National Academy of Maths

Finalised Objectives and Requirements

We have developed the long-term objectives into deliverables for the incipient National Academy focused on Mathematical Sciences (NAM) for the three-year funding period. These deliverables will sit alongside the requirements and key performance indicators and form a key part of the monitoring and evaluation (M&E) approach for the incipient NAM. DSIT expects the Grant Recipient to deliver the below outputs from the up to £6 million of funding that will be provided over three years:

- Develop and implement the structures and processes required to provide a coherent and representative voice for the mathematical sciences community, by end of FY 27/28, and provide demonstrable examples and evidence of this on an ongoing basis.
- Collaboratively develop and publish a long-term strategy and delivery plan, by end of FY 27/28, setting out a clear vision for how the organisation will strengthen the mathematical sciences sector and support economic growth and societal benefits.
- Provide credible, expert and timely advice to government, industry and society on issues affecting and relating to the mathematical sciences, in FY24/25 – 27/28.
- Promote mathematical sciences and increase public support, trust and understanding of mathematical sciences through frequent public engagement and activities in FY24/25 – FY27/28, with evidence of impact.

Finalised Requirements

Short-Term Requirements (three years, grant funding)

Put in place the structures and processes required to provide a leading, coherent voice for the mathematical sciences community: The government expects the successful applicant to quickly establish the organisational structures required to ensure they can listen to and amplify the broad range of views in the mathematical sciences community. The successful applicant should establish a team of experts, across academia and industry, appoint key members of leadership staff and establish policy and engagement functions, including with a view to establishing a representative fellowship body. Recognising the diversity of individuals and organisations in mathematical sciences the successful applicant should be careful to define its work and functions in a way that complements the existing activities and work of organisations already operating in the sector.

Publish a strategy setting out a clear vision for the mathematical sciences sector in the UK: In the first three years the successful applicant should lead the development of a strategy to strengthen the mathematical sciences sector and support economic growth and societal benefits in the UK. Engaging voices from across the breadth of the community, the strategy should map the sector and consider approaches to strengthening the evidence base. The strategy should be forward looking, considering not only the skills and expertise needed now, but anticipating the future needs of the UK economy.

Provide credible, expert and timely advice on mathematical sciences: The government expects the successful applicant to be proactive in providing advice to government, policy makers and industry, helping to shape the agenda on mathematical sciences. Recognising that improving mathematical capabilities in the UK will be a continual process, initially the successful applicant should focus on developing a policy engagement function capable of

bringing together views from the sector, complementing the work of others and articulating the most important issues for the sector coherently and effectively.

Increase public support and engagement in mathematical sciences: A core ambition should be to support the existing sector in continuing to advocate for and build mathematical capabilities in the UK. In the first three years, government would expect the successful applicant to develop an underpinning, integrated communications strategy and build a strong evidence base that can demonstrate the value and impact of mathematical sciences to the economy and society as a whole. As the UK moves forward with its ambition to become a science and technology super-power, improving the public understanding of mathematical sciences will be an important driver for successful policy making. An incipient NAM would need to help the sector modernise the way it communicates and promotes mathematics to the UK public, helping the public to understand key mathematical concepts and appreciate the value of mathematics and the critical part it plays in underpinning our modern world. The successful applicant should also establish a dedicated engagement team to galvanise public support for mathematical sciences, working closely with industry to achieve this. This could include outreach activities, in schools/academic institutions, as well as events to engage the broader public, showcasing the practical applications and exciting career opportunities in mathematical sciences and proactive social media content.

Become an established, independent organisation: Although the successful applicant will be funded by the government to up to £6 million initially, it will not be a government body or agency and should therefore seek complementary sources of private and third-sector funding. The organisation must establish a governance and management framework, as befitting an incipient National Academy, setting out decision making roles and rules, financial management, degrees of autonomy, assurance needs, reporting structure, accountabilities and roles and the appropriate management practices and associated documentation. The organisation should adhere to the UK Corporate Governance Code, Charity Governance Code or follow equivalent good corporate governance principles underpinned by robust processes. While we expect the incipient NAM would build a strong relationship with government departments, it must develop and maintain its own views and policy positions.

Publish a delivery strategy setting out a clear plan for the Academy: In the first three years the successful applicant should publish a strategy and delivery plan that will enable it to fulfil the longer-term requirements that government would expect a National Academy to be able to fulfil. This will mean putting in place plans for establishing any self-governing fellowship, securing non-government sources of funding, developing a long-term organisational strategy, a communication strategy and developing strategies to develop mathematical skills across the UK in the long-term.

Longer-Term Requirements (three years+, post-funding period)

Have an established self-governing fellowship: An incipient National Academy would establish a credible fellowship, representing a diverse and broad range of outstanding people from across the full mathematical sciences community that the government and wider sector can connect with.

Leverage private and voluntary sector funding: An incipient National Academy would seek to take advantage of appropriate external funding sources. These might include private donations, sponsorships, or subscriptions amongst other sources. In doing this the organisation must though be careful to safeguard its independence and to avoid harmful competition with its partners. The government also hopes that over time an incipient National Academy would be attractive to private philanthropic investment.

Work to improve and develop mathematical skills across the UK: An incipient National Academy would identify areas of potential improvement between advanced level maths education and the requirements of employers and the wider economy. Particular focus should be given to supporting the UK's competitiveness in advanced mathematical skills that support industries that will underpin future growth, including areas with a strong interrelationship with mathematics, such as Artificial Intelligence and Data Science, including the governments critical technologies[1]. Given feedback received regarding the challenge in ensuring that expertly trained mathematicians can use their skills in the applied setting that growth industries require, an incipient National Academy should find ways to facilitate and assist this, such as delivering tailored programmes and facilitating knowledge exchange. An incipient National Academy should also consider as part of this requirement how to promote a mathematical sciences workforce in which all, regardless of background, can participate. An incipient National Academy should find ways to strengthen and broaden the UK talent pipeline by boosting participation and supporting progression.

Collaborating internationally: Recognising that the mathematical sciences community stretches oversees and plays an essential role in global challenges, an incipient National Academy should begin to establish its international presence, identifying synergies and areas where international collaboration can be forged. In the future, an incipient National Academy could play a role in raising the international profile of the UK's mathematical community and demonstrate the value of mobility in the sector.

Develop options for programmes that support the objectives set out above: The Academy could seek funding for these programmes from a variety of sources, including but not limited to applying for government funding where appropriate.