Royal Academy of Engineering

Royal Academy of Engineering
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Royal Academy of Engineering

Becoming a Fellow of the Royal Academy of Engineering

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Foreword

“Supporting the process of finding truly excellent candidates for Fellowship.”

In 2020, the Royal Academy of Engineering launched a campaign aimed at delivering a Fellowship that is Fit for the Future by the time it celebrates its 50th anniversary in 2026. This is defined as a Fellowship that embodies the full breadth and diversity of engineering excellence.

We undertook a review of the membership process, covering both the activities preceding assessment (primarily the nomination process) and the assessment of candidates. We also consulted widely.

The review made clear that a prospectus to help consolidate information about the process, as well as demystify the concept of Fellowship, would be valuable for potential Fellows, their proposers and others who we ask to provide evidence to support nominations. Expectations of Fellows and proposers and the characteristics of excellent candidates were not always clear and we have sought to address that through this document.

It is now two years on since we first published the prospectus and it is already clear that it is making a positive difference to the process. In 2024, we elected the most diverse group of Fellows ever and we have also seen a marked step up in the quality of the nominations we receive and the evidence provided.

As I take over from Professor Nilay Shah OBE FREng as Chair of the Membership Committee, I commend this prospectus to you confident that it will aid the process of continuing to deliver a Fellowship Fit for the Future.

Dame Judith Hackitt DBE FREng
Chair, Royal Academy of Engineering Membership Committee

About us

The Royal Academy of Engineering harnesses the power of engineering to build a sustainable society and an inclusive economy that works for **everyone.**

As a charity, we deliver public benefit from engineering excellence and technology innovation.

As a National Academy, we provide progressive leadership for engineering and technology, and independent expert advice to government, in the UK and beyond.

As a Fellowship, we bring together an unrivalled community of leading businesspeople, entrepreneurs, innovators, and academics from every part of engineering and technology.

In collaboration with our Fellows and partners, our work grows talent and develops skills for the future, drives innovation and builds global partnerships, influences policy and engages the public. Together we're working to solve the greatest challenges of our age.

In everything we do, we are guided by our **five values:**

Progressive leadership – embodying the courage, commitment and ambition to drive positive change for engineering and society

Diversity and inclusion – creating cultures in which everyone can thrive and diverse perspectives enrich our collective performance

Excellence everywhere – bringing evidence, expertise, integrity and a passion for continuous improvement to everything we do

Collaboration first – prioritising collaboration and building partnerships to improve outcomes.

Creativity and innovation – solving problems and generating opportunities through creative thinking and innovation.

How we measure impact

Harnessing the power of engineering to build a sustainable society and an inclusive economy that works for everyone

Inputs

- Expertise and leadership from Academy staff, Fellows, awardees, and industrial and institutional partners
- Funding from government, industry and other partners
- Consultation with and applications from engineers and innovators
- International and regional partnerships and networks

Outputs

Talent and diversity

- Talented researchers, innovators and entrepreneurs with enhanced skills, careers and connections
- More and more diverse skills and inclusive cultures in engineering research and business

Innovation

- Engineering and technology research outputs with high potential for commercialisation and societal benefits
- More innovative, resilient and investment-ready engineering businesses

Policy and engagement

- Policymakers accessing engineering expertise and systems thinking
- Engineers engaging with the public on how innovation can support and enhance their lives

Outcomes

- A world-leading, truly inclusive and influential engineering workforce
- Ever more innovative engineering solutions for a more sustainable and resilient future
- Engineering jobs that make the UK more productive, secure, healthier, safer and more competitive
- Greater investment into UK innovation
- Policymakers equipped to make more effective policies, including on net zero
- Wider recognition of the value of engineering

Impact

- Faster progress towards net zero and a sustainable world
- Engineering and technology better harnessed to address global and societal challenges
- More balanced and inclusive economic opportunity across the UK
- UK more competitive and productive

A Fellowship fit for the future

The Fellowship

Each year, up to 60 Fellows are typically elected to the Fellowship as well as up to 10 International and five Honorary Fellows.

They are distinguished by the postnominals FREng and HonFREng respectively. Existing Fellows nominate and elect new Fellows.

This community of exceptional engineers is at the heart of the Academy's activities. In 2024 alone, Fellows contributed over 25,000 hours to support the next generation of engineers and address societal challenges.

Our Fellows do this by providing expert advice, directing the Academy's activities through committees and steering groups, mentoring awardees, promoting and advancing engineering excellence and technology innovation, and so much more.

