



Building Bridges

Increasing UK-Russia collaboration in Higher Education and Science

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Foreword

The relations between UK and Russia run long and deep, with over 500 years of formal ties.

The role of education and culture continue to play a key people to people role in this critical relationship. Powerful joint scientific collaborations, three times more impactful than the global average, and a long history of academic mobility has helped create a strong platform to build future collaboration from.

However, much more can be done given the potential international ambitions of both education systems, and in 2022, the 'UK-Russia year of Knowledge' will aim to advance the shared understanding of the opportunities available for higher education and scientific partnerships.

As part of the year, this 'Building Bridges' report aims to better inform the UK education sector about Russia, and the range of opportunities for longer term collaboration towards a 2030 horizon.

I hope you find it both useful and informative.



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1 Introduction

The complex and dynamic nature of the bilateral political relationship provides both the backdrop and motivation for this research. People-to-people engagement through education and science, connecting the next generation of Russians with the UK are important criteria to ensure the foundations for a more positive future relationship. Since Russia hosted the Football World Cup in 2018, political relations have been fraught, influencing wider relationships and collaborative efforts which risks derailing this engagement and preventing longer term relations to develop.

In this context, the British Council were keen to better understand existing collaborations and identify new opportunities for future higher education and scientific partnership activity. As part of this, a delegation of UK Vice Chancellors and Principals joined nearly 100 Russian higher education leaders at the '1st Russia-UK University Rectors Forum', held at Moscow State University in November 2019. This first forum "aimed at deepening UK-Russia collaboration and partnership in research, science and higher education."¹ It focused on higher education policies and frameworks to support increased bilateral collaboration, and was followed up with four roundtable workshop discussions aimed at supporting increased mutual mobility, joint research, TNE, and university-industry collaboration.² At this event, Russia's First Deputy Minister for Science and Higher Education, Grigory Trubnikov, emphasised the importance of science and education:

"You and we are the ones building bridges at a cold, polarising time seething with political cataclysms, and it is bridges of science, education and culture between our countries that are the strongest and most enduring, and wise politicians will never touch these links.... We see your mission and our joint forum as a demonstration of commitment to developing UK-Russia collaboration, and the Ministry of Science and Higher Education stands ready for systematic interaction with UK partners."

This stance echoes that of the UK's former HM Ambassador to Russia who a year earlier, in an op-ed published in the Moscow Times in December 2018, stated:

'... the United Kingdom is not seeking confrontation with Russia. In fact, as Prime Minister Theresa May has made clear, we are open to a different relationship. One that brings benefit to the people of both countries, where we work together in support of international peace and security. We already have the foundations for a better relationship that can be built on. We have a commercial relationship worth over £10 billion annually ... We have deep-rooted cultural and educational links, developed over many years, connecting the next generation of Russian leaders, influencers and entrepreneurs with the United Kingdom.'

Interest in fostering links between the two nations has grown in recent years, even in the face of significant political tensions. Memoranda of Understanding have been established between multiple UK and Russian organisations, including the UK's Arts and Humanities Research Council with the Russian Foundation for Basic Research, and Universities UK International with the Russian Rector's Union. The importance of engaging Russia through education and research collaboration has been highlighted by other international agencies. For example, the 7th annual meeting of the Global

Research Council, held in May 2018 in Moscow, centred on the theme of 'science diplomacy'.³ Jointly hosted by the Russian Foundation for Basic Research and the National Research Foundation of Korea, the meeting emphasised the role of scientists at the forefront of international collaboration, and defining the core principles supporting science diplomacy as safeguarding scientific values, fostering openness, and building trust and relationships.

In the post-Soviet period, the Russian higher education system has expanded significantly. Growth in the number of both students and institutions has been facilitated by the introduction of fee-paying institutions in the public sector and the new private higher education sector.⁴ The variety of types of institution reflects the consequences of both massification and marketisation of higher education. At the same time, structural changes to the economy and labour market have affected traditional student choice. In 2018, the Russian government announced several national

¹ British Council (2020). British Council announce new UK-Russia University Alliance programme to strengthen university links. Accessed at: <https://www.britishcouncil.org/organisation/press/british-council-announce-new-uk-russia-university-alliance-programme-strengthen> [24 May 2021].

² United Kingdom. British Council (2019). UK Vice-Chancellors and Principals Mission to Russia. [As provided by the British Council on 21 May 2021].

³ GRC (2018) Science diplomacy: The role of research councils and the global research council. Accessed at: <https://www.globalresearchcouncil.org/meetings/annual-meetings/2018-meeting/>, June 2019

⁴ Platonova, D., and Semyonov, D. (2018) 'Russia: The institutional landscape of Russian higher education'. In 25 Years of Transformations of Higher Education Systems in post-Soviet Countries Palgrave Macmillan (pp. 337-362).

projects aimed at supporting the development of the country's higher education system, committing significant financial resources to support each initiative, and have since further developed their strategy and priorities for higher education and international research collaboration. Internationalisation is at the heart of many of these funding initiatives. Improved performance in global rankings, attracting larger numbers of international students and ensuring the system is competitive globally, are amongst the government's policy goals, as is increasing Russia's scientific output and research performance. These priorities were recently updated in 2021 in response to the Covid-19 pandemic and the impact it has had on higher education, including the introduction of 'Priority 2030', the largest initiative in the history of modern Russia in terms of state support for universities and is expected to support at least 100 universities in the socio-economic development of the Russian regions.

The UK and Russia have a long history of higher education and science collaboration, dating back to Peter the Great's Grand Embassy to London in late 17th Century, that has historically supported the core principles of science diplomacy, and created well established and world leading institutional expertise, in both countries. The UK delegation of 2019 reset the relationship in higher

education and science and since then, new collaborative programmes have been delivered, including a successful 'UK-Russia University Alliance' programme and return delegation of Russian Rectors' for the 2nd bilateral Forum in October 2021. A UK-Russia round table earlier this year produced a joint statement that defined this delegation's aims as: "to share positive experience, expertise and to discuss new opportunities and mechanisms to support the increase in joint research projects, to intensify and increase academic mobility and Transnational Education programmes, and to define a strategy to 2030."⁵. Planning is also underway for a proposed 'UK-Russia Year of Knowledge Exchange' in 2022, supported by university leaders in both countries, to confirm their commitment to existing partnerships and building new collaborations and links between institutions and people⁶ and over 400 UK students have an opportunity to visit Russia under the Turing scheme in the next year.

To support these initiatives, the British Council has commissioned this report to understand the current policy context and collaboration opportunities between the UK and Russia, particularly in response to a post Covid and post Brexit landscape. This report will enable the UK higher education sector to gain greater understanding and opportunities to engage with Russia.

⁵ Ibid.

⁶ Ibid.



2 Summary of findings

2.1 The UK and Russian policy landscape

The UK and Russia have clear policy ambitions to achieve international research excellence and increased prominence on the global stage via world class higher education.

Russian higher education policy

In May 2018, in a major restructure following the Presidential elections, the Russian government split the existing Ministry of Education and Science into two separate ministries: the Ministry of Education responsible for general education, and the Ministry of Science and Higher Education responsible for higher education and professional development, science, research and development, innovation. In April 2021, President Putin signed amendments to the Federal Law on Education regulating educational activities in Russia, 'which will enter into force on June 1, 2021'.² Under the new law, all educational activity that is outside of formal educational programmes will be placed under government control.

As part of Russia's modernisation efforts, the government has outlined several national projects and funding initiatives to help develop the country's higher education system. The development areas were decided by the Presidential Council for Strategic Development and National Projects under the direction of President Putin in December 2018, with the aim to be implemented by late 2024; these targets have since been adjusted to 2030, in light of Covid-19. Key projects include:

- **Priority 2030:** replacing the previous Project 5-100, Priority 2030 expects to support at least 100 universities for the purpose of regionally socio-economic development and increase the contribution of Russian universities to the achievement of the national development goals, particularly to get five Russian

universities into the global top 100 rankings by 2024, now delayed to 2030;

- **The Young Professionals Project:** universities receive grants to improve their competitive advantage among leading world research and education centres;
- **The National Education Programme:**³ covering all levels of education, NEP aims to ensure the Russian education system is competitive globally, ranks among the top 10 countries in the quality of general education, and seeks to ensure an education system in line with the spiritual and moral values of Russia;
- **The National Science Programme:**⁴ aims to increase Russia's scientific output. Significant government funding for higher education activities is allocated to the National Science and Education Programmes. However, other national organisations are also given financial support to facilitate Russian research activities. The primary activity of these organisations is to offer research funding on a competitive basis, whilst other educational resources are also provided. The two dominant funding organisations are:
 - **The Russian Science Foundation:**⁵ established to support basic research and development of research teams in the fields of science. The Foundation supports research initiatives that contribute to the development of scientific organisations and universities, creation of world-laboratories and development of experimental facilities for scientific research, all provided on a competitive basis.⁶
 - **The Russian Foundation for Basic Research:**⁷ supports Russia's scientific and technical potential, provides financial support to Russian scientists, organising competitions to allocate research funding

1 Russia. President of Russia (2021). Amendments to law on education [online]. Accessed at: <http://en.kremlin.ru/acts/news/65307> [24 May 2021]. State Duma of the Russian Federation (2021). Каким будет новый закон о просветительской деятельности? Accessed at: <http://duma.gov.ru/news/50970/> [1 June 2021].

2 State Duma of the Russian Federation (2021). Каким будет новый закон о просветительской деятельности? Accessed at: <http://duma.gov.ru/news/50970/> [1 June 2021].

3 As per the Future Russia Education website: <https://futuraerussia.gov.ru/obrazovanie> [June 2019].

4 National Science Project summary document. Accessed at: <http://static.government.ru/media/files/UraNEEbOnbjocoMLPOnnJZx40T20Siei.pdf> [June 2019].

5 RSF About the Foundation. Accessed at: <http://rscf.ru/en/node/1138> [June 2019].

6 RSF (2019). Russian Science Foundation releases 2018 Annual Report. Accessed at: <http://rscf.ru/ru/node/russian-science-foundation-releases-2018-annual-report> [June 2019].

7 RFBR. Accessed at: <https://www.rfbr.ru/rffi/ru> [June 2019].

based on the expert assessment by the most respected members of the scientific community. The RFBR has agreements with over 35 international partners and fosters international scientific cooperation through organising competitions for joint basic research projects proposed by Russian and foreign scientists; in 2020, 625 projects were funded from a total budget of 25 billion Rubles (£241 million). These projects came from 21 countries.^{8,9} The RFBR also jointly funds projects with the UK's Royal Society: this included 19 projects in 2020, each receiving 1-1.5 million Rubles.¹⁰

Whilst the RSF and the RFBR are arguable the biggest grant providing organisations in Russia for the research and the sciences, there are smaller organisations that offer funding for projects related to research, innovations and technical progress, including: Foundation for Assistance to Small Innovative Enterprises¹¹; Agency for Strategic Initiatives (ASI)¹²; Russian Foundation for Advanced Research Projects¹³; Rusnano Fund for Infrastructure and Educational Programs¹⁴; Rostec Corporation¹⁵; and Skolkovo Foundation¹⁶

Alongside these education initiatives, the Russian government launched the **Federal Targeted Programme for Research and Development in Priority Areas of Development of the Russian Scientific and Technological Complex for 2014-2020**, funding 25 projects for the purposes of enabling bi- and multi-lateral cooperation (especially with the EU) and provision of international science and technology events. In 2019, Russia's Government also approved the **International Cooperation in Science and Technology Concept (ICST)** declaring "the essential prerequisite for the realization of interests and priorities of the scientific and technological development of the Russian Federation is the active, flexible, effective and pragmatic ICST that includes attracting the world's best scientists and engineers, ideas and advanced technologies, improving the quality of training of young scientists, forming science, technology and innovation alliances."¹⁷ The strategy offers a range of specific activities to support these goals, including the creation of new research centres and funding opportunities. The new ICST Concept included State Programme for Science and Technology (S&T) Development between 2019-2030, builds on the Targeted Programme 2014-2020 by funding initiatives focussed on the implementation of programmes for bilateral and

multilateral S&T cooperation. This includes the growing the activity of their World Class Research Centres (WCRCs) and developing 15 new Research and Educational Centres (RECs) between 2012 and 2021, where each is a consortium of universities and research institutions and each focussed on a specific area of S&T.

Impact of Covid-19

As in many countries, Russian higher education has faced significant challenges in adapting to Covid-19. Research by Higher School of Economics in Moscow and the Ural Federal University¹⁸ found that emergency digitalisation, embracing new teaching and learning formats, and switching to remote teacher-student communication were all significant challenges for universities and students. Digital preparedness of universities and their teaching staff was a particular issue: 20% of faculty members are 93 Russian universities felt their faculty and facilities were unprepared for emergency digital transition; however, nearly two-thirds felt they and their colleagues were well-equipped for the digital transition.¹⁹ This limited institutional preparedness was exacerbated by significant digital inequality across Russian universities. Politically, the issue of mutual recognition of vaccines may also be critical to academic mobility.

For students, there is considerable concern for the impact on academic success and risk of failure for students: 70% of those surveyed had poor self-management skills, while 58% faced problems with poor learning comprehension, 50% poor communication with the teacher, and 46% low motivation to study.²⁰ This is compounded by unequal and/or insufficient digital skills amongst students: while digital skills are seen as necessary for self-study rather than traditional teaching, 60-70% of students (depending on profile) felt their curriculum did not provide them with sufficient skills; further, only about half of students are satisfied with their skills, ranging from 57% amongst engineering and technology students to 46% amongst education and teaching students, with half of students feeling they lack information technology and information security skills.²¹ For these reasons, some Russian academics expect to see a 'digital backlash' following the pandemic, as students seek to regain lost time and skills following prolonged digital learning.

8 RFBR. RFFI's 2014-2020 programme of operations. Accessed at: <https://www.rfbr.ru/rffi/ru/program> [2 June 2021].

9 RFBR. Contests search. Accessed at: <https://www.rfbr.ru/rffi/ru/international> [2 June 2021].

10 RFBR. Results of the competition for the best scientific projects of fundamental research, held jointly by the RFBR and the Royal Society of London. Accessed at: https://www.rfbr.ru/rffi/ru/rffi_contest_results/o_2114568 [4 June 2021].

11 FASIE. Accessed at: <http://fasie.ru/> [June 2019].

12 ASI. Accessed at: <https://asi.ru/eng/> [June 2019].

13 Russian Foundation for Advanced Research Projects. Accessed at: <https://fpi.gov.ru/> [June 2019].

14 RUSNANO Group. Fund for Infrastructure and Educational Programs. Accessed at: <https://en.rusnano.com/about/fiep> [June 2019].

15 Rostec. Accessed at: <https://rostec.ru/> [June 2019].

16 Skolkovo. Grant and expert advice. Accessed at: <http://sk.ru/foundation/grants-experts/> [June 2019].

17 Russian Ministry of Science and Higher Education (2019). Russian's International Cooperation in Science and Technology Concept. Accessed at: <https://www.thphys.physics.ox.ac.uk/people/AndreStarinets/concept-sotrudnichestva-2019-eng.pdf> [1 June 2021]

18 HSE University and the Ural Federal University (2020). Summary article: Remote Learning Struggles Undergraduates' anxieties at the onset of online learning. Accessed at: <https://iq.hse.ru/en/news/470527495.html> [1 June 2021]. Full report in Russian accessible at: <https://www.umj.ru/jour/article/view/1286/1076> [as of 1 June 2021].

19 HSE (2021). ПЕРЕХОД НА ДИСТАНЦИОННОЕ ОБУЧЕНИЕ И УДАЛЕННУЮ РАБОТУ В ОЦЕНКАХ УНИВЕРСИТЕТСКИХ ПРЕПОДАВАТЕЛЕЙ. Accessed at: <https://www.hse.ru/data/> [1 June 2021].

20 HSE University and the Ural Federal University (2020). Summary article: Remote Learning Struggles Undergraduates' anxieties at the onset of online learning. Accessed at: <https://iq.hse.ru/en/news/470527495.html> [1 June 2021]. Full report in Russian accessible at: <https://www.umj.ru/jour/article/view/1286/1076> [as of 1 June 2021].

21 Sobolevskaya, O. (2020). Key Takeaways of eSTARS: Higher Digital Education: How university education is being digitalised in Russia and the world. Accessed at: <https://iq.hse.ru/en/news/423874793.html> [1 June 2021].

The UK's internationalisation strategies

International Education Strategy

In March 2019,²² the UK government published their new international education strategy, with a stated ambition to increase education exports to £35 billion by 2030. The ambition is not just economic: international collaboration brings with it a better understanding of the UK system by overseas partners. When appropriate, the government suggests providing support to UK providers working to support other countries' education reforms, by helping them to share knowledge and exchange policy, as set out in the strategy. The strategy also includes the ambition to grow the numbers of international students studying in the UK from 458,490 in 2017 to 2018 to 600,000 by 2030. More broadly, the government propose supporting global partners in their education objectives and, by doing so, increase the UK's global reach and influence.

To support implementation of the strategy, the UK government has identified five key, cross cutting actions that will support the whole education sector:

- Appoint an International Education Champion to spearhead overseas activity, open international opportunities, develop strong international partnerships in new and established markets and help tackle challenges and barriers;
- Ensure the 'Education is GREAT' campaign promotes the breadth and diversity of the UK education offer more fully to international audiences, from early years through to higher education. As part of this, encourage education bids to the GREAT Challenge Fund for 2019, a £5 million fund which provides support for educational export activity across the globe;
- Continue to provide a welcoming environment for international students and develop an increasingly competitive offer. This includes extending the post-study leave period, considering where the visa process could be improved, supporting employment, and ensuring existing and prospective students continue to feel welcome;
- Establish a whole-of-government approach by implementing a framework for ministerial engagement with the sector and formalised structures for co-ordination between government departments both domestically and overseas; and
- Provide a clearer picture of exports activity by improving the accuracy and coverage of annually published education exports data, developing an approach with a strengthened methodology and a better range of sources.

The international education strategy was updated and revised in early 2021²³ in light of the Covid-19 pandemic and the UK exit from the EU. The update confirmed progress since 2019 – namely the completion of 15 of the original 23 actions – and added 14 new actions to support sector recovery and growth. This included the establishment of a new student mobility programme – the Turing Scheme – to facilitate inbound and outbound student mobility as a replacement to the EU's Erasmus Programme following the UK's exit from the EU. Particularly relevant to the purposes of this document, the revised strategy calls for cross-government and cross-sector collaboration to identify and address the barriers to UK education export growth, facilitating expansion of TNE models. These revised actions are expected to be reviewed in 2022, as part of strategy progress monitoring.

International Research and Innovation Strategy

Also published in 2019, the UK's International Research and Innovation Strategy²⁴ sets out how the UK will develop its international research and innovation partnerships to help achieve the targets set out in the UK's Industrial Strategy, build around the four Grand Challenges of artificial intelligence and data, aging society, clean growth, and the future of mobility, and 10 Sector Deals.²⁵ Through a series of key themes, the strategy targets the UK's offer to distinct international audiences, other governments, research organisations, businesses and investors, and individual researchers and entrepreneurs. The seven key themes are:

- A global partner: build and promote partnerships and openness, guided by excellence and impact;
- Bringing together talent: connect researchers and entrepreneurs, support their development and the translation of their ideas, and build global people networks;
- A global hub for innovation: to provide innovation hubs across the UK for global innovators, entrepreneurs and investors to connect and build industries of the future;
- A package of incentives and financial support: a package of incentives and financial support to attract innovative start-ups and scale-ups that will support growth;
- A global platform for the technologies of tomorrow: the strengths and global reach of the UK's governance, intellectual property and standards frameworks can support the design of common, global regulatory approaches to bring forward emerging, transformative technologies;

²² UK Government Department for Education and Department for International Trade (2019) International Education Strategy: global potential, global growth. Accessed at: <https://www.gov.uk/government/publications/international-education-strategy-global-potential-global-growth/international-education-strategy-global-potential-global-growth> [June 2019].

²³ UK Government Department for Education and Department for International Trade (2021). International Education Strategy, 2021 update: Supporting recovery, driving growth. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/958990/International-Education-Strategy-2021-Update.pdf [10 May 2021].

²⁴ UK Government Department for Business, Energy and Industrial Strategy (2019). International Research and Innovation Strategy. Accessed at: <https://www.gov.uk/government/publications/uk-international-research-and-innovation-strategy/international-research-and-innovation-strategy-webpage> [June 2019].

²⁵ UK Government Department for Business, Energy and Industrial Strategy (2019). Industrial Strategy: building a Britain fit for the future. Accessed at: <https://www.gov.uk/government/topical-events/the-uks-industrial-strategy> [7 June 2021].

- A partner for a sustainable future: to build and invest in collaborative partnerships to tackle the greatest global challenges; and
- An advocate for better research governance, ethics and impact: through multilateral for a, build an international consensus on research governance, ethics and on Open Science to share knowledge and build trust.

Global Challenges Fund

Linked to this is the Global Challenges²⁶ Fund that ran between 2016 and 2021, providing funding for research intended to address the challenges faced by developing countries as part of the UK's official development assistant strategy. The loss of this funding stream in 2021 will leave a significant whole in the available funding for international, collaborative research that could impact future IHE activity.

Impact of Brexit and Covid-19 on UK International Higher Education.

Since the original 2019 version of this report, two major events have occurred that will have a significant impact on international higher education (IHE): the UK's exit from the European Union and the Covid-19 pandemic, which happened simultaneously across 2020.

Perhaps the most significant impact of both events is the effect they have had on international student mobility. Student mobility trends for the UK showed steady growth over the last 5 years, with both inbound and outbound student mobility showing strong growth year on year. Indeed, between 2015/16 and 2019/20, inbound mobility of non-EU students to the UK grew over 30%, whilst EU inbound mobility grew over 13%. The onset of the Covid-19 pandemic during the 2019/20 academic year and continuing through 2021, effectively halted international travel and, therefore, most student mobility. While travel for students doing entire degrees abroad may have continued at low levels, international exchange and other shorts mobility programmes effectively stopped for an extended period. Looking ahead, Covid-19 is likely to have a longer effect on student mobility; though rebound is likely, it will not be immediate and there are many factors that will influence if and when students begin to travel abroad for study; in some cases, students will choose to stay at or closer to home than they would have before the pandemic. A survey by QS of prospective international students interested in studying in the UK showed more than half (55%) intended to delay their start in the UK by at least one year, while small minorities intended to go to another country (10%) or decided not to study overseas (6%). For those still planning on studying in the UK, nearly half (46%) said they would feel comfortable doing so once campuses have reopen and face-to-face teaching has resumed; a similar proportion (43%) would feel

comfortable once a vaccine is available or once there are few cases in the country (39%).²⁷

Potential areas of opportunity

Even in light of Covid-19 and ongoing political tensions, both governments have shown explicit commitment to prioritise and invest in international research and mobility opportunities to tackle the global challenges, harnessing science and technological advancement to support economic growth and national stability. These are:

1. Student mobility: both the UK and Russia have established goals for increased international student mobility. Russia having set their recruitment target to reach over 700,000 incoming international students by 2025, the UK as 600,000 by 2030. A potential opportunity exists to support bilateral student mobility between the UK and Russia, supporting both their goals to increase the total number of mobile students and increase research capacity. This opportunity has been reinforced by the UK's 2021 strategy update, with the launch of the Turing Scheme also enabling new opportunities outside those of Erasmus+; the autonomy provided to universities and other education institutions provides greater opportunity for bilateral exchange between collaborating institutions in the UK and Russia.

2. Funding to support young researchers: several Russian policy initiatives focus on providing funding support for young researchers. The UK government also supports several initiatives aimed at supporting young researchers and referenced this as a key theme in the International Research and Innovation Strategy.

This suggests an opportunity to collaborate to support young researchers in both countries. Further collaboration since 2021 has emphasised the value of focussing on early career researchers to establish new links. The Turing scheme also creates new opportunities.

3. Transnational Education (TNE): data published by the UK Higher Education Statistics Agency (HESA) shows that in the 2017/2018 academic year approximately 675 students in Russia studied on a UK TNE course via branch campus or other partnership. In the same year, 1,995 Russian students studied on UK TNE programmes via distance or online learning and 3,895 on TNE programmes where student is registered with overseas provider but studied for a UK qualification. The Russian government, via both its Education and Science strategies, aims to increase the number of universities offering programs each that have been internationally accredited. This suggesting there is potential for UK TNE programmes to support Russian institutions to provide internationally accredited programmes. The Russian government aims to increase the number of universities offering programs that have been internationally accredited; this aligns to stated UK priorities to improve and expand TNE provision, as reinforced by 2021 strategy update. This suggests there is ongoing potential for UK TNE programmes to support Russian institutions to provide internationally accredited programmes.

²⁶ UKRI Global Challenges Fund, accessed at: <https://www.ukri.org/our-work/collaborating-internationally/global-challenges-research-fund/> [7 June 2021].

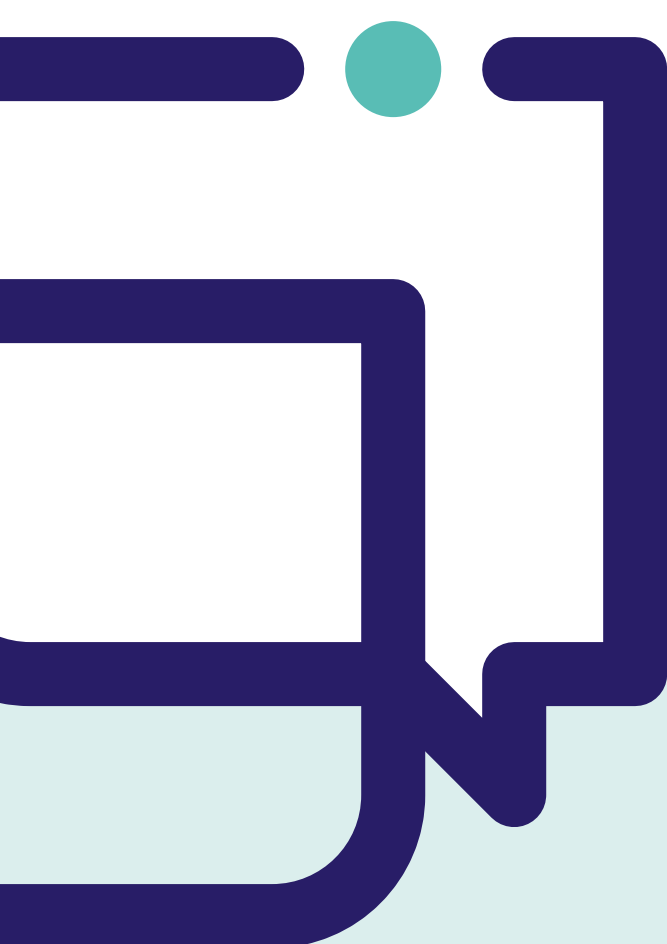
²⁷ QS (2020). UK Higher Education During Covid-19: How International Students are Weathering the Crisis. Accessed at: <https://www.qs.com/portfolio-items/uk-higher-education-covid-19-international-students/> [25 May 2021].

4. Collaboration between science and industry: the UK International Research and Innovation Strategy shows an ambition to create a global hub for innovation to connect and build industries for the future; similarly, the Russian National Science Programme has highlighted the Russian government's ambition to develop cooperation between science and industry. Both the UK and Russia prioritise furthering national level collaboration between their scientific community and industry, presenting a potential opportunity to share best practice. The more recent establishment of the ICST Concept in Russia provides further ways to focus this collaboration, but identifying a number of key priorities and subject areas of particular relevance, most of which have parallel focus and interest amongst UK researchers.

5. Harnessing technology and developing infrastructure: the Russian government has committed ₪350 billion (£4.4 million) to fund the development cutting-edge infrastructure for research and development, whilst one of the seven key priorities set out in the UK government's strategy is build a global platform for the technologies of tomorrow. Sharing best practice in this area could present a future opportunity for collaboration. The increased use of technology is also a recognised priority for the ICST Concept, reinforcing the value of this as a basis for future collaboration.

