I take on the role of Treasurer.

**Mope Ogunsulire**
*Treasurer*

Charity Registration No. 1147203
Company Registration No. 07807250

# PROFIT AND LOSS

## ENGINEERS IN BUSINESS FELLOWSHIP
## FOR THE YEAR ENDED 31 MARCH 2023

| | 2023 | 2022* |
|---|---|---|
| **TURNOVER** | **£** | **£** |
| Donations - Expendable Endowment Fund | 5,269 | 8,476 |
| Donations - Restricted | 890,436 | 780,000 |
| Donations - Unrestricted | 180,000 | 185,000 |
| Other Income - Endowment | 4,064 | 1,903 |
| Other Income - Restricted | 48 | 18 |
| Other Income - Unrestricted | 14,258 | 10,557 |
| **Total Turnover** | **1,094,075** | **985,954** |

| **COST OF SALES** | **£** | **£** |
|---|---|---|
| EIB Competition Prizes | 87,500 | 99,552 |
| Grants | 420,000 | 450,000 |
| Total Cost of Sales | **507,500** | **549,552** |
| **Gross Profit** | **586,575** | **436,402** |

| **ADMINISTRATIVE COSTS** | **£** | **£** |
|---|---|---|
| Advertising & Marketing | 47,098 | 52,626 |
| Audit & Accountancy Fees | 9,340 | 8,211 |
| Bank Fees | 2,229 | 2,028 |
| Communications | 75,237 | 97,342 |
| Employers National Insurance | (465) | 8,079 |
| Employer's Pensions Costs | 3,358 | 3,358 |
| Other Costs | 7,406 | 2,255 |
| Photography and Video | 27,641 | 29,216 |
| Printing - Other (inc photocopying) | 3,988 | 3,983 |
| Professional Fees | 930 | 709 |
| Publications | 6,704 | 494 |
| Repairs & Maintenance | 0 | 75 |
| Scholarship and Prize Administration | 31,004 | 47,559 |
| Software and Online Services | 3,687 | 2,882 |
| Staff Costs | 67,153 | 67,152 |
| Telephone & Internet | 775 | 1,753 |
| Travel & Subsistence | 9,995 | 3,367 |
| Venue Hire | 29,783 | 5,606 |
| Website Development | 13,779 | 11,500 |
| Total Administrative Costs | **339,642** | **348,195** |
| **Surplus for the year** | **246,933** | **88,207** |

*The figures in FY2022 correspond to the final audited accounts submitted to the Charity Commission and Companies House.

# BALANCE SHEET

## ENGINEERS IN BUSINESS FELLOWSHIP
## FOR THE YEAR ENDED 31 MARCH 2023

| | 2023 | 2022* |
|---|---|---|
| **CURRENT ASSETS** | **£** | **£** |
| Investments | 1,728,395 | 1,568,324 |
| Cash at bank and in hand | 762,032 | 673,144 |
| Prepayments | 0 | 246 |
| **Total Current Assets** | **2,490,427** | **2,241,714** |
| | | |
| **CREDITORS – Amounts falling due within one year** | | |
| Creditors – Amounts falling due within one year | 27,362 | 25,582 |
| **Total Creditors** | **27,362** | **25,582** |
| | | |
| **Net Current Assets (Liabilities)** | **2,463,065** | **2,216,132** |
| | | |
| **Total Assets less Current Liabilities** | **2,463,065** | **2,216,132** |
| **Net Assets** | **2,463,065** | **2,216,132** |
| | | |
| **CAPITAL AND RESERVES** | | |
| Current year earnings | 246,933 | 88,207 |
| Retained earnings | 2,216,132 | 2,127,925 |
| **Total Capital and Reserves** | **2,463,065** | **2,216,132** |
| | | |
| **FUNDS** | | |
| Unrestricted funds | 58,147 | 54,343 |
| Endowment funds | 2,104,206 | 2,094,873 |
| Restricted funds | 300,712 | 66,916 |
| **Accumulated Fund Carried Forward** | **2,463,065** | **2,216,132** |

*The figures in FY2022 correspond to the final audited accounts submitted to the Charity Commission and Companies House.

# FUTURE EVENTS

Networking is one of the most valuable assets of becoming part of the SMF Group. We hope that many SMFs will be joining us once again for more exciting in-person events in 2023:

## EIBF ANNUAL GENERAL MEETING AND ANNUAL DINNER

**Thursday 11 May 2023, 6pm and 7pm**

One Whitehall Place
Westminster
London, SW1A 2HD

## ENERGY AND SUSTAINABLE DEVELOPMENT GROUP MEETING

**Monday 5 June 2023, 5pm**

Zoom

## EIB CHAMPION OF CHAMPIONS FINAL

**Friday 3 November 2023**

Venue to be announced

## SMF ANNUAL CHRISTMAS CURRY NETWORKING EVENING

**Wednesday 6 December 2023, 7pm**

Millbank Spice Restaurant
34-38 Vauxhall Bridge Road
London SW1V 2RY

Email **cathy.breeze@smf.org.uk** to book your place in advance for the events above.

Details of the SMF events are published on the SMF website.

Sainsbury Management Fellows at the EIBF AGM in May 2022

SMFs Andy Doe, Chris Shelley, Simon Bonini and Mike Gansser-Potts at the Annual Dinner in May 2022

SMF Jeremy Williams (centre) speaks to Lloyd Attrill (left) and Thomas Simmonds (right) from the University of Southampton

**The Sainsbury Management Fellows – Engineers in Business Fellowship**
Azets, Ventura Park Road, Tamworth,
Staffordshire B78 3HL

Telephone: +44 (0)1590 673404
Email: cathy.breeze@smf.org.uk
Twitter: @EngineersnBiz

**www.smf.org.uk**

Engineers in Business Fellowship is a
Registered Charity Number: 1147203 and
Company Limited by Guarantee: 07807250