New Fellows 2021 Celebration at Prince Philip House

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Patron and Royal Fellows

The late HRH The Prince Philip, Duke of Edinburgh was our Senior Fellow – and instrumental in establishing the Academy – and HRH The Princess Royal and HRH The Duke of Kent are Royal Fellows.

In June 2024, His Majesty King Charles III became Patron of the Academy.

Our Royal Fellows support a wide variety of Academy events and activities as well as the Queen Elizabeth Prize for Engineering, the most prestigious global prize for engineering innovation.

"Everything that wasn't invented by God was invented by an engineer."

HRH Prince Philip,
The Duke of Edinburgh

HRH The Princess Royal

His Majesty King Charles III

Types of Fellowship

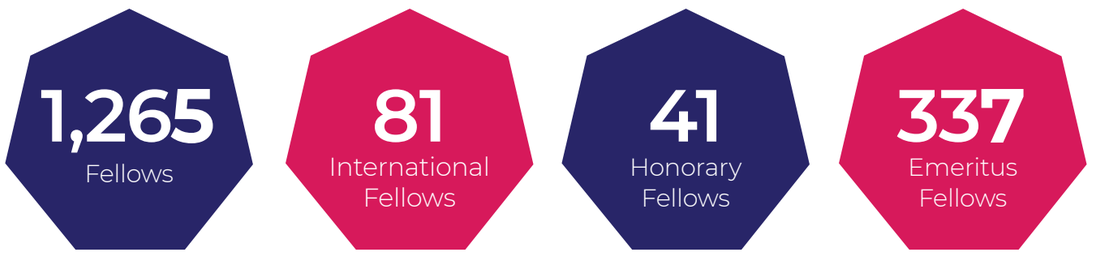
Our Fellows fall into four different categories (not including Royal Fellows):

- **Fellows (FREng):** British citizens working in the UK or overseas, and non-British citizens who are resident and have been working in the UK for more than three years.
- **International Fellows (FREng):** non-British citizens working overseas.
- **Honorary Fellows (HonFREng):** individuals who have made exceptional contributions to engineering, but who may not themselves be practising engineers or engineers qualified for election as Fellow.
- **Emeritus Fellows (FREng):** Fellows (of any type) who, on reaching 80 years old, elect to step away from everyday engagement with the Academy's work. They retain the rights of the Fellowship into which they were elected but are no longer asked to take part in activities.

As of January 2025 the Academy has 1,724 Fellows in total: 1,265 Fellows, 81 International Fellows, 41 Honorary Fellows and 337 Emeritus Fellows. Among our Fellows: 49% are from primarily industry-based backgrounds; 44% are from primarily academic based backgrounds; and 7% work for not-for-profit organisations (such as government and the armed services); while 149 of our Fellows are women (11.8%), and 1,115 are men (88.1%).

Our **Honorary Fellows** are expected take an active role in our work.

We hope that future Honorary Fellows will help the Academy deliver charitable impact, for example by acting as ambassadors for engineering and serving as role models for the next generation of engineers. Since his election in 2020, Honorary Fellow Sir Lewis Hamilton MBE has supported the Academy's efforts to attract more young people from all parts of society and worked with the Academy to deliver the Hamilton Commission report on diversity in motorsport.



*Numbers correct as of January 2025

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International Fellowship recognises the most exceptional engineers of non-British nationality who have been working overseas. International Fellows are typically elected in recognition of their distinguished career as engineers. However, we are increasingly seeking to recognise nominees who are active in their own countries and may be engaging with the Academy already, will definitely engage with our mission overseas and will assist in accomplishing our charitable goals.

International Fellows should expand the Academy's reach (for example, by opening their networks, making introductions to Academy staff and awardees, engagement or oversight of programmes), and improve the quality of Academy outputs through knowledge exchange, challenge or providing new perspectives.

Priority countries and geographies for International Fellowship candidates include: sub-Saharan Africa, Southeast Asia, Latin America, India, Japan, Korea, Canada, Germany, France, Switzerland, Sweden, Ireland, Australia, and New Zealand.

Priorities

- Increase levels of International Fellow representation in key geographies, with sub-Saharan Africa and Latin America as an immediate priority, followed by Europe, India, Japan and Southeast Asia.
- Increase gender diversity in the International Fellowship.
- Increase career-stage diversity to bring more potential for active engagement, as individuals who can give insight into the current global engineering climate, trends and challenges.