6. Research governance and ethics: the UK is renowned for world class scientific research, reflected in its continually highly ranked higher education institutions and citation index performance. Increasing the ranking performance of Russian higher education institutions is reflected within the aims Project 5-100 and The National Education Programme. Collaboration to share the UK's expertise in this area could provide an excellent opportunity for the UK and Russia, supporting both Russian policy goals to improve ranking performance and UK ambition to create international best practice. The need for this has not changed since 2019, and should underpin all future collaboration to help align university practices to better support future collaboration.

7. Collaboration to support digital and blended learning: online learning will remain a critical part of higher education, especially international higher education, given its potential to increase access, support TNE and remote learning programmes, and enhancing the learning experience. However, in both Russia and the UK digital transition has been inconsistent in its effectiveness, with significant inequality in terms of institutional capabilities, educator and student skills, and the effectiveness of online learning approach and use of technology. In both the UK and Russia there were examples of institutions that have been notably successful in their digitalisation efforts; there is opportunity to collaborate in future to enhance digital education provision and upskilling educators and students, using the best practices of strong online educators in both countries.



Russian government has committed £4.4 million to fund the development cutting-edge infrastructure for research and development

2.2 The Russian higher education system

Higher education institutions

As of 2021, there were 741 higher education institutions and research centres in Russia²⁸, a slight decrease of 3.1% compared to 2017.²⁹ There are several different types of public institutions, categorised as: two national universities, which have special legal status under the direct control of the government and between them enrol nearly 80,000 students; 10 federal universities designed as academic centres of federal districts; 29 national research universities established to integrate research and teaching equally in their activities; and 33 flagship universities, the most common type and aiming to support regional development by attracting and retaining regional talent. The majority (90.3%) of students attend a state institution, whilst the remainder attend a private institution (9.7%).³⁰

Students in higher education

In 2021, the total number of students studying Bachelors, Masters and Specialist programmes was 4,161,700. Of these, 278,000 were international students, with the majority from former Soviet countries.³¹ In 2017/2018, Russia was below the OECD average for the proportion of inbound (3% of the student population) and outbound international students (less than 1%).³² Of those who do study abroad, Germany, the Czech Republic, the US and the UK the most common outbound destinations.³³ While all subjects are offered across Russian universities, Russia has some of the highest proportions of student in STEM subjects globally: 35% amongst Bachelor's students compared to 27% on average (second only to Germany), and 25% amongst Master's students compared to just 11%.³⁴

Collaborative research

Data published via the SciVal database³⁵ shows the number of co-authored publications by Russian and UK academics for the last five years was 17,651 (2015-2021).

For the 2010-2019 decade, joint publications totalled 21,360; this shows small, but meaningful growth compared to 19,523 between 2009-2018. The largest number of co-authored publications was in the area of Physics and Astronomy (23.9%), followed by Medicine (10.4%), Engineering (8.2%) and Materials Science (7.1%). These subjects have constantly been the areas of the strongest collaboration over the past c. 5 years.

University performance

Performance in global university rankings is given significant weight by Russian policy makers, with an ambition to see five Russian universities in the global top 100 within the next decade. Overall, Russia is not particularly prominent in global university rankings: as of 2021, it had no universities in the global 100 in the Times Higher Education rankings (only one in the top 200);³⁶ in the 2021 QS World University Rankings, there was only one university in the top 100 and no others in the top 200.³⁷ In both cases, the ranking university was Lomonosov Moscow State University.

However, Russia performs more strongly at the subject level and has shown further improvement in recent years. In the 2021 QS World University Rankings by Subject³⁸, three universities are ranked in the top 100 for the Natural Sciences: Lomonosov Moscow State University, Moscow Institute of Physics and Technology, and Novosibirsk State University. The strongest performing subject is Physics and Astronomy, with four universities ranked amongst the top 100: Lomonosov Moscow State University (29), Moscow Institute of Physics and Technology (50), the National Research Nuclear University (86) and Novosibirsk State University (90). Following this is Social Policy and Administration, with three universities in the top 100. Moscow State University, Russia's highest-ranking university, is in the top 100 in 15 subjects, but top 50 in six: Linguistics (24), Physics and Astronomy (29), Engineering – Petroleum (32), Mathematics (34), Modern Languages (36), and Philosophy (41). Only one university was present in a top-20 position: Saint Petersburg Mining University, which is ranked 12th in Mining and Mineral Engineering.

28 Study in Russia (2020). Russian Higher Education in Figures. Accessed at: <https://studyinrussia.ru/en/why-russia/russian-education-in-figures/> [10 May 2021].

29 Russian Federal Statistics Service. Accessed at: <https://eng.rosstat.gov.ru/> [June 2019].

30 Project 5-100 (2021). Высшее образование любит счет. Accessed at: <https://www.Stop100.ru/about/mass-media/144801/> [1 June 2021].

31 Ibid.

32 OECD (2018). Russian Federation - Country Note - Education at a Glance 2017: OECD Indicators. Accessed at: <https://www.oecd-ilibrary.org/docserver/eag-2017-81-en.pdf?expires=1620652706&id=id&accname=quest&checksum=DE1E1CD2C63CBA3B81010A80A4E2CB2E> [10 May 2021].

33 UNESCO Institute for Statistics (2021). Global Flow of Tertiary-Level Students. Accessed at: <http://uis.unesco.org/en/uis-student-flow> [10 May 2021].

34 OECD (2019). Russian Federation - Country Note - Education at a Glance 2019: OECD Indicators2. Accessed at: https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_RUS.pdf [10 May 2021].

35 SciVal is Elsevier's abstract and citation database, covering more than 20,000 publications and 230 nations, the majority of which are peer-reviewed journals in top-level subject fields: life sciences, social sciences, physical sciences and health sciences. SciVal was previously known as Scopus.

36 Times Higher Education World University Rankings (2021). Accessed at: https://www.timeshighereducation.com/world-university-rankings/2021/world-ranking#/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats [10 May 2021].

37 QS World University Rankings (2021). Accessed at: <https://www.topuniversities.com/university-rankings/world-university-rankings/2021> [10 May 2021].

38 QS World University Rankings by Subject (2021). Accessed at: https://www.topuniversities.com/subject-rankings/2021?utm_source=topnav [10 May 2021].



System challenges

This study has identified eight challenges the Russian higher education system currently faces:

- **Low levels of international mobility:** At present, outbound mobility of Russian students to foreign universities is just 1%; whilst increasing, this is a comparably small proportion of the total student population.
- **Graduate employability:** official estimates suggest that between 30% and 60% of higher and vocational education programmes do not meet the demands of the labour market. After graduation, according to the Federal Statistical Service³⁹, up to 31.3% of higher education graduates and 40.5% of vocational education graduates are not employed in their professional spheres.⁴⁰ Employers particularly note a lack of general skills, positive social attitudes (communication, cooperation, creativity and analytical thinking), entrepreneurship and self-management amongst graduates.
- **Quality of academic provision:** poor perceptions of quality standards for students and institutions may impact the perceived strength of Russian graduates and academic standards, limiting interest in collaboration.
- **Continuing education:** involvement in lifelong learning is one of the lowest in developed countries, approximately 17% compared to the EU average of 40% and Sweden at 66%.⁴¹ The Boston Consulting Group estimates Russian employers spend 10 times less on staff development compared to their European counterparts, resulting in Russia's low position in INSEAD's Global Talent Competitiveness Index – ranked 49th out of 125 countries in the 2019 rankings.⁴²
- **Lack of subject engagement and brain drain:** the expansion and growth of the Russian research sector suffers the negative consequences of high levels of outgoing mobility, and in many cases permanent emigration. Case study interviews conducted for the

purpose of this research supported this perception, as confirmed by some participating UK institutions.

- **Significant administrative barriers impede progress:** bureaucratic barriers towards the administration and organisation of research have been highlighted as potential barriers to achieving the Russian government's stated policy goals. The importance of academic autonomy has been highlighted by sector experts as a vital component in achieving academic excellence throughout the Russian research sector.
- **Heightened vigilance towards international scientific collaboration:** Russian government continues to tighten state control over education. The amendments to the Federal Law on Education in the Russian Federation Education regulating educational activities in Russia – as referenced above – bring all informal educational activity under government control. It remains to be seen if/how this might impact prospective international collaborations, however the additional administration that will be required to enable international cooperation and associated activities could be a barrier to both UK and Russian institutions.
- **Impact of university performance indicators and rankings:** within the last five years, there has been increased discourse from the Russian government surrounding the necessity to reduce the number of low quality or weak institutions. The state has developed a methodology to evaluate the performance of all Russian universities; evidence suggests that the introduction of this process has artificially impacted the Russian higher education sector, focusing resources towards performance improvement in several international rankings, and other unintended consequences linked to this. However, Russian universities are increasingly represented in global subject-level rankings; thus, while the challenge remains, there are signs of improvement and opportunity.

³⁹ Russian Federal Statistics Service. Accessed at: <http://www.gks.ru/> [June 2019].

⁴⁰ Centre of strategic research and Higher School of Economics (2018). 12 Solutions for a new education. Accessed at: <https://publications.hse.ru/en/books/224314348> [June 2019].

⁴¹ Ibid.

⁴² Adecco Group. Global Talent in the Age of Artificial Intelligence. Accessed at: <https://gtcistudy.com/wp-content/uploads/2019/01/GTCI-2019-Report.pdf> [June 2019].

2.3 Existing partnerships

Russia and the UK

The UK government in both their International Education and International Research and Innovation strategies have established clear ambitions of how they intend to maintain and grow the UK's position as a provider of and partner for international education opportunities. Russia has historically been an important UK partner in several of these priority areas, examples of flagship initiatives are highlighted below. There are multiple contemporary examples of ongoing partnership programmes that facilitate collaborative working and bilateral relations between UK and Russian academics and universities, a selection of which area explored in depth in the proceeding chapters.

Lessons from existing partnerships

Eight UK-Russia university partnerships were selected for in depth analysis to support understanding of the collaborative landscape and identify areas of best practice. This resulted in six key findings for facilitating successful partnerships, listed from most to least often cited:

- **Pre-existing relationships are more successful:** those who had a prior relationship with their partner believe this was a key component of their success. Prior relationships are not just about collaborative work but could just involve conference attendance or keeping in touch, which help to establish a mutual understanding and close relationship before undertaking any collaborative work.
- **People make the difference:** multiple partnerships commented on the importance of having partners with mutual interests and shared values. Alignment of interest and goals, a common purpose and a sense of mutuality all increased perceived and actual success within partnerships. Partnerships where one party was more/less engaged or where expectations were out of sync struggle more; some are able to overcome these challenges due to mutual interest, but this is not always the case.
- **Communication is key:** establishing clear communication practices at the outset of any new relationship can be a struggle, however doing so is crucial to partnership success. Establishing regular communication throughout the partnership lifecycle to ensure regular and easy contact is invaluable.
- **Emphasise early career researchers:** case studies reference the value and importance of bringing early career researchers into partnership programmes. In some cases, this is a consideration for partnership 'pipelines' and increasing interest in UK-Russia partnerships from an early stage; in other cases, this is related to the value of having postgraduate and postdoctoral researchers involved in collaborative research, allowing for a mutually beneficial relationship of experience and network-building for early career researchers and an outlet to delegate research tasks and share the load for more senior academics.
- **Wide-ranging support needs must be addressed:** most partnerships made reference to at least one area

of support needed to enable success. These include support with UK visas, administrative assistance, cultural navigation and governmental backing.

- **Flexibility and iteration are a must:** case study partnerships often reference the need for, and value of, flexibility in the programme's design. Being able to use resources, plan their own activities and travel, and manage their partnership with minimal restrictions is a hallmark for the most successful partnerships. A key reason for this is the ability of partnerships to adapt and iterate their plans as a partnership progresses, for example adapting to challenges or delays in research, broadening or adjusting research scope based on any findings, negotiating changing schedules or travel issues (such as visa delays), etc.

Competitors

France and Germany were identified as key UK competitors for higher education partnerships and collaboration with Russia, as they also support provision for collaboration in terms of research, teaching, training and student mobility. Additionally, China and the United States are recognised as competitors with the UK. Analysis of the interactions of each, mobility figures and inclusion of three non-UK partnership case studies resulted in three key learnings:

First, all four countries show a concerted effort by government to support and enable such interactions. Presidential visits between China and Russia, the Year of Science and Education Partnerships in Germany (2018-2020), and the joint French-Russian Declaration for new partnerships (2018) are all crucial examples of government support for such collaborative initiatives and the degree to which these can provide necessary permission and support for wider higher education collaboration and engagement. Indeed, the UK case study of UNIHEAT demonstrates the inverse of this, namely the impact the loss of government support can have on collaboration.

As a result, many competitor countries show a long-standing history of relationships between specific local institutions and their Russian partners, which has created a solid foundation for TNE, student mobility and research collaboration – particularly in France and Germany. This longevity and its impact on collaboration is also seen via the UK case study of the Royal Society,

Further, the French and German case studies exemplify the degree to which these partnerships have been nurtured and expanded within the organisations over time – with a broad range of activities across both that have been developed as a result of the ongoing positive relationships. Crucially, this has been supported by the establishment of infrastructure and expertise needed to smoothly enable such collaborative work and support wider cultural exchange; for example, a dedicated person managing the university partnership relationship and facilitating new collaborations.

2.4 Recommendations

How can partnership activity be increased?

Focusing on areas of mutual interest and global challenges may help to increase the number of institutions actively collaborating

Key policy synergies suggest collaboration potential for the areas of: Transnational Education (TNE); digital learning best practice; science-industry collaboration; infrastructure and technology development; and research governance and ethics. Similarly, analysis of the Russian higher education landscape shows a number of challenges towards local higher education system development, which could offer significant opportunity for collaboration and the sharing of best practice. These areas are: student mobility, quality assurance, and employability skills.

However, it will be important to situate any future partnership programme within areas of mutual academic strength to ensure appeal to academics seeking to work with internationally recognised experts. They should also build on existing, strong personal relationships and increase the number of institutions actively collaborating.⁴³ Analysis has shown Russia has particular strengths in the following subjects: Atmospheric, earth and energy sciences, particularly astronomy; Engineering – mechanical, mineral / mining, and petroleum; Mining; Mathematics; Nanoscience and technology; and Physical sciences – archaeology, biological sciences and physics in particular.

Providing additional support for early career researchers may help to increase the pipeline of bilaterally mobile researchers.

Support for early career researchers is a stated goal of both the UK and Russian governments. Focus on this would increase partnership pipeline for the future by developing the next generation of collaborators and thought leaders. This creates a mutually beneficial relationship of experience and network-building for early career researchers and an outlet to delegate research

tasks and share the load for more senior academics. While collaborative activity since 2019 has produced some focus on this – with positive effects – there is still significant effort needed to create a viable pipeline of future researchers interested in and with experience of UK-Russia collaboration.

What helps or hinders UK-Russia co-operation?

- Partnerships should be based in authentic, grass roots relationships, with particular strength for pre-existing relationships;
- Partnerships are based on mutual interests and mutual benefit offer the greatest chance for success;
- Partnerships offer academic autonomy and impartial funding mechanisms best support partnership outcomes and longevity;
- Flexibility and iteration are crucial to partnership success to enable adaptation of partnership plans and research scope to address unexpected challenges;
- Wide-ranging support needs must be addressed, specifically in relation to UK visas for Russian partners, addressing administrative burden, navigating Russian or UK cultural or systemic difference, and government backing. Recent policy changes in Russia which govern informal educational activities, including formal partnerships, could create barriers to collaboration which future initiatives will need to take into account and overcome.



⁴³ While analysis of international rankings could provide information on the UK's relative strengths, it would be valuable to use this evidence of Russian academic strength areas as a point of discussion with UK Vice Chancellors and wider academics experts to assess the areas of greatest interest for bilateral collaboration.

3 Context, policies and funding for Russian and UK higher education

3.1 Russian policies and funding for higher education

In May 2018, in a major restructure following the Presidential elections, the Russian government created two new departments from within the existing Ministry of Education and Science:

- The Ministry of Education: responsible for general education (pre-school and primary / secondary school) and other activities associated with learning such guardianship of minors, social assistance and social security for students, and oversee more general youth policies, headed by the Minister of Education and Science Sergey Kravtsov.
- The Ministry of Science and Higher Education: a new ministry merged with the Federal Agency for Scientific Organisations (FASO), responsible for higher education and professional development, science, research and development, innovation, nanotechnology, development of federal research and high technology centres, national research centres and academic towns, and intellectual property.⁴⁴ It is headed by Valery Fal'kov.

As part of these changes, the Federal Service for Supervision in the Area of Education and Science now reports directly to the government.

Amendments to the Russian Federal Law on Education

In April 2021, President Putin signed amendments to the Federal Law on Education regulating educational activities in Russia,⁴⁵ which will enter into force on June 1, 2021.⁴⁶ The purpose of the amendments is to “counteract Western states’ interference in our internal affairs,” namely to protect the public from “anti-Russian propaganda disguised as educational activities” and from “anti-Russian forces” that could use educational activities “to discredit Russian state policy uncontrollably.”⁴⁷ Under the new law, all educational activity that is outside of formal educational programmes will be placed under government control.

To this end, the amendments introduce “educational activities” into the Federal Law on Education. These are defined as: “Activities carried out outside of formal academic programs with the intention of disseminating knowledge, experience, the formation of skills, value systems, or competence for the purpose of a person’s intellectual, spiritual and moral, creative, physical, and (or) professional development, in order to satisfy a person’s educational needs and interests.”⁴⁸ The law will require any educators to coordinate their activities with state officials in accordance with specified statutes and procedures. The law empowers the Ministry of Science and Higher Education and the Ministry of Education with the authority to license educational projects and pays

44 President of Russia (2018) Executive Order on the Structure of Federal Executive Bodies of Power Accessed at: <http://en.kremlin.ru/acts/news/57475> [June 2019].

45 Russia. President of Russia (2021). Amendments to law on education [online]. Accessed at: <http://en.kremlin.ru/acts/news/65307> [24 May 2021].

46 State Duma of the Russian Federation (2021). Каким будет новый закон о просветительской деятельности? Accessed at: <http://duma.gov.ru/news/50970/> [1 June 2021].

47 Russian Federation. Government Decree: Об утверждении Положения об осуществлении просветительской деятельности. Accessed at: https://storage.consultant.ru/ondb/attachments/202104/26/Proekt_PP_RF_oid.pdf [1 June 2021]

48 Ibid.

special attention to cooperation between educational institutions and international organisations. Notably for IHE, any organisation or institution in Russia wanting to sign an international agreement in the field of education will require special permission of the Ministry of Education or the Ministry of Education and Science to do so.

Critics of the project, including representatives from the scientific community and cultural figures, believe that it creates the preconditions for “repressive and censoring regulation” and could impede collaboration with foreign speakers and scientific literacy, particularly that it is not clear who exactly the regulation will affect, e.g. educational institutions, museums, NGOs, or individuals.⁴⁹ Members of Russia’s scientific and academic communities warn that the reforms would hinder the country’s popularisation of science, and a petition against the legislation achieved more than 248,000 signatures.⁵⁰ Similarly, the Accounts Chamber of the Russian Federation gave a negative review on the draft law, stating “the implementation of the bill will lead to restrictions on the activities of civil society organizations, including social non-profit organizations, discussion platforms, interest clubs, cultural centers, communities, and so on.”⁵¹ However, Russian government feels there is precedent for such measures. Similar policies have been debated or implemented in other parts of the world recently (e.g. debated in Australia, and a case where certain institutions which were pushed out from the US universities after the US government expressed concern about their activities).⁵² Similarly, while there will be oversight of these activities, Russian government does not intend this oversight to interfere with international relations in higher education, as critics suggest.⁵³

Other relevant policy changes

In August 2020, Russia also amended its migration regulations for international students, allowing full-time international students to be part time employed during their study periods in Russia, thus offering greater flexibility and opportunity to international students.

Key policies, projects and funding

As part of Russia’s modernisation efforts, the government outlined several national projects and funding initiatives to develop the country’s higher education system. The development areas were decided by the Presidential Council for Strategic Development and National Projects under the direction of President Vladimir Putin in December 2018, with the aim to be implemented by late 2024; these targets have since been adjusted to 2030, in light of Covid-19. Two of these National Projects – in Education and Science, as well as several federal

programs under their umbrella – offer detailed plans aimed at bringing Russia to the forefront of education globally. As such, they play a central role in the country’s higher education and international higher education development.

From Project 5-100 to Priority 2030

The Russian government launched **Project 5-100** in early May 2013, with the objective to modernise Russian universities. The central aim of the project was to bring five Russian universities into the global top 100. The project encouraged universities to increase their international activities by requiring universities to implement international councils responsible for making their university more internationally competitive, and to raise awareness of Russia’s international higher education potential, supporting the goal to increase inbound international student mobility. As part of the project, the Council on Competitiveness Enhancement of Leading Russian Universities among Global Research and Education Centres was created to help facilitate this goal, with representatives from the academic, public and educational sectors. As part of the project, universities bid for special recognition from the Council to demonstrate their academic and research excellence by submitting development roadmaps for assessment. The selected universities receive subsidies when the objectives set out by these road maps were achieved and when they were able to demonstrate their ability to attract funding from non-government sources, thus incentivising their success.⁵⁴

Project 5-100 was replaced in 2021 by a new, unified **Strategic Academic Leadership Programme “Priority-2030”**, launched on May 13, 2021 and expected to last for 10 years. Priority 2030 is seen as the largest in the history of modern Russia in terms of state support for the universities and expects to support at least 100 universities. As part of the programme, universities will bid for grants from the federal budget. Each university will be awarded a grant of ₺100 million Rubles / £950k for the projects aimed on the socio-economic development of the region. Some universities will be able to apply for special grants to support projects in the areas of scientific research, territorial and industrial leadership. The main objectives of the programme are to increase the contribution of Russian universities to the achievement of the national development goals of the Russian Federation for the period up to 2030, contribute to a balanced regional development of the country, and ensure the availability of the high-quality higher education in the Russian regions; the programme is targeted specifically at regional development and will primarily benefit regional universities, thus enabling students in the regions to receive a high-quality higher education and to participate in scientific research at their place of residence.⁵⁵

⁴⁹ Kommersant (2021). Открытия ждут закрытия. Accessed at: <https://www.kommersant.ru/doc/4606281> [1 June 2021]

⁵⁰ Change (2021). Против поправок о просветительской деятельности. Accessed at: <http://chnq.it/nkFFRqKvMp> [1 June 2021]

⁵¹ Interfax (2021). СП дала отрицательный отзыв на инициативу о просветительской деятельности. Accessed at: <https://www.interfax.ru/russia/756304> [1 June 2021]

⁵² Comments from Russian official, May 2021.

⁵³ As stated by a representative of the Russian Embassy, London (2021).

⁵⁴ Ministry of Science and Higher Education of the Russian Federation. 5-100 Russian Academic Excellence Project: About. Accessed at: <https://Stop100.ru/about/more-about/>

⁵⁵ Russian Federation (2021). Government Decree: On measures to implement the program of strategic academic leadership, Priority 2030. Accessed at: <http://publication.pravo.gov.ru/Document/View/0001202105210040?index=13> [1 June 2021]

The Young Professionals Project

As part of the Young Professionals Project in 2019, 21 universities will receive ₹9.9 billion Rubles (£95 million) to improve their competitive advantage among leading world research and education centres. The amount that each university will receive varies, with more prestigious universities receiving more.

Table 3.1 Per university funding for Project 5-100⁵⁶

University	5-100 funding	QS Global World Ranking
Higher School of Economics (HSE)	£10,770,000 each	322
ITMO University		436
National Research Nuclear University (MEPhI)		329
National University for Science and Technology (MISIS)		451
National University for Science and Technology (MIPT)		302
Novosibirsk State University (NSU)		231
Tomsk State University (TSU)		268
Kazan Federal University (KFU)	£5,380,000 each	439
RUDN University		446
Sechenov University		Unranked
Saint Petersburg Polytechnic University		404
Tomsk Polytechnic University		373
University of Tyumen		Unranked
Ural Federal University		412
Far Eastern Federal University (FEFU)	£1,000,000	541-550
Immanuel Kant Baltic Federal University		Unranked
Samara University		801-1000
Saint Petersburg Electrotechnical University		Unranked
Siberian Federal University		801-1000
South Ural State University		801-1000
Lobachevsky University		601-650

⁵⁶ Ministry of Science and Higher Education of the Russian Federation. 5-100 Russian Academic Excellence Project: Latest news. Accessed at: <https://www.Stop100.ru/news/97331/> (June 2019).

The National Education Programme⁵⁷

The National Education Programme (NEP) is part of the Ministry of Education's portfolio.⁵⁸ The programme has a budget of ₹784.5 billion Rubles (approx. £7.5 billion), of which ₹723 billion are drawn from the Federal budget, ₹45.7 from budgets of the federal subjects, and ₹15.4 billion from other sources.

Covering all levels of education, from pre-school to post-graduate, the NEP's key objectives are:

- To ensure the Russian education system is competitive globally;
- To ensure Russia ranks among the top 10 countries in the quality of general education; and
- To produce an education system that ensures the upbringing of harmonious and socially responsible individuals, in line with the spiritual and moral values of the peoples of the Russian Federation.

These programs aimed to achieve the following by the end of 2024:

- Russia will be in the top 10 countries whose universities are present in the top 500 of the global university rankings;
- 60 universities will be offering at least five programs each that have been internationally accredited;
- 30 universities (at least one from each federal district, in at least 10 federal subjects) will receive state funding, and the road maps for their development will be brought up to date in accordance with the 'National goals of the Russian Federation until 2024';
- By the end of 2019, 80 universities from 40 subjects will be offering training in the basic areas of economy and social sphere and will be eligible for state support;
- By the end of 2024, 20% of students will be taking selected courses / modules using the resources of external organisations, including those universities whose programs meet the global academic requirements;
- A platform for online life-long learning programmes will be created using locally developed software to boost the introduction of online courses at all education levels;
- A system of graduate employment monitoring will be created, measuring how satisfied the employers are at the graduates' qualifications and how well the latter meet the demands of labour market and economy;
- The number of international students in Russian universities will increase to 700,000 by 2025, with up to 300 internationally accredited academic offered by Russian universities.⁵⁹ To achieve this, 80,000 places will be created on campuses, infrastructure and information resources will be further developed; and
- 50 resource centres with Russian language as the

medium of instruction will be created for children and teachers in partner countries.

The National Science Programme⁶⁰

The National Science Programme (NSP) is in the portfolio of the Ministry of Education. The NSP aims to increase Russia's scientific output. Whilst separate from NEP it is undeniable that the two will influence one another. The specific objectives of the project are:

- To ensure Russia is one of the top-five countries conducting research and development in the priority areas of science and technology;
- To attract leading Russian and international scientists, as well as young researches; and
- In-country funding for research and development is increased.
- The national project is subdivided into three separate programs, each allocated separate funding:
 - Development of cooperation between science and industry. The annual budget is ₹5 billion in 2019 (£48 million), ₹11.4 billion in 2020 (£110 million), and ₹7.1 billion in 2021 (£68 million). The objectives are to create 15 world class science and education centres (five in 2019 and at least 15 by 2024), 14 competence centres (within the National Technological Initiative),⁶¹ and other research centres will be created across Russia. They will train young scientists and lead on the collaboration with industry. In 2019, grants were awarded to Perm, Belgorod, Kemerovo, Nizhny Novgorod and Tyumen regions to fund the creation of such centres. In 2020 and 2021, competitions will be held to select the next grant recipients.
 - Development of cutting-edge infrastructure for research and development in Russia. The budget is ₹350 billion (£3.3 billion). The project aims to replace 50% of the equipment used by research organisations by the end of 2024. In addition, 'megascience' facilities will be launched and the existing research facilities for such projects will be updated, and new ones built. This programme also aims to complete 250 marine research expeditions, suggesting that this is an area of specific interest to the Russian government.
 - Development of human capacity in the area of research and development. The budget is ₹70.9 billion (£6.8 million). The project aims to establish a holistic system of training for researches, teachers and young researches. By the end of 2024, at least 250 new laboratories will be created. The number of Russian scientific articles included in the international databases (WEB of Science, Scopus) will increase from 260 in 2019 to 500 in 2024. The number of scientists working in Russia that have publications in the scientific magazines of the first and second quartiles will go up from 27,500

⁵⁷ As per the Future Russia Education website: <https://futererrussia.gov.ru/obrazovanie> [June 2019].

