IMA Strategy 2023-2028

Advancing mathematics and its applications in an increasingly digital, AI and data-driven world and empowering mathematical identities among current and aspiring mathematical scientists

Institute of mathematics & its applications

Part One: Our vision

Celebrating our 60th anniversary in 2024, the IMA is rightfully proud of its achievements over the last six decades. We have developed educational and professional standards in support of those studying and working in mathematics and its applications; provided a suite of high-quality journals representing a broad spectrum of mathematical research; created unique, cross-community knowledge sharing and networking opportunities; and celebrated and promoted mathematics to new audiences. Our new strategy proposes to build on this legacy by continuing to develop new and exciting engagement opportunities to support a diverse and inclusive mathematics community and deliver public benefit.

Over the next five years, the IMA will provide the voice of our members and promote mathematics and its applications in an increasingly digital, AI and data-driven world. It will strive to empower and support all current and aspiring mathematical scientists in academia, education, the public sector, industry and businesses large and small, to fulfil their potential.

We will create a legacy from our 2024 celebrations which will showcase the contribution of the IMA to mathematical innovation and development and provide further opportunities to advance mathematical sciences and inspire new generations of mathematicians over the next 60 years for the continued benefit of society.

Our plan was developed following a consultation period across the organisation over 2022 and 2023 in preparation for our Strategy Weekend in July 2023. Here, IMA trustees and other key representatives, including Early Career members, came together to agree collectively on our strategic priorities for 2023-28. The huge response and time given demonstrates the wonderful support for the IMA from across our network, and that the knowledge and expertise that our volunteers contribute to the organisation goes far beyond their mathematical specialisms.

> **An overwhelming sense of pride in being both a mathematical scientist and being part of the IMA is one of the overriding takeaways from the consultation period.**

Our plan aims to capitalise on this sense of belonging and community, and strategically plan in order to keep pace with rapid changes across society. We will focus on change which influences, and is influenced by, mathematics in order to meet the expectations of the different generations and stakeholders we represent.

2023-2028 Strategic Priority Areas

Our 2023-28 plan is mapped across three broad strategic priority areas:

Advancing the mathematics profession and achieving our Mission

The IMA will play a major role in advancing mathematics and its applications and maintaining high standards of professional conduct. We will promote and guide education and training standards and support activities to attract and retain today's and tomorrow's mathematical scientists. We will develop our EDI strategy to create an inclusive culture within the IMA and across the mathematics and its applications community.

Securing a Sustainable IMA Future

We will modernise the governance model and infrastructure which underpin our services to the mathematics community to ensure they are fit for the future. We will monitor existing, and create new revenue streams and encourage a collaborative working culture. We will develop policies around environmental sustainability and social inclusivity while ensuring we have the right digital tools and systems to deliver our services safely and securely. Our activities will ensure the IMA remains a natural home for all those interested in mathematics and its applications, providing both local support through the branches, and targeted expertise through mentoring and special interest groups.

Showcase and Develop Mathematics for Societal Challenges

The IMA will foster and facilitate debate, discussion and learned output on key topics which affect society and the mathematical sciences community. This includes thought leadership and knowledge sharing on grand challenges where mathematical sciences will play a major role in shaping solutions, such as Climate Change, Artificial Intelligence and Disease Modelling. We will convene Special Interest Groups to develop these activities, building on our successful conference programme, journals and publications, and through new engagement opportunities including training, workshops, podcasts and digital content.

Like many learned societies, the IMA faces external challenges, from the impact of Open Access publishing on our principal revenue stream, to rising costs and inflationary pressures. Our five-year plan builds on our many successes and aims to identify further opportunities that a more hybrid and digital world can offer, as well as develop existing and new activities to support our community and generate new income.

Part Two: Our 2023-28 Ambitions

1. Advancing the mathematics profession and achieving our Mission

The IMA's Mission is set out in our Royal Charter:

(i) To advance mathematics and its applications in all areas including commerce, engineering, finance, health, industry, scientific and other academic disciplines and the public sector and to promote and foster research and other enquiries directed to the advancement, teaching and application of mathematics for the public benefit;

(ii) to seek to establish and maintain high standards of professional conduct for Corporate Members;

(iii) to seek to promote, encourage and guide in the development of education and training in all matters relevant to the advancement of mathematics and its applications for members and all other persons who are engaged in or likely to be engaged in mathematics or its applications.