Proactive Nominations Panel

Formed in 2007, our Proactive Nominations Panel ensures that the pipeline of new nominations for Fellowship better reflects the breadth and diversity of engineering across the UK.

The panel makes sure that the pool of candidates nominated for Academy Fellowship demonstrates wider society to achieve a better balance across the Fellowship, in line with the Fellowship for the Future campaign.

To do this, the panel's activities include establishing and managing a system for identifying and tracking potential candidates by engaging Fellows in the process and identifying 'champions' to take candidates through the nomination process.

New Fellows 2020 Celebration at Prince Philip House

Fellowship Fit for the Future campaign

As we look towards our 50th anniversary in 2026, it is important that the Fellowship embodies the full breadth and diversity of engineering excellence. To achieve this, in July 2020 we set a goal to elect more new Fellows from groups currently underrepresented in the Fellowship through our Fellowship for the Future campaign.

Through the campaign, we are seeking to elect more outstanding candidates who:

- are from underrepresented groups, including **women, Black, Asian and minority ethnic, LGBTQ+** and **disabled engineers**
- have come into engineering via **vocational** and **non-traditional routes**
- are achieving excellence at **an earlier career stage** than is typical
- work in **emerging technologies** and **new industries**, including areas that are important to address **major societal challenges**.

In order to achieve this, we have:

- **temporarily raised the number of Fellows that can be elected in any one year from 50 to 60**; this started in 2021 and will conclude in our 50th anniversary year in 2026
- set an aspiration that **at least half of all candidates elected each year will be from the target groups.**

“Our Fellows represent some of the most talented people in the world of engineering and are taken from the ranks of those who are aiming to address some of our most critical problems. There is ample evidence that a wider pool of ideas and experiences helps to improve decision-making and develop novel solutions to global challenges.”

Sir John Lazar CBE FREng,
President

History of the Fellowship of Engineering

The idea for a Fellowship of Engineering was conceived in the late 1960s, during the excitement of the Apollo programme and the buzz of Harold Wilson’s ‘white heat of technology’.

In 1976, the year of Concorde’s first commercial flight, the Academy was established as the Fellowship of Engineering. Since then, we have continued to champion excellence in all fields of engineering to honour the UK’s most distinguished engineers.

There had been several attempts throughout the 20th century to form a learned society for engineers, similar to the Royal Society’s model for scientists, but none came close to fruition until the involvement of HRH Prince Philip, The Duke of Edinburgh.

In 1965, His Royal Highness became President of the Council of Engineering Institutions (CEI), which was formed from the professional engineering institutions, and set down his own vision for a Fellowship of Engineering, including what form and role it should have.

It was his “very firm belief” that “the only way the profession will ever achieve any influence on national policy and government departments is through some form of Fellowship of distinguished engineers or technologists”.

The CEI agreed to the formation of the Fellowship and the new Fellowship was announced at Guildhall on 10 February 1976. His Royal Highness stepped down as President of the CEI and assumed the title of Senior Fellow of the Fellowship of Engineering.

The Fellowship officially met for the first time on 11 June 1976 at Buckingham Palace, where 130 of the UK’s finest engineers were enrolled as the Founder Fellows – engineers who over the course of their careers had literally changed the world.

The inaugural meeting of the Fellowship of Engineering at Buckingham Palace

Founder Fellows

The Founding Fellows comprised the chartered engineers who were Fellows of the Royal Society and a roughly equal number of other engineers selected by the CEI. These engineers were selected on 'the sole basis of eminence', covering the full breadth of engineering.

The group as a whole very much reflected the population of established engineers in British society at the time – they were all white men, the youngest was 48, the eldest 94. The majority had made their names in British engineering businesses – they were the 'captains of industry'.

Many had had wartime experience, some in World War One, more in World War Two. In fact, several had had key roles in supporting Britain during wartime and in later post-war recovery.

The Founding Fellows comprised the chartered engineers who were Fellows of the Royal Society and a roughly equal number of other engineers selected by the CEI.

Among the most recognisable names were:

- **Sir Frank Whittle** – aeronautical engineer, credited with inventing the first turbojet engine.
- **Sir Ove Arup** – visionary civil engineer, famed for work on the Sydney Opera House and founder of Arup.
- **Lord Hinton** – pioneering nuclear engineer, who oversaw the world's first large-scale commercial civil nuclear power station and first President of the Fellowship of Engineering.
- **Sir Maurice Wilkes** – visionary British computer scientist who designed EDSAC, one of the earliest computers with stored programs.
- **Sir Martin Ryle** – English radio astronomer, Astronomer Royal and Nobel Laureate (Physics 1974).
- **Sir Barnes Wallis** – aeroengineer, aircraft designer, and inventor of the 'bouncing bomb' used in the 'Dambusters' raid.