⁵⁸ Ministry of Education of the Russian Federation website: <https://edu.gov.ru/about/> [June 2019].

⁵⁹ ICEF Monitor (2017) Russia aims to triple international enrolment by 2025. Accessed at: <https://monitor.icef.com/2017/06/russia-aims-triple-international-enrolment-by-2025/> [June 2019].

⁶⁰ National Science Project summary document. Accessed at: <http://static.government.ru/media/files/UraNEEbOnbjocoMLPOnnJZx40T20Siei.pdf> [June 2019].

⁶¹ National Technology Initiative. National Technology Initiative Centres. Accessed at: <http://www.nti2035.ru/technology/competence> [June 2019].

to 30,800 in 2024. The number of patents coming from Russian engineering centres, prototype centres and other organisations will go up to 3,500 in 2024 and those emerging within the science and education centres and the competence centres of the 'National Technological Initiative' will go up to 1,500 in 2024.

The Russian Science Foundation⁶²

The Russian Science Foundation (RSF) was established to support basic research and development of research teams in the fields of science. The Foundation supports research initiatives that contribute to the development of scientific organisations and HEIs, creation of world-laboratories and development of experimental facilities for scientific research, all provided on a competitive basis. The Foundation provides grants for the following fields of knowledge: Mathematics, Computer and Systems Sciences; Physics and Space Sciences; Chemistry and Materials Science; Biology and Life Sciences; Basic Research for Medicine; Agricultural Sciences; Earth Sciences; Humanities and Social Sciences; and Engineering Sciences.⁶³

The more recent organisational highlights (for 2020) show a budget of about ₺21 billion (£242 million), which funded 5,000 programmes and projects involving 37,400 scientists (27,300 under the age of 39), representing 581 organisations. The results of their work were peer-reviewed and are reflected in 23,900 scientific publications (11,800 in the Web of Science collection).⁶⁴ This is a sight increase on project, participant and publication numbers from 2019 (4,700 projects, 33,000 scientists from 570 organisations, and 11,000 Web of Science publications).⁶⁵ The RSF also has bilateral collaborations with nine funding bodies from seven countries: Germany, France, Belgium, Austria, Japan, India, China and Taiwan; since 2015, these partnerships have funded 25 funding calls resulting in 216 funded projects.⁶⁶

Among the projects supported by RSF is the Presidential programme of research projects, comprising three competitions:

- **Initiative research conducted by young scientists⁶⁷**

Eligible projects are led by researches up to 33 years of age with a 'Candidate of Science' degree.⁶⁸ The project budget is ₺1.5-2 billion (£15-19 million) annually until 2022 (for projects selected in 2019).

- **Research conducted by research groups led by young scientists⁶⁹**

Funded projects are aimed at the career development of young researches, broadening the scope of their scientific work and building research teams who could later become core teams at the new laboratories and research centres. The project budget is up to ₺5 million (£48,000) per year for three years with possible extension up to five years, given to groups of researches led by 'Candidate of Science' or 'Doctor of Science'⁷⁰ up to 35 years of age.

- **Research Conducted on the World Class Research Laboratories within the Priorities of the Scientific and Technological Development of the Russian Federation⁷¹**

The grants awarded in March 2019 were allocated for research on large objects of scientific infrastructure, including centres for the collective use of scientific equipment and unique scientific facilities. The project runs from 2019-2022 with possible extension for three more years. It has a budget of up to ₺60 million annually (£575,000). Each programme requesting grant funding should comprise several independent scientific projects, with the annual funding of ₺4.6 million (£43,000) a year for each project.



62 RSF About the Foundation. Accessed at: <http://rscf.ru/en/node/1138> [June 2019].

63 RSF Research Fields. Accessed at: <http://rscf.ru/en/node/1160> [June 2019].

64 Russian Science Foundation, 2020 statistics. Accessed at: <https://rscf.ru/en/> [4 June 2021].

65 Russian Science Foundation: 2019 performance highlights. Accessed at: <https://rscf.ru/en/about/performance-highlights/> [4 June 2021].

66 Russian Science Foundation: International Cooperation. Accessed at: <https://rscf.ru/en/contests/international-cooperation/> [4 June 2021].

67 Presidential programme research projects Competition "Conducting Initiative Research by Young Scientists" Accessed at: <http://www.pprgm.ru/proekty-pobediteli/iniciativnye-proekty/> [June 2019].

68 'Kandidat nauk' (Candidate of Sciences) is the first of two doctoral level scientific degrees in Russia. It is formally classified as UNESCO ISCED level 8, 'doctoral or equivalent', and is thus officially translated into English and other languages as Doctor of Philosophy (i.e. PhD) and recognised as such.

69 Presidential programme research projects The competition "Conducting research by scientific groups led by young scientists". Accessed at: <http://www.pprgm.ru/proekty-pobediteli/molodezhnye-gruppy/> [June 2019].

70 'Doctor nauk' is the higher of the two doctoral level scientific degrees in Russia (the first being 'Kandidat nauk' as outlined above).

71 Presidential programme research projects Competition "Conducting research by world-class scientific laboratories as part of the implementation of the priorities of scientific and technological development of the Russian Federation". Accessed at: <http://www.pprgm.ru/proekty-pobediteli/vedushchie-laboratorii/> [June 2019].

The Russian Foundation for Basic Research⁷²

The Russian Foundation for Basic Research (RFBR) was established in 1992 by Presidential decree to preserve the scientific and technological potential of Russia, as a self-governed, non-profit organisation controlled by the Government. The RFBR supports Russia's scientific and technical potential, providing financial support to Russian scientists and organising competitions to allocate research funding based on the expert assessment. The RFBR supports the following scientific domains: Mathematics, mechanics, and information technology; Physics and astronomy; Chemistry and studies of materials; Biology and medical science; Earth sciences; Humanities and social sciences; Information technology and computer systems; and Fundamental basics of engineering sciences.

Each year, about 65,000 scientists from over 1,000 Russian organisations receive financial support and information resources to conduct basic research. More than 10 main competitions are run for research projects, including interdisciplinary basic, regional and international competitions. Over 3,500 experts and 1,000 members of RFBR expert councils are involved in the assessment of application and reports, processing over 65,000 to 70,000 assessments a year.

Among RFBR's programs are two governmental initiatives to support post-graduate students and young scientists:

- **Best basic research projects conducted by young scientists – PhD students**

The objective of this programme is to create favourable environment for post-graduate students to work on their PhD thesis, help with their future employment and ensure they are retained in Russian scientific organisations. The project duration is from 2019 to 2021, with a budget of ₺1.2 million (£11,500) p.a.

- **Best basic research projects conducted by young scientists with PhDs in Russian scientific organisations**

Intended to create favourable environment for young scientists with a PhD to conduct basic research, it aims to ensure they are retained in Russian scientific organisations with facilities best suited for their area of research and increase the attractiveness of working in Russia for young Russian scientists. The project duration is from 2019 to 2022, with a budget of between ₺2-3 million (£19-28,000) p.a.

The RFBR has supported the publication of over 5,000 scientific books; over 30% of the articles with research outcomes are published in the most influential journals in their field, indexed in the Web of Science database. The

RFBR has agreements with over 35 international partners and fosters international scientific cooperation through organising competitions for joint basic research projects proposed by Russian and foreign scientists; in 2020, 625 projects were funded from a total budget of ₺24,991,417.9 thousand rubles. These projects came from 21 countries: Azerbaijan, Republic of Belarus, Great Britain, Hungary, Vietnam, Germany, Greece, India, Republic of Kazakhstan, China, Kyrgyz Republic, Republic of Moldova, Norway, Republic of Abkhazia, Republic of Armenia, Republic of Uzbekistan, Russia, Serbia, Ukraine, France, Czech Republic.^{73,74}

The RFBR also jointly funds projects with the UK's Royal Society: this included 19 large-value projects in 2020, each receiving ₺1-1.5 million Rubles.⁷⁵ In 2019, they jointly funded 31 projects under the same scheme.⁷⁶ The organisations also provide small-value funding for international exchange, as detailed in section 5.3 of this report.

Other Russian grant giving organisations

Whilst the RSF and the RFBR are arguable the biggest grant providing organisations in Russia, there are a few smaller organisations that also offer funding for projects related to research, innovations and technical progress, including:

- Foundation for Assistance to Small Innovative Enterprises,⁷⁷ projects include:
 - Programme 'Start'⁷⁸ – Support to start-ups at the very early stages of creation. Grant size – up to ₺10 million (£69,000); and
 - Programme 'Cooperation'⁷⁹ – Support to small businesses in the area of innovation – up to ₺25 million (£240,000).
- Agency for Strategic Initiatives,⁸⁰ with multiple projects covering 'transforming cities and villages', introducing advanced technologies', 'launching new educational technologies', and 'creating a comfortable social environment'.
- Russian Foundation for Advanced Research Projects:⁸¹ supports research and development that contributes to the country's defence and security and falls into three areas: Bio-Chemistry and Medicine; Physics and Technology and Information.
- Rusnano Fund for Infrastructure and Educational Programs:⁸² founded during the reorganisation of the Russian Corporation of Nanotechnologies, it stimulates nanotechnology infrastructure building to support innovation in the country. The Fund primarily focuses on: formation of infrastructure for nanotechnology;

⁷² RFBR. Accessed at: <https://www.rfbr.ru/rffi/ru> [June 2019].

⁷³ RFBR. RFFI's 2014-2020 programme of operations. Accessed at: <https://www.rfbr.ru/rffi/ru/program> [2 June 2021].

⁷⁴ RFBR. Contests search. Accessed at: <https://www.rfbr.ru/rffi/ru/international> [2 June 2021].

⁷⁵ RFBR. Results of the competition for the best scientific projects of fundamental research, held jointly by the RFBR and the Royal Society of London. Accessed at: https://www.rfbr.ru/rffi/ru/rffi_contest_results/o_2114568 [4 June 2021].

⁷⁶ RFBR. A competition has been announced for the best projects of fundamental scientific research, jointly conducted by the RFBR and the Royal Society of London. Accessed at: https://www.rfbr.ru/rffi/ru/classifieds/o_2106045 [4 June 2021].

⁷⁷ FASIE. Accessed at: <http://fasie.ru/> [2 June 2021].

⁷⁸ FASIE Start programme. Accessed at: <http://fasie.ru/programs/programma-start/> [2 June 2021].

⁷⁹ FASIE Cooperation programme Accessed at: <http://fasie.ru/programs/programma-kooperatsiya/> [2 June 2021].

⁸⁰ ASI. Accessed at: <https://asi.ru/eng/> [2 June 2021].

⁸¹ Russian Foundation for Advanced Research Projects. Accessed at: <https://fpi.gov.ru/> [2 June 2021].

⁸² RUSNANO Group. Fund for Infrastructure and Educational Programs. Accessed at: <https://en.rusnano.com/about/fiep> [2 June 2021].

development of human resources for the nano-industry; market development for nanotechnology products; improvement of the legislative framework for innovation; standardization and certification of nanoproducts and evaluation of their safety; refinements in metrology; and popularization of nanotechnology and nano-enabled products.

- Rostec Corporation:⁸³ among the corporation's goals are assistance in the development, manufacturing and export of high-tech products, support of Russian developers and manufacturers of high-tech industrial products in the domestic and foreign markets, technological modernization of production, development of scientific and personnel potential of the country, and promotion of cooperation with large international and Russian industrial companies. In 2019, the corporation launched the Innovative Development Program for 2019-2025, which includes a stream of activity for 'open innovations'.⁸⁴
- Skolkovo Foundation:⁸⁵ the Grants and Experts Service of the Skolkovo Foundation is responsible for the awarding and revoking of Skolkovo participant status, as well as for awarding grants, including microgrants, by the Foundation to Skolkovo participants.⁸⁶

and advanced technologies, improving the quality of training of young scientists, forming science, technology and innovation alliances.”⁸⁹ The ICST works on the principles of openness, depoliticization, mutual benefit and responsibility, with three specific goals: the development of the national intellectual potential; scientific, technological and intellectual support of structural changes of the economy; and effective organization and technological updating of activities. Across these three goals, it has seven specific priorities:⁹⁰

1. Transition to advanced digital, intelligent manufacturing technologies, robotic systems
2. Transition to environmentally friendly and resource-saving energy
3. Transition to personalized medicine
4. Creation of intelligent transport and telecommunication systems
5. Transition to highly productive and environmentally friendly agricultural and aquaculture
6. Resistance to technogenic, biogenic, sociocultural threats
7. Opportunities for effective social response to global challenges

Science and Technology Strategy

The Federal Targeted Programme for Research and Development in Priority Areas of Development of the Russian Scientific and Technological Complex for 2014-2020 had three actions: to enable bi- and multi-lateral cooperation; cooperation with the EU; and provision of international science and technology (S&T) events. For this purpose, it funded 35 joint projects. Collaboration and joint funding opportunities between the Russian Foundation for Basic Research (RFBR) & Royal Society also fall under this strategy's remit, typically funding 10-20 joint projects between the UK and Russian each year, as above.⁸⁷ The 19 funded projects in 2020 are detailed on the RFBR website;⁸⁸ their topics are diverse and specific, ranging from those on evolution and morphology, to mathematical modelling of cancer, catalytic cracking, and the impact of climate change, to computational biology.

In 2019, Russia's Government approved the International Cooperation in Science and Technology Concept (ICST) declaring “the essential prerequisite for the realization of interests and priorities of the scientific and technological development of the Russian Federation is the active, flexible, effective and pragmatic ICST that includes attracting the world's best scientists and engineers, ideas



⁸³ Rostec. Accessed at: <https://rostec.ru/> [June 2019].

⁸⁴ Rostec. Innovations. Accessed at: <https://rostec.ru/innovations/> [2 June 2021].

⁸⁵ Skolkovo. Grant and expert advice. Accessed at: <https://sk.ru/project-participant-benefits/> [2 June 2021].

⁸⁶ Ibid.

⁸⁷ Russian Embassy, London (2021). Presentation: Russian S&T Policy: Frameworks for International Cooperation. Provided to IFF Research by the Russian Embassy.

⁸⁸ RFBR. Results of the competition for the best scientific projects of fundamental research, held jointly by the RFBR and the Royal Society of London, 2020. Accessed at: https://www.rfbr.ru/rffi/ru/rffi_contest_results/o_2114568 [4 June 2021]. 2019 project winners list can be found here: https://www.rfbr.ru/rffi/ru/rffi_contest_results/o_2098213.

⁸⁹ Russian Ministry of Science and Higher Education (2019). Russian's International Cooperation in Science and Technology Concept. Accessed at: <https://www.thphys.physics.ox.ac.uk/people/AndreiStarinets/concept-sotrudnichestva-2019-eng.pdf> [1 June 2021].

⁹⁰ Russian Embassy, London (2021). Presentation: Russian S&T Policy: Frameworks for International Cooperation. Provided to IFF Research by the Russian Embassy.

The strategy offers a range of specific activities to support these goals, including the creation of new research centres and funding opportunities. The new ICST Concept included State Programme for S&T Development between 2019-2030, builds on the Targeted Programme 2014-2020 by funding initiatives focussed on the implementation of programmes for bilateral and multilateral S&T cooperation. This includes the growing the activity of their World Class Research Centres and developing 15 new Research and Educational Centres between 2012 and 2021, each of which is a consortium of universities and research institutions and each focussed on a specific subject area. The RECs are expected to create an integrated network to achieve six specific objectives:⁹¹

Figure 3.2 Objectives of Research and Education Centres



Further, Russia's S&T strategy runs a programme of Mega-grants. There were seven competitions between 2019 and 2021, involving 260 universities, 131 research organisations and a total of 272 winners; of these, 60% were Russian and 40% foreign experts, with all applications assessed by two Russian and two foreign experts. Grants allowed for funding of up to €1.2 million. In recent years, 20 UK universities and research institutions have been winners across multiple competitions.⁹²

Impact of Covid-19 on Russian Higher Education.

Due to COVID-19, the deadlines for achieving the national development goals have been reset from the initial 2024 target to 2030.⁹³ This change aligns to a the President's decree also adjusting Russia's national development goals to 2030.⁹⁴

As in many countries, Russian higher education has faced significant challenges in adapting to Covid-19. Research by HSE University and he Ural Federal University⁹⁵ found that emergency digitalisation, embracing new teaching and learning formats, and switching to remote teacher-student communication were all significant challenges for universities and students, but that all found ways to cope. Digital preparedness of universities and their teaching staff was a particular issue: 20% of faculty members are 93 Russian universities felt their faculty and facilities were unprepared for emergency digital transition; however, nearly two-thirds felt they and their colleagues were well-equipped for the digital transition.⁹⁶ This limited institutional preparedness was exacerbated by significant digital inequality across Russian universities, "making some of them incapable of a large-scale transition to online learning as a result of an underdeveloped IT infrastructure. According to this study, only about a third of faculty members in Russia were using digital tools in teaching, and one in three assessed their colleagues' digital skills as 'poor'.⁹⁷ This discrepancy plays out in very tangible ways: whereby "well-structured fully online education programmes remain a luxury that only cutting-edge universities can afford."⁹⁸ Even where basic provision exists, there are numerous challenges to delivering teaching online, from increased educator workloads, educator digital skills and the expected technical difficulties. While some 70% of teachers found digital teaching to be more inconvenient and uncomfortable, more than half (57%) were concerned about the quality of education and expected it to deteriorate unless normal, in-person teaching resumed soon – with students echoing this concern.⁹⁹

⁹¹ Ibid.

⁹² Ibid.

⁹³ Тасс (2021). Срок достижения цели по вхождению РФ в топ-10 стран по качеству общего образования отложат. Accessed at: <https://tass.ru/nacionalnye-proekty/9761177> [1 June 2021].

⁹⁴ Russian Federation (2021). Владимир Путин подписал Указ «О национальных целях развития Российской Федерации на период до 2030 года». Accessed at: <http://kremlin.ru/acts/news/63728> [1 June 2021].

⁹⁵ HSE University and the Ural Federal University (2020). Summary article: Remote Learning Struggles Undergraduates' anxieties at the onset of online learning. Accessed at: <https://iq.hse.ru/en/news/470527495.html> [1 June 2021]. Full report in Russian accessible at: <https://www.umj.ru/jour/article/view/1286/1076> [as of 1 June 2021].

⁹⁶ HSE (2021). ПЕРЕХОД НА ДИСТАНЦИОННОЕ ОБУЧЕНИЕ И УДАЛЕННУЮ РАБОТУ В ОЦЕНКАХ УНИВЕРСИТЕТСКИХ ПРЕПОДАВАТЕЛЕЙ. Accessed at: <https://www.hse.ru/data/> [1 June 2021].

⁹⁷ NAFI Analytical Center (2019). ЦИФРОВАЯ ГРАМОТНОСТЬ РОССИЙСКИХ ПЕДАГОГОВ. Accessed at: <https://d-russia.ru/wp-content/uploads/2019/10/digit-ped.pdf> [1 June 2021].

⁹⁸ Sobolevskaya, O. (2020). Key Takeaways of eSTARS: Higher Digital Education: How university education is being digitalised in Russia and the world. Accessed at: <https://iq.hse.ru/en/news/423874793.html> [1 June 2021].

⁹⁹ HSE (2021). ПЕРЕХОД НА ДИСТАНЦИОННОЕ ОБУЧЕНИЕ И УДАЛЕННУЮ РАБОТУ В ОЦЕНКАХ УНИВЕРСИТЕТСКИХ ПРЕПОДАВАТЕЛЕЙ. Accessed at: <https://www.hse.ru/data/> [1 June 2021].

For students, there is considerable concern for the impact on academic success and risk of failure for students: 70% of those surveyed had poor self-management skills, while 58% faced problems with poor learning comprehension, 50% poor communication with the teacher, and 46% low motivation to study.¹⁰⁰ This aligns to earlier research by HSE and the Vladimir Potanin Foundation in 2019, where students “place a greater value on personal contact with teachers in a classroom than on online learning, of which they are wary..... It would seem that online tools enable students to create remote teams, launch startups, learn project management, and demonstrate organizational leadership qualities, but the students with the most online learning experience are also the most sceptical. Apart from the fact that some of their aversion might stem from early missteps in organizing online classes, students are concerned that they will simply drown in the impersonal world of digital education.”¹⁰¹

This is compounded by inequal and/or insufficient digital skills amongst students: while digital skills are seen as necessary for self-study rather than traditional teaching, 60-70% of students (depending on profile) felt their curriculum did not provide them with sufficient skills; further, only about half of students are satisfied with their skills, ranging from 57% amongst engineering and technology students to 46% amongst education and teaching students, with half of students feeling they lack information technology and information security skills.¹⁰² For these reasons, some Russian academics expect to see a ‘digital backlash’ following the pandemic, as students seek to regain lost time and skills following prolonged digital learning.



100 HSE University and the Ural Federal University (2020). Summary article: Remote Learning Struggles Undergraduates' anxieties at the onset of online learning. Accessed at: <https://iq.hse.ru/en/news/470527495.html> [1 June 2021]. Full report in Russian accessible at: <https://www.umj.ru/jour/article/view/1286/1076> [as of 1 June 2021].

101 Shcheglova, D. (2020). 'We Might Be in for an Anti-Digital Backlash'. Accessed at: <https://iq.hse.ru/en/news/357823056.html> [1 June 2021].

102 Sobolevskaya, O. (2020). Key Takeaways of eSTARS: Higher Digital Education: How university education is being digitalised in Russia and the world. Accessed at: <https://iq.hse.ru/en/news/423874793.html> [1 June 2021].

3.2 UK policies on international higher education and collaboration

The UK also has a number of recent strategies to support international higher education and research collaboration, some of which have seen significant change since 2019.

The UK's international education strategy: 'Global potential, global growth'

In March 2019,¹⁰³ the UK government published their new international education strategy, presented in the context of the UK's global reputation for education that is characterised by excellence and quality. The UK's position on the global stage delivers many benefits, including education related exports described as an important economic contribution generating almost £20 billion in 2016. This included over £1.8 billion generated by transnational education (TNE) activities, an increase of 73% since 2010 in current prices. In 2014 to 2015, Universities UK estimated that UK universities and their international students and visitors supported over 940,000 jobs across the UK.

The ambition of the UK government, presented in the 2019 strategy, is to increase education exports to £35 billion by 2030. Based in the 2016 estimates of the £20 billion value to the UK economy, and current rates of growth, this is expected to reach an estimated £23 billion by 2020. Achieving this ambition will require an average annual growth rate of 4% per year. In order to drive progress against this target, the UK government intend to build their global market share in international students across the education sectors.

Their ambition is not just economic: international collaboration brings with it a better understanding of the UK system by its overseas partners. When appropriate, the government suggest providing support to UK providers working to support other countries' education reforms, by helping them to share knowledge and exchange policy, as set out in the report. The strategy also includes the ambition to grow the numbers of international students studying in the UK from 458,490 in 2017 to 2018 to 600,000 by 2030. More broadly, the government propose supporting global partners in their education objectives and, by doing so, increase the UK's global reach and influence.

To support implementation of the strategy, the UK government identified 23 actions cross cutting actions that will support the whole education sector, five of which are particularly relevant to supporting future international partnerships and exchange:

- Appoint an International Education Champion to

spearhead overseas activity, open international opportunities, develop strong international partnerships in new and established markets and help tackle challenges and barriers;

- Ensure the 'Education is GREAT' campaign promotes the breadth and diversity of the UK education offer more fully to international audiences, from early years through to higher education. As part of this, encourage education bids to the GREAT Challenge Fund for 2019, a £5 million fund supporting export activity for the sector across the globe;
- Continue to provide a welcoming environment for international students and develop an increasingly competitive offer. This includes extending the post-study leave period, considering where the visa process could be improved, supporting employment, and ensuring existing and prospective students continue to feel welcome;
- Establish a whole-of-government approach by implementing a framework for ministerial engagement with the sector and formalised structures for co-ordination between government departments both domestically and overseas; and
- Provide a clearer picture of exports activity by improving the accuracy and coverage of annually published education exports data, developing an approach with a strengthened methodology and a better range of sources.

Updates to the UK international education strategy

The international higher education strategy was updated in early 2021,¹⁰⁴ intended as both a progress report on achieving the original 2019 objectives and used to update the strategy in light of the Covid-19 pandemic and the UK exit from the EU. The revised strategy demonstrates the progress made since 2019 – namely the completion of 15 of the original 23 actions, including the successful appointment of an International Education Champion in June 2020, and expansion of the Education is GREAT campaign in spring 2020. The update strategy also adds 14 new actions to support sector recovery and growth, much of which focusses on inbound international student experience and outcomes, such as application and visa streamlining, more research into the international student experience and identifying 'what works', and specific efforts to address international student employability; this also includes the establishment of a new student mobility programme – the Turing Scheme – to facilitate inbound and outbound student mobility as a replacement to the EU's Erasmus Programme; the Scheme will providing

¹⁰³ UK Government Department for Education and Department for International Trade (2019). International Education Strategy: global potential, global growth. Accessed at: <https://www.gov.uk/government/publications/international-education-strategy-global-potential-global-growth/international-education-strategy-global-potential-global-growth> [June 2019].

¹⁰⁴ UK Government Department for Education and Department for International Trade (2021). International Education Strategy, 2021 update: Supporting recovery, driving growth. Available from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/958990/International-Education-Strategy-2021-Update.pdf [10 May 2021].

funding for c. 35,000 students in universities, colleges and schools to take part in international placements and exchanges overseas from September 2021 and in its first year funding has been allocated to allow over 400 students to come to Russia.¹⁰⁵ Particularly relevant to the purposes of this document, the revised strategy calls for cross-government and cross-sector collaboration to identify and address the barriers to UK education export growth, facilitating expansion of TNE models. These revised actions are expected to be reviewed in 2022, as part of strategy progress monitoring.

The UK International Research and Innovation Strategy

Also published in 2019, the UK government's International Research and Innovation Strategy¹⁰⁶ sets out how the UK will develop its international research and innovation partnerships to help achieve the targets in the Industrial Strategy. The report outlines that, with only 0.9% of the world's population, and 4.1% of researchers, the UK accounts for 10.7% of citations and 15.2% of the world's most highly cited articles. It also highlights that over half of the UK's scientific papers have international co-authors and 72% of active researchers in the UK are internationally mobile.

Through a series of key themes, the strategy targets the UK's offer to distinct international audiences, other governments, research organisations, businesses and investors, and individual researchers and entrepreneurs. The seven key themes are:

- A global partner: build and promote partnerships and openness, guided by excellence and impact;
- Bringing together talent: connect researchers and entrepreneurs, support their development and the translation of their ideas, and build global people networks;
- A global hub for innovation: to provide innovation hubs across the UK for global innovators, entrepreneurs and investors to connect and build industries of the future;
- A package of incentives and financial support: a package of incentives and financial support to attract innovative start-ups and scale-ups that will support growth;
- A global platform for the technologies of tomorrow: the strengths and global reach of the UK's governance, intellectual property and standards frameworks can support the design of common, global regulatory approaches to bring forward emerging, transformative technologies;
- A partner for a sustainable future: to build and invest in collaborative partnerships to tackle the greatest global challenges; and

- An advocate for better research governance, ethics and impact: through multilateral for a, build an international consensus on research governance, ethics and on Open Science to share knowledge and build trust.

