

Speech: EUREKA Global Innovation Summit 2019

Good morning. It is an honour to stand before you to speak as the UK's Science Minister at this [EUREKA](#) Global Innovation Summit.

It has been an honour too, for the UK to host the Chairmanship of EUREKA this year, for the first time in 22 years. The UK has been a proud member of EUREKA since its establishment, and we will continue to be so.

For it is at summits like this today, that we can reflect upon our common endeavour.

In this room, we have over 2000 delegates, from over 65 countries.

Now, we may come from different cities, different countries, even different continents, but what unites us to be here in this same hall is one single passion.

It was that same passion that brought about the establishment of EUREKA at the Paris Declaration, some 34 years ago.

It is a passion embodied in EUREKA's own motto, those 3 simple words: 'Innovation Across Borders'.

For we are all testament to the fact that science, research and innovation knows no boundaries— by its very essence, it seeks to break them down, and to redefine our future.

Science and research achieves this through its own innate spirit of collaboration, and collective endeavour. Researchers working across national borders, placing progress for tomorrow above the political issues of today. The UK has sought to use its Chairmanship of EUREKA to help expand the opportunities for researchers to develop their shared agendas.

We announced in June 2018 3 ambitious objectives to make ours an effective chairmanship year:

1. to broaden the global participation of the network;
2. to improve the visibility of the value the network brings; and
3. to provide an agile platform that can adapt to the changing needs of the R&D and innovation community.

One mark of success was bringing new countries into EUREKA, and we achieved this through multilateral Global Stars calls with India and Taiwan, and I am pleased to announce the UK Chair will tomorrow sign a declaration of intent to launch a call with Singapore.

We've also been looking at Argentina's potential associate membership of EUREKA, and we hope to conclude this at the final London EUREKA network

meeting in June.

On recognising the value of EUREKA, the UK Chair has resulted in the development of a new communications strategy, as well as increased engagement amongst member countries across the board.

Together, we developed the third Eurostars programme, with over a billion Euros to help innovative SMEs to collaborate, scale and grow.

Eurostars-3 encompasses a broad set of activities and a larger target group of companies, enabling the growth of a new and exciting generation of innovative SMEs.

Now, as our Chairmanship comes to an end, what resonates particularly strongly with me are the themes of the last year – global, valued and agile.

For they are the themes which I also believe the UK must continue to commit to as a nation.

We have made a public commitment to ensuring that 2.4% of our GDP is invested in research and development by 2027.

Internationally, many countries, including South Korea, are already exceed this target. So the UK must raise its investment if we are to maintain our commitment to the future. Indeed, if we do not, we risk falling further behind other nations in the development of emerging technologies. The US, China, France, Germany and others have already set out their own ambitious strategies for maintaining global influence in innovation.

We too must raise our aspirations: to be leaders of tomorrow, we must act now, re-doubling our efforts, both as a government and as UK business and industry, to meet the 2.4% challenge.

The road to 2.4% requires massive public and private investment. In 2017, we invested £34.8 billion in R&D across all sectors, the equivalent to 1.7% GDP. To achieve 2.4%, investment will need to increase to around £70 billion, doubling in nominal terms.

I believe that we can and must meet this challenge.

Across the world, 14 countries – including emerging research nations such as China and South Korea – have successfully increased their R&D commitments by this scale and beyond.

And with more than 30 countries internationally having active R&D intensity targets, ensuring that we keep pace with the plans of our international partners must be a national priority.

We must learn from and adapt to other countries increasing their R&D intensity.

Our [Industrial Strategy](#) has already set out an additional £7 billion to be spent on research and development by 2022: the largest increase in the UK for

nearly 40 years.

As Science Minister, in advance of the UK's Comprehensive Spending Review later this year, I want to set out what I believe are the core principles and framework that must underpin our overall strategy to meet the 2.4% target.

There are 4 key themes that I believe need to be addressed. Last week I gave a speech at the London School of Economics, setting out what we need to do to invest in the talent and researchers of tomorrow.

I will also be making speeches on the investment required in emerging technologies, and how we must ensure that private investment in R&D can be fostered and increased.

Today, I wish to address what must be a crucial part of our road to 2.4% strategy— strengthening the UK's global position in the international research community.

To return to the 3 themes of our EUREKA Chairmanship— global, valued and agile: it is clear that international research partnerships cannot be forged simply for their own sake; they must have focus, a clear sense of purpose, and deliver meaningful outcomes for our societies.

Increasing and strengthening international partnerships must be the future of scientific collaboration.

Where EUREKA blazed a trail 34 years ago, today we must reach even further, forging and strengthening new relationships with countries that are equally interested in expanding their research capabilities.

But we must ensure that these new partnerships, while increasingly global, are centred in their value and commitment to expanding excellence. And they must also be agile enough to adapt to the changing demands of the future.

We are all living through enormous technological, social and environmental change, and the UK is determined to direct our world-class science, research and innovation towards tackling these global challenges.

That is why we have identified 4 [Grand Challenges](#) in our Industrial Strategy:

- harnessing the potential of data and artificial intelligence
- moving to clean growth to combat climate change
- transforming how people, goods and services move
- adapting to the new reality that many people around the world will start living beyond 100

These are global challenges, and we will only successfully tackle them through global collaborations – between governments, scientists, researchers, innovators, entrepreneurs, businesses and societies.

Only by working together will we meet our shared challenges of climate change, an ageing society, and an increased population with equally increased ambitions to live improved lives.

This is why we have invested £1.5 billion in our [Global Challenge Research Fund](#), and over £700 million in the [Newton Fund](#), partnering with countries from across the world on issues that affect developing countries. But the discoveries and impact of this research can benefit us all.

Back in January we committed £200 million to 12 interdisciplinary research hubs, working across 85 different countries.

These will build new global collaborations to tackle some of our biggest challenges, such as preserving our oceans, averting flooding risk, ensuring gender equality, boosting life prospects for teenagers and protecting future cities against disasters.

We must never lose sight of the fact that the purpose of scientific research must always be centred on excellence. International infrastructures ensure that excellence can be nurtured and indeed expanded.

Later today, I'm heading to Jodrell Bank, to the headquarters of one of the most ambitious international science projects in history: The Square Kilometre Array – a project of such a huge scale that it gets to be called 'mega-science', and is the fruit of the combined efforts of 11 different countries.

The UK is proud to be the international headquarters of this project.

Just as we are equally proud to continue to host the Joint European Torus fusion reactor in Oxfordshire – known simply as JET.

Hosting JET has enabled the UK to become a world leader in fusion technology.

Following the triggering of Article 50, one of the first things we did was guarantee our fair share of JET costs if the EU extended the contract. In the Spring Statement this year, the Chancellor guaranteed our commitment to the UK's funding for the JET nuclear fusion reactor, whatever happens with Brexit. And in March we signed a new contract extension with the European Commission.

Crucially, this will last until the end of 2020 regardless of wider EU exit negotiations, safeguarding this world-leading facility and over 500 high-skilled science and engineering jobs.

When it comes to developing the future of fusion, the UK is also keen to continue to participate in ITER in Southern France. UK companies are currently helping to build this exciting international project.

We are equally determined to maintain our commitment as a founder-member of CERN, investing £137 million last year, maintaining our position as the second largest contributor.

The same is the case for our membership of the European Space Agency. At the ESA 2016 ministerial meeting we made a record investment of £1.4 billion bringing our average annual subscription with ESA to over €350 million per year.

I plan to renew our subscription with ESA at this year's ministerial meeting, investing in highly ambitious programmes that not only are about collaborating with Europe but with the rest of the world.

These programmes include a renewed ambition for humankind to explore deeper into space – establishing a Lunar Gateway space station orbiting the moon and using UK world leading robotic expertise for the first time to return surface samples from Mars.

Our commitment to infrastructures like ITER, CERN and ESA, and indeed all future technologies, must be a common one that puts short-term politics aside.

The UK may be leaving the European Union, but we are not, and must never leave behind our commitment to our European research and innovation partnerships.

This is why as a government, we have guaranteed funding for all successful competitive UK bids to Horizon 2020 submitted before we leave the EU in a no deal scenario. In 2018 we extended this no deal commitment to cover all successful competitive UK bids to Horizon 2020 calls that we can access as a third country that are submitted between Exit and the end of 2020. Vitally we will continue to fund these projects for their entire lifetimes, beyond the end of 2020.

And it is why, as Science Minister, I am keen to explore how the UK can fully participate in the future Horizon Europe programme. I attended the EU Competitiveness Council meeting in February to agree the regulations, and hope to attend the next Council meetings on 28 May and 4 July. It is vital that the UK remains around the table, helping to shape the future of the programme and ensuring that it maintains its commitment to excellence.

I want to send a message today that as the UK, we value our partnerships with our European neighbours and friends. And that we maintain our shared commitment to joint working on science and research. Just as we continue our membership of ESA, we will also continue our existing memberships of the European Research Infrastructure Consortia that we have joined.

We are European, but we must also extend our international reach if we are to meet our 2.4% commitment.

Our universities– with 4 in the top 10, and 18 in the top 100 in the latest QS global rankings, and indeed with 97% of all UK Universities in the world's top 5% of universities– have long understood this. World class institutions attract world class knowledge – producing world class talent.

It is this knowledge, but more importantly in the people who work within them, that attracts the leading R&D intensive international companies who seek to co-locate and cluster near to these unique, globally leading ecosystems.

We must never lose sight of the fact that our universities provide the magnetic field that attracts people, business and investment into the UK.

In Cambridge we now have Europe's largest technology cluster, with 1,500 tech based firms, employing 60,000 people and an annual revenue of £13 billion.

It is talent and ideas that are the magnetic poles, driving international investment. In Cambridge, the strength of its research base has attracted R&D investment from multinational businesses such as Amazon, Microsoft, Samsung and Apple.

And here in Manchester, global diagnostics firm QIAGEN are working with the University of Manchester to create a world-leading precision medicine campus in the Corridor Manchester Enterprise Zone, creating and supporting up to 1,500 jobs and adding £150 million to Manchester's economy over a decade.

And they're not alone. Other big companies like Unilever, BP and Rolls-Royce are all choosing to invest in this city too. It's clear evidence that the UK is very much open for business.

We want to continue to attract international investment, and to be the destination of choice of international companies seeking to partner with our world class research facilities and universities.

And we will continue to invest in people and talent.

Last week, in my first [speech setting out our road to 2.4%](#), I announced the first 41 Future Leaders Fellows- in total we will invest £900 million in 550 fellows.

Our fellowships have been designed to be truly international, open to researchers from across the world, to come and pursue their research in the UK. Winners last week included researchers from Canada to Japan, who will now choose the UK to relocate and pursue their research careers.

As I set out in my speech last week, I want to ensure that every researcher, indeed every potential researcher, will actively consider the UK as a destination of choice.

We must also ensure that we frame our international partnerships in our shared ambitions for developing emerging technologies. For example, we're investing over £50 million to partner with South African researchers to develop better battery storage technology, to enable both the transition to electric vehicles and wider clean energy systems.

And we've also launched a UK-Canada AI Innovation Challenge to bring the brightest AI minds together to find solutions for problems across sectors. Recently, we have signed bilateral science and research agreements with the US, Canada and China in 2017, Israel and Thailand in 2018 and, where possible, I am keen to do more.

That is why we have also [commissioned Sir Adrian Smith](#), the Director of the Alan Turing Institute, to review how we can develop future international research partnership funds, both in the scenario of not being able to associate into Horizon Europe, but also to develop new international grants that will be held in global esteem, open to the international research

community.

Sir Adrian Smith is currently [consulting on what any future funds should look like](#), their scale and framework, and I would urge everyone here to respond to the call for evidence which closes on 24 May.

The Smith Review is only one part of a wider strategy that the UK is determined to develop as we set out our international ambitions for the future of our international research partnerships on the road to 2.4%.

Today, I am pleased to be able to announce that we are publishing our [International Research and Innovation Strategy](#) – otherwise known as IRIS.

This strategy sets out, for the first time, the UK's framework for future collaboration for the long term.

It takes a broad, holistic view of our research and innovation system – including not just our universities, research institutions and businesses, but also our regulatory system, our quality infrastructure, and our policy and governance expertise. And it shows how each of those can be opened up to international partners, for mutual benefit.

It can be difficult to frame a whole UK strategic approach to international research and innovation partnership because the drivers and benefits for collaboration are articulated on so many different levels, in so many different ways.

But the strategy does attempt to provide a framework to show the breadth of our approach to international engagement – captured under 7 pillars.

They cover the UK's commitment as an outward-facing global partner, with partnerships at multiple levels guided by excellence and impact.

These collaborations will be built on access to talent, supporting the international mobility and connectivity of researchers and innovators where the best can work with the best.

We will continue to be a global hub for innovation, backed up with incentives and financial support which will strengthen international collaboration – whether it's about improving the capacity of UK SMEs to scale and access overseas markets, or showing overseas investors that the UK research and innovation base can support, connect and build the technologies and global business of tomorrow.

We will provide a platform for the technologies of the future through the strength and global reach of our governance, intellectual property and standards frameworks, which can support the design of common regulatory approaches to support emerging technologies.

As Partner for a Sustainable Future, we want to build and invest in collaborative partnerships resources to explore the secrets of the universe, address global challenges, and build capacity in developing and emerging countries to combat local challenges.

And of course, there is the responsibility to be a good global citizen, concerned both with improving the global governance of research, and improving the impact research has on global governance.

We must not forget our responsibility to help create global citizens of the future through our International Education Strategy and strengthening the global reach of our higher education system, as I set out in my speech at the 'Going Global' conference in Berlin yesterday.

As we look ahead to the opportunities and challenges of the 'Fourth Industrial Revolution', we also need to build an international consensus across a range of issues – from research ethics to Open Science – to share knowledge and build public trust in science and technology. And to ensure at every stage we recognise the importance of communicating the need for science and research to the public, for the public and where possible by the public.

The International Research and Innovation Strategy acknowledges that. It embraces the variety of roles the UK plays internationally. It shows how we are investing over the long term in a set of enduring international research and innovation partnerships, in order to drive excellent research, develop new technologies and industries, tackle global challenges and help meet our 2.4% target.

And my hope is that this will be a framework which we will use, not just to achieve the 2.4% target, but to confidently project to international audiences the value they will receive from collaborating with a transformed UK; one that has built its future on the collective strength of its research and innovation community.

The UK's EUREKA Chairmanship has been a real privilege, and it's a fitting signal of intent that we're marking the end of our tenure with a commitment to invest an additional £30 million over 4 years to supporting UK businesses to participate in EUREKA.

This includes the launch of £4 million of funding competitions at this Summit for those UK innovators in areas such as AI and Quantum who looking to access new partners, knowledge, skills and markets to enhance their competitiveness.

And there's one more opportunity too: the current UK-South Korea bilateral call on the Internet of Things, and advanced materials for transport.

Today marks the tenth anniversary of Korea's membership in the EUREKA network. So I am delighted to present this commemorative token, and welcome to the stage Vice Minister Cheong Seung-il from South Korea's Ministry of Trade, Industry and Energy.

Thank you.