The first woman to be elected as a Fellow was naval radar and torpedo guidance pioneer **Dr Elizabeth Killick** in 1982.

Royal Academy of Engineering
Becoming a Fellow of the Royal Academy of Engineering

Why become a Fellow?

When Prince Philip spoke at the Fellowship's first AGM in 1977, he directed his words to the first elected intake of New Fellows: *"Election should not be considered as a belated recognition of professional achievement, it is an honour which implies an obligation, to work for the Fellowship and through it to promote the interests and the prestige of the Engineering Profession".* To this day, New Fellows subscribe to the Obligation, to honour and uphold the aims and values of the Academy.

Our Fellows range from pioneering academics and entrepreneurs to leaders of our biggest companies and outstanding engineering communicators, who have made extraordinary contributions to engineering and society. We want the Fellowship to encourage more diverse people to join the engineering profession at all levels and to inspire the next generation of engineers.

Fellowship goes beyond this obligation to the engineering profession. Becoming a Fellow of the Royal Academy of Engineering offers a unique opportunity to take part in the direction and oversight of engineering in the UK, and how it contributes to society and addresses global challenges.

Through membership of the Trustee Board, committees, panels, and sub-panels, Fellows oversee our work in a variety of areas. From funding UK-based academic engineering research, advising the National Engineering Policy Centre, and mentoring engineering entrepreneurs through the Enterprise Hub, to selecting the winners of Academy awards, including the Africa Prize for Engineering Innovation and the MacRobert Award – the UK's longest-running and most prestigious prize for innovation in engineering – each year, Fellows have a real opportunity to make a difference.

New Fellows 2021 Celebration at Prince Philip House

How Fellows get involved

Our Fellowship enables the Academy to provide a unified voice on behalf of all engineering in the UK, complementing other forums such as the professional engineering institutions.

This is most evident when it comes to advising government on policy, in a world where almost all major questions have a technical engineering element. The **National Engineering Policy Centre** connects policymakers with critical engineering expertise to inform and respond to policy issues of national importance, giving policymakers a route to advice from across the whole profession, and the profession a unified voice on shared challenges. Fellows – including those who work in smaller companies or might normally find their voices lost in the policy formation process – have a direct opportunity to bring their views to bear in this top-level forum.

We want the Fellowship to encourage more diverse people to join the engineering profession at all levels and to inspire the next generation of engineers.

Our **education and skills** programmes are focused on addressing the engineering skills crisis: the UK must produce more highly skilled engineers and technicians to meet its requirements. We work with teachers and employers to make the profession more resilient, diverse and prepared for the future.

Our **grants and prizes** support and celebrate the pursuit of engineering activities and enable closer contact between academia and industry. Awardees include engineering professionals, academics, entrepreneurs, innovators, and students, who we support in numerous ways from study bursaries, business startup funding, and research projects, to knowledge transfer partnerships, public engagement and prizes recognising significant feats of engineering.

Through the **Enterprise Hub**, we invest in some of the UK's most creative and exciting engineering ideas and businesses through support, training, mentoring and funding.

And our innovation support extends beyond the UK. We are a national academy with a **global outlook**. Our global entrepreneurship programmes train innovators worldwide to commercialise their work. And we bring together some of the world's best engineers, in collaboration with other professions, to form international partnerships addressing some of the planet's biggest challenges.

Our **international partnership** work helps develop and promote the UK's global position in engineering and innovation.

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New Fellows 2024 celebration at Drapers' Hall

Our Fellows

Upon election, all Fellows make a commitment to uphold the Academy's charitable aims: to promote engineering excellence for public benefit. They are expected to engage and further the Academy's work and to abide by the core values of the organisation, including a Fellows' code of conduct.

Fellows engage in a vast variety of activities with and on behalf of the Academy. These include supporting engineering research, policy formation, education, entrepreneurship, and public engagement.

Fellowship of the Academy is one of the highest national honours that an engineer may receive. However, Fellowship itself must not be considered as a mere award or trophy. Every person admitted to the Fellowship subscribes to an obligation to promote the charitable aim of the Academy:

"The pursuit, encouragement and maintenance of excellence in the whole field of engineering to useful purpose in order to promote the advancement of the science, art and practice of engineering for the benefit of the public."