The IMA continues to deliver the objects of our Charter through a combination of staff and volunteer support, drawing on our extensive network of members who offer their expertise to the mathematics community and beyond. Our mission is achieved through a series of targeted activities. Our five-year goals for each key area are set out below; our intention is to work in close collaboration with partners, supporters and stakeholders across the mathematics community, with equity, diversity and inclusion embedded across our activities.

1.1 Equity, Diversity and Inclusion (EDI)

- Develop and regularly review the IMA's EDI strategy to create an equitable, diverse and inclusive culture within the IMA and across the communities we represent which fosters greater engagement and participation and in which all can thrive and fulfil their potential in mathematical science endeavours
- Introduce a risk-based approach to the management of EDI-related risks to support the embedding of EDI into all of the IMA's activities and processes and inform decision-making
- Ensure our people, processes, systems and activities are inclusive and transparent.
- Measure and monitor our progress against external benchmarks
- Provide EDI training and tools to support inclusivity, particularly for those involved in decision-making and assessments

1.2 Mathematics Education and Outreach

- Encourage, support and develop today's and tomorrow's mathematicians through targeted activities and partnerships which provide opportunities to inspire the next generation, support diversity and recognise excellence
- Support and promote the provision of mathematics and its applications education and teaching excellence in schools, colleges and universities and provide CPD to those in teaching and learning
- Lead the IMA's accreditation of degree courses in mathematical fields and support work with external partners to assess levels of mathematics in data science degrees
- Explore and assess new and existing non-traditional routes into mathematical careers including vocational routes, professional qualifications and apprenticeships

1.3 Enabling and valuing mathematical achievement

- Provide programmes which enable today's and tomorrow's mathematicians to share research within mathematics and its applications with peers, develop their professional skills and build professional networks
- Develop our medals, awards and prizes, providing IMA recognition for achievement in mathematics and its applications across the diverse communities we represent and at all career stages, recognising excellence across diverse settings and skill sets
- Increase visibility, prestige and public benefit of our activities and awards
- Increase links with local branches and the wider mathematical community

1.4 Promoting and celebrating mathematicians and the mathematical sciences

- Provide thought-provoking and exciting member-led content in traditional and digital formats which explore and celebrate past, present and future research and developments in mathematics and its applications
- Improve understanding and awareness among key influencers and policymakers of the impact of mathematical sciences and the contributions of mathematicians to the world around us
- Inspire the next generation through targeted activities and events which robustly challenge maths stereotypes and share the experiences of our members with new audiences

1.5 Support and recognition for mathematical scientists and professionals

- Review and develop professional registration routes which recognise the professional competencies, conduct and ethics of mathematicians working in direct and related fields, such as data science
- Promote our membership and registration offering across academia, mathematics education and industry, working closely with our academic liaison representatives and organisations which employ mathematicians

- Work with industry and academic partners across the mathematical and data science community to update, refine and ensure our professional codes of conduct and accreditation schemes for university courses and employer programmes remain relevant
- Maintain existing and explore new partnerships to enhance the IMA's own professional development offering, including ways for members and registrants to develop and maintain their skills including employability, upskilling and specialist/advanced maths knowledge.

1.6 Working with Employers and Industry

- Develop our Corporate Affiliate offering to provide greater opportunities for cross-collaboration between the IMA and employers to support current, and inspire budding, mathematical scientists
- Provide unique opportunities to unite mathematics professionals working across different sectors and fields, and at different career stages, to network, share knowledge, good practice and benefit from mentoring opportunities
- Provide impartial, non-commercial and objective advice on implementation of mathematical applications and innovation in business settings
- Share and promote the impact of mathematics innovation in industry through our events programme and media channels

