

# Brexit summit

CaSE submission | Science and Technology Committee Inquiry | 5<sup>th</sup> February 2018

## About CaSE

CaSE is the leading independent advocate for science and engineering in the UK. Its mission is to ensure the UK has the skills, policies and funding to enable science and engineering to thrive. CaSE is funded by around 800 individual members and 100 organisations including businesses, universities, learned and professional organisations, and research charities. Collectively our members employ 360,000 people in the UK, and our industry and charity members invest around £34.9bn a year in R&D globally.

## Summary

### Approach to Brexit

*Government has begun acting to mitigate risks*

*A whole-Government approach is needed*

*An evidence-based approach is needed*

Put in place structures and processes in government and parliament to ensure scientific and technical expertise and advice is appropriately accessed

Take a lead on transparency and good use of evidence across all messaging, policy and publication of data

Publish the underpinning body of evidence when policies are announced, clearly stating the basis for a decision where it conflicts with available evidence

*Clarity and detail regarding the transition period is urgent*

### Priorities for Brexit: People

*Provide certainty and confidence in transition*

Confirm rights for EEA-nationals to reside and work in the UK throughout any transition period

Maintain current migration rules for EEA nationals until a new system can be effectively delivered following the transition period

Clarify the fee status and funding for EEA students

*Immigration messaging must improve*

Promote the UK as a place to learn, earn and contribute, working to combat the hostile climate for migrants

### Priorities for Brexit: Funding and collaboration

Seek early agreement on UK participation and influence in priority EU R&D programmes and their networks, including Horizon 2020 and its successor

Assess impact of likely EU funding changes

Set an interim milestone to increase public investment in R&D to 0.7% of GDP

### Priorities for Brexit: Regulation and standards

*Deliver a stable regulatory environment that facilitates trade, access to markets, and innovation*

Prioritise stability and harmonisation of regulations and standards for science & engineering

Seek continued influence on EU and international regulation that impacts on UK science & engineering

Embed the Innovation Principle in the Government's approach to regulation.

## Approach to Brexit

As an area of UK competitive strength, as a feature of our relationship with Europe that currently works well and brings mutual benefits, and as an endeavor attracting broad support from the UK public and government, science and innovation should be a pillar of the EU negotiations. In parallel, the government must continue to ensure domestic policy and funding work together support a thriving science and innovation base and to ensure that substantial public investment can be optimised for the wider benefit of the UK.

### Government has begun acting to mitigate risks

Recent policy and funding announcements suggest that there is some recognition by the Government that mitigating action is required to achieve the Prime Minister's stated ambition of "ensuring a positive outcome for UK science as we exit the European Union<sup>1</sup>". These include increased R&D funding, the development of an Industrial Strategy, funding for attracting research talent, development of an International Strategy for research and innovation, and increasing the number of Tier 1 Exceptional and Promising talent visas available. Importantly the additional funding is combined with the announcement of a long-term target for combined public and private R&D investment signaling their long-term commitment, in line with recommendations by CaSE, this Committee, and others.

### A whole-Government approach is needed

There is a risk that the potential benefits of actions and statements supporting research and innovation will be muted by decisions, statements and policies across wider Government activity. This can even happen within a single department. For instance, when announcing the doubling of the number of Tier 1 Exceptional Talent visas from 1,000 to 2,000 in November 2017 the Home Secretary said, "I am delighted that we are able to welcome more talented people from across the world to our country. Increasing the number of visas for these sectors will make sure that we continue to be at the heart of world culture and forefront of digital and scientific advances.<sup>2</sup>" This policy announcement was swiftly followed by two months of the Tier 2 visa cap being reached resulting in highly-skilled people having their visa applications rejected. We are seeking to find out more details on the number and occupations of those rejected in this recent implementation of the cap. So far, we know of a single research organization having 8 engineers rejected in December 2017 and January 2018. This undermines the positive statement from the Home Secretary on welcoming talented people to the UK. This is just one example of how a whole-Government approach is needed.

Achieving a positive outcome for science from Brexit will require Government pushing all its levers for supporting science and innovation in the same direction. This will include domestic policy and negotiation outcomes spanning funding, mobility, regulation and collaboration.

### An evidence-based approach is needed

CaSE wants to see an increasingly evidence-based approach to Brexit, as for all policy making in the UK so that expertise, evidence and knowledge can be used towards making policies smarter and, ultimately, lives better. As the negotiations move into the second phase it is crucial that decisions and positions taken by Government, and scrutiny undertaken by Parliament, are informed by available evidence and

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<sup>1</sup> <http://www.bbc.co.uk/news/science-environment-36915846>

<sup>2</sup> <https://www.gov.uk/government/news/government-doubles-exceptional-talent-visa-offer>

science advice. Many of the decisions being taken will have far reaching implications and Government has a duty to ensure they rigorously and transparently use evidence to inform decisions. CaSE has called on Government to ensure the proper use of evidence and science advice in all its decisions, documents and messaging on Brexit. This includes calling on Government to:

Put in place structures and processes in government and parliament to ensure scientific and technical expertise and advice is appropriately accessed