Fellows' Day 2024 at Prince Philip House

Royal Academy of Engineering
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Professor Raffaella Ocone OBE FREng FRSE

Professor Raffaella Ocone, Chair of Chemical Engineering at Heriot-Watt University in Edinburgh, has been a Fellow since 2013.

A research career in chemical engineering that started in oil has taken her on a journey that encompasses biofuels, coal combustion, hydrogen production, carbon capture, and even landslides and volcanoes.

She has also pioneered teaching ethics to engineering students and how engineers can use artificial intelligence to make the most of the mountains of data from processing plants. Professor Ocone has carried out work with the Engineering Professors' Council and the Academy on ethics, most recently chairing a working group that produced 20 new ethics case studies. She was also previously Chair of the Academy's Awards Committee, where she took part in the deliberations surrounding the President's Special Awards for exceptional achievements in tackling COVID-19 in 2020.

Professor Sir Saeed Zahedi OBE RDI FREng

Sir Saeed is Chief Technology Officer and Technical Director of Blatchford Group, the UK's leading biomedical engineering company.

He runs the team that developed the first integrated prosthetic leg, which won the Academy's MacRobert Award in 2016.

After joining Blatchford in 2000, Sir Saeed assembled a team of mechanical engineers, electronic engineers and physiotherapists, among others, to work together on the Linx prosthetic leg – the first microprocessor-controlled lower limb prosthetic where the foot and knee continuously 'talk' to each other. In this way, the Linx can create a more natural leg movement.

Sir Saeed is also involved in the World Health Organization's (WHO) GATE initiative (Global Cooperation on Assistive Technology), a 10-year programme that includes mobility as its number one topic, encompassing prosthetics, orthotics and wheelchairs, and has carried out public engagement work with the University of Southampton to introduce school students to bioengineering. He also served as a member of the Academy's External Affairs Committee.

Dame Jo Da Silva DBE FREng

Dame Jo is Director of International Development at Arup.

After studying civil engineering at the University of Cambridge, in 1989 she worked in India on emergency management, returning to the UK a year later to start work as a graduate engineer with Arup. She has worked on large projects such as Hong Kong International Airport and historic sites in the UK including the National Portrait Gallery and the Royal Geographical Society in Kensington.

Dame Jo's focus is on sustainable development and how the resilience of infrastructure is challenged by issues such as the growth of megacities and climate change. She has also spent time working for various humanitarian and UN agencies in the aftermath of disasters. She was a keynote speaker at the Academy's Global Grand Challenges Summit in 2019.

Dr Eben Upton CBE FREng

Co-Founder and inventor of Raspberry Pi

Dr Eben Upton conceived and co-designed the low-cost, credit-card-sized Raspberry Pi computer with an aim to engage more children with computer science. Concerned with the dearth of upcoming computer scientists and inspired by Acorn's 1981 BBC Micro, Eben co-founded the Raspberry Pi Foundation to stimulate the teaching of basic computer science in schools.

Having created a prototype using a Broadcom chip, he went on to co-design and develop the open architecture single-board computer, which runs the Linux operating system. Raspberry Pi's mission is to put high-performance, low-cost, general-purpose computing platforms in the hands of enthusiasts and engineers all over the world. Since its launch in February 2012, over 60 million units worldwide have been sold.

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Professor Máire O'Neill OBE FREng

Professor O'Neill is a leading cybersecurity expert and is the Director of the Institute of Electronics, Communications and Information Technology, Queen's University Belfast.

Her research in hardware security and applied cryptography is renowned internationally. She is a Director of the Research Institute in Secure Hardware and Embedded Systems, and has authored two research books and over 150 peer-reviewed international conference/journal publications. She is a former Academy Research Fellow and has received numerous awards, including a Blavatnik Engineering and Physical Sciences medal in 2019 and an Academy Silver Medal in 2014.

Professor O'Neill has significant expertise in the design of high-speed and lightweight security architectures, physical unclonable functions, side channel analysis, and applied quantum-safe cryptography. Her early research into high-speed advanced encryption standard hardware architectures was successfully commercialised by Amphion Semiconductors and used to provide security in its set-top-box chip sets. She is also a member of the Royal Irish Academy and a Fellow of the Irish Academy of Engineering.