1.7 Supporting early career mathematicians and beyond

- Provide a home for graduates and apprentices of mathematical sciences working in a variety of settings across education, academia and the private and public sectors with CPD support, volunteering and mentoring opportunities
- Build on our thriving network of early career mathematicians with events, training and networking opportunities tailored to their career needs
- Support existing and aspiring mathematicians with digital tools to continue their professional development, build lasting networks and achieve their career goals.
- Embed ECMs across every aspect and level of the IMA to promote sharing of their perspectives and knowledge

1.8 Developing our Communities, Branches and Global Reach

- Create mathematical communities through opportunities for knowledge sharing, networking, CPD and mentoring at local, regional, national and international levels
- Support existing and prospective branches in UK and overseas and develop our Special Interest Groups to provide additional opportunities to connect with the IMA
- Harness and expand our links with universities, research institutes and mathematical organisations in UK and overseas, providing opportunities to share good practice, deliver joint events and enhance reciprocal agreements
- Build on opportunities such as online events, creation of on-demand content and international partnerships to increase overseas IMA members' participation in IMA activities
- Provide workshops and training for mathematicians in developing nations to achieve recognition and registration

2. Securing a Sustainable IMA Future

'*Future proofing*' the organisation to ensure the IMA is financially sustainable whilst meeting Environmental, Social and Governance targets; and is able to respond to changing needs responsibly and across multiple platforms, identifying appropriate new revenue streams.

2.1 Financial sustainability / Environmental, Social and Governance (ESG)

- Define our ESG goals and review the IMA's value propositions, finance, investment, fundraising and procurement policies to ensure financial decisions are responsible, offer best return on investment and develop the capacity to achieve our goals and strategic vision for the charity
- Ensure membership value is regularly reviewed and refreshed to meet needs of the community and broader public interest
- Plan, develop and monitor new revenue streams and make strategic investment decisions which enable new activities to be introduced

2.2 Environmental sustainability

- Develop an organisation-level sustainability action plan which aims to reduce our carbon emissions by 45% by 2030, and identifies ways to minimise our impact on the environment through the choices we make - from how we deliver our activities, to procurement and resourcing decisions

2.3 Robust and proportionate governance model

- Review and refresh the IMA's governance model to meet modern guidelines recommended by the Charity Commission and enable clear and agile decision making and effectively manage conflicts of interest
- Ensure clarity and purpose of the IMA board and committee structure and of those groups leading our strategic goals, with clear lines of communication and regular strategic planning and review sessions to monitor progress
- Enhance the IMA's enterprise risk management (ERM) processes to assess interactions between risk categories as well as in silos
- Introduce and ensure our selection processes for key volunteer positions within the organisation are aligned to our EDI strategy and are open and transparent

2.4 Membership and profile

- Increase our profile nationally to help recruitment
- National and international visibility – making people proud to be members
- Online visibility – improving our digital offer
- Students – revisit offer and benefits and appeal, including to audiences such as apprentices

2.5 Digital tools and infrastructure

- Develop a digital strategy to transform our services and ensure best use of resources, building on the success of virtual events and new mentoring platform
- Deploy further offerings such as learning management systems to support mathematicians' career development, CPD and other forms of learning
- Ensure our systems are resilient, secure and future-proofed in adherence with data protection, cybersafety legislation
- Maintain and develop our social media, digital content and communications strategy in accordance with regulatory requirements and provide training and support for our users

2.6 People and well-being

- Develop a modern, collaborative and sustainable working environment for staff and volunteers to provide effective services and value for money safely and securely, making best use of office space and digital tools
- Strengthen our talent management strategies including in-house staff and volunteers, through succession planning and exploring external partnerships and supplier relationships to deliver our programmes and services
- Develop our framework for recognising the contributions of volunteers, i.e., office holders, committee members, editors etc., and staff.

3. Mathematics for Societal Challenges

Foster and facilitate debate, discussion and knowledge on key topics which affect society and the mathematical sciences community, providing thought leadership on grand challenges where mathematical sciences will play a major role in shaping solutions. Launch of official IMA Special Interest Groups to deliver targeted activities, building on our successful conference programme, journals and publications with new engagement and knowledge sharing opportunities including training, workshops, digital communications and contributions to national consultations and enquiries.