The Strategy outlines the UK government's ambition to become a global partner and global hub for innovation, bringing together the best talent from around the world. They commit to providing a package of incentives and financial support to seed and grow innovative businesses and to support the improvement of performance, quality and safety of products, services and systems in new and emerging fields such as advanced materials, the circular economy, connected and autonomous vehicles, digital health, digital manufacturing, offsite construction and sustainable finance. It also commits to investing in collaborative partnerships, with a broad range of international partners, to tackle the world's greatest challenges. Linked to this are the UK's global research and development funds for sustainable development, a series of several funds that provide investment for specific global research priorities:

- The Newton Fund: £735 million supporting bilateral and regional research and innovation partnerships agreed at intergovernmental level;
- The UK Vaccines Network: £120 million between 2016 to 2021 in line with the expert advice provided by the UK Vaccines Network. Projects supported range from work on Zika virus vaccines to work to increase the speed of vaccine manufacturing;
- Department for International Development (DFID) research investment: approximately £400 million to support DFID, other UK government departments, national governments and the international development community to make rigorous evidence-based decisions to achieve the Global Goals and ensure a safer, healthier, more prosperous world;
- The Fleming Fund: £265,000,000 to support low and middle-income countries generate, share and use data to tackle antimicrobial resistance;
- The National Institute for Health Research: a £429.5 million fund to support high-quality applied health research for the direct and primary benefit of people in low- and middle-income countries using Official Development Assistance;
- Global AMR Innovation Fund: £50 million fund investing in high quality, early-stage research to stimulate innovation in neglected and underfunded areas of AMR research and development;
- International Climate Finance: £5.8 billion to support clean growth in developing countries by supporting the deployment of technologies at scale, providing clean energy; and

¹⁰⁵ UK Government (2020). Press release: New Turing scheme to support thousands of students to study and work abroad. Accessed at: <https://www.gov.uk/government/news/new-turing-scheme-to-support-thousands-of-students-to-study-and-work-abroad> [10 May 2021].

¹⁰⁶ UK Government Department for Business, Energy and Industrial Strategy (2019). International Research and Innovation Strategy. Accessed at: <https://www.gov.uk/government/publications/uk-international-research-and-innovation-strategy/international-research-and-innovation-strategy-webpage> [June 2019].

- Prosperity Fund: an investment of £1.2 billion over six years across a portfolio of strategic projects addressing barriers to growth.

Global Challenges Research Fund

Linked to this is the Global Challenges Research Fund (GCRF)¹⁰⁷ that ran between 2016 and 2021, providing funding for research intended to address the challenges faced by developing countries as part of the UK's official development assistant strategy. In partnership with seven other UK research bodies, it supports research projects that support at least one of three key criteria:

- challenge-led disciplinary and interdisciplinary research, particularly those which include researchers who previously have not applied their work to development issues;
- strengthening capacity for research, innovation and knowledge exchange through partnership with UK researchers and institutions; and
- provide emergency research response for emergencies where there is an urgent research need.

Under the GCRF umbrella are a range of additional funded initiatives that support the Fund's goals, including: 12 interdisciplinary hubs each receiving £13-20 million over five years;

a partnership with the African Research Universities Alliance to strengthen UK-Africa research partnership; and the GCRF Collective Programme enhance overall impact across UKRI's six strategic portfolios.

The loss of this funding stream in 2021 will leave a significant whole in the available funding for international, collaborative research that could impact future IHE activity.

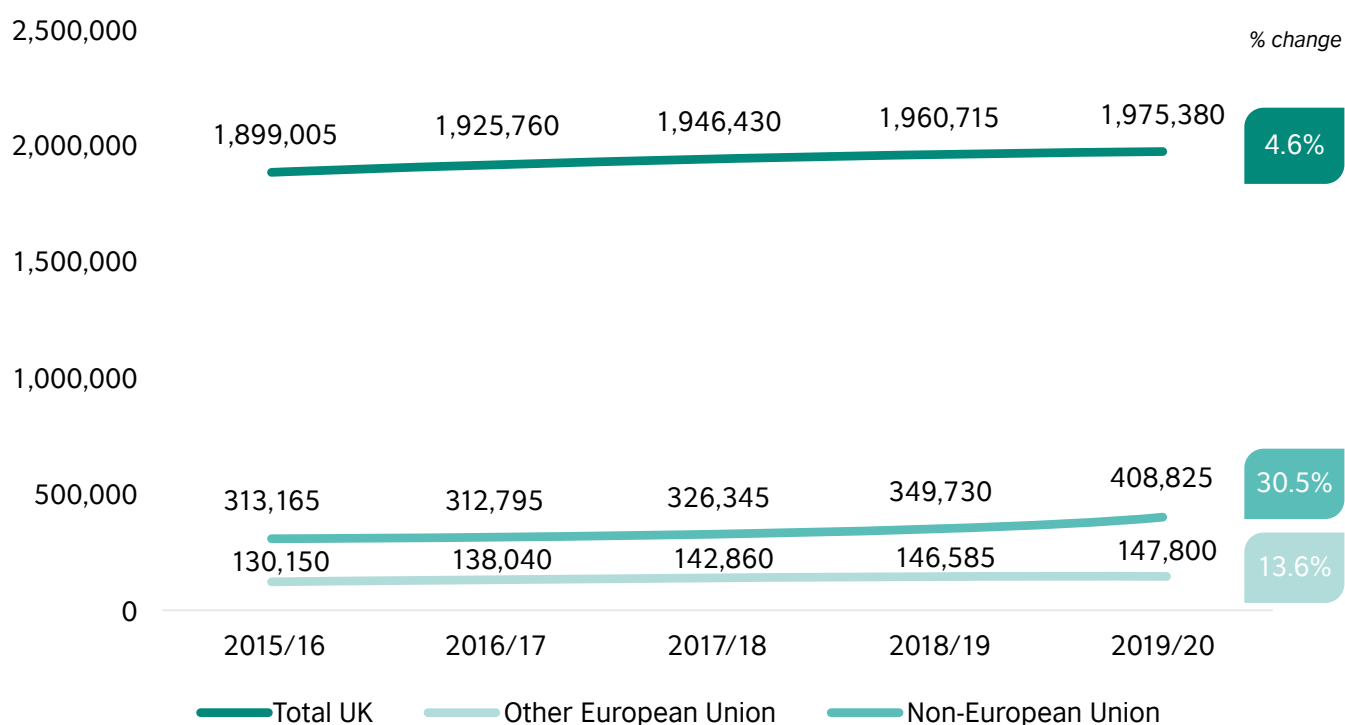
Impact of Brexit and Covid-19 on UK IHE

In recent years, two major events have occurred that will have a significant impact on international higher education: the UK's exit from the European Union and the Covid-10 pandemic, which happened simultaneously across 2020.

International student mobility

Perhaps the most significant impact of both events is the effect they have had on international student mobility. Student mobility trends for the UK showed steady growth over the last 5 years, with both inbound and outbound student mobility showing strong growth year on year. Indeed, between 2015/16 and 2019/20, inbound mobility of non-EU students to the UK grew over 30%, whilst EU inbound mobility grew over 13%.

Figure 3.3 UK student origins 2015 – 2020¹⁰⁸



¹⁰⁷ UKRI Global Challenges Fund, accessed at: <https://www.ukri.org/our-work/collaborating-internationally/global-challenges-research-fund/> [7 June 2021].

¹⁰⁸ HESA (2020). Where do HE students come from? HE student enrolments by domicile. Accessed at: <https://www.hesa.ac.uk/data-and-analysis/students/where-from> [25 May 2021].

UK outbound student figures mirror this trend, showing a 10.5% increase between 2016/17 and 2018/19 along: in 2018/19, 18,305 UK higher education student participated in the Erasmus+ programme alone,¹⁰⁹ a notable increase from the 16,561 in 2016/17 (a 10.5% increase); this is compared to the 31,727 EU nationals studying in the UK.¹¹⁰

The onset of the Covid-19 pandemic during the 2019/20 academic year and continuing through 2021, effectively halted international travel and, therefore, most student mobility. While travel for students doing entire degrees abroad may have continued at low levels, international exchange and other short-stay mobility programmes effectively stopped for an extended period.

Looking ahead, Covid-19 is likely to have a linger effect on student mobility; though rebound is likely, it will not be immediate and there are many factors that will influence if and when students begin to travel abroad for study; in some cases, students will choose to stay at or closer to home than they would have before the pandemic. A QS survey of prospective international students interested in studying in the UK showed more than half (55%) intended to delay their start in the UK by at least one year, while small minorities intended to go to another country (10%) or decided not to study overseas (6%). A large minority believed government restrictions in their home country (33%) or upon arriving in the UK (29%) would affect their desired start, whilst 25% were concerned about visa delays and 20% thought a lack of flights would cause problems; however, more than a third (69%) intended to start their international studies in 2021 (18% in 2022), with the majority (85%) feeling a 2021 is very or somewhat likely. For those still planning on studying in the UK, nearly half (46%) said they would feel comfortable doing so once campuses have reopen and face-to-face teaching has resumed; a similar proportion (43%) would feel comfortable once a vaccine is available or once there are few cases in the country (39%).¹¹¹

Alongside the impacts of Covid-19 will be the impact of Brexit on mobility, namely the UK's withdrawal from the Erasmus+ programme and creation of their own Turing Scheme (as outlined above).

Looking ahead, Covid-19 is likely to have a linger effect on student mobility; though rebound is likely, it will not be immediate and there are many factors that will influence if and when students begin to travel abroad for study; in some cases, students will choose to stay at or closer to home than they would have before the pandemic.

3.3 Exploring opportunities for collaboration

Even in light of Covid-19 and ongoing political tensions, both governments have shown explicit commitment to prioritise and invest in international research and mobility opportunities to tackle the global challenges, harnessing science and technological advancement to support economic growth and national stability. This report has highlighted seven synergies between government policies, research funding opportunities and strategic investment priorities as potential areas for future collaborative opportunities between Russia and the UK:

1. Student mobility

Both the UK and Russia have established goals for increased international student mobility. Russia having set their recruitment target to reach over 700,000 incoming international students by 2025, and the UK as 600,000 by 2030. As evidenced by research carried out by the British Council, 'The Shape of Global Higher Education', there is a correlation between countries who provide high levels of national support for international engagement throughout tertiary education, and high levels of inbound student mobility. A potential opportunity exists to support bilateral student mobility between the UK and Russia, supporting both their goals to increase the total number of mobile students and increase research capacity. This opportunity has been reinforced by the UK's 2021 strategy update, with the launch of the Turing Scheme also enabling new opportunities outside those of Erasmus+; the autonomy provided to universities and other education institutions provides greater opportunity for bilateral exchange between collaborating institutions in the UK and Russia.

2. Funding to support young researchers

Both the UK and Russia have several policy initiatives and funding programmes focussed on providing funding support for young researchers. One of the seven key themes from the UK's International Research and Innovation Strategy is bringing together talent, suggesting a potential opportunity exists to collaborate to support young researchers in both countries. Recent collaborations – like the success of the UK-Russia University Alliance in engaging early career researchers (see below) – has emphasised the value of focussing on early career researchers to establish new links.

¹⁰⁹ European Commission (2019). Erasmus+ Annual Report. Accessed at: <https://op.europa.eu/en/publication-detail/-/publication/30af2b54-3f4d-11eb-b27b-01aa75ed71a1/language-en> [25 May 2021].

¹¹⁰ European Commission (2017). Erasmus+ Annual Report. Accessed at: <https://op.europa.eu/en/publication-detail/-/publication/4e5c3e1c-1f0b-11e9-8d04-01aa75ed71a1/language-en/format-PDF/source-search> [25 May 2021].

¹¹¹ QS (2020). UK Higher Education During Covid-19: How International Students are Weathering the Crisis. Accessed at: <https://www.qs.com/portfolio-items/uk-higher-education-covid-19-international-students/> [25 May 2021].

3. Transnational Education (TNE)

Data published by the UK Higher Education Statistics Agency (HESA) shows that in the 2019/2020 academic year approximately 2,830 students in Russia studied entirely overseas for a UK qualifications (e.g. on a UK TNE course via branch campus or via distance or online learning, etc.).¹¹² The Russian government aims to increase the number of universities offering programs each that have been internationally accredited; this aligns to stated UK priorities to improve and expand TNE provision, as reinforced by 2021 strategy update. This suggests there is ongoing potential for UK TNE programmes to support Russian institutions to provide internationally accredited programmes.

4. Collaboration between science and industry

Clearly articulated in the UK International Research and Innovation Strategy is the ambition to create a global hub for innovation to connect and build industries for the future. Similarly, the Russian NSP has highlighted the Russian government's ambition to develop cooperation between science and industry. This initiative aims to create 15 world class science and education centres and 14 competence centres to train young scientists and lead on the collaboration with industry. Both the UK and Russia prioritise furthering national level collaboration between their scientific community and industry, presenting a potential opportunity to share best practice. The more recent establishment of the ICST Concept in Russia provides further ways to focus this collaboration, but identifying a number of key priorities and subject areas of particular relevance, most of which have parallel focus and interest amongst UK researchers.

5. Harnessing technology and developing infrastructure

The Russian government has committed ₪350 billion (£4.4 million) to fund the development cutting-edge infrastructure for research and development, aiming to refresh 50% of the equipment used by research organisations by the end of 2024. In addition, 'Megascience' facilities will be launched and the existing research facilities for such projects will be updated, and new ones built. One of the seven key priorities set out in the UK government's strategy is build a global platform for the technologies of tomorrow. Sharing best practice in this area could present a future opportunity for collaboration. The increased use of technology is also a recognised priority for the ICST Concept, reinforcing the value of this as a basis for future collaboration.

6. Research governance and ethics

The UK is renowned for world class scientific research, reflected in its continually highly ranked higher education institutions and citation index performance. Increasing the ranking performance of Russian higher education institutions is reflected within the aims Project 5-100 (now Priority 2030) and NEP. The UK

government's final key theme within their International Research and Innovation Strategy involves the development of an international consensus on research governance and ethics. Collaboration to share the UK's expertise in this area could provide an excellent opportunity for the UK and Russia, supporting both Russian policy goals to improve ranking performance and UK ambition to create international best practice. The need for this should underpin all future collaboration to help align university practices to better support future collaboration.

Additionally, the following can be added to the above:

7. Collaboration to support digital and blended learning.

While teaching is expected to revert – at least in part – to traditional face-to-face methods, it is likely that online learning will remain a critical part of higher education, especially international higher education, given its potential to increase access, support TNE and remote learning programmes, and enhancing the learning experience. However, in both Russia and the UK digital transition has been inconsistent in its effectiveness, with significant inequality in terms of institutional capabilities, educator and student skills, and the effectiveness of online learning approach and use of technology. In both the UK and Russia there were examples of institutions that have been notably successful in their digitalisation efforts; there is opportunity to collaborate in future to enhance digital education provision and upskilling educators and students, using the best practices of strong online educators in both countries.

¹¹² Higher Education Statistics Agency (HESA) (2020). Where do HE students come from? Accessed at: <https://www.hesa.ac.uk/data-and-analysis/students/where-from#tne> [10 May 2021].

4 The Russian higher education system

Since 2008, Russia has been building new educational architecture to support the growth of its national higher education system. This includes introducing Federal and National research universities, Flagship and National universities and, as detailed above, putting special emphasis on the growth of research capacity and international cooperation. The overall objective being increased attractiveness of Russian education, leadership in research initiatives, global competitiveness and improvement of Russia's position in international university rankings.

4.1 The Russian higher education landscape

The national higher education sector

As of 2021, there were 741 higher education institutions and research centres in Russia,¹¹³ a slight decrease of 3.1% compared to 2017.¹¹⁴ There are several different types of public institutions, categorised as: two national universities, which have special legal status under the direct control of the government and between them enrol nearly 80,000 students; 10 federal universities designed as academic centres of federal districts; 29 national research universities established to integrate research and teaching equally in their activities; and 33 flagship universities, the most common type and aiming to support regional development by attracting and retaining regional talent. The majority (90.3%) of students attend a state

institution, whilst the remainder attend a private institution (9.7%).¹¹⁵

In 2021, the total number of students studying Bachelors, Masters and Specialist programmes was 4,161,700. Of these, 278,000 were international students, with the majority from former Soviet countries.¹¹⁶ In 2017/2018, Russia was below the OECD average for the proportion of inbound (3% of the student population) and outbound international students (less than 1%).¹¹⁷ Of those who do study abroad, Germany, the Czech Republic, the US and the UK the most common outbound destinations.¹¹⁸

The social value of education

Higher education has traditionally had high social value in Russia, educational achievement being closely associated with a successful career and subsequently higher earning potential. A survey conducted by VCIOM (a Russian public opinion research centre)¹¹⁹ showed 95% of respondents stated they wanted their children to attain a degree level education. The social value of higher education has increased significantly in the past 25 years, increasing from 53% of parents wanting their children to obtain a degree to 81%. Since 2016, the prestige of technical schools and colleges has also increased.

Reflective of this, tertiary education attainment in Russia is widespread. Comparing OECD Indicators with the Survey of Adult Skills (PIAAC), the Russian Federation has one of the highest proportions of 25-34 year olds who completed tertiary education amongst OECD countries (62% in Russia against 45% OECD average in 2020, second only to Korea).¹²⁰ In comparison to other countries, Russia

¹¹³ Study in Russia (2020). Russian Higher Education in Figures. Accessed at: <https://studyinrussia.ru/en/why-russia/russian-education-in-figures/> [10 May 2021].

¹¹⁴ Russian Federal Statistics Service. Accessed at: <https://eng.rosstat.gov.ru/> [June 2019].

¹¹⁵ Project 5-100 (2021). Высшее образование любит счет. Accessed at: <https://www.5top100.ru/about/mass-media/144801/> [1 June 2021].

¹¹⁶ Ibid.

¹¹⁷ OECD (2018). Russian Federation - Country Note - Education at a Glance 2017: OECD Indicators. Accessed at: <https://www.oecd-ilibrary.org/docserver/eag-2017-81-en.pdf?expires=1620652706&id=id&accname=quest&checksum=DE1E1CD2C63CBA3B81010A80A4E2CB2E> [10 May 2021].

¹¹⁸ UNESCO Institute for Statistics (2021). Global Flow of Tertiary-Level Students. Accessed at: <http://uis.unesco.org/en/uis-student-flow> [10 May 2021].

¹¹⁹ VCIOM (2021). Образование в России: востребованность, доступность, качество. Accessed at: <https://wciom.ru/analytical-reviews/analiticheskii-obzor-obrazovanie-v-rossii-vostrebovannost-dostupnost-kachestvo> [1 June 2021].

¹²⁰ OECD (2020). Education at a Glance 2020: OECD Indicators. Accessed at: <https://www.oecd-ilibrary.org/docserver/69096873-en.pdf?expires=1620654514&id=id&accname=quest&checksum=5F996D7B14D4FBB83410B962DFBA2FC7> [10 May 2021].

has a large number of students progressing to postgraduate level education: 34% have a postgraduate qualification compared to 14% on average.¹²¹ However, whilst Russia has some of the highest postgraduate student numbers globally, when viewed proportionately, OECD statistics suggest the proportion of adults who have attained a doctoral or equivalent degree are amongst the lowest assessed, ranking 32nd out of the 34 countries assessed.¹²²

Further analysis of PIAAC data suggests direct correlation between attainment of tertiary education in Russia, the educational level of the parents.¹²³ Children of highly educated parents in the Russian Federation are more likely to enter into tertiary education than in OECD countries overall. Tertiary level attainment increases significantly when at least one parent has attained upper secondary or post-secondary non-tertiary education (70%) or tertiary education (86%), greater than the OECD averages, 41% and 68% respectively.¹²⁴

Government expenditure on tertiary education

The most recent data available from OECD on government spending on tertiary education from 2019,¹²⁵ suggest that the Russian government spent approximately \$8,479 per student on all tertiary level institutions, significantly below the OECD average of \$15,556; however, this difference is attributed to the higher proportion of short-cycle tertiary students in Russia compared to other countries. Russian annual expenditure per student on research and development in tertiary education is reported as one of the lowest among OECD and partner countries from the available data, at \$842 ranked 32nd out of 34 countries in 2017. The share of public expenditure on tertiary educational institutions is also amongst the smallest of OECD and partner countries, with Russia allocating just 1.1% of GDP towards funding national tertiary education to institutions in 2016 (compared to an OECD average of 1.5%).¹²⁶

University system overview

As of 2021, there were 741 higher education institutions and research centres in Russia.¹²⁷ There are several different types of public institutions, categorised as:

- **National Universities:** There are currently two

national universities; Lomonosov Moscow State University and Saint Petersburg State University. These institutions have a special legal status and receive special permanent funding for research activities.

- **Federal Universities:** These were initially established to improve Russia's socio-economic infrastructure and are envisaged as academic centres for their respective federal districts working closely with local governments and businesses and offering education and research facilities to their students. There are currently 10 federal universities and, unlike national universities, these institutions must compete for federal budgets for research projects.

- **National research universities:** National research universities integrate research and teaching, with both being equally represented in the university's activities. These are the second most common public institute in Russia, with 29 currently active. Like federal universities, they must compete for federal budgets for research projects.

- **Flagship universities:** these institutions resulted from the joining together the existing institutions in the region. They are the most common type of public institution (33 active) and support the development of a region by providing high level specialists; solving current local socio-economic development issues and working together with local public and private companies on the realization of innovative and educational projects. They are envisaged as regional centres for talent attraction and retention, as well as research and innovation centres, driving positive change in urban and regional environments.¹²⁸ Between 2018 and 2020, flagship universities will receive up to €30 billion (£380 million) in state support for further development to help them improve the quality.¹²⁹

For all public Russian HEIs, rectors are appointed by the government or by ministries, normally on the basis of academic council votes.

121 OECD (2019). Russian Federation - Country Note - Education at a Glance 2019: OECD Indicators2. Accessed at: https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_RUS.pdf [10 May 2021].

122 OECD (2019). Russian Federation - Country Note - Education at a Glance 2019: OECD Indicators2. Accessed at: https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_RUS.pdf [10 May 2021].

123 OECD (2018). Russian Federation - Country Note - Education at a Glance 2017: OECD Indicators. Accessed at: <https://www.oecd-ilibrary.org/docserver/eag-2017-81-en.pdf?expires=1620652706&id=id&accname=guest&checksum=DE1E1CD2C63CBA3B81010A80A4E2CB2E> [10 May 2021].

124 Ibid

125 OECD (2019). Russian Federation - Country Note - Education at a Glance 2019: OECD Indicators2. Accessed at: https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_RUS.pdf [10 May 2021].

126 OECD (2018). Russian Federation - Country Note - Education at a Glance 2017: OECD Indicators. Accessed at: <https://www.oecd-ilibrary.org/docserver/eag-2017-81-en.pdf?expires=1620652706&id=id&accname=guest&checksum=DE1E1CD2C63CBA3B81010A80A4E2CB2E> [10 May 2021].

127 Study in Russia (2020). Russian Higher Education in Figures. Accessed at: <https://studyinrussia.ru/en/why-russia/russian-education-in-figures/> [10 May 2021].

128 Flagship Universities. About the project. Accessed at: <http://flagshipuniversity.ntf.ru/project/> [June 2019].

129 Portal of the Federal State Educational Standards of Higher Education. Accessed at: <http://fgosvo.ru/uploadfiles/method/other/summary2017.pdf> [June 2019].

4.2 Russian student profile

In 2021, the total number of students studying Bachelors, Masters and Specialist programmes was 4,161,700.¹³⁰ As with the number of institutes, this represents a decrease from subsequent years, with 84,200 less students studying as compared to 2017. The majority (90.3%) of students attend a state institution, whilst approximately a tenth attend a private institution (9.7%).¹³¹

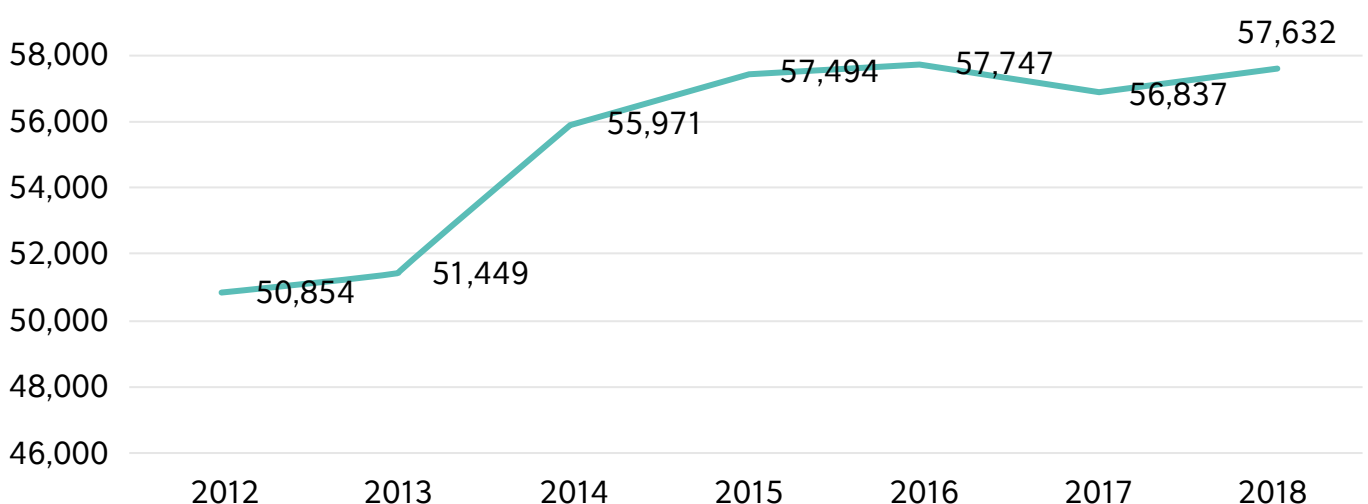
While all subjects are offered across Russian universities, Russia has some of the highest proportions of student in STEM subjects globally: 35% amongst Bachelor's students compared to 27% on average (second only to Germany), and 25% amongst Master's students compared to just 11%.¹³²

Russian student mobility

Russia has experienced significant growth in student mobility in recent years, both inbound and outbound flows of tertiary level students. As of 2021, Russia had 278,000 international students studying in the country. According to the United Nations Educational, Scientific and Cultural Organisation (UNESCO) Institute of Statistics, outbound mobility of Russian students has been relatively stable over the last five years, demonstrating a growth of 13% between 2012 and 2018. In 2018, Russia had the 18th highest number of outbound international students, with 57,632 students studying internationally (compared to 122,000 for Germany, 109,000 Vietnam, and 102,000 Korea as the top three countries for outbound mobility). In 2017/2018, Russia was below the OECD average for the proportion of inbound (3% of the student population) and outbound international students (less than 1%).¹³³



Figure 4.1 Outbound Russian undergraduate student mobility 2012 to 2018¹³⁴



¹³⁰ Study in Russia (2020). Russian Higher Education in Figures. Accessed at: <https://studyinrussia.ru/en/why-russia/russian-education-in-figures/> [10 May 2021].

¹³¹ Project 5-100 (2021). Высшее образование любит счет. Accessed at: <https://www.Stop100.ru/about/mass-media/144801/> [1 June 2021].

¹³² OECD (2019). Russian Federation - Country Note - Education at a Glance 2019: OECD Indicators2. Accessed at: https://www.oecd.org/education/education-at-a-glance/EAG2019_CN_RUS.pdf [10 May 2021].

¹³³ OECD (2018). Russian Federation - Country Note - Education at a Glance 2017: OECD Indicators. Accessed at: <https://www.oecd-ilibrary.org/docserver/eag-2017-81-en.pdf?expires=1620652706&id=id&accname=guest&checksum=DE1E1CD2C63CBA3B81010A80A4E2CB2E> [10 May 2021].