Dr Joshua Macabuag FREng

Co-Founder and Chief Product Officer, Renew-Risk; Engineering Manager, Search and Rescue Assistance in Disasters (SARAID)

Dr Joshua Macabuag has forged a unique career in disaster engineering and risk reduction, leading and growing the UK's largest engineering team for urban search and rescue. He has also driven significant technical advances in catastrophe risk modelling, quantifying disaster risk for renewable energy and for developing countries.

His career spans technical expertise, humanitarian engineering, post-disaster search and rescue, and global advocacy for disaster response. His innovations in structural resilience and disaster mitigation have led to lasting improvements in engineering practices in vulnerable regions. He has personally advanced this vital field of engineering and contributed significantly to international disaster response efforts.

How to become a Fellow

Fellowship of the Royal Academy of Engineering is a national honour, awarded to engineers for outstanding personal engineering achievement. Election to the Fellowship is by nomination only.

The Academy is not a membership organisation, nor is it a professional institution that exists to maintain standards within one sector of engineering only. It is a National Academy that brings together the most successful and talented engineers for a shared purpose: to deliver public benefit through engineering excellence and technology innovation.

Candidates for Fellowship are peer-nominated by two existing Academy Fellows. A nomination is largely written by one Fellow, the proposer, who often works with the nominee to prepare the detailed citation, which provides an account of the candidate's principal personal engineering accomplishments.

Only engineers who are currently active within the profession are eligible for election as Fellows. Nominators are expected to provide evidence that the candidate is likely to make a sustained contribution to our work if elected.

It is an honour to be nominated for Fellowship of the Academy – it is a highly competitive process and there are always more nominations than successfully elected Fellows each year.

Completed nominations are submitted online to the Academy for evaluation by one of eleven Membership Selection Panels (made up of Academy Fellows and tasked with reviewing Fellowship nominations) and the full Membership Committee (made up of the chairs of the selection panels).

All nominations are submitted online via the secure Fellows' area on the Academy's website. The online nominations portal is open all year round, but with a cut-off deadline for submission on **1 September** for each year.

New Fellows' briefing 2022

Engineering Excellence Criteria

The full citation of personal achievements in engineering must highlight the candidate's *individual engineering excellence* during their career, identifying related outcomes. It should not simply list posts.

It is expected that Fellows will embrace and promote the values of the Academy so any evidence of contributions to the advancement of engineering values and ethical practice should also be included. Any evidence that poses a risk to the Academy's reputation, including concerns related to National Security, fraud, corruption or unethical behaviours, will be taken into consideration.

Possible examples include a combination of the following:

a. A management role of significance involving ultimate responsibility for the technical decisions taken and application of excellent engineering practice

b. For those in **industrial, commercial, government or military organisations**, research or development resulting in significant new products, processes or practices is valid evidence. Evidence shall be presented, communicated and evaluated so as to accommodate security considerations

c. Nominations from **academic** and **research institutes** should identify inventions or innovation resulting in successful products, processes, practices or policy influence, in addition to providing evidence of a successful academic career; leadership of an engineering school must be complemented by engineering achievements

d. Consulting engineering evidence should focus on technical contributions having meaningful and beneficial impact on the projects or operations of the client organisation

e. Evidence of engineering **excellence in education, training and/or teaching** with transformational impact which influences national or international practice

f. Engineers who have demonstrated **outstanding entrepreneurship and leadership** in the creation and sustained growth of engineering-based businesses

g. For engineers at a **relatively early career stage**, evidence of an **impressive trajectory** is needed: contributions of this nature should be outstanding relative to their peer group.

If appropriate, the case should also identify:

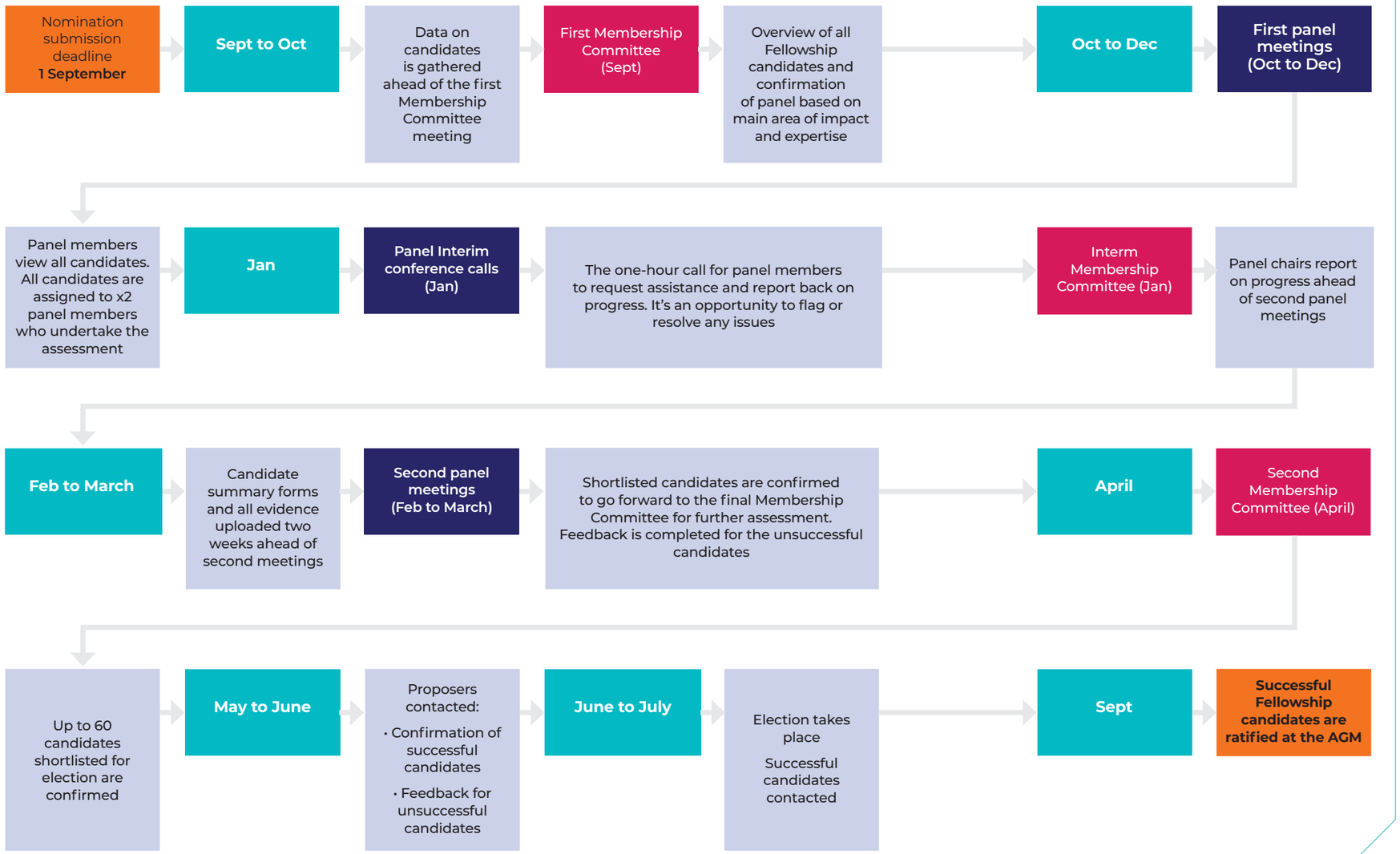
h. influential **personal contributions to prominent committees and agencies concerned with engineering policy or practice**

i. any evidence anticipating **likely contribution to the Academy's work**, for example supporting activities of PEIs, industry associations, standards bodies, etc

j. evidence of **promotion of engineering,** including **outreach activities** across our stakeholder base (e.g. schools, colleges, local and central government, media, the wider public etc).

It is expected that Fellows will be Chartered Engineers or other individuals of equivalent professional standing in engineering who also demonstrate the commitment, ethics and continuing professional development requirements of being a Chartered Engineer.

Membership Process Map



Nomination

The nomination form is prepared by the proposing Fellow. The form, which is completed online, presents all the basic candidate information, contact details and career history. The key section is the full citation, of approximately 500 words, which outlines the candidate's principal personal achievements in engineering. The citation is supported by and cross-referenced to a list of evidence items, which will include specific pieces of work, projects managed, and other resources for panel members to follow up and assess. The full 500-word citation is the primary source of information for evaluating election to the Academy.

It is not a career summary and should not simply list positions held but identify and explain the candidate's most significant personal engineering achievements during their career. The full citation should address the engineering excellence criteria against which the candidate is to be assessed.

It is essential that the full citation draws out the principal engineering achievements of the nominee with identifiable outcomes supported by evidence of impact.

The seconder can also supplement the proposer's work on the nomination in a section permitting up to 10,000 characters. Seconders should follow the same style as proposers, highlighting their nominee's significant engineering achievements and identifying how they meet the engineering excellence criteria.

The 11 Membership Selection Panels

1

Civil, construction and environmental

- including aspects of civil and structural engineering; construction materials; earthquakes; wind and fire engineering; building engineering physics; construction management; numerical modelling; environmental engineering; water resources and flooding; offshore and coastal engineering; hydraulics; climate change and sustainability; waste management; geotechnical engineering; geomatics/surveying.

2

Materials and mining

- including metallurgy; metal forming; corrosion; failure analysis; structural integrity; non-destructive testing; inspection technologies; failure prevention; fabrication and repair technologies; welding and joining technologies; discovery and development of mineral resources; extraction and processing of minerals; mining engineering; materials performance; materials research; plastics and composites; structural materials (excluding materials specifically covered elsewhere).

3

Chemical and process

- including all aspects of chemical and process engineering; aspects of fuel technology; petrochemicals, oil, coal and gas technologies; petroleum engineering; carbon; carbon sequestration; clean technology; sustainability; catalysis; particulates; food processing; fermentation processes; pharmaceutical engineering; biotechnological processes.

4

Aerospace

- including all aspects of aeronautical engineering and aerospace manufacturing; turbomachinery and aerothermal engineering, avionics; radar systems; antennae; satellite systems; autonomous systems; aspects of systems engineering; airlines; materials for aerospace.

5

Transport and mechanical

- aspects of mechanical engineering including automotive; rail and marine engineering; transportation infrastructure; engines; combustion; turbomachinery; mechatronics; acoustics and vibrations; ultrasonics; heat and thermodynamics; fluid dynamics and CFD.

6

Manufacturing and design

- including manufacturing management and manufacturing process innovation; manufacturing business improvement and re-engineering; CAD/CAM; robotics for manufacturing; engineering design.

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7

Electrical and electronic

- including electrical, electronic and control engineering; design for electronics; aspects of nanotechnology and semiconductor engineering; lasers; optoelectronics; photonics; microwave engineering; instrumentation; display technology; solid state electronics.

8

Energy and power

- including energy technologies; including electric power and energy systems engineering; nuclear and renewable energy generation; energy infrastructure; management of energy and energy resources for generation, storage and transmission; distribution and conversion of electric energy and power; electricity supply and energy conservation; hydrogen power; fuel cells.

9

Medical and bioengineering

- including all aspects of medical and biomedical engineering; orthotics; prosthetics; ultrasound for medicine; medical scanning and imaging; drug delivery; biomedical materials; tissue engineering; medical devices; medical robotics and computer assisted surgery.

10

Computing and communications

- including computational and software engineering; informatics; web and data science; artificial intelligence; machine learning; computer vision; robotics; telecommunications; mobile telephony; broadband; wireless spectrum; signal processing; television, film and broadcasting; computer and video games; special effects.

11

Special (including engineering management and multidisciplinary)

- new, emerging or multidisciplinary areas of engineering; leadership and management of engineering business; engineering project management; business improvement and reengineering; also including engineers working in government and the armed services; engineers who have made outstanding contributions to engineering law, education or sectors of engineering not covered elsewhere.

What happens if you are elected to the Fellowship?

Successful candidates are put forward for election after being finalised at the Membership Committee.

A total number of 60 candidates are elected to the Fellowship and up to 10 candidates for International Fellowship. The Trustee Board selects up to five Honorary Fellowship candidates for election. The Fellowship is given the opportunity to vote via the electoral voting system. Successful candidates are ratified in September at the AGM.

The New Fellows' briefing and dinner formally welcome the new Fellows to the Academy.

The New Fellows' briefing provides an opportunity to hear presentations on the Academy's work and find out how to engage in key Academy activities. It also involves a Q&A session with the President, Vice Presidents, Chief Executive, and Senior Leadership Team. A selection of new Fellows deliver short presentations to showcase their important contributions to the world of engineering. At the briefing, new Fellows also subscribe to the Fellowship Obligation and sign the Register of Fellows.

The New Fellows' dinner, where those elected to the Fellowship receive their scroll, is often held in the presence of one of our Royal Fellows.

New Fellows 2024 celebration at Drapers' Hall

Contact us

If you would like to know more about Fellowship of the Royal Academy of Engineering or how to nominate a candidate, please get in touch.

membership@raeng.org.uk
020 7766 0600
www.raeng.org.uk/about-us/fellowship