3.1 Mathematical Knowledge, Research and Learning

- Showcase and support high-quality mathematical research in academia and industry, demonstrating its ability to impact on societal challenges through our learned events and conferences, suite of peer-reviewed journals, membership magazine and digital communications
- Build a bank/repository of online content, drawing from our networks and partnerships, existing resources and creating new ones, which provides further knowledge and understanding for the mathematical sciences community and improves understanding and knowledge of mathematics and its applications in other professions
- Create new opportunities for engagement and revenue generation through lectures, conferences, workshops, seminars, podcasts, videos, online, in person and hybrid, providing links between research and industry and key stakeholders, including policymakers and wider society

3.2 Global Challenges

- Launch IMA Special Interest Groups to provide impartial, evidence-based mathematical expertise, analysis, learned material and thought leadership on major societal issues focusing on (in first instance):
  - Climate, Environment and Sustainability
  - Artificial Intelligence and Machine Learning
  - Defence and Security
  - Disease Modelling and Health
  - Equity, Diversity and Inclusion
- Support consultations and public inquiry responses from the mathematical sciences community on areas which relate to our expert groups. Publish IMA discussion papers, Maths Matters and other materials, such as videos and podcasts, to demonstrate the ability of mathematics to support decision making, business and public policy
- Increase our partnership activity with other learned societies, KE hubs and organisations in mathematics and beyond to support knowledge exchange and increase awareness of the use of mathematics to solve societal challenges among policymakers and other key influencers.

Part Three: Implementation - A phased approach

The following tables provide examples of key aspirations and outcomes across our three strategic priority areas over the next five years, broken down across two phases. We will develop a detailed delivery plan which will specify achievable, timed and measurable activities and projects that will take place across the organisation, led by the IMA's volunteers and Secretariat, in support of achieving our ambitions.

Throughout the next five years, people and partnerships will remain at the heart of our activities. We will continue to provide successful IMA activities and services including our Branch network, MathsCareers website, conferences, events, workshops and publications whilst delivering public benefit.

Our delivery plan will also include review points for new and ongoing programmes to assess suitability for the future in line with our strategic goals and vision for the IMA for the next 60 years.

Phase 1 — 2023-2025

1. Advancing the Mathematics Profession and Achieving our Mission

- Celebrate the **IMA's key 2024 milestones**, including our 60th anniversary, and launching legacy activities in support of the next 60 years of maths innovation and science for the benefit of society.
- Publish our **EDI Strategy** including objectives, measuring and monitoring tools, guidance materials and wider communication needs.
- Launch of our **IMA mentoring platform** to bring together members across our community and share knowledge and experience.
- Review and relaunch the IMA's **Accreditation of degree courses** scheme.
- Create a **new modern look and feel** of the IMA's visual identity across its family of digital and print media, including Mathematics Today and our digital newsletters, using inclusive and appealing language for the mathematical community and beyond.
- Review our **Grants, Awards and Conferences** to assess our current and future programmes and resourcing needs
- **Consult with employers and other stakeholders** to agree on our Corporate Affiliate scheme proposition and future relationships between industry and the IMA
- Build on online events and international partnerships to **increase overseas IMA members' participation** in IMA activities

2. Creating a Sustainable IMA Future

- Review the IMA's **governance model**, enterprise risk management (ERM), internal and external policies to enable clear and agile decision-making
- Begin **measuring our environmental impact** to assess our current impact and identify changes needed
- Review the recommendations of the independent report to determine our **future office space** and facilities requirements
- Increase our resources to support our **marketing, communication and membership development** functions including greater promotion of our suite of journals
- Develop our **digital strategy**, exploring new tools and systems to support staff, volunteers, members and society at large to achieve our mission
- Update our **financial policies** and guidance on investments, value propositions, fee structures and fundraising opportunities in support of creating greater capacity to achieve our charitable aims
- Launch a new **online voting system** to reduce the environmental impact of our elections and increase member engagement
- Launch a **fundraising scheme** to create a fund for future IMA projects, programmes and strategic investments
- Review our resources and financial **support for Branches** to foster a sense of community at local levels

