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Speech

Science Minister speaks at Science and Technology Select Committee Summit

Science Minister Sam Gyimah today (Thursday 22 February 2018) spoke at the Science and Technology Select Committee's event on the future of science and innovation.

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From: Department for Business, Energy & Industrial Strategy and Sam Gyimah MP

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I was in Bulgaria 2 weeks ago, speaking to EU science counterparts about <u>Horizon 2020</u>, our continued participation in that but also Framework Programme 9.

What struck me as a relatively new appointee is how respected and how valued our contribution is in our country in the European project but also science in general. And this is something I'm saying as a Member of Parliament, but also someone who has come in from the outside.

We need to do more to make the public appreciate not just how much we punch above our weight in terms of impact, but the breakthroughs that impact real lives with UK based science behind it.

This is why another visit I did was particularly interesting. I went to Imperial where I met Zeno the robot, a robot that could help with autism; there you could see scientific breakthrough, innovation and how it impacts real life.

Science is key to our future and our success.

The challenges we will face in the years to come – from clean growth and an aging population to the future of transport and the advancement of AI and robotics – will only be met by a concerted research and innovation effort as I'm sure you're all aware.

These are global challenges and so we need to operate in a global marketplace; and that requires investment today, if we are going to get ahead of the curve and we should be ready to provide the goods and services that the whole world will want tomorrow.

That's why we've put R&D at the heart of our [Industrial Strategy] (https://www.gov.uk/government/topical-events/the-uks-industrial-strategy) committing to spend 2.4% of GDP on research by 2027 and initiating that with the biggest increase in public R&D funding for 40 years, which is something that we can be proud of as a country.

I think meetings like this just serve to underline how much of society science and technology touches.

I've mentioned Zeno the robot, and I appreciate the partnership between British and European researchers – Zeno came from just such a partnership.

That's no novelty; The UK has long been an international scientific force.

Let's take one specific metric. Many of you will already be aware of this but for me it's a source of pride.

For argument's sake, if you look at Nobel Prizes for Chemistry, British researchers and institutions have been involved in a three year winning streak. But we've been winning the prize on our own since 1904 and through collaboration since 1929.

By country of birth we have produced 95 Nobel Prize winners, a significant number of which were in the sciences and that's before we consider those international researchers working within British institutions.

It's true that we sit behind the United States on this but considering their population is nearly five times as big as ours it becomes clear just how good Blighty is at scientific research.

But we know that innovation doesn't happen on its own; unless you're Newton, ideas don't just drop out of the sky.

The best ideas arise when the best minds are able to work together, collaborating within a stable, long-term framework. Over the years, an ever-growing number of Scientific Nobel Prizes have been awarded to international teams and to ideas which have been developed in multiple countries.

Sir William Ramsey's 1904 Nobel Prize, for example, may have been awarded while he was working at UCL but his doctorate was earned in Germany.

We draw in proportionally more internationally mobile R&D than other large countries, with a total of 17% of UK R&D investment financed from abroad.

So it should be no surprise that, as time has gone by, the UK has developed some of its closest relationships with our European neighbours, supported by EU research funds.

Nor that we have attracted around 20% of grant funding awarded through the European Research Council, such is the quality of our work.

Since the start of the Horizon 2020 programme to September 2017, we have attracted more than two and a half billion euros in funding for our innovative universities and, under Horizon 2020, we are a top five collaboration partner for all EU27 countries.

This has benefitted our international partners as much as it has benefitted us: for example, nearly half of all collaborations at the University of Barcelona are with UK partners.

Moreover, there are benefits that reach beyond Europe and across the world.

Under Horizon 2020, UK participants have played a major part in developing a faster test for Ebola. Working with EU academia and industry, we have developed a portable device which can determine whether a person is infected within 75 minutes. That could become a game-changer around the world with quicker diagnosis helping us to contain the virus more effectively saving lives and resources on a global scale.

Other collaborative projects focus on innovative medicines decarbonising construction and gravitational waves.

These are big, ambitious projects, built on collaboration.

We want to see their like for years and years to come.

The key question that some of you have asked me in private and I'm sure is on all of your minds is how do we ensure stability and continuity in the short term.

I know how much of a concern this is for you.

Through my travels and my correspondence I have been hearing from you directly.

In particular, I know the concerns around uncertainty, notably around funding streams.

This government wants to give you as much reassurance and clarity as we possibly can in these negotiations.

As underlined in December by the joint report published by EU and UK negotiating teams, UK-based organisations and people will be able to bid for Horizon 2020 funding and lead and participate in consortia in 2019 and 2020.

I've been speaking to Commissioner Moedas on some of the detail around this and how and when the detail can be worked out, in terms of being on the Committee and influencing the remainder of the Horizon 2020 projects that are there as well.

The joint report states that UK entities' right to participate in EU programmes will be unaffected by the UK's withdrawal from the EU.

It also outlines that no EU citizen currently in the UK lawfully, including staff and students at our Universities, will be asked to leave the country when the UK exits the EU.

This means that there will be no change from the current arrangements for over two and a half years.

To provide further reassurance, in addition to agreement of the joint report, our commitment to guarantee the UK share of Horizon 2020 funding stands no matter the outcome of negotiations so all successful Horizon 2020 bids submitted while the UK remains a member state will be able to continue with an uninterrupted flow of funding.

And my message to all UK based scientists is to continue bidding into these programmes. As well as protecting UK beneficiaries from the impact of EU Exit and providing the certainty that those projects need to complete their work.

So what will the future look like?

Of course, with or without the decision to leave the European Union in 2020 the current EU research

programme will come to an end. Horizon 2020 was always a time-limited project, and this continues to be the case.

But you will want to know what comes next for the UK.

I assure you that we are actively engaging, from inside the room, to make sure that the next generation of programmes build on the successes of Horizon 2020.

And one of the things I needed clarity on certainly during my bilateral meetings at the Informal Competitiveness Council, was that future programmes focus as much on excellence as they have done in the past and I was given very strong reassurances on that.

The Prime Minister and I have been clear that we would welcome an agreement to continue to collaborate with our European partners on major science, research, and technology initiatives enabling us to tackle the global challenges we face – as Europeans and as global citizens.

This adds to our determination to focus on excellence, but also our intentions to be an open, international partner.

The UK has always been a strong believer in the international nature of research, and will continue to encourage the EU and countries around the world to collaborate on global issues.

I want the EU to flourish, and I want to see science tackle the big issues we are facing down.

But I am the UK's Minister for Science so, naturally, I want the UK to be the go-to place for scientists, inventors and tech investors across the globe.

That means rest of the world as well, not just the EU.

I'm very proud that the UK became the first nation to sign a formal Science and Innovation agreement with the United States in September 2017.

We've also signed a similar agreement with Canada and have developed a joint Science and Innovation Strategy with China.

These agreements provide new opportunities for our universities, institutions and businesses so that they can take on bold new challenges in some of the most dynamic research environments in the world.

Through our Science and Innovation agreement with the United States, we've invested £65 million in the Long Baseline Neutrino Facility and the Deep Underground Neutrino Experiment.

These are extraordinary projects so much so that some people call them "mega science"! Hardly the most scientific term, but you can't deny it has a ring to it.

And no wonder – these investigations are aiming to address the big questions about the origins and structure of the entire Universe. Participating in these projects will keep us where we belong: pushing at the outer limits of human understanding showing the rest of the world what we can do.

We have achieved a great deal with our EU colleagues and I hope we will continue to do so.

We are committed to establishing an ambitious science and innovation agreement with the EU so that we can maintain our close relationship.

We have made a clear commitment to excellence and innovation and no country in the world would want to turn their back on that.

An official agreement between the UK and the EU would be a win-win allowing ongoing collaboration through an established, effective mechanism provided that we maintain the shared focus on excellence.

And if, as the Prime Minister referred to in her Florence speech, the UK continues to take part in specific policies and programmes such as those that promote science, education and culture, any ongoing contribution we agree to make should be proportional and designed to cover our fair share of the costs involved.

We need your help to share these ideas internationally with your partners and collaborators, who can raise this issue with their national governments.

Your actions will support us in securing the best deal for all.

We are heading in the right direction embracing the opportunities and delivering stability and clarity wherever we can.

Still, I know you will have other issues you want to see addressed.

They are fixed in our minds as negotiations continue we will continue to welcome international talent to the UK and we will do all we can to maintain funding to support innovation across the UK.

Our ambitions – and our hopes – are high.

We know you want to keep collaborating and so too do your counterparts.

From Sir William Ramsey's Nobel in 1904 to Richard Henderson's in 2017 we have built our scientific reputation on collaboration.

Our relationship with the European Union is changing so now, more than ever, is the time to speak up for collaboration.

That's what I intend to do – here, in Westminster, throughout Europe and around the world.

And just as a post-script, this week the government announced the Higher Education Funding Review and I'd like to assure you that I'm very focussed that sustainability of any funding system, any changes would have to have regard for sustainability by universities.

With that in mind, I'm planning to stay for as much of the next session as I can, and I know the Committee in two weeks time will enable me to answer more detailed questions on our plan for the way forward.

Thank you for having me and I look forward to working with you to ensure that our collaboration continues, but even more than that the UK generally becomes a place to go to for science and innovation post-Brexit.

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