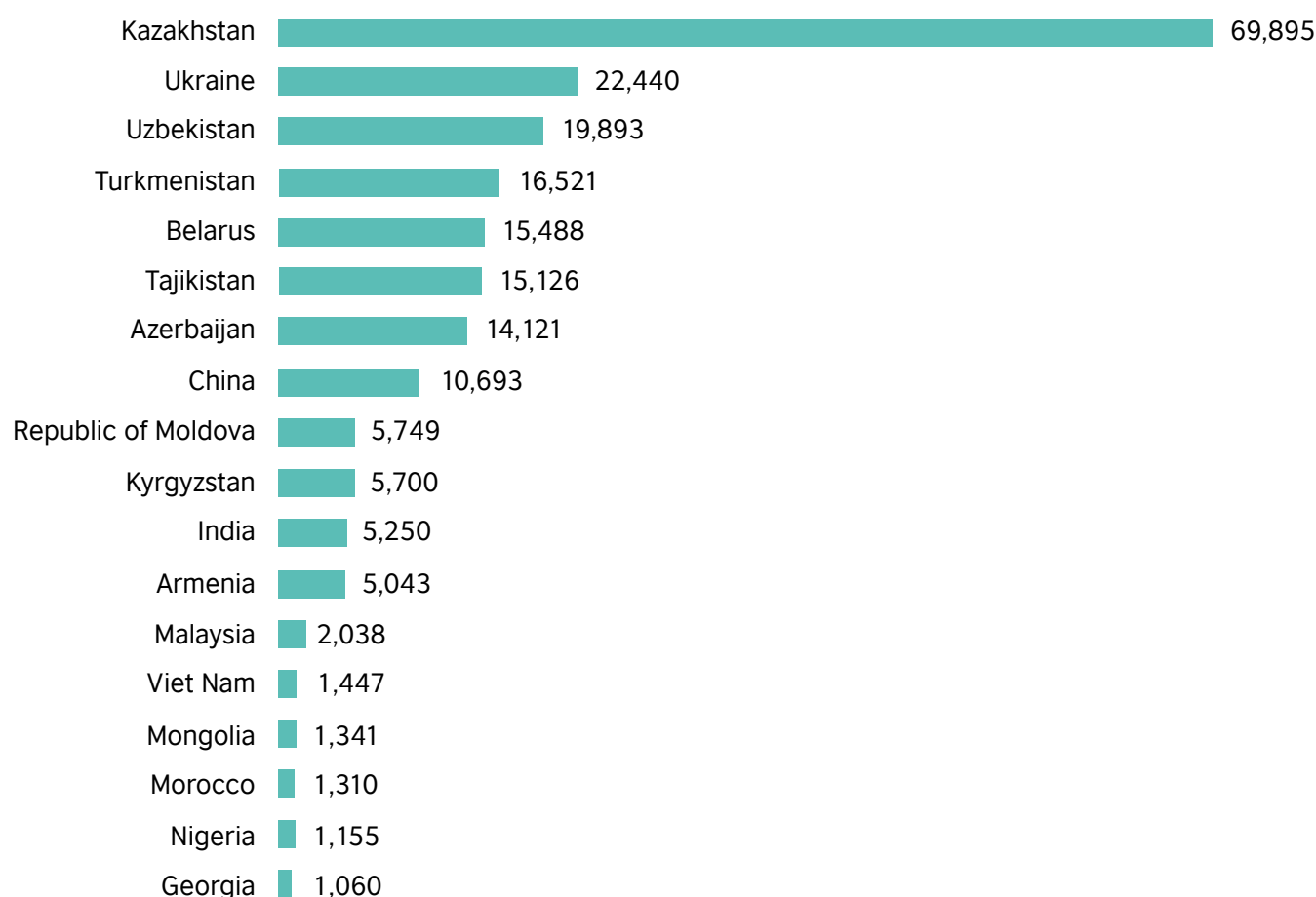
¹³⁴ UNESCO Institute of Statistics (2021). Outbound internationally mobile students by host region. Accessed at: <http://data.uis.unesco.org/> [10 May 2021].

The UNESCO Institute for Statistics reports that Germany, the Czech Republic, the US and the UK are the most common outbound destinations for Russian students. In 2018, Germany hosted 10,121 Russian international students, significantly more than all other destinations. During the same year, the Czech Republic hosted 5,859 Russian students followed by the US (5,074), the UK (3,752), France (2,945), Italy (2,493), Finland (2,344), Belarus (1,952), Kyrgyzstan (1,622), Canada (1,607), and Kazakhstan (1,487).¹³⁵

The number of international students studying in the Russian Federation grew by 80% between 2013 and 2016, one of the largest increases across all OECD and partner countries. In 2017 Russia hosted 243,752 international students, with the majority (79%) of inbound students from ex-soviet countries, with the greatest proportion being from Kazakhstan (29%). Whilst more German (299) and French (170) international students studied in Russia compared to those from the UK (46), numbers for all three countries are comparatively low.

The number of international students studying in the Russian Federation grew by 80% between 2013 and 2016

Figure 4.2 Inbound students by origin¹³⁶



¹³⁵ UNESCO Institute for Statistics (2021). Global Flow of Tertiary-Level Students. Accessed at: <http://uis.unesco.org/en/uis-student-flow> [10 May 2021].

¹³⁶ Figures for Germany were sourced separately from those of other countries. Statistics on Russian inbound students for Germany were sourced from Project Atlas, a research initiative, in partnership with DAAD. Other country figures were sourced from the UNESCO Institute for Statistics. All figures given are for 2017.

Student challenges

The Russian higher education system faces four challenges to support graduate performance:

System challenge 1: Low levels of international mobility

At present, outbound mobility of Russian students to foreign universities is just 1%; whilst increasing, this is a comparably small proportion of the total student population. The UK is a top destination for student mobility from Russia, however it falls behind Germany and the US. Further, the limited mobility of Russian students will not only impact student outcomes, but also acts as a barrier to future cross-cultural collaboration (in academia and elsewhere). Planning for future collaborative pipelines (e.g. in research or teaching partnerships) would benefit from increased engagement not just in early career researchers, but beginning at undergraduate level to develop cross-cultural understanding, relationships and aspirations from an earlier age.

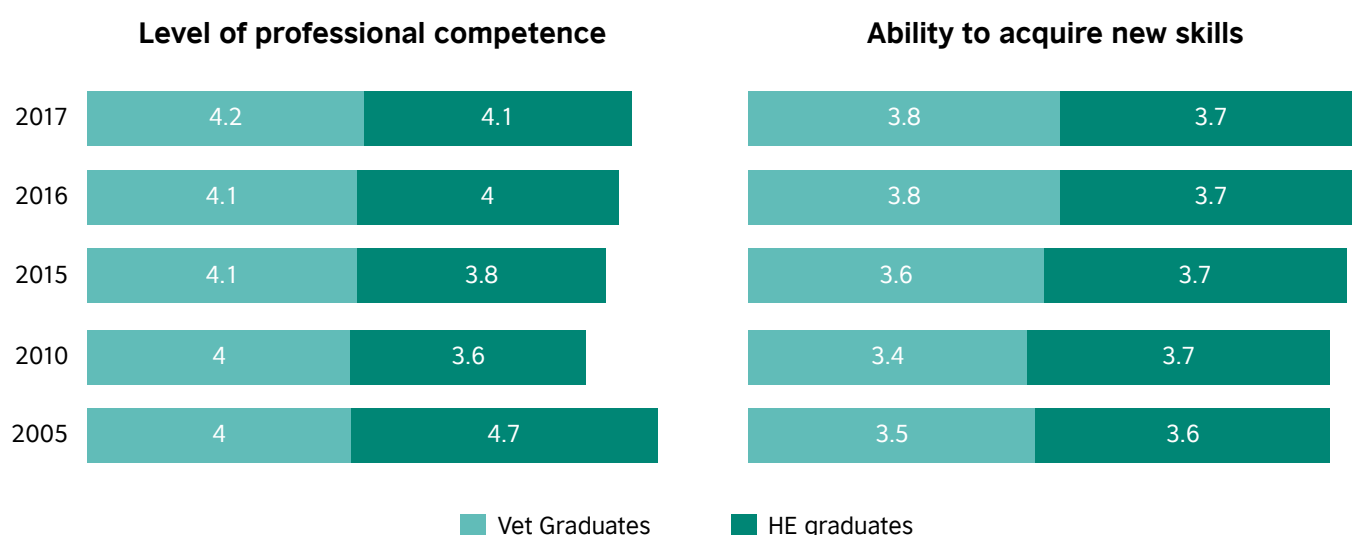
System challenge 2: Graduate employability

Linked to provision quality issues, official estimates suggest that between 30% and 60% of higher and vocational education programmes do not meet the demands of the labour market. After graduation, according to the Federal Statistical Service,¹³⁷ up to 31.3% of higher education graduates and 40.5% of vocational education graduates are not employed in their professional spheres.¹³⁸

Employers particularly note a lack of general skills, positive social attitudes (communication, cooperation, creativity and analytical thinking), entrepreneurship and self-management amongst graduates. These perceptions somewhat reflect the reality, with less than 40% of school leavers, 20% of college (VET) and 50% higher education graduates having had any project management experience during their studies. Another set of skills required by the labour market, but often absent amongst graduates, are basic digital, legal and financial competence. According to employers, these new skills are not reflected in the curricula, and digital, legal and financial literacy are not learning outcomes.



Figure 4.3 Employers assessment of graduate knowledge and ability to acquire new skills¹³⁹



¹³⁷ Russian Federal Statistics Service. Accessed at: <https://eng.rosstat.gov.ru/> [June 2019].

¹³⁸ Centre of strategic research and Higher School of Economics (2018). 12 Solutions for a new education. Accessed at: <https://publications.hse.ru/en/books/224314348> [June 2019].

¹³⁹ Russian Federal Statistics Service. Accessed at: <https://eng.rosstat.gov.ru/> [June 2019].

System challenge 3: ongoing improvements to quality assurance

Despite the growth in higher education provision in Russia, commentary within the sector in 2019 suggested that issues around the quality of higher education provision persist; as above, between 30-60% of graduates are not employed in the market, with notable concerns from employers about a lack of specific skills. While the Agency for Quality Assurance in Higher Education and Career Development is tasked with the development of education institutions and improvement of quality of the higher education system in Russia (and already) works with organisations like the European University Association to improve quality standards for students and institutions, worsening quality standards for students and institutions were felt to impact the perceived strength of Russian academia and graduates, limiting interest in collaboration. In 2021, the effects of online education as a result of Covid-19 and the implications of this for quality and student attainment could exacerbate this perception (a struggle for most countries, not just Russia). However, quality assurance falls under the control of the Russian government, who regularly engaged industry to ensure it is kept current; thus, an effort is made to update and maintain quality standards in line with employer needs. There is opportunity for UK and Russia educators and policymakers to collaborate on QA practices – both with AKKORK and directly with universities – to support shared learning of QA best practice.

System challenge 4: Continuing education

As a result of the rapidly changing economic and technological global landscape, the ability to acquire new knowledge and skills after formal qualifications and throughout one's career has become vitally important; this is especially true in an environment where graduates lack key employment skills and where nearly half work in a sector unrelated to their degree training. In Russia, however, involvement in lifelong learning is one of the lowest in developed countries: approximately 17% compared to the EU average of 40% and the highest performing nation – Sweden – at 66%.¹⁴⁰ Most people stop learning after the age of 25, and only 1% of pensioners take part in the education programs. The Boston Consulting Group estimates Russian employers spend 10 times less on staff development compared to their European counterparts, resulting in Russia's low position in INSEAD's Global Talent Competitiveness Index – ranked 49th out of 125 countries in the 2019 rankings.¹⁴¹

4.3 Russian universities research output and collaboration

Since 2013 (the launch of the 5-100 Project) the number of publications affiliated with Russia indexed in both the Scopus and Web of Science (WoS) citation databases has been growing steadily by approximately 10-20% year on year, and in 2018 exceeded 98,000 and 75,000 respectively.¹⁴² According to Emerging Sources Citation Index (ESCI) data in InCites 'Benchmarking & Analytics',¹⁴³ Russian researchers published 382,935 papers between 2013 and 2018, making up 2.4% of a total of 16,051,825 major academic publications in WoS-indexed natural sciences, social sciences and arts and humanities journals. Publications affiliated in Russia comprise 3.23% of the global volume, behind Australia (3.4%), Canada (3.6%), Italy (3.85%), France (3.85%) and Japan (4.2%). Russia is now in 14th place (down one place from 2017).¹⁴⁴ Across these publications, the top subject areas are: Physics and Astronomy, Engineering, Materials sciences, Chemistry and Mathematics.¹⁴⁵ This evidence suggests that if the continued pattern of an annual growth of 10% is maintained, Russia will meet its stated target of 180,000 publications per year by 2024. However, despite this optimistic picture, there are concerns whether it is feasible to keep up the good quality of the publications against such rapid growth in quantity. However, comparatively, the volume of research conducted in Russian universities is still relatively small, which, amongst other factors, leads to Russia lagging behind in the number of registered patents.

Research collaboration

Data published via the SciVal database¹⁴⁶ shows the number of co-authored publications by Russian and UK academics for the last five years was 17,651 (2015-2021), as shown below.

For the 2010-2019 decade, joint publications totalled 21,360; this shows small, but meaningful growth compared to 19,523 between 2009-2018.

The largest number of co-authored publications was in the area of Physics and Astronomy (23.9%), followed by Medicine (10.4%), Engineering (8.2%) and Materials Science (7.1%). These subjects have constantly been the areas of the strongest collaboration over the past c. 5 years.

¹⁴⁰ Centre of strategic research and Higher School of Economics (2018). 12 Solutions for a new education. Accessed at: <https://publications.hse.ru/en/books/224314348> [June 2019].

¹⁴¹ Adecco Group. Global Talent in the Age of Artificial Intelligence. Originally accessed at: <https://gtcistudy.com/wp-content/uploads/2019/01/GTCI-2019-Report.pdf> [June 2019]; updated link: <https://www.adecgroup.com/future-of-work/latest-research/global-talent-in-the-age-of-artificial-intelligence/> [May 2021].

¹⁴² Ministry of Science and Higher Education of the Russian Federation (2019). Russian Research in Scopus and WoS: Refusing to Sacrifice Quality for Quantity Accessed at: <https://5top100.ru/en/news/101352/> [June 2019].

¹⁴³ Emerging Sources Citation Index (ESCI) data in InCites 'Benchmarking & Analytics' (retrieved on March 11th, 2019)

¹⁴⁴ Indicator (2019) The number of Russian publications in Scopus for the year exceeded 100 thousand. What's next? Accessed at: <https://indicator.ru/article/2019/05/24/publikatsii-scopus/> [June 2019].

¹⁴⁵ Ministry of Science and Higher Education of the Russian Federation (2019). Russian Research in Scopus and WoS: Refusing to Sacrifice Quality for Quantity Accessed at: <https://5top100.ru/en/news/101352/> [June 2019].

¹⁴⁶ SciVal is Elsevier's abstract and citation database, covering more than 20,000 publications and 230 nations, the majority of which are peer-reviewed journals in top-level subject fields: life sciences, social sciences, physical sciences and health sciences. SciVal was previously known as Scopus.

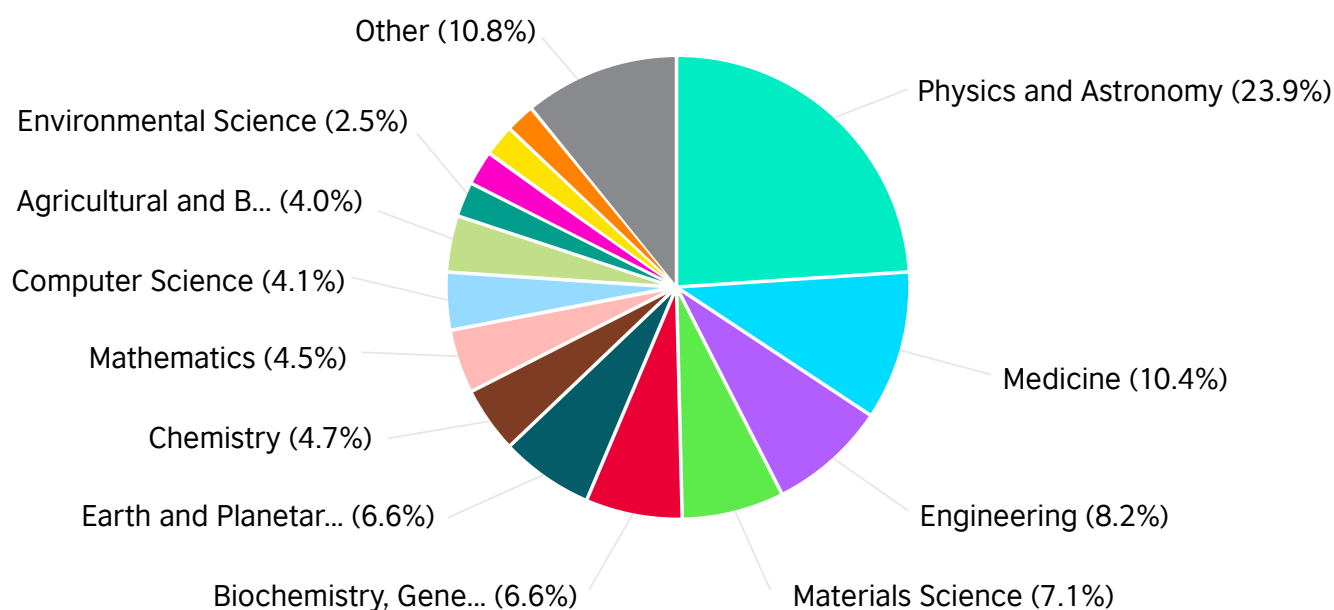


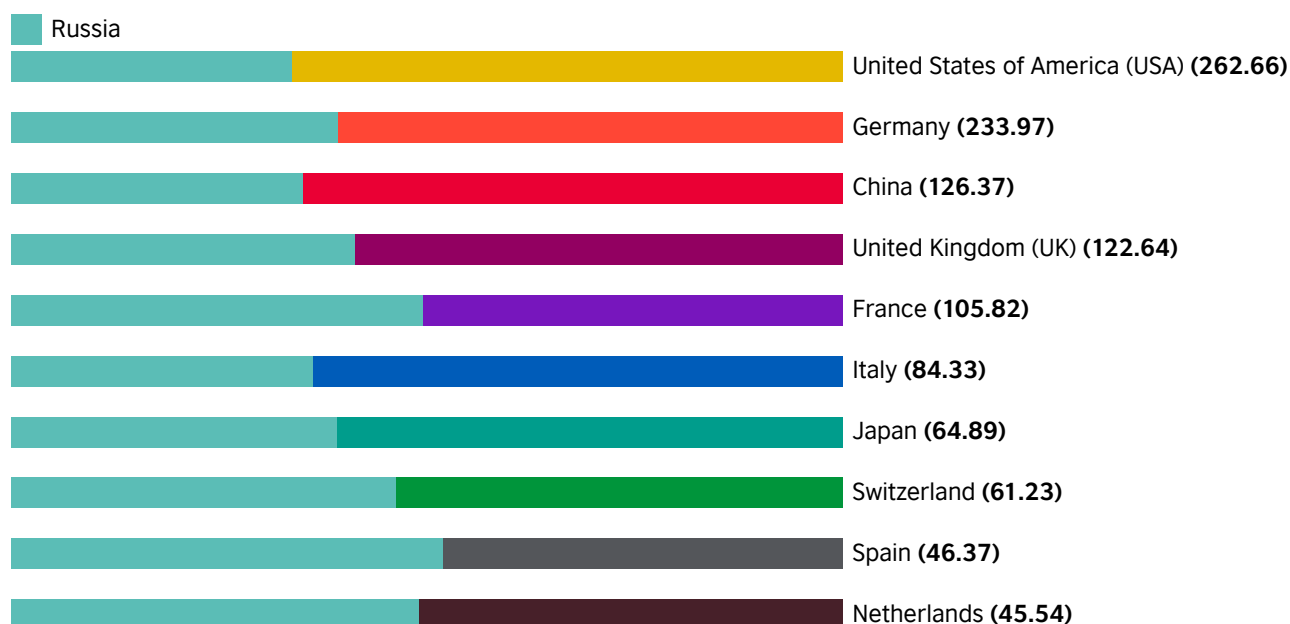
Figure 4.4 SciVal data summarising UK-Russia co-authored publications by subject area, 2015-2021¹⁴⁷

When comparing collaborative publications by country, the Nature Index provides a useful analysis of international research collaboration in the sciences by tracking the affiliations of high-quality scientific articles. It presents research outputs by institution and country, calculated by the combined fractional count (FC) of each country and the collaborating country.

Nature Index data of the top 10 collaborators with Russia between 1 December 2019 and 31 November 2020 is shown below...

Countries are ranked starting with the highest number of collaborations, with the proportion of collaborations led by Russia (purple) vs. the partner country (other colour). The Russia had the greatest number of collaborations with researchers from the United States during this period, followed by Germany, China, the UK and France; however, Russian researchers were more likely to be the lead collaborator for partnerships with Spain, France and the Netherlands.

Figure 4.5 International research publications partnerships¹⁴⁸



¹⁴⁷ Sourced from the SciVal database. Accessed: <https://www.scival.com/> [4 June 2021].

¹⁴⁸ Nature Index (2019). Russia. Accessed at: <https://www.natureindex.com/country-outputs/Russia> [24 May 2021].

The Nature Index shows that more than half of Russian publication collaboration came from the Physical Sciences, follow by roughly a third in Chemistry. Environmental and Life Sciences make up the smallest portions, of c. 10% each. The top institutions for collaborative publications include: the Russian Academy of Sciences, Lomonosov Moscow State University, St. Petersburg State University, National Research Center Kurchatov Institute and Moscow Institute of Physics and Technology - State University.¹⁴⁹

Russian academic mobility

Despite increasing recognition for academic excellence, Russian universities have historically suffered the negative consequences of brain drain, with many educated Russians choosing to leave the country.¹⁵⁰ According to Boston Consulting Group, many Russian academics working in certain fields choose to locate their careers in different countries, with 52% of scientists, 54% of IT specialists and 49% of engineers expressing they wished to do so. The study also suggested that the most popular destination for Russia academics wishing to leave the country was Germany (12%) and Israel (7%), followed by Switzerland (2%), and France, the USA, Belgium and the UK receiving 1.5% of emigrating academics.¹⁵¹ Of those that have left, only 6% indicate that they would be willing to return to Russia, with the main reason highlighted for this being economic instability and a higher quality of state services such as healthcare, education and childcare in their current country of residence.

According to the Russian Presidential Academy of National Economy and Public Administration, 40% of the 100,000 individuals emigrating from Russia each year hold a degree level education, with a total of 800,000 Russians with degrees living abroad.¹⁵²

Research challenges

System challenge 5: Lack of subject engagement and brain drain

Linked to this are issues around brain drain, low levels of academic engagement in certain subject areas and the importance of promoting intellectual independence and rigorous standards throughout Russian tertiary education. As highlighted above, the expansion and growth of the Russian research sector suffers the negative consequences of high levels of outgoing mobility, and in many cases permanent emigration. Linked to this are reports of low academic standards, poor quality research

and in some cases data fabrication, as frequent practice at some Russian institutions. Case study interviews conducted for the purpose of this research supported this perception, as confirmed by some participating UK institutions.

System challenge 6: Significant administrative barriers can impede progress

The recent government announcements of significant investment in the Russian National Education and Science initiatives, whilst making positive steps towards boosting Russian capacity in both areas, have been critiqued by international experts as unlikely to tackle issues across the research sectors.¹⁵³ Bureaucratic barriers towards the administration and organisation of research have recently been highlighted as potential continuing barriers to achieving the Russian governments stated policy goals. The impact of centrally led education initiatives on institutional autonomy was also flagged as a potential issue, stressing the legacy of previous cultural, governance and operational challenges that would be difficult to combat, if researchers within the sector were only to rely on central government funded projects alone. The importance of academic autonomy has been highlighted by sector experts as a vital component in achieving academic excellence throughout the Russian research sector.

System challenge 7: Increased oversight of international collaboration

Media reports published in August 2019¹⁵⁴ suggest heightened vigilance from the Russian government towards scientists affiliated to foreign governments; this order was never implemented and ultimately withdrawn in January 2020.¹⁵⁵

However, the Russian government continues to tighten state control over education. The amendments to the Federal Law on Education in the Russian Federation regulating educational activities in Russia – as referenced in section 3.1 above – bring all informal educational activity under government control.¹⁵⁶ The law will require any educators to coordinate their activities with state officials in accordance with specific statutes and procedures, and empowering the Ministry of Education and Science and the Ministry of Education with the authority to license educational projects – with special attention to cooperation between educational institutions and international organisations. For example, permission of the Ministry of Education or the Ministry of Education and Science will be required for any organisation or institution in Russia to sign an international agreement in the field of education. It remains to be seen if/how this might impact prospective international collaborations, however the additional administration that will be required to enable international cooperation and associated activities could be a barrier to both UK and Russian institutions.

149 Nature Index (2019) Collaboration Graph. Accessed: <https://www.natureindex.com/country-outputs/Russia> [24 May 2021].

150 Ivakhnyuk, I, Center for International Relations. Brain Drain from Russia: in Search for a Solution Accessed at: <https://core.ac.uk/download/pdf/11870450.pdf> [June 2019].

151 UAWire (2018). Half of Russian scientists want to emigrate. Accessed at: <https://www.uawire.org/half-of-russian-scientists-want-to-emigrate#> [June 2019].

152 Moscow Times (2018). Russia's Brain Drain on the Rise Over Economic Woes — Report. Accessed at: <https://www.themoscowtimes.com/2018/01/24/russias-brain-drain-on-the-rise-over-economic-woes-report-a60263> [June 2019].

153 Inside Higher Ed (2019). Questions on Russia's Research Reforms. Accessed at: <https://www.insidehighered.com/news/2019/03/07/experts-have-doubts-russias-plans-reform-research-efforts> [June 2019].

154 Moscow Times (2019). Kremlin Warns of Foreign Espionage as Scientists Criticize New Restrictions. Accessed at: <https://www.themoscowtimes.com/2019/08/15/kremlin-warns-of-foreign-espionage-as-scientists-criticize-new-restrictions-a66860> [August 2019].

155 Confirmed by a representative of the Russian Embassy, London (2021).

156 Russia. President of Russia (2021). Amendments to law on education [online]. Accessed at: <http://en.kremlin.ru/acts/news/65307> [24 May 2021].

4.4 Performance in global university rankings

Performance in global university rankings is given significant weight by Russian policy makers, with an ambition to see five Russian universities in the global top 100 within the next decade. Overall, Russia is not particularly prominent in global university rankings: as of 2021, it had no universities in the global 100 in the Times Higher Education rankings (only one in the top 200);¹⁵⁷ in the 2021 QS World University Rankings, there was only one university in the top 100 and no others in the top 200.¹⁵⁸ In both cases, the ranking university was Lomonosov Moscow State University.

However, Russia performs more strongly at the subject level and has shown further improvement in recent years. In the 2021 QS World University Rankings by Subject,¹⁵⁹ three universities are ranked in the top 100 for the Natural Sciences: Lomonosov Moscow State University, Moscow Institute of Physics and Technology, and Novosibirsk State University. One university is ranked in the top 100 for both Engineering and Technology and Arts and Humanities (Lomonosov Moscow State University), and two are ranked in the top 100 for Social Sciences and Management (HSE University and Lomonosov Moscow State University). None are ranked in the top 100 for Life Sciences and Medicine. More specifically:

- The strongest performing subject is Physics and Astronomy, with four universities ranked amongst the top 100: Lomonosov Moscow State University (29), Moscow Institute of Physics and Technology (50), the National Research Nuclear University (86) and Novosibirsk State University (90). Following this is Social Policy and Administration, with three universities in the top 100: Lomonosov Moscow State University, HSE University, and Ural Federal University.
- Moscow State University (MSU), Russia's highest-ranking university, is in the top 100 in 15 subjects, but top 50 in six: Linguistics (24), Physics and Astronomy (29), Engineering – Petroleum (32), Mathematics (34), Modern Languages (36), and Philosophy (41).
- Only one university was present in a top-20 position: Saint Petersburg Mining University, which is ranked 12th in Mining and Mineral Engineering; however, multiple feature in the top 50 for specific subject lists, including: HSE University, MGIMO University, Moscow State Conservatory P. I. Tchaikovsky, Lomonosov Moscow State University, the National Research Tomsk Polytechnic University, and National University of Science and Technology MISIS.

This growing excellence in specific subjects has also been reflected in the Times Higher Education subject rankings, which reported that multiple Russian universities had joined the subject series list.¹⁶⁰ This creates strong opportunity for global collaboration, by identifying key universities with specific subject-area strengths; this is true for both Science subjects, as well as Social Science and Humanities subjects that could play a supporting role in Science collaboration (e.g. social policy and administration to support to navigate policy issues or change, and modern languages to improve communication and cultural understanding).

The QS 2018 Emerging Europe and Central Asia Rankings Supplement¹⁶¹ highlight the top 300 best universities from 26 countries in Eastern Europe and Central Asia and included 86 Russian higher education centres. Three Russian universities feature in the top 500 in the Times higher education rankings for 2018: Moscow State University (199), Moscow Institute of Physics and Technology (251-300), Higher School of Economics (310-350) and National Research Nuclear University (MEPhI), whilst four Russian universities achieve places in the Academic Ranking of World Universities' top 500: Moscow State University, Saint Petersburg State University, Novosibirsk State University and Moscow Institute of Physics and Technology. However, neither rankings score any Russian universities in their top 100 positions.

System challenge 8: The impact of university performance indicators and rankings

A 2018 report published by the Centre for Institutional Analysis of Science and Education, European University at Saint Petersburg,¹⁶² provided an in-depth analysis of the recent and controversial practice to evaluate Russian higher education. Background provided within the report suggests that within the last five years, there has been increased discourse from the Russian government surrounding the necessity to reduce the number of low quality or weak institutions (referred to as the 'state agency', with some reference to the Ministry of Science and Higher Education). As part of this task, it has developed a methodology to evaluate the performance of all Russian universities, who are obliged to participate in the annual evaluation and provide reliable information about more than one hundred statistical indicators. Evidence suggests that the introduction of this process has artificially impacted the Russian higher education sector, focusing resources towards performance improvement in several international rankings. However, universities are increasingly represented in global subject-level rankings; thus, while the challenge remains, there are signs of improvement and opportunity.

157 Times Higher Education World University Rankings (2021). Accessed at: https://www.timeshighereducation.com/world-university-rankings/2021/world-ranking#/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats [10 May 2021]

158 QS World University Rankings (2021). Accessed at: <https://www.topuniversities.com/university-rankings/world-university-rankings/2021> [10 May 2021]

159 QS World University Rankings by Subject (2021). Accessed at: https://www.topuniversities.com/subject-rankings/2021?utm_source=topnav [10 May 2021]

160 Times Higher Education (2019). Russia makes progress in science subject rankings: More Russian universities join top 100 of subject tables. Accessed at: <https://www.timeshighereducation.com/world-university-rankings/russia-makes-progress-science-subject-rankings> [10 May 2021].

161 QS World University Rankings (2018) EECA Supplement. Accessed at: <https://www.qs.com/portfolio-items/2018-qs-university-rankings-eeca-supplement/> [June 2019]

162 Guba, K. (2018). University Performance Indicators in Use: Administrative Data on State Control of Russian Universities. Centre for Science and Technology Studies (CWTS). Accessed at: https://openaccess.leidenuniv.nl/bitstream/handle/1887/65186/STI2018_paper_212.pdf?sequence=1 [June 2019].

5 Existing UK-Russia partnerships

5.1 Current UK and Russia bilateral cooperation

There are multiple contemporary examples of ongoing partnership programmes that facilitate collaborative working and bilateral relations between UK and Russian academics and universities. Current programmes facilitating higher education partnership activity include those shown below.

Russia UK University Rector's Forum, 2019-ongoing

The first Russia-UK University Rectors Forum was held in November 2019, hosted by the Russian Rectors Union at Moscow State University, “aimed at deepening UK-Russia collaboration and partnership in research, science and higher education.”¹⁶³ It focused on higher education policies and frameworks to support increased bilateral collaboration, and involved four roundtable discussions aimed at helping increase mutual mobility, joint research, TNE, and university-industry collaboration.¹⁶⁴ Each roundtable discussed the particular challenges or barriers to each, then made recommendations on ways to jointly overcome the challenges and support mutual growth. The Forum also included the St Petersburg Dialogue, which brought together university leaders to debate The Future of the University.

The next Rectors Forum is a return visit to the UK, expected to take place in October 2021 (delayed from

June 2020 due to Covid-19). The preparatory activity for this was a round-table event held in February 2021, where “Russian Union of Rectors and Universities UK International were joined by both respective Ambassadors, UK Vice Chancellors and Russian Rectors to confirm their commitment to deepen university partnerships, science, student interactions and mutual academic mobility of students, researchers and academics.”¹⁶⁵ The October 2021 delegation visit to the UK will be used “to share positive experience, expertise and to discuss new opportunities and mechanisms to support the increase in joint research projects, to intensify and increase academic mobility and Transnational Education programmes, and to define a strategy to 2030.”¹⁶⁶ A meeting of Vice Rectors or Heads of Science and Research of UK and Russian universities is expected as part of this, to discuss the mechanisms to strengthen bilateral cooperation in science.

An expected outcome of the Rectors Forum 2021 will be the proposed ‘UK-Russia Year of Knowledge Exchange’ in 2022, supported by university leaders in both countries, to confirm their commitment to existing partnerships and building new collaborations and links between institutions and people.¹⁶⁷

UK-Russia University Alliance, 2019 – 2021

¹⁶³ British Council (2020). British Council announce new UK-Russia University Alliance programme to strengthen university links. Accessed at: <https://www.britishcouncil.org/organisation/press/british-council-announce-new-uk-russia-university-alliance-programme-strengthen> [24 May 2021].

¹⁶⁴ United Kingdom. British Council (2019). UK Vice-Chancellors and Principals Mission to Russia. [As provided by the British Council on 21 May 2021]

¹⁶⁵ United Kingdom. British Council (2021). UK Russia Rectors Forum Joint Statement. [As provided by the British Council on 21 May 2021]

¹⁶⁶ Ibid.

¹⁶⁷ Ibid.

The British Council launched UK-Russia University Alliance programme in October 2020, with the purpose to “engage Russia’s top 50 universities and connect 95 of the next generation of Russia’s science leaders with the UK by expanding partnership and professional development opportunities and providing a platform for longer term ambitions of engaging universities and researchers.”

It set itself two key objectives: first, to create “a strengthened community of Russian early career researchers open to UK ideas and positive towards the UK, who see the UK as a source of science excellence and an attractive longer term career partner and who will seek future joint research initiatives with UK partners”; and to “support long term links between UK higher education and research institutions and Russia’s top universities who see the UK as a natural partner for collaboration, consultancy and research.”¹⁶⁸

The programme places particular emphasis on supporting and including early career researchers, to help establish new connections for future and ongoing collaboration.

The programme, managed by the Cultural and Education Section of the British Embassy in Russia, aimed to run 5 online forums in the 2020/2021¹⁶⁹ year to enable interactions between researchers for discussion of UK and Russian experience and expertise in the priority areas like Climate Change, Arctic Science and Anti-Microbial Resistance, as well as increased TNE partnerships.¹⁷⁰ It also supported 10 UK and 10 Russian universities in joint research projects.¹⁷¹ Across these activities, the programme had the following targets:

- 25 early career researchers supported with UK professional development and/or to collaborate with their UK counterparts
- Russian and UK universities supported to deepen existing partnerships and share findings. (Engaging 15 Russian universities and 45 ECR in total)
- 5 online events - Engaging 50 Russian university participants and 25 early career researchers in forums and events

In its first year (2020-2021), the programme exceeded its initial targets, engaging 798 participants in total, including 127 Russian institutions and 399 Russian researchers across 8 online events and three joint research partnerships; of these, 34 were early career researchers from 26 Russian universities who had taken an online professional development course, 17 directly involved in joint research project implementation, and 93 taking part in online fora.¹⁷²

It also supported three partnership projects, which involved 10 UK and 10 Russian universities between them: the “Arctic Science Priorities: UK-Russia Early Career Researchers Collaborations for Future Sustainability” aimed at initiating a dialogue among UK and Russian early career and senior scientists working in the Russian Arctic; the “International Scientific Integration of Early Career Researchers” between 3 Russian universities from Siberia and 3 UK universities: Yuga State University, University of Tyumen, Nizhnevartovsk State University, Bangor University, University of the Highlands and Islands, and University of the West of England; and a third on the theme of “How did the environment react to climate change during the Devonian time in the European part of the Arctic?” between the paleontologists from the Institute of Geology FRC Komi, Pitirim Sorokin Syktyvkar State University, University of Southampton, University of Cardiff, and University of Cambridge. Combined, these projects involved 17 early career research directly and 93 indirectly (through participation in discussion and events).¹⁷³

Outcomes from the programme were very strong, with the vast majority of the early career researchers agreeing it improved their perception of the UK as a source of science excellence, increased their confidence to work internationally and enhanced their career prospects (over 90% agreement). For those involved in joint research, the majority (again over 90%) agreed the collaboration was successful and expected the collaboration to continue in future.¹⁷⁴

UK-Russia Alliance: Responsible Futures Forum, 2021

Linked to the University Alliance programme is the Responsible Futures Forum, a multi-day online forum held in March 2021, intended “to raise awareness of the urgency of climate change, to evoke the desire to change behaviour and to create the environment for personal and collective action to adapt and mitigate for the risks of climate change.”¹⁷⁵ Between 24-31 March 2021, the programme brought together experts from Russia and the UK to discuss environmental innovations, research on climate change, and the impact on human activities on future economic models and scenarios. The forum had 26 speakers (original target: 15) and involved participation from 271 universities and other organisations (target: 99). Of these participants, two-thirds were women and one-third men.¹⁷⁶ Participants also gave largely positive feedback on the event: 86% of the audience reported improved their knowledge of innovative environmental solutions, climate research, economic and climate

168 United Kingdom. British Council (2021). Project Completion Report: UK-Russia University Alliance. [As provided by the British Council on 18 May 2021]

169 United Kingdom. British Embassy Moscow. UK-Russia University Alliance. Accessed at: <http://uk-russia-alliance.ru/eng> [24 May 2021].

170 United Kingdom. British Council (2020). British Council announce new UK-Russia University Alliance programme to strengthen university links. Accessed at: <https://www.britishcouncil.org/organisation/press/british-council-announce-new-uk-russia-university-alliance-programme-strengthen> [24 May 2021].

171 Ibid.

172 United Kingdom. British Council (2021). Project Completion Report: UK-Russia University Alliance. [As provided by the British Council on 18 May 2021]

173 United Kingdom. British Council (2021). Project Completion Report: UK-Russia University Alliance. [As provided by the British Council on 18 May 2021]

174 Ibid.

175 United Kingdom. British Embassy Moscow. UK-Russia University Alliance: Responsible Futures. Accessed at: <http://uk-russia-alliance.ru/responsiblefutures/eng> [24 May 2021].

176 Ibid.



forecasting; 85% agreed it improved their view of Russian expertise and experience in climate change research and innovative environmental solutions; and 83% reported the same for UK expertise.¹⁷⁷

Memorandum of Understanding: UUKi and Russian Rectors' Union, 2019-2025

A Memorandum of Understanding (MOU) was signed between Universities UK International (UUKi, the international arm of the representative organisation for UK universities) and the Russian Rectors' Union in November 2019. The purpose of the MOU is "to develop and foster close cooperation with the main objective of supporting and contributing to the advancement and internationalisation of higher education in both countries, linking knowledge and strengthening mutual understanding and relations between Russia and the UK in the field of higher education."¹⁷⁸ The MOU sets out five specific actions each signatory will take to support this objective:

- Encourage their students to consider studying at higher education institutions in the other country (including summer courses, short courses and undergraduate, graduate PhD and postdoc programs). Such students will abide by the regulations of the respective universities;
- Promote the mobility of research and teaching staff of both countries, including early career researchers.
- Promote collaborative research projects, studies, academic and scientific publications;
- Undertake and promote all kind of joint activities in the scope of interest of both parties
- Welcome a delegation of Russian Rectors' to the UK in June 2020.

The MOU is set for an initial period of three years (to 2022) with a three-year extension (to 2025).

UK-Russia University partnerships

University to university cooperation between Russian and UK institutions is an integral part of the bilateral educational landscape. Below is a list of the UK institutions with whom Russian universities in the top100 of QS EECA ranking have connections. Out of 23 Russian universities, 17 have established links (e.g. MOAs, double degrees / joint programs, student exchanges or others) with UK universities. The current, publicly verifiable links as of May 2021 are shown in the table below; however, there are likely to be others not referenced publicly.

¹⁷⁷ United Kingdom. British Council (2021). Project Completion Report: UK Russia University Alliance Responsible Futures. [As provided by the British Council on 21 May 2021]

¹⁷⁸ United Kingdom. Universities UK (2020). Memorandum of Understanding: Universities UK and Russian Rectors' Union. [As provided by the British Council on 21 May 2021]

Table 5.1 UK institutions with whom top-100 QS EECA ranking Russian universities have connections

Russian universities (in order of appearance in QS EECA ranking)	UK partners
Moscow State University ¹⁷⁹	<ul style="list-style-type: none"> • Nottingham University • Scott Polar Research Institute of the University of Cambridge • University of Birmingham
Novosibirsk State University ¹⁸⁰	<ul style="list-style-type: none"> • University of Edinburgh • University of Surrey • Nottingham University
Saint Petersburg State University ¹⁸¹	<ul style="list-style-type: none"> • Aberystwyth University • Keele University • Reid Kerr College • University of Cambridge • University of Nottingham • Regents College London • Bournemouth University • Durham University Business School • University of York • University of Portsmouth • University of Reading • University of Warwick • University of Edinburgh • University College London (UCL), Institute of Human Health and Performance • University of Central Lancashire • University of Birmingham • University of Bradford • The London School of Economics and Political Science • The University of Glasgow, The Faculty of Law
Tomsk State University ¹⁸²	<ul style="list-style-type: none"> • Durham University • Goldsmiths, University of London • University of Bath • University of London

¹⁷⁹ Moscow State University: <https://www.msu.ru/int/partn/index.php> [May 2021].

¹⁸⁰ Novosibirsk State University: <https://www.nsu.ru/n/partners/map/> [May 2021].

¹⁸¹ Saint Petersburg State University: <http://ifea.spbu.ru/%D1%80%D0%B5%D0%B5%D1%81%D1%82%D1%80-%D0%BC%D0%B5%D0%B6%D0%B4%D1%83%D0%BD%D0%B0%D1%80%D0%BE%D0%B4%D0%BD%D1%8B%D1%85-%D1%81%D0%BE%D0%B3%D0%BB%D0%B0%D1%88%D0%B5%D0%BD%D0%B8%D0%B9?resetfilters=0&clearordering=0&clearfilters=0> [May 2021].

¹⁸² Tomsk State University. Accessed at: <http://cjiap.tsu.ru/node/7> [May 2021].

Bauman Moscow State Technical University ¹⁸³	<ul style="list-style-type: none"> • De Montfort University
MEPhI ¹⁸⁴	<ul style="list-style-type: none"> • University of Exeter
Higher School of Economics ¹⁸⁵	<ul style="list-style-type: none"> • University of London with the academic support of the London School of Economics and Political Science • Lancaster University Management School (LUMS) • London School of Economics and Political Science (LSE) • University College London, IMESS programme • University of Essex • University of Nottingham • University of Kent • Cambridge University • King's College London • Queen Mary University of London • University of Essex • University of Hertfordshire
MGIMO ¹⁸⁶	<ul style="list-style-type: none"> • Regent's University London • University of Reading • University of Saint Andrews • University of Oxford • University of Canterbury
Peter the Great Saint Petersburg Polytechnic University ¹⁸⁷	<ul style="list-style-type: none"> • City University London • Imperial College London • Anglia Ruskin University • Wrexham Glyndwr University • Northumbria University • Warwick University
Tomsk Polytechnic University ¹⁸⁸	<ul style="list-style-type: none"> • University of Southampton • Heriot-Watt University • University of Lancaster • Manchester University
Kazan Federal University ¹⁸⁹	<ul style="list-style-type: none"> • Birmingham University

183 Bauman Moscow State Technical University: <http://www.bmstu.ru/acadmob/programs> [May 2021].

184 MEPhI: <https://mephi.ru/obrdeyat/mezhdunarodnoe-obrazovatelnoe-sotrudnichestvo/sovmestnye-obrazovatelnye-programmy.php> [May 2021].

185 Higher School of Economics: <https://www.hse.ru/intpartners/part> [June 2021].

186 MGIMO: <https://mgimo.ru/about/structure/int/docs/partner-universities/> [June 2021].

187 Peter the Great Saint Petersburg Polytechnic University: <https://www.spbstu.ru/international-cooperation/international-activities/foreign-partners/> [May 2021].

188 Tomsk Polytechnic University: <http://portal.tpu.ru/partner/int-partners> [May 2021].

189 Kazan Federal University: <https://kpfu.ru/law/mezhdunarodnaya-deyatelnost/zarubezhnyye-i-mezhdunarodnyye-partnery> [May 2021].

Ural Federal University ¹⁹⁰	<ul style="list-style-type: none"> • City University London • London South Bank University • University of Birmingham • Wessex Institute of Technology (WIT) • Brunel University • Cambridge University
Lobachevsky University ¹⁹¹	<ul style="list-style-type: none"> • Glasgow University
ITMO ¹⁹²	<ul style="list-style-type: none"> • Wessex Institute • University of Wolverhampton
Plekhanov Russian University of Economics ¹⁹³	<ul style="list-style-type: none"> • Brunel University • Regents University London • Nottingham Trent University • University of Bedford
Russian Presidential Academy of National Economy and Public Administration ¹⁹⁴	<ul style="list-style-type: none"> • Blackburn College • CIMA • Institute of Professional Financial Managers • International Education Society London • Bath Spa University • Kingston University London • London Metropolitan University • University of Portsmouth • University of Hertfordshire
Samara National Research University ¹⁹⁵	<ul style="list-style-type: none"> • Wrexham Glyndwr University • Kingston University London

¹⁹⁰ Ural Federal University: <https://urfu.ru/en/partners/academic-partners/europe/> [May 2021].

¹⁹¹ Lobachevsky University: <http://www.int.unn.ru/partners/> and <http://www.unn.ru/sveden/inter.php> [June 2021].

¹⁹² ITMO: <http://www.ifmo.ru/ru/page/148/vuzy-partnery.htm> [May 2021].

¹⁹³ Plekhanov Russian University of Economics: <https://www.rea.ru/ru/Pages/partners.aspx> [May 2021].

¹⁹⁴ Russian Presidential Academy of National Economy and Public Administration: <https://www.ranepa.ru/ob-akademii/mezhdunarodnaya-deyatelnost/mezhdunarodnye-partnery> [May 2021].

¹⁹⁵ Samara National Research University: https://ssau.ru/events_news/ref/15-partnery [May 2021].

However, whilst online sources reference these relationships, research has found that many of these are simply the acknowledgement of a Memorandum of Understanding (MoU), which may be signed by university official but not result in any collaborative work; indeed, interviews with policy experts and university staff as part of this research suggested that only a small proportion of MoUs result in joint programmes, research or student exchange.



Transnational Education

The most recent data published by HESA shows that in the academic year 2018/19, Russia was amongst countries in non-EU Europe to host the most Transnational Education (TNE) students in the region, an estimated total of 1,090 students, (decreasing 22.7% since 2014/15).¹⁹⁶ The most popular types of TNE provision in the same year between the UK and Russia included Collaborative Provision, and Distance, flexible and distributed learning. Across non-EU Europe, Russia was the second biggest host at both undergraduate and postgraduate level. It had similar student numbers at each level (575 and 515), but they made up very different market shares (19.7% and 9.5% respectively).¹⁹⁷

Royal Society – International Exchange Scheme, ongoing

The Royal Society International Exchanges Scheme is designed to offer a flexible platform for UK based scientists to interact with the best scientists around the world. Funds towards travel, subsistence and research expenses can be requested for either a one-off short visit to explore opportunities for building lasting networks or for bilateral visits to strengthen emerging collaborations. All activities must be on a subject within the natural sciences, including: physics, chemistry, mathematics, computer science, engineering, agricultural, biological and medical research, geography and experimental psychology. Applicants intending to collaborate with partners in countries including Russia, may be considered for the Cost Share Programme. A case study detailing this programme can be found later in this chapter.

5.2 UK and Russia bilateral cooperation over the past decade

There have been a variety of other programmes and other initiatives that have supported UK-Russia collaboration in recent years.

Future Science, 2018-2020

Future Science is a professional development programme that aims to grow the number and quality of UK-Russia research collaborations to encourage friendly long-term relationships, promote the UK as a source of scientific excellence and attractive research partner, in the face of growing competition, and nurture future leaders in Russian science who are open to UK ideas and values. Future Science also addresses Russian Ministry of Higher Education and Science priorities including internationalisation, capacity building and mutually beneficial collaboration with the UK. The programme aims to engage with 1,000 young scientists through bilateral

Researcher Links workshops for young researchers in Russia and the UK and Researcher Connect seminars which aim to boost the science communication skills of Russian academics.

Future Science is delivered by the British Council, operating in Russia as the Cultural and Education Section of the British Embassy in Moscow, in partnership with the National Training Foundation. Future Science is funded by the Foreign and Commonwealth Office.

Seven Researcher Links workshops took place between April 2018 and March 2020. Overall, 1,674 scientists and academic staff took part from 190 organisations.¹⁹⁸ Workshops included:

- **Perspectives of hyperpolarised MRI for precision medicine;** University of Nottingham / Moscow State University, 6th to 9th September 2018, in Russia, co-funded by RFBR, including a networking event that took place at the Embassy Residence.
- **Prevention of microbial contamination of biomaterials for tissue regeneration and wound healing;** Lancaster University / Tomsk State University, 1st to 3rd October 2018, in the UK.
- **Scientific and technical grounds of future low-carbon propulsion;** Northumbria University / Federal State Unitary Enterprise Central Scientific Research Automobile and Automotive Institute (NAMI), 19th to 22nd November 2018, in the UK.
- **Medical imaging alliance: Siberia and UK;** University of Hull / Nikolaev Institute of Inorganic Chemistry in Novosibirsk, 22nd to 25th November 2018, in Russia, co-funded by RFBR.
- **Sustainable energy and climate change;** Nottingham Trent University / Altai State University, 28th to 30th November 2018, in the UK.
- **Macrocycles in medicine;** University of East Anglia / Kazan Federal University / A E Arbuzov Institute of Organic and Physical Chemistry, Russian Academy of Sciences, 17th to 20th December 2018, in the UK.
- **Nuclear theory for nuclear experiments;** University of Surrey / Moscow State University, 18th to 21st December 2018, in the UK.

Once funded, grants are available for early-career researchers in the UK and the country hosting the workshop to attend.

UK Research and Innovation and the Arts and Humanities Research Council, 2019

UK Research and Innovation (UKRI) is a new body that works in partnership with universities, research organisations, businesses, charities, and government to create the best possible environment for research and innovation to flourish. Operating across the whole of the UK with a combined budget of more than £7bn, UKRI brings together the Arts and Humanities Research Council;

¹⁹⁶ Universities UK (2019) THE SCALE OF UK HIGHER EDUCATION TRANSNATIONAL EDUCATION 2018–19. Accessed at: <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2020/the-scale-of-UK-HE-TNE-2018-19.pdf> [24 May 2021].

¹⁹⁷ Universities UK (2019) THE SCALE OF UK HIGHER EDUCATION TRANSNATIONAL EDUCATION 2018–19. Accessed at: <https://www.universitiesuk.ac.uk/policy-and-analysis/reports/Documents/2020/the-scale-of-UK-HE-TNE-2018-19.pdf> [24 May 2021].

¹⁹⁸ British Council (2020). Future Science 2017-2020 (programme report). Provided by the British Council.

Biotechnology and Biological Sciences Research Council; Engineering and Physical Sciences Research Council; Economic and Social Research Council; Innovate UK; Medical Research Council; Natural Environment Research Council; Research England; and Science and Technology Facilities Council.

In March 2019, the Arts and Humanities Research Council (AHRC) signed a Memorandum of Understanding¹⁹⁹ with the Russian Foundation for Basic Research (RFBR). The agreement was signed by Professor Andrew Thompson, (then) Executive Chair of the AHRC and Academician Vladislav Panchenko, Chairman of the RFBR and will initially focus on the delivery of a series of workshops based on areas of mutual interest. The sessions aim to encourage the productive exchange of views between British and Russian scholars, to demonstrate the strength and depth of research in different fields and to establish an agenda for future research. The collaboration will provide opportunities to exchange ideas, information and skills in arts and humanities research and will potentially support cooperative activities between researchers in the UK and Russia. However, as of 2021, this activity does not appear to have happened.

The UK-Russia Year of Science and Education, 2017

A series of high-profile events in the fields of science, education and culture were delivered for the UK-Russia Year of Science and Education 2017, led by the British Council and British Embassy in Russia and the Ministry of Education and Science of the Russian Federation. The Year of Science and Education was intended to stimulate further scientific collaboration between two countries.

The UK-Russia Year of Science and Education, 2017²⁰⁰

A series of high-profile events in the fields of science, education and culture were delivered for the UK-Russia Year of Science and Education 2017, led by the British Council and British Embassy in Russia and the Ministry of Education and Science of the Russian Federation. The Year of Science and Education was intended to stimulate further scientific collaboration between two countries.

Key events in the UK-Russia Year of Science and Education 2017 included:

- **The UK–Russia roundtable on Science Diplomacy:** Organised jointly by the Royal Society and the RFBR, the event brought together prominent UK and Russian scientists to discuss issues such as ‘What is the difference between science diplomacy and science advice?’.
- **The 2nd UK-Russia roundtable on Tackling Antimicrobial Resistance** at the British Ambassador’s Residence brought together UK and Russian experts from medical and veterinary sectors, as well as pharma industry, to discuss the root causes of antimicrobial resistance and what measures should be taken to curb

the spread of infections that are resistant to antibiotics.

- **Tim Peake’s Space Craft unveiled at the Science Museum:** the Soyuz spacecraft used by Tim Peake in his Principia mission was displayed to inspire the next generation.
- **The Future Science train on the Moscow Metro:** a themed train was launched in Moscow Metro in autumn 2017, decorated with quotes of famous British scientists and illustrations of their key achievements.

The Royal Society of Chemistry, 2018-2019

In March 2018, Russian Academic Yuri Oganessian was awarded with the diploma of an Honorary Fellow of the Royal Society of Chemistry as acknowledgement of his outstanding contribution to discovery of new super heavy chemical elements. The ceremony was held at the Royal Society at a reception dedicated to the closing of the ‘UK-Russia Year of Science and Education’.²⁰¹ 2019 marked the International Year of the Periodic Table, celebrated by the Royal Society of Chemistry and features the celebration of several UK-Russia scientific collaborations.

The Royal Society, 2016-2017

The Royal Society’s links with Russia go back to Peter the Great’s visit in 1698, and his subsequent founding of the Russian Academy of Sciences. Since then, the Society and its Fellows have frequently maintained productive relations with Russian scientists.

Recent activities include scientific meetings on palaeontology (October 2016) and black holes (April 2017) with RAS, and a high level discussion on science diplomacy with the RFBR (May 2017), hosted by MGIMO (Moscow State Institute of International Relations). The latter two events took place under the UK-Russia Year of Science and Education.

UK Science and Innovation Network in Russia

The UK Science and Innovation Network (SIN) was created to promote international collaboration in science and innovation by the Department for Business, Innovation and Skills (BEIS) and FCO. It is active in 28 countries around the world. SIN in Russia was established at the British Embassy in Moscow in 2010. The team works to support strong, sustainable and mutually beneficial partnerships between scientists, research communities and institutions in the UK and Russia. They support developments in both countries, and harness partnerships and funding of UK-Russia innovation capabilities.

Initiatives from the Russia SIN team have included UK-Russia scientific round tables, science cafes and lectures by leading British scientists across Russia. They also support major science festivals and seminars to promote knowledge and bilateral scientific collaboration. At the 11th session of the UK-Russia Ministerial Joint Committee on Science and Technology Cooperation, held at the Royal Society in London on 16th to 17th October 2013, the

199 United Kingdom. AHRC (2019). AHRC signs agreement with Russian Foundation for Basic Research. Accessed at: <https://ahrc.ukri.org/newsevents/news/ahrc-signs-agreement-with-russian-foundation-for-basic-research/> [June 2019].

200 United Kingdom. British Council (2019). UK-Russia Year of Science and Education. Accessed at <https://www.britishcouncil.ru/en/programmes/education/year-science> [June 2019].

201 Joint Institute for Nuclear Research (2018). Yu.Ts.Oganessian became an Honorary Fellow of the Royal Society of Chemistry. Accessed at: <http://www.jinr.ru/posts/yu-ts-oganessian-became-an-honorary-fellow-of-the-royal-society-of-chemistry/> [June 2019].

following priority areas for bilateral cooperation were discussed; Accelerator science and particle physics, Life sciences, Arctic science, Space and Energy efficiency. SIN Russia²⁰² has delivered round tables on: 'Asymmetrical synthesis as a modern trend of organic chemistry' with the Ural Branch of the Russian Academy of Science, 'Antarctic and Arctic in Focus of Science Research' jointly with Arctic and Antarctic Research Institute in Saint Petersburg and 'Accelerators for medical, industrial and scientific purposes' in Novosibirsk, in partnership with Budker Institute of Nuclear Physics.

UK-Russia Higher Education Partnership Programme: BRIDGE (2004 to 2008)

The BRIDGE project was delivered in various phases over the period 2004 to 2008. It was delivered on behalf of the UK Government by the British Council, which provided a programme of support to UK and Russian institutions in the form of workshops and individual guidance.

BRIDGE supported the development of dual awards, and also research collaboration projects. The overall target for the programme was the creation of 55 UK-Russia partnerships, a target that was reached and, indeed, exceeded. According to British Council reports, a total of 58 partnerships were created (of which 44 were dual awards and 14 were research projects).

The programme succeeded in its objective of involving institutions from across Russia, not just in Moscow and St Petersburg. This was largely thanks to the efforts of the British Council's team in Russia, who spent considerable time raising awareness of BRIDGE and supporting potential applicants. A 2010 project evaluation report²⁰³ highlighted some very fruitful research collaboration projects resulting from the project. At least 53 research papers were published (with more in the pipeline) across the 14 research projects.



²⁰² United Kingdom. FCDO. UK Science and Innovation Network in Russia. Accessed at: <https://www.gov.uk/world/organisations/uk-science-and-innovation-network-in-russia> [June 2019].

²⁰³ United Kingdom. BIS (2010). Evaluation of the UK-Russia BRIDGE Programme: Final Report. Accessed at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/31922/10-989-bridge-report.pdf [June 2019].

5.3 UK and Russia partnership case studies

In 2019, there was clear evidence of genuine collaborative work between UK and Russia institutions – of both the formal and informal nature. The original research included five case studies of current or recent case studies between UK and Russian universities. Case studies were used to better understand how partnerships came about, their funding and activities and key learnings for future partnership programmes. Short summary case studies have provided here comprised of only key contextual information, with full case studies and a summary of learning provided in the separate Case Study Annex.

The case studies below demonstrate examples of current or recent partnerships between UK and Russian institutions for the purpose of collaborative work in the Sciences. While some have linked to existing British Council programmes (like Future Science), others have developed independently or via other formalised programmes.

Case study #1 Lancaster University and Tomsk Polytechnic University

Lancaster University and Tomsk Polytechnic University

Case study participants: Two interviews conducted, one with a representative from the UK side of the partnership (Lancaster University, Engineering Department and Material Science Institute) and one with a representative from the Russian side (Tomsk Polytechnic University).

Partnership type: Primarily and ad-hoc and informal working relationship, but more recently with more structured initiatives, such as Researcher Links workshops, part of the FCO-funded Future Science programme delivered by the British Council.

Interview coverage: focused on the ad-hoc relationship between the two individuals, as well as an exploration of Lancaster University's experiences with Researcher Links and substantive experience of collaborating with Russia more generally.

Scientific discipline: A branch of biomedical engineering known as biomaterials, or materials for biomedical applications, intended to promote the regeneration of tissues. Two main topics of focus are the modification of the surface of metallic implants for bone contact and injectable composite materials to regenerate bone.



The two scientists met in 2012 at a scientific conference in Poland and have been in contact ever since. They started working together in 2014, predominantly on an ad-hoc basis. In a typical year the pair will work together around four or five times. This might involve a joint research project or, more simply, assisting each other with their individually-led research projects. In the last three years they have published six joint papers and submitted two successful joint grant applications, one of which was a recent British Council Researcher Links Workshop grant (event due to take place in October 2019). Prior to this grant, the scientist from Tomsk Polytechnic University has assisted Lancaster University with their first Researcher Links project. For this event (which took place in October 2018), Lancaster collaborated with a different Russian University, but later called upon the Russian scientist at Tomsk Polytechnic University for help with the challenge of recruiting Russian participants to the UK-based event.

For these partners, informal networks are regarded as extremely important to stimulating and sustaining collaborations across UK and Russian scientists. The impetus behind the establishment of such relationships is to tap into existing knowledge and expertise within each country, with a view to filling in respective knowledge gaps. Put simply, the desired impact is generally the advancement of collaboration and knowledge within the relevant field.

Running alongside this is a desire to contribute high-impact research to their field(s). The itinerary for Lancaster's first Researcher Links event, held in the UK, catered to both social and academic exchange. Participants were invited to social dinners or trips to local landmarks, while the academic side involved lectures, talks and seminars.

By its very nature, the informal working arrangement is not set up to actively measure performance against a predetermined list of specific objectives (i.e. those beyond the wider objectives discussed above). The scientist at Lancaster noted that these relationships can take time to form, therefore it may take months or even years before anything measurable emerges. This makes it difficult to decide when and how to track progress and impact. Success can also be observed more passively, through the publication of collaborative papers and research and, more generally, word of mouth.

Funding to support the ad-hoc and collaborative research efforts is rare, with the focus more on stimulating social links between countries (such as the Researcher Links grants) or the mobility of young researchers. That said, ad-hoc funding has been made available in the past, by organisations such as the Foreign and Commonwealth Office (FCO).



Case study #2 Developing Innovative Multiproxy Analyses (DIMA)

DIMA – Newcastle University and of Southampton, with multiple Siberian institutions

Case study participants: Two interviews conducted. Both interviews were with representatives from the UK side of the network, one from the University of Newcastle and the other from the University of Southampton, as they are the two individuals who oversee and manage the operation. They would welcome support from a Russian counterpart but are waiting to be approached by a suitable candidate.

Partnership type: A scientific network between UK and

Siberia and the Russian Far East (SRFE), with a shared interest in environmental issues and climate change, designed to build stronger links between countries and promote institutional collaboration.

Interview coverage: reflections on establishing and advancing the DIMA network.

Scientific discipline: environment/climate change.

The scientists in this case study met when they worked together on a joint project at the University of Southampton. The workings of the network commenced relatively recently, in March 2017, when the two scientists responded to a request for assistance from a senior and influential colleague in Russia, for training his team of early career researchers in the use of specialist software. Relatively little information is readily available about the climate in Siberia and the Russian Far East, yet it ‘plays an important role in global climate processes.’²⁰⁴ The broader scientific aims of the network are therefore to address this fact and are summarised on the Newcastle University’s website as follows:²⁰⁵

- To advance studies of long-term environmental change across Siberia and the Russian Far East. Two areas feed into this. A desire to:
 - raise the profile of existing data and to make it more accessible to international audiences; and produce new data.
- To develop a consortium of Russian environmental change laboratories that have strong links with UK researchers and can collaborate effectively on international projects.
- To encourage more UK researchers to pursue opportunities in Siberia and the Russian Far East.
- To create opportunities for scientific exchange and training between the UK and Russia, especially for early career researchers.
- In addition, the project will give researchers a better understanding of what funders in the UK and Russia are looking for, which is essential for attracting future grant income.

Since its inception, the network has expanded rapidly and while the UK universities are overseeing the network, the members are predominantly from the Russian-side. Despite this rapid expansion, the network is still in the early stages of development. Consequently, there are not yet any set structures in place to track progress over time. However, the foundations have been laid: the network is

working towards a target list of analyses, which gives them something tangible to measure against. Additionally, any scientific papers will be published under the DIMA name. This will make it easy to keep a numbered track on the work they have put out into the field.



[The network] is in the early stages. We haven’t produced any new data yet. We are writing papers and there has been some output, but it’s not ‘out there’ yet.

²⁰⁴ Accessed at: <https://research.ncl.ac.uk/dima/> [June 2019].

²⁰⁵ Ibid.

Case study #3: The University of Nottingham and Moscow State University

University of Nottingham and Moscow State University

Case study participants: Two interviews conducted, one with a representative from the UK side of the partnership (University of Nottingham) and one with a representative from the Russian side (Moscow State University) and his colleague.

Partnership type: based on a pre-existing relationship, but most activity has been generated off the back of more structured initiatives, namely Researcher Links workshops, part of the FCO-funded Future Science programme delivered by the British Council.

Interview coverage: Researcher Links workshop and the activities that followed.

Scientific discipline: Magnetic Resonance Imaging (MRI), with a specific focus on the successful use of hyperpolarization techniques and other unique areas within the field.²⁰⁶

The scientist at the University of Nottingham studied at Moscow State university, where she first came across her Russian collaborator. She now works at the University of Nottingham's Sir Peter Mansfield Imaging Centre, 'an interdisciplinary, cross-faculty centre for innovative imaging in experimental and translational medicine, bringing together researchers who develop new medical imaging techniques with clinicians and scientists who use them.'²⁰⁷ The pioneering work carried out at the Centre is regarded as extremely forward-thinking and effective, principally because of the focus on collaborating with working clinicians. It has invited a lot of interest from the academic community as a result, including from Russia.

The recent relationship between the two scientists was instigated shortly before the Researcher Links initiative was announced, when the University of Nottingham hosted two Postgraduate Taught (PGT) scientists from Russia for two months for the purposes of training. Around the same time, the scientist from the University of Nottingham reached out to Moscow State University and, together with her partner, was invited to deliver a series of talks about the work undertaken at the Centre. When the Researcher Links grant came out, the positive experience of these two exchanges encouraged the two universities to enter a proposal together. Both sides of the partnership offer expertise in distinct areas that the other has limited access to; for Russia, as stated previously, work in this specific field of MRI (hyperpolarisation in the clinical sphere) is at very early stages whereas the UK is extremely experienced in the area.

A Researcher Links workshop was held at Moscow State University and lasted three and a half days. Separate to the event, but running alongside, was a visit to the British Ambassador's residence. During this visit the two universities were able to talk to other institutions involved in bilateral relationships, between the UK and Russia, an experience that added further value to the workshop. As seen elsewhere, the primary objective of the Researcher Links workshop was simply to facilitate conversations between like-minded scientists, working in the same or similar fields, and to promote knowledge exchange. As intended, the workshop facilitated the meeting of scientists, but it was after this that the two scientists and the individual members decided where they wanted to go next. The foundations were laid for this following the event: using the surplus budget, attendees were invited to enter a proposal to the universities for their own scientific projects. As a result of this, around eight institutions were successful and visited the University of Nottingham to carry out their research.



On the one hand it is just a paper commitment, on the other it can be much more than that... it allows for mutual teaching programmes, degree awards... it takes time to work it out at administrative level. Then there are multiple options open to students, supervisors, everything.

The universities are relatively non-prescriptive with the direction they would like to see the initiative take; currently, they are simply letting it run its course. This, coupled with the fact that they did not have many predetermined objectives, means that progress is not actively measured at this stage (as seen with case studies elsewhere).

²⁰⁶ Outline of the Russia-UK MRI Workshop Accessed at: <http://hp-mri-workshop.com/more> [June 2019].

²⁰⁷ University of Nottingham. Sir Peter Mansfield Imaging Centre. Accessed at: <https://www.nottingham.ac.uk/research/groups/spmic/index.aspx> [June 2019].

Case study #4: The Royal Society's International Exchanges Programme with the RFBR

Royal Society and the Russian Foundation for Basic Research

Case study participants: three colleagues from the Royal Society covering International Affairs and International Grants; the Russian Foundation for Basic Research declined an interview.

Partnership type: a partnership between two funding bodies to run a grant programme supporting academic mobility for international higher education partnerships between the UK and Russia.

Interview coverage: assessing the programme's development, workings and performance.

Focus area: grants for academic mobility to support collaborative research.

The Royal Society's International Exchange Programme is a global programme available to UK researchers to facilitate overseas travel in support of collaborative research in other countries. Its objectives are to strengthen emerging collaborations, with a focus on encouraging new collaborators and partnerships, rather than those who regularly apply for and receive funding. Enabling early career researchers is a priority. The Royal Society works with funding organisations in each country of operation to run the programme, which is comprised of small-scale grants for UK and foreign scientists to work on joint projects, with funding to be used for travel and associated costs (like visas) for an individual or team over two-year period. Grant calls are open to any scientific discipline and effort is made to fund a range of projects across the sciences, looking at both new and traditional subject areas. While open to individuals, the programme encourages applications from teams, wanting to get a wider range of researchers involved in the programme to create opportunity and enhance skills.

In Russia, the Royal Society works with the RFBR to deliver this grant programme for UK-Russia research partnerships. The Royal Society has a long history with the Russian Academy, dating back to the 17th and 18th centuries, which is the basis for its current relationship with the RFBR. The Royal Foundation collects and reviews all grant applications from UK partners, while the RFBR does the same for the applications from the Russian partners. While the Royal Society and RFBR each review and shortlist applicants from their respective countries, the organisations work together to decide which partnerships will receive funding. Both the UK and Russia must agree for a grant to be awarded to both parties. The programme

funds at least 10 partnership projects per year, which was increased in 2016 due to demand. Most years have funded between 15 and 25 partnerships, declining to just nine in 2018. Each UK grant recipient receives £12,000 to cover travel for two years for a defined research project, with a maximum of £3,000 of this able to be used for incidentals. The RFBR provides slightly higher funding but similar restrictions.

The programme's outcomes are purposefully broad: quite simply, researchers use the funds to facilitate UK-Russia mobility in order to develop or further collaborative research projects. The ultimate goal of this is to create more lasting research partnerships that can contribute positively to their fields. While publications are a consideration, the Royal Society takes a flexible view in terms of outcomes, allowing partnerships to define their own outcomes based on their specific project. Between 2014 and 2017, the Royal Society received 70-90 applications per year from UK partners, declining to 40-50 in the 2018 to 2019 calls.²⁰⁸ In line with having quite broad objectives, the Royal Society does not have any specific KPIs it measures grant winners against. It is felt the short timeframe of the grants (two years) makes it difficult for some to demonstrate outcomes that quickly. They collect a final report from grant winners and review this to see what has been achieved on a case-by-case basis, taking into account their self-defined objectives and expected outcomes. Some consideration is given to quantitative measures like the number of publications produced, but this is used more for programme record and overall programme outcomes, rather than as a measure of individual programme success.



Like us, they understand that basic research is good. They see its importance. Having such shared values makes working with RFBR easier than in some other countries we work in.

²⁰⁸ This is suspected to be related to the changing political climate (an increased difficulty obtaining visas), but no work has been done to map this.

Case study #5: UNIHEAT (2012-2015)**UNIHEAT – Imperial College London, the Boreskov Institute and the Skolkovo Foundation (2012-2015)**

Case study participants: two partners from Imperial College London: Dr Sandro Macchietto (Professor of Process Systems Engineering) and Dr Christos N. Markides (Professor of Clean Energy Technologies and Head of the Clean Energy Processes Laboratory); no response from contacts at the other partner institutions.

Partnership type: research consortium with one UK partner and three Russia partners, as well as UK and Russian corporate sponsors.

In 2011-2012, political relations between Russia and the West were in the process of ‘defrosting’, leading to an increased interest by the UK and Russian governments to promote collaboration and cooperation. As part of this, the Skolkovo Foundation reached out to prospective UK university partners who might help build Russian capacity in science and technology subjects via partnerships designed to help tackle specific topics or issues for mutual benefit. Imperial College London was approached due to their excellence in engineering, systems design and energy efficiency work. The team ultimately established a partnership with the Boreskov Institute of Catalysis and Novosibirsk State University to run research projects to improve energy efficiency in the oil refining process. The overall focus of the work was on improving energy efficiency in refineries, including minimising fouling in heat exchangers, and recovering waste heat for additional power generation (energy recycling).²⁰⁹

The partnership identified six broad areas to work on, which were then developed into specific projects that promoted the key focus areas of research, mobility, knowledge transfer, technology transfer and industry engagement/development.

It involved eight UK academics, five Russian academics, over 60 postgraduate and postdoctoral students and three technicians over the three years, with a dedicated office in Moscow and three dedicated professionals working full-time on the project’s complex knowledge transfer programme. The objectives of the project were fairly broad, focussed on producing significant research outputs across the period and the development of new processes or equipment to address the issue of energy efficiency in oil refining.

The project exceeded its expectations in terms of outputs, producing 22 patents (initial target of 15), several innovative processes and devices, and three spin-off companies (target of two), as well as numerous academic research papers. Colleague interviews suggest that the project was mutually beneficial: while the UK had more advanced theories and knowledge of modelling, the Russian institutions had some specialist facilities and equipment needed to prototype and test those theories.

UNIHEAT ended in 2015 as a result of the worsening political climate. Whilst the team were keen to continue their work, loss of government support (on both sides), a new industry policy in Russia, and difficulty in obtaining funds meant the partnership was no longer sustainable.



This project would not happen today. It requires too much good will to make it happen.

– Dr Christos Markides, Imperial College London

209 For further information, see: <http://www.uniheat-project.com/research/themes>

5.4 Partnership case studies: key considerations

The experiences of these five partnerships highlights **six** key considerations for any future partnership programme developed between the UK and Russia:

Pre-existing relationships are more successful

Those who had a prior relationship with their partner believe this was a key component of their success. Prior relationships are not just about collaborative work but could just involve conference attendance or keeping in touch, which help to establish a baseline understanding and relationship before undertaking any collaborative work. DIMA, Lancaster and Nottingham all believe they would not have been as successful without this. Programme design should take this into account, thinking about how to help establish and build relationships prior to partnership opportunities and ways to leverage this in grant or other partnership programmes that facilitate collaboration.

The people make the difference

Multiple partnerships commented on the importance of the people they partnered with – specifically, having partners with mutual interests and shared values. Alignment of interest and goals, a common purpose and a sense of mutuality all increased perceived and actual success within partnerships; mutuality was explicitly mentioned as a key factor of success for UNIHEAT, Paris-Saclay and the National Academies. Partnerships where one party is more/less engaged or where expectations are out of sync struggle more; some are able to overcome these challenges due to mutual interest, but this is not always the case. This was true even for those establishing new partnerships without prior relationships. Programmes that support networking or ‘matchmaking’ should consider the specific personalities, interests and values of the people they are connecting, to help ensure a strong match; as in the UNIHEAT case study, if a matched partnership is not working, do not force it but move on to another options (and encourage prospective partners to do this also).

Communication is key

Establishing clear communication practices at the outset of any new relationship can be a struggle (as shown by the DIMA case study), however doing so is crucial to partnership success. Partnerships do not have any specific channel preference but say this should be decided based on what is most efficient for each partner. Similarly, establishing regular calls for the partnership lifecycle to ensure regular contact is valuable and best done at the start of any new partnership. Programmes should encourage and promote this early on to ensure success.

Emphasise early career researchers

Multiple case studies reference the value and importance of bringing early career researchers into partnership programmes. In some cases, this is a consideration for partnership ‘pipelines’ and increasing interest in UK-Russia partnerships from an early stage; in other cases, this is related to the value of having postgraduate and postdoctoral researchers involved in collaborative research, allowing for a mutually beneficial relationship of experience and network-building for early career researchers and an outlet to delegate research tasks and share the load for more senior academics. Lancaster, Nottingham and UNIHEAT all reference the importance of early career researchers for future partnerships. Future programmes should consider ways to encourage or incentivise more early career researcher involvement into the programme design.

Wide-ranging support needs must be addressed

Most partnerships made reference to at least one way in which partners needed or received support from their programme to enable success. These include:

- **UK visas for Russians:** multiple partnerships commented on the struggle to get UK visas for Russian colleagues, which can be a multi-month process and fraught with uncertainty. In many cases, planned activities were cancelled due to visa delays, whilst last minute travel booking (due to waiting for visa approval) increase budgets beyond expectations. There is nothing programme managers can do to change the visa process, however providing clear information from the bidding process on what is involved, how long it takes and guidance on how to take this into account for activity and budget planning could reduce later challenges. This is particularly true for travel grants, exchange scholarships and other programmes that involve mobility.
- **Administration:** often, the administrative time needed for programme participation is considerable. Reporting on activities, budgets/expenses and outcomes can be extremely time consuming and many partners do not take this into account in their project planning or budgeting. Providing more infrastructure and guidance to support partners in planning and completing administrative tasks is recommended (as provided at Freie Universität).
- **Cultural navigation:** for those working with Russians for the first time, navigating the Russian HE landscape can be daunting. This can be a challenge for knowing which universities are best to collaborate with (e.g. thinking about reputation), as well as practical issues like communication styles, reporting expectations and navigating contracts. It is important to consider how

local programme managers could help partners navigate a new landscape to reduce teething issues.

- **Governmental backing:** mutual recognition by both countries in the value of collaboration played a significant role in UNIHEAT's initial success; not just through funding, but taking into account the networking, introduction and other facilitation government officials were able to provide on the ground. While this is very dependent on wider political context, it is crucial to think about what support and encouragement could be provided.

Programmes to facilitate UK-Russian collaboration must proactively consider and respond to the types of support new partnerships and partners need. Not all support will be possible, however finding ways to ease the difficulties will be welcome and impact success.

Flexibility and iteration are a must

Case study partnerships often reference the need for, and value of, flexibility in the programme's design and their own work, for example in the Nottingham case study. Being able to use resources, plan their own activities and travel, and manage their partnership with minimal restrictions is a hallmark for the most successful partnerships. A key reason for this is the ability of partnerships to adapt and iterate their plans as a partnership progresses, for example adapting to challenges or delays in research, broadening or adjusting research scope based on any findings, negotiating changing schedules or travel issues (such as visa delays), etc. The UNIHEAT case study took this further, often working on multiple research strands of research to fit group interests and ensure at least one would produce a successful outcome. Future programmes should be designed to enable flexibility and facilitate an iterative process with minimal restrictions, to ensure partners get the most out of their grant.



6 The competitor landscape

The following analysis provides a *brief* overview of the relationships between Russia and four countries identified as UK competitors in this space, including case studies for the priority countries of interest (France, Germany and USA).

6.1 France

Russia and France have a long-standing tradition of collaboration in the areas of science and research, and as recently as 2016, a number of anniversaries of cooperation between the two countries were celebrated. For example, the celebration of 50 years of scientific and technical cooperation between the two countries, 20 years of collaboration between the RFBR and Centre National de la Recherche Scientifique (CNRS) and 10 years of the Interdisciplinary Scientific Centre J.-V. Poncelet (ISCP).

The more recent session of the Franco-Russian Economic, Financial, Industrial and Trade Council (CEFIC) was the 24th session held in Paris on 17th December 2018. In compliance with the joint Declaration signed in Saint Petersburg on 24th May 2018, bearing on the 'New Franco-Russian partnership for tomorrow's economy', the CEFIC highlighted three priority fields for crosscutting cooperation: economic responses to climate change, new mobilities, and innovation and labour productivity. The CEFIC prepared roadmaps for each field, comprising concrete cooperation projects whose implementation will be regularly monitored.²¹⁰ Both countries will be given to implementation of a financial instrument designed to support bilateral technological partnerships and improved efficiency of existing mechanisms for calls for projects on joint creations by innovative companies. Among other things, the instrument will continue to support exchanges between clusters, innovation parks, technopoles and innovative regions.

Current collaborations

Collaboration between France and Russia continues into the present.

An excellent example of the ongoing academic collaboration between Russia and France is the French Russian University (FRU), established in January 2016 after the 21st session of the Franco-Russian Economic, Financial, Industrial, and Trade Council (CEFIC). The eight founding member institutions (four from Russia and four from France) were as follows, on the Russian side: the Russian Presidential Academy of National Economy and Public Administration (RANEPA); the Russian Foreign Trade Academy under the Ministry of Economic Development of the Russian Federation (RFTA); National Nuclear Research University (MEPhI); The Peoples' Friendship University of Russia (RUDN), and on the French side: Université de Nice Sophia-Anitopils; EDHEC Business School; NEOMA Business School; SKEMA Business School.²¹¹ In 2018, Russian National Research University of Information Technologies, Mechanics and Optics (ITMO University) also became part of the consortium and, in 2021, Université de Nice Sophia-Anitopils was no longer listed as a French member, but Aix-Marseille University, Université Côte d'Azur (UCA) and Université Grenoble Alpes had joined. The main goal is to ensure the development of human resources for the advancement of science and technology, and to boost national innovation and competitive potential of both partner countries. This includes but is not limited to increasing the numbers of highly skilled staff for joint

²¹⁰ France (2018). 24th Franco-Russian Economic, Financial, Industrial and Trade Council. Accessed at: <https://www.gouvernement.fr/en/24th-franco-russian-economic-financial-industrial-and-trade-council> [June 2019].

²¹¹ French-Russian University. FRU Members. Accessed at: <http://rfu-ufu.org/en/about-rfu/fru-founders> [June 2019].

Franco-Russian ventures; expanding trade and economic ties; increasing and properly balancing academic mobility programs; and involving Russian and French businesses in education projects.

Similarly, the French College at Lomonosov Moscow State University was opened in September 1991 with an active participation of French writer and public figure Marek Halter and a Russian Noble Prize Winner Andrei Sakharov^{212,213}. It functioned with the support of the French Embassy in Moscow and in cooperation and at the premises of the Moscow State University under the cooperation agreement. Later the French College was also opened at the St. Petersburg University. Currently, the two departments of the College — the French-speaking and the Russian-speaking ones — carry out the education in five humanitarian areas: history, sociology, law, philosophy and literature. The college provides a two-year programme that leads to a diploma. It invites French professors to give lectures and hires Russian professors to conduct seminars. Among the College partners in France are nine prestigious universities such as University of Paris 1 Pantheon-Sorbonne, Sorbonne University, University of Vincennes in Saint-Denis, The School for Advanced Studies in the Social Sciences, and others. The diploma that students receive at the end of the second year of study at the college at the French-speaking department is recognized by the French higher education institutions - partners of the College and corresponds to the M1 diploma (Master 1, the 1st stage of the master's degree). This diploma gives students the opportunity to continue their higher education in France.

The Université Paris-Saclay has had particular involvement in facilitating partnerships with Russia. In early 2019, the university hosted Campus France Russian staff to provide them further training in the French higher education experience. Furthermore, the university has signed several agreements with Russian research institutes, and collaborates with Russian researchers via international associate laboratories, projects and research networks. The university has also hosted numerous Russian postgraduate students, currently hosting 91 studying at master's level, making it the third most common nationality studying at that level.

There is evidence that French institutes have increasing interest in international partnerships with Russia. Whilst coordinated by Germany, France took part in the CREMLIN programme and have continued engagement with Russia since. In 2018, Campus France held an agronomy conference, inviting a range of nations from wider Europe, including Russia. This is an area where France holds considerable expertise, and the event was organised in cooperation with the French Ministry of Food and Agriculture, suggest government support. In the same year, Campus France also hosted several Franco-Russian HE days and students fairs across Russia, with the aim of encouraging Russian students to study in France.

France-Russia Case Study: Université Paris-Saclay Consortium

Paris-Saclay currently offers common Masters and PhD degrees, with modules offered from different member institutions depending on their strengths and specialisms and will begin offering undergraduate courses next year. They currently have around 65,000 students in total, with around 9000 at Masters and 6500 at PhD level. Taking into account all member institutions, Paris-Saclay has over 400 agreements with higher education institutions across the world, as well as involvement in the International Associated Laboratories scheme which links French laboratories with those overseas. At the time of writing, Université Paris-Saclay had Memorandums of Understanding in place with three Russian universities: MiSIS National University of Science and Technology, ITMO University and Novosibirsk State University.

The Université Paris-Saclay is a consortium founded between 2011 and 2012 by decree of the French government as a merger of three universities focused on classic research and four Grandes Écoles, a traditional type of French university focused on applied research and engineering. These Member institutions work closely with seven specialist public research institutions such as the French Centre for Atomic and Alternative energies (CEA). All founding members of the consortium already had connections with Russian research centres, laboratories or faculties, enabling them to develop and deliver a range of initiatives in recent years and the near future, including:

- **Precious Plastic Workshops, 30th June to 13th July 2019** hosted in Moscow by the National University of Sciences and Technologies at MISIS;
- **International Hackathon** organised by MISIS;
- **Cooperation Agreement with Moscow State University;**
- **ITMO University, St Petersburg** cooperating with the Institute for Optics and now organising summer schools involving students from multiple scientific backgrounds as part of their focus on interdisciplinary research;
- **Tomsk State University** currently discussing collaborations in economics and social and political sciences; and
- **Novosibirsk State University** a double degree programme in Physics with Paris-Saclay.

Most partnerships run on the basis of each of the institutions offering something that the other does not, so knowledge and skills can be exchanged.

²¹² French College's website: <http://www.moscuf.org/ru/o-kolledzhe> [May 2021]

²¹³ Russian Rectors Union (2017). The 25th anniversary of the French College of Lomonosov Moscow State University. Accessed at: <https://www.rsr-online.ru/en/news/the-25th-anniversary-of-the-french-college-of-lomonosov-moscow-state-university/> [1 June 2021].

6.2 Germany

Both Germany and Russia regard each other as important collaborators in the development of international academic excellence and providing important opportunities to strengthen their positions as attractive destinations for international students.

The German-Russian Roadmap in education, science, research and innovation

In November 2018, German and Russian stakeholders came together in acknowledgement of their long collaborative history and collective ambition to become stronger partners through the development of a Roadmap shaping the next decade of collaboration across education, science, research and innovation.²¹⁴ The drivers for collaboration include an individual and institutional bottom-up process, backed by the countries' respective governments. The Germany-Russia Roadmap is built in the foundations of existing collaboration, mutual trust, confidence, stable personal relations and friendship and around four main pillars: Research infrastructure development; Thematic priorities and open calls with regard to joint re-search projects; Young talent promotion in higher and vocational education as well as scientific mobility; and Innovation, science, and society.

Partnerships

According to the database 'International cooperation' offered by the German Rectors' Conference there are about 970 Russian-German university partnerships, with 203 participating German and 233 Russian institutions. This puts Russia in the 9th place by number of partnerships.²¹⁵

Inter-university cooperation covers various areas. For example:

- Martin Luther University of Halle-Wittenberg and Northern Federal University in Arkhangelsk signed a memorandum in 2015 about strengthening collaboration in the area of Humanities.
- GRIAT (German-Russian Institute of Advanced Technologies), based in the Kazan National Research University, was opened in 2014 and specializes in academic exchanges in the area of engineering. It is the biggest educational project at Masters and Postgraduate levels, preparing highly qualified engineers.
- Together with its German partner, the University of Kaiserslautern, they offer master's programmes with joint degrees and carry out research, involving leading

Russian and German scientists.²¹⁶

To expand academic and research collaborations, Russian and German Ministries of Foreign Affairs agreed to conduct the Russia-Germany Year of Science and Education Partnerships 2018-2020.²¹⁷ The goal is to give a new impulse to the bilateral collaborations in the area of science and also to make the cooperation between universities and scientific organisations more transparent. The four main themes of the bilateral year are: university partnerships, cutting-edge research, support to scientists and innovation.²¹⁸

The signing of the 'Russia-Germany road map in the area of education, science, research and innovation' by the Russian and German ministers of education and science (in December 2018) feeds into this initiative and opens up numerous opportunities for launching new and maintaining existing partnerships. The following priority areas were defined: Marine and polar research; Bio economics; Humanities, Social and Cultural research; Research in the area of Healthcare; Renewable energy and Energy efficiency; Climate, Environment and Principles of sustainable use; and Innovation technologies and laser technologies.

Collaboration

In terms of research collaborations, the German approach differs to that of the UK and France: whilst the UK and France offer more general funding and support for research projects through organisations like the British Council and the French Campus that Russian researchers can apply to (as opposed to programmes aimed at Russia specifically), Germany provides offers specific partnership programmes through DAAD. These programmes include: the Evgenij-Savojskij-Programme, Pawel Melnikow-Programme, Heinrich Böll Foundation's Sur-Place-Scholarship and Immanuel-Kant programme. Furthermore, the DGF (German Research Organisation) has listed Russia as a priority country in its international funding programme.

Germany coordinated the European Union's CREMLIN project, which facilitated research cooperation on five joint mega science projects. This project was funded entirely by the European union and involved collaboration on five joint mega science projects between Russian and German, French, Swedish, Belgium and Swiz scientists. The project ran from September 2015 to August 2018 and corresponded with geopolitical tensions between the EU and Russia, and subsequent economic sanctions. However, despite this, the project was considered to be a success, with more than 70 European and Russian scientists and stakeholders attending a closing conference. Following

²¹⁴ DAAD (2017). Recommendations for a German-Russian Roadmap in Education, Science, Research and Innovation. Accessed at: https://www.daad.de/medien/russische_f%C3%B6deration_drrm_recommendations_2017.pdf [June 2019].

²¹⁵ Internationale Hochschule. Accessed at: <https://www.internationale-hochschulkoooperationen.de/staaten.html> [June 2019].

²¹⁶ Deutschland (2016). Stable partnership in education. Accessed at: <https://www.deutschland.de/ru/topic/znanie/seti-sotrudnicestvo/stabilnoe-partnerstvo-v-sfere-obrazovania> [June 2019].

²¹⁷ German-Russian Year of University Cooperation and Science. Accessed at: <https://wissenschaftspartner.de/ru/> [June 2019].

²¹⁸ Ibid.

the conclusion of the project, the European union has announced aims to develop future research initiatives with Russia, as part of Horizon 2020. This final conference was hosted in Hamburg, further cementing Germany's importance in the CREMLIN initiative. Notably, the UK was not involved in this research initiative.

Germany-Russia Case Study: Freie Universität Berlin and Saint Petersburg State University

Established in 1948, Freie Universität Berlin has a long history of international collaboration, having first entered into a relationship with Saint Petersburg State University in the 1960s. This became one of the longest running formal partnerships between West Germany and the USSR, mainly focusing on academic mobility for researchers in response to the difficulties in travelling between the two countries in the Cold War era. As Russia opened up towards the end of the 90s and early 2000s, the universities expanded collaboration to include student and academic exchange programmes.

One of the primary objectives of the partnership with Saint Petersburg is to attract Russian students to study in Berlin—the aim of attracting international students to the university is a common one across international partnerships. There is also a parallel aim to send Freie Universität students to Russia, for short term exchange programmes such as semesters abroad or summer schools, as they do not want to lose them. Another aim is cooperation, primarily led by the interests of academics. The Moscow Liaison Office helps facilitate this by supporting academics with administrative tasks (such as travel documents), as well as answering their questions about forming a relationship with Russian colleagues. The Moscow Office places particular emphasis on motivating academics to build upon relationships with colleagues and develop these existing contacts into proper relationships which may then lead to collaborative work or a partnership, where these relationships are seen as key in encouraging academics to visit Russia.

Activities

As a strategic partnership, Freie Universität has a range of projects in partnership with St Petersburg. The following are particular examples discussed during the case study:

- University Alliance for Sustainability a collaborative framework between Freie Universität and four partners (Saint Petersburg State University, the Peking University, the Hebrew University of Jerusalem and the University of British Columbia);
- Joint Post-Doctoral programme (launching this year); and
- Double degree programmes.

The universities find it difficult to measure programme and partnerships of this nature like this, whereby – for example – as metrics such as those relating to student mobility do not show the full picture. There is an ongoing discussion at the university about the criteria for measuring the

effectiveness of the Moscow Office. However there have been a number of tangible changes since he began working there that could count as successful outcomes. In addition to more partnerships, there is increased student mobility, and more progress in administration relations, with five staff recently having been to Russia to participate in international staff weeks. The number of researchers going from Berlin to St Petersburg has also increased, reducing the imbalance that existed previously.

6.3 The United States

The United States is the number one international research collaborator with Russia, accounting for 16.5% of all Russian international research collaboration. There are several examples of US-Russia higher education collaboration programmes, including the Eurasia Foundation's US-Russia University Partnership Programme (UPP). Data published by the US international education organisation, Open Doors, suggests there were 5,518 Russian students studying in the US in 2017/18, a 2% increase on the preceding academic year.²¹⁹

The Fulbright Program²²⁰ is the largest and oldest U.S. international exchange program that has been functioning in Russia,²²¹ which have five programme options and is available for 46 subjects. The US government also references 11 other exchange programmes between the US and Russia, including virtual and short-stay programmes.²²²

US-Russia Case Study: National Academies of Science, Engineering and Technologies

The National Academies of Sciences, Engineering and Medicine (the National Academies), founded in 1863, are non-profit institutions that provide independent advice on policy areas in the fields of science, engineering and medicine through committees of inter-disciplinary experts, as well as facilitating researcher links through events and workshops. One such workshop series is the U.S.-Russian Collaboration in Addressing Access by Violent Extremists to Nuclear, Radiological, Biological, and Chemical Terrorism. This workshop series has its roots in historic relationships maintained through the Cold War, both at an organisational level in terms of the National Academies and the Russian Academy of Science, and on an individual level in terms of some of the scientists who have kept in touch for many years. Though the earlier links focused on the fields of engineering and physics, the recent workshops focused on social and behavioural sciences. So far, there have been four workshops, held in Paris, Moscow, Helsinki and Abu Dhabi, and they have generally followed a similar format, with researchers presenting and discussing empirical work.

One of the more recent workshops took place in Helsinki, Finland on 10th-12th December 2018, and was titled 'The Convergence of Violent Extremism and Radiological Security'. Around 30 participants from Russia, the US, and Europe presented work before splitting into two breakout groups for more in-depth discussions before presenting summaries. They aimed to mix up participants from the different nations as much as possible during panels and

discussions, as they felt this achieved the most interesting findings, having previously also tried participants from each country presenting together. Prior to each workshop, they have a smaller group that plans the themes for discussion.

As the workshop series is primarily a forum for academics to share and gain insight from one another, some of the benefit is to those individuals attending and their work. The National Academy has written follow up reports on the meetings, and an edited volume of work was published after the Moscow workshop. At the end of the workshops, areas for further research are raised or recommendations made, though action on these is reliant on researchers choosing to take them up in their work. One of the main recommendations arising from the meeting in Helsinki was that a working group of experts including US, Russian and European specialists should be established to bring together and assess details of radiological security in conjunction with the International Atomic Energy Agency.

It was hoped that longer-term collaboration or joint research projects might be born out of the workshop series, but this is yet to happen. A more implied objective is fostering existing relationships and encouraging new ones between researchers in the two countries. Those involved in the workshops recognise the importance of these links in times of conflict or disagreement between the two countries politically.

²¹⁹ US Department of Commerce (2019). Russia - Education and Training. Accessed at: <https://www.export.gov/apex/article2?id=Russia-Education-and-Training> [1 June 2021].

²²⁰ Fulbright Program website: <https://www.fulbright.ru/en/>

²²¹ US Embassy, Russia. Fulbright Program. Accessed at: <https://ru.usembassy.gov/education-culture/fulbright-program/> [1 June 2021].

²²² US Embassy, Russia. Exchange programmes. Accessed at: <https://ru.usembassy.gov/education-culture/exchange-programs/> [1 June 2021].

6.4 China

Evidence suggests the Sino-Russia relationship grows stronger, developing increasingly across several areas, including international education. According to data published via Elsevier's Scopus database, the number of co-authored publications involving Chinese and Russian academics increased by 95.5 percent between 2013 and 2017. In June 2019, during a visit to Moscow, President Xi Jinping of China and President Putin of Russia, signed several cooperation agreements and statements on the future bilateral relationship between the two countries. As reported in global media, both leaders were present as a cooperation agreement was signed between Beijing's Tsinghua University and Saint Petersburg State University.²²³ During this occasion, both leaders stressed the importance of strong ties between higher education institutions in both countries. Media reports from the event suggested that the signing of this momentous agreement will lead to the creation of a Russian Research Institute at the Beijing university. The institute will be responsible for conducting research on Russia-China relations in areas such as industrial development, education, science and technology.

China is the 5th largest partner with Russia, with regards to international research collaboration, according to data published within the Nature Index. Accounting for almost 6% of all international research throughout Russia. Data published via the Project Atlas initiative in 2017, suggested that China had 442,773 inbound international students, the majority of which were from neighbouring countries and the USA, with the majority coming from South Korea (15%). Project Atlas data shows that 17,971 Russians studied in China in 2017, making it the 7th highest contributor of inbound students, accounting for 4% of the total.²²⁴ In 2015, 40 per cent of all international students new to China received government sponsorship, with six times as many financial incentives being offered to incoming students in 2015, compared to 2006. There is a positive net exchange of students between Russia and China, with approximately 18,000 Russian nationals currently studying in China and 27,000 Chinese students studying in Russian educational facilities.²²⁵ Evidence suggest this partnership is growing, and by 2020 the number of students participating in Russian-Chinese educational exchange programs was expected (pre-Covid) to increase to 100,000.²²⁶

223 Inside Higher Ed. Growing Sino-Russian Academic Ties. Accessed at: <https://www.insidehighered.com/news/2019/06/20/academic-ties-grow-between-russia-and-china> [June 2019].

224 IIE. China. Accessed at: <https://www.iie.org/en/Research-and-Insights/Project-Atlas/Explore-Data/China> [June 2019].

225 IIE. Russia. Accessed at: <https://www.iie.org/en/Research-and-Insights/Project-Atlas/Explore-Data/Russia> [June 2019].

226 Moscow Times (2014). Russia and China Boost Student Exchange Programs. Accessed at: <https://www.themoscowtimes.com/2014/10/13/russia-and-china-boost-student-exchange-programs-a40341> [June 2019].



6.5 The competitor landscape in summary



While brief, this competitive analysis has given an indication of some of the key factors shaping and supporting collaborative work between Russia and each country:

- First, all four show a concerted effort by government to support and enable such interactions. Presidential visits between China and Russia, the Year of Science and Education Partnerships in Germany (2018-2020), and the joint French-Russian Declaration for new partnerships (2018) are all crucial examples of government support for such collaborative initiatives and the degree to which these can provide necessary permission and support for wider HE collaboration and engagement. Indeed, the UK case study of UNIHEAT demonstrates the inverse of this, namely the impact the loss of government support can have on collaboration.
- As a result, many competitor countries show a long-standing history of relationships between specific local institutions and their Russian partners, which has created a solid foundation for TNE, student mobility and research collaboration – particularly in France and Germany. This longevity and its impact on collaboration

is also seen via the UK case study of the Royal Society,

- Further, the French and German case studies exemplify the degree to which these partnerships have been nurtured and expanded within the organisations over time – with a broad range of activities across both that have been developed as a result of the ongoing positive relationships. Crucially, this has been supported by the establishment of infrastructure and expertise needed to smoothly enable such collaborative work and support wider cultural exchange; for example, a dedicated person managing the university partnership relationship and facilitating new collaborations.

These are, of course, based on successful, often longstanding relationships between major institutions. However, these country profiles (particularly when compared to many of the UK case studies) demonstrate the value of governmental support and dedicated infrastructure to enable in the development of partnerships; further, the need to grow relationships over decades cannot be forgotten: starting with one positive collaboration can be a crucial foundation for further joint research or programmes as relationships mature.

7

Recommendation for future collaboration

7.1 How can partnership activity be increased?

Focusing on areas of mutual interest and global challenges may help to increase the number of institutions actively collaborating.

- **Transnational Education (TNE):** the Russian government aims to increase the number of universities offering programs each that have been internationally accredited. This suggesting there is potential for UK TNE programmes to support Russian institutions to provide internationally accredited programmes, also supporting issues with provision quality.
- Collaboration on **digital learning best practice.** Both the UK and Russia have universities which exemplify best and worst practice for the transition to digital learning. There is opportunity for universities to partner and share best practice approaches as digital learning is further embedded into higher education; this will also play a crucial role in supporting the TNE ambitions of both countries.
- **Collaboration between science and industry:** both the UK and Russia prioritise furthering national level collaboration between their scientific community and industry, presenting a potential opportunity to share best practice and complete collaborative research that maximises respective strengths. The subjects listed below provides a basis for targeting collaborative work, but are by no means an exhaustive list.
- **Harnessing technology and developing infrastructure:** the Russian government has committed ₽350 billion (£4.4 million) to fund the development cutting-edge infrastructure for research and development, whilst one of the seven key priorities set out in the UK government's strategy is build a global platform for the technologies of tomorrow. Sharing best practice in this area and/or co-developing new technologies could present a future opportunity for collaboration; integration of industry into the partnerships would further strengthen their potential success.
- **Research governance and ethics:** the UK is renowned for world class scientific research, reflected in its continually highly ranked higher education institutions and citation index performance. Increasing the ranking performance of Russian higher education institutions is reflected within the aims Project 5-100 and The National Education Programme. Collaboration to share the UK's expertise in this area could provide an excellent opportunity for the UK and Russia, supporting both Russian policy goals to improve ranking performance and UK ambition to create international best practice.
- Increasing **student mobility** at the undergraduate and postgraduate levels to provide increased interest future collaboration and mutual understanding. The UK's new Turing Scheme provides increased flexibility to develop bi-lateral mobility programmes specifically to support new relationships between the UK and Russia.
- Improving **quality assurance practices** within universities and across the Russian higher education system to improve overall teaching and learning provision, improve research outputs, and support the international accreditation of programmes to meet governmental objectives. There is opportunity to share best practice between the UK and Russia, recognising that their respective approaches will each be valuable

for learning.

- Updating student programmes to better prepare them for employment, with a specific focus on **employability skills** and support in finding career opportunities in their chosen field.

In particular, future collaboration initiatives should focus on areas academic strength – either mutual or respective strengths. Evidence from interviews and rankings suggests that Russia's areas of strength in the Sciences are:

- Atmospheric, earth and energy sciences, particularly astronomy;
- Engineering – mechanical, mineral / mining, and petroleum;
- Mining;
- Mathematics;
- Nanoscience and technology; and
- Physical sciences – archaeology, biological sciences and physics in particular.

It should be noted that there are also considerable strengths in the Social Sciences and Humanities that could be relevant also – i.e. social policy and administration, modern languages – which could be valuable secondary areas to support scientific collaboration (e.g. enabling policy change for scientific research and innovation or supporting partnerships via language support).

It will be important to situate any future partnership programme within areas of both Russian and UK academic strength, in order to ensure appeal to academics seeking to work with internationally recognised experts, whilst building on existing, strong personal relationships and increase the number of institutions actively collaborating.

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Providing additional support for early career researchers may help to increase the pipeline of bilaterally mobile researchers.

Support for early career researchers is a stated goal of both the UK and Russian governments. Further, multiple case studies reference the value and importance of bringing early career researchers into partnership programmes. Doing so would increase partnership pipeline for the future by developing the next generation of collaborators and thought leaders. Involvement of early career research would not only provide skills and experience and increase subject expertise from an earlier stage, but also provides value to partnerships via the resource postgraduate and postdoctoral researchers provide to collaborative research projects. This creates a mutually beneficial relationship of experience and

network-building for early career researchers and an outlet to delegate research tasks and share the load for more senior academics.

Whilst collaborative in the last few years has produced some focus on this – with positive effects – there is still significant effort needed to create a viable pipeline of future researchers interested in and with experience of UK-Russia collaboration. Future programmes should continue to consider ways to encourage or incentivise more early career researcher involvement into the programme design.

7.2 What helps or hinders UK-Russia co-operation?

The analysis contained within this report provides guidance on what helps or hinders UK-Russia partnership success:

Partnerships based in authentic, grass roots, relationships

There is clearly value in obtaining macro-level government support via the international education and research strategies and initiatives detailed within this report. Individual universities' strategic objectives to increase international collaborations are facilitated considerably by this level of agreement, formalising cooperation at a national level. Macro level endorsement provides weight, legitimacy and authority to partnership proposals and academic participation. The case studies included in this report highlight that assistance of this nature is valued to support academics' research initiatives. However, as shown via the development of the national German Roadmap in education, science, research and innovation, as important when considering how to ensure the most effective and sustainable form of partnership between Russia and the UK, is building on existing, authentic grass roots relationships between academics in both countries. This becomes of greatest value when, as in the Russian context has happened on several occasions, the dynamic political environment alters the operational academic context. In these instances, authentic, pre-existing personal relationships are crucial to ensure ongoing sustainability. Whilst strong micro level UK-Russia relationships of this kind do exist, support to generate new relationships of this kind is needed, to build the pipeline, and sow seeds for a new future generation of bilateral cooperative strength.

Mutual interests and mutual benefit

Multiple partnerships commented on the importance of the people they partnered with – specifically, having

227 While analysis of international rankings could provide information on the UK's relative strengths, it would be valuable to use this evidence of Russian academic strength areas as a point of discussion with UK Vice Chancellors and wider academics experts to assess the areas of greatest interest for bilateral collaboration.

partners with mutual interests and shared values. Alignment of interest and goals, a common purpose and a sense of mutuality all increased perceived and actual success; mutuality was explicitly mentioned as a key factor of success for multiple UK and non-UK case studies. Partnerships where one party is more/less engaged or where expectations are out of sync struggle more; some are able to overcome these challenges due to mutual interest, but this is not always the case. This was true even for those establishing new partnerships without prior relationships. Programmes that support networking or 'matchmaking' should consider the specific personalities, interests and values of the people they are connecting, to help ensure a strong match for example Researcher Links workshops.

Academic autonomy and impartial funding mechanisms

The Russia government has, via several strategic goals presented within the National Science Programme and other funding initiatives, made explicit its aim to improve research capacity, cooperation with industry, infrastructure and human capacity. As noted above, a barrier identified that continues to prevent holistic reform of the Russian tertiary education systems' research performance, is the legacy of previous cultural, governance and operational challenges. These legacy structures, and their sustained impact, will continue to act as barriers to improvement of Russian higher education, particularly if sector development is reliant on central government funded projects alone.

The importance of academic autonomy has been highlighted by sector experts as a vital component in achieving academic excellence throughout the Russian research sector. This suggesting that the success of any future UK-Russia collaborative programme should be built-in the premise of academic freedom and the role of science diplomacy as a tool for fostering positive international cultural relations. The role of impartial funding agencies, like the British Council, are vital to ensuring autonomous academic motivation and decision making.

Flexibility and iteration are crucial

Case study partnerships often reference the need for, and value of, flexibility in the programme's design and their own work, for example in the University Nottingham case study. Being able to use resources, plan their own activities and travel, and manage their partnership with minimal restrictions is a hallmark for the most successful partnerships. A key reason for this is the ability of partnerships to adapt and iterate their plans as a partnership progresses, for example adapting to challenges or delays in research, broadening or adjusting research scope based on any findings, negotiating changing schedules or travel issues (such as visa delays), etc. The UNIHEAT case study took this further, often working on multiple research strands of research to fit group interests and ensure at least one would produce a successful outcome. Future programmes should be

designed to enable flexibility and facilitate an iterative process with minimal restrictions, to ensure partners get the most out of their grant.

Wide-ranging support needs must be addressed

Most partnerships made reference to at least one way in which partners needed or received support from their programme to enable success. These include:

- **UK visas for Russians:** multiple partnerships commented on the difficulty obtaining UK visas for Russian colleagues, which can be a multi-month process, fraught with uncertainty. In many cases, planned activities were cancelled due to visa delays, whilst last minute travel booking (due to waiting for visa approval) increase budgets beyond expectations. Whilst acknowledging there is nothing programme managers can do to change the visa process, providing clear information from the bidding process on what is involved, how long it takes and guidance on how to take this into account for activity and budget planning could reduce challenges. This is particularly true for travel grants, exchange scholarships and other mobility programmes.
- **Administration:** often, the administrative time needed for programme participation is considerable. Reporting on activities, budgets/expenses and outcomes can be extremely time consuming and many partners do not take this into account in their project planning or budgeting. Providing more infrastructure and guidance to support partners in planning and completing administrative tasks is recommended (as provided at Freie Universität).
- **Cultural navigation:** for those working with Russians for the first time, navigating the Russian higher education landscape can be daunting. This can be a challenge for knowing which universities are best to collaborate with (e.g. thinking about reputation) to practical issues like communication styles, reporting expectations and navigating contracts. It is important to consider how local programme managers could help partners navigate a new landscape to reduce teething problems.
- **Government backing:** mutual recognition by both countries of the value of collaboration can play a significant role in a partnership's initial success; not just through funding, but taking into account the networking, introduction and other facilitation government officials were able to provide on the ground. While this is dependent on wider political context, it is crucial to think about what support and encouragement could be provided. Recent policy changes in Russia which govern informal educational activities, including formal partnerships, could create barriers to collaboration which future initiatives will need to take into account and overcome.

Appendix: objectives and methodology

Research objectives

The original aims of the 2019 research were to provide a comprehensive analysis of current higher education and scientific collaboration between the UK and Russia, specifically:

- Detailing specific programmes and schemes that support bilateral collaboration;
- Identifying the most common areas for collaboration and approaches and activities that may provide opportunities for the future. Including interdisciplinary approaches that include Arts and Humanities.
- Identifying (where possible) the expenditure allocation by key agencies and governments for higher education and science collaboration; including Independent Research Organisations (museums, galleries and other heritage/cultural organisations).
- Providing case studies of ongoing partnerships, illustrative examples (where appropriate) of best practice;
- Providing details of the policy and legislative frameworks in the UK and Russia that facilitate or hinder further collaboration;
- Providing an up-to-date breakdown of student and academic mobility in both directions and an analysis of Russian academics working in UK universities;
- Identifying potential funding sources to support further collaboration between the UK and Russia;
- Making a comparative analysis of other countries' level of engagement with Russia in higher education and science, with particular reference to Germany and France;
- Identifying and (where appropriate) drawing on existing bilateral reports, papers and research;
- Producing a set of recommendations as to which factors need to be in place and on which areas the UK should focus for increased collaboration in this sector, to: Increase scientific collaboration between UK-Russia research institutes and universities via:
 - Increase the number of mobile researchers (bilaterally);
 - Increase the number of research papers co-authored by Russia-UK academics; and
 - Increase the number of institutions actively collaborating.

For the 2021 update, the aim was to update the above with current data and policy, where available, and in light of both effects of Covid-19 and the UK's exit from the EU, as well as increased collaborative activity since 2019; this included updated key findings and recommendations reflecting these changes and to support known upcoming activity.

Research methodology

In order to respond to these objectives, a multistrand programme of research was devised combining desk research, policy interviews with experts in the UK and Russia, and case studies of existing partnerships. This approach is outlined in further detail in the sections that follow.

Desk research

This element of the research used a range of public online sources, academic publications and databases (e.g. Elsevier Scopus database) to collect information in response to the research objectives.

Evidence was collected in an analysis framework, broken down by thematic area, used to analyse all information gathered and identify gaps in publicly available data, that would need to be accessed by in country specialists, policy interviews and/or case study analysis.

Russian higher education sector expert

In order to conduct a robust review of Russian policy, data and Russian language documentation, the researcher team worked closely with a Russian higher education sector expert to provide a details of recent Russian government policy initiatives. She provided insight into relevant strategy, programmes and funding from organisations identified as a priority.

Policy interviews

Qualitative research methods were also incorporated into the research. Interviews with organisations in the UK and Russia with knowledge of the higher education policy environment and/or wider Russia/UK strategy for higher education were conducted to provide expert opinions on the current policy landscape in Russia and/or the strategies for relations between the two.

Policy interviews included individuals from the following organisations: the National University of Science and Technology (MISIS), MISIS university, ITMO University, Moscow State University, UUK International, the UK Science and Innovation Network and UKTI

Partnership case studies

A case study approach was used to understand existing or previous partnerships between Russian universities and those in the UK, US, Germany and France, looking across the partnership lifecycle from meeting/formation through to achievements to understand cases of best practice and key learnings that could or should be leveraged in any future programme design. Case studies were identified using a combination of desk research and list of prior partnerships through British Council's UK-Russia programmes. Desk research was based on keyword searches in English, German and French to highlight existing or recent partnerships from across France, Germany, the UK and the US, using both general searching and looking at specific universities who showed potential as collaborators via earlier desk research.

UK-Russian case studies comprised of single or multiple interviews with partnership participants; the intention was to interview both partners (Russian and UK/US/German/French), but this was dependent entirely on partner response to and subsequent interest in email invitations and subsequent conversations. Competitor country case studies comprised a single interview with a representative from the French, German or US partner.