3. Mathematics for Societal Challenges

- Identify **new partnerships and opportunities** such as the Knowledge Exchange Hub, the new Academy for Mathematical Sciences and Catapults to facilitate greater collaboration between academia and industry
- Explore **new and exciting conference and events** to enhance our existing programmes providing greater opportunities for knowledge exchange and career development among mathematical scientists across academia and industry in the UK and beyond
- Create a **repository/bank of inspiring materials**, including recorded talks, lectures, podcasts, blogs, insight articles at all levels in preparation for the launch of the IMA's training offering
- Explore delivery models and/or partnership options to provide **online training and CPD** resources for our communities
- Contribute to national projects such as **Mathematics Manifesto and Maths Summits** to ensure the impact of applications of mathematics reaches policymakers and other key influencers
- Actively engage with **international mathematics bodies** to increase our participation and reach within the global mathematics community
- Formalise our **Special Interest Groups** and begin planning plan new events, workshops, discussion papers and training opportunities to promote the work of the mathematics community
- Increase awareness of the IMA journals, clarify purpose and delivery of Mathematics Today magazine, and review our social channels to encourage **new contributors and themes** from across the mathematics community

Phase 2 — 2025-2028

1. Advancing the Mathematics Profession and Achieving our Mission

- Demonstrate a **more equitable, diverse and inclusive culture** across the IMA and the communities we represent. Examples include, increased **diversity of speakers** at all IMA conferences and events, **greater diversity of membership** and **greater awareness of mathematics and associated career pathways** in marginalised communities
- **Increase our global reach**, including overseas membership, branches, conferences and community engagement working closely with international universities, mathematical societies and other key stakeholders and launch our **International Committee**
- Review our **professional designations**, CPD and accreditation requirements to ensure they continue to reflect the professional competency, educational and lifelong learning requirements of academics and professionals in mathematics and data science
- Explore **other possible professional recognition pathways** such as Chartered Manager to support mathematicians working in industry and business settings
- Develop **new and engaging ways to inspire the next generation** to consider maths career pathways through digital and other resources, working closely with the partners across the mathematical sciences community

2. Creating a Sustainable IMA Future

- Relaunch our **Corporate Affiliate scheme** alongside other opportunities to support mathematicians in industry and the private sector, working closely with the employer community to define mutually beneficial offerings which are sustainable
- Implement our sustainability action plan to target **45% reduction in carbon emissions by 2030** as well as other goals including use of plastics, paper, water, energy, packaging, procurement and use of fossil fuels to deliver our activities
- Evaluate **our CRM provision** against current and future needs to ensure appropriate levels of agility, integration with other systems and which help **create a sense of belonging** for members
- Generate **new revenue streams** such as multi-platform advertising and sponsorship packages, training and online CPD and fees for key IMA services to support our growth
- Monitor our staffing needs to **ensure adequate secretariat support for our new strategic activities** including increased global reach, Special Interest Groups, industry liaison and external partnerships
- Launch our **new Governance model** to meet modern Charity Commission guidelines, better support our trustees and ensure greater communication and clarity of purpose of IMA boards, committees, networks and groups

3. Mathematics for Societal Challenges

- **Launch our new Special Interest Groups** to support IMA contributions and activities, with increased opportunities to share knowledge and mathematical research in major topics across the mathematical sciences community, civil society, policymakers and other stakeholders, increasing our influence and supporting greater funding for research
- **Regularly contribute to responses** from the mathematical sciences community to key Government inquiries and consultations working closely with the Academy for Mathematical Sciences and other learned societies
- Launch **new online platform** and in-person opportunities for knowledge sharing, CPD and career development support, for mathematical professionals at all career stages as well as for other professionals seeking to improve their knowledge and understanding of maths, **AI and data science, Python** etc.
- Bid to lead or partner with key organisations on **major European and/or global conferences** in the mathematical sciences
- Chart our **EDI progress** against external benchmarks and participate in research with other learned societies and specialist organisations
- Introduce new ways to promote mathematics, knowledge sharing and discussion, such as **podcasts, videos, new Named Lectures** and new-format events themed around Grand Challenges and other subjects.