Take a lead on transparency and good use of evidence across all messaging, policy and publication of data

Publish the underpinning body of evidence when policies are announced, clearly stating the basis for a decision where it conflicts with available evidence

Clarity and detail regarding the transition period is urgent

In September 2017, CaSE held a meeting attended by delegates from 50 member organisations from across academia, education, charity and industry. Scientific and engineering industry were clear that a minimum two-year period is needed to deal with complex customs, certification and supply chain factors, and that transition must take place under current rules, changing only once. From academia, there were concerns that an extended period of uncertainty would discourage researchers from coming to the UK, but could be avoided if the Government provides as much clarity as possible on what we are transitioning to. All indicated that decisions and clarity on the transition period is urgently needed, and cannot extend beyond the first quarter of 2018 without growing consequences for operations and planning.

## Priorities for Brexit: People

Research is international and intrinsically collaborative. It is built upon the creation of ideas, sharing of expertise and the development of partnerships to expand the boundaries of knowledge, tackle global challenges and improve quality of life. This vibrant research and innovation environment is fuelled by mobility of people.

The public support immigration of scientists and engineers. Nine-in-ten think that scientists (90%) and engineers (88%) make a valuable contribution to society<sup>3</sup>. It is then perhaps no surprise that 86% of the British public want to increase or maintain levels of immigration of scientists and engineers<sup>4</sup>.

Attracting those with expertise from beyond the UK's borders is vital to support rapidly expanding sectors and leading-edge technologies. For instance, the UK is a digital technology success story with London attracting more tech investment than Paris, Berlin and Amsterdam combined<sup>5</sup>. This growth has been supported by foreign nationals choosing to set up their business here, 30% of London-based digital technology start-up founders were born overseas<sup>6</sup>.

Uncertainty around immigration is already having a detrimental impact for the long-term. At our member meeting in September 2017, there was widespread agreement that our primary focus should

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<sup>3</sup> [Public Attitudes to Science Survey](#) British Science Association, 2014

<sup>4</sup> [Time to get it right](#) British Future, 2017

<sup>5</sup> [TechNation](#) Tech City UK, 2017

<sup>6</sup> [Immigration and Brexit](#) Fragomen, 2017

be centred on people and resolving the challenges to research and innovation posed by the restriction of free movement. There was concern that the decision on rights of EEA nationals to live, study and work in the UK post-Brexit was turning into a cliff edge in the transition; as there was no confidence or certainty of their future status. At all levels of the research system people were already being discouraged from coming to the UK. For example, The Wellcome Trust Sanger Institute in Cambridge has seen a near 50 per cent drop in PhD applications from non-British EU nationals. We will be seeking to gather some additional information from members to better understand application trends since the EU referendum.

The UK must rebuild its reputation internationally as a nation open for business and welcoming to scientists and engineers from around the world. The immigration system must be an asset to the UK, supporting organisations' productivity and helping the UK to compete for globally-mobile international talent. In the long-term this must involve creating a migration system that supports mobility for excellence, skills, education and collaboration<sup>7</sup>. In the shorter term, Government must provide certainty and confidence in transition and improve messaging on immigration.

#### Provide certainty and confidence in transition

##### Confirm rights for EEA-nationals to reside and work in the UK throughout any transition period

Lack of certainty on EEA nationals' work and residency rights beyond March 2019 is already creating uncertainty for employers and EEA-nationals making employment decisions. Clarification and confirmation of the UK's offer to EEA nationals throughout the transition period is urgently required.

##### Maintain current migration rules for EEA nationals until a new system can be effectively delivered following the transition period

Major change in immigration systems is always disruptive and expensive. Our members are clear that sequential major changes within a couple of years is not desirable. The preference would be to change the system once and change it well following a Brexit transition period, allowing reasonable lead-in time accompanied by clear guidance and support to employers and individuals. Early confirmation from the UK Government that they will maintain current migration rules and working rights for EEA-nationals until a new system can be effectively delivered would provide much needed certainty and confidence for employers and individuals.

#### Clarify the fee status and funding for EEA students

The flow of international students from inside and outside of the EU is critical to universities but the current rhetoric from Government is unwelcoming towards them. Some members have raised the difficulty in setting future undergraduate fee structures under current uncertainty about EEA student status, which they anticipate could result in a drop in applications. A rapid decision on the status of international students and exchange programmes (such as Erasmus) is therefore urgently needed to limit financial uncertainty and reputational damage with the EU student market.

As yet, there has not been a dramatic 'brain drain' of talent leaving the UK but, at our meeting in September 2017, many members have noted the chilling effect already being seen on applications for jobs and fellowships, as well as some turning down opportunities citing future uncertainty or unwelcoming environment as a reason. Some spoke of staff holding offers for work overseas and

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<sup>7</sup> <http://www.sciencecampaign.org.uk/our-work/education-skills/immigration/immigration-principles.html>

waiting to see what happens in the UK before making a decision on relocating. However, the longer uncertainty on EEA nationals' rights persists, the more likely we are to see people making career decisions that take them out of the UK. In addition, there were concerns that UK residents are increasingly seeing the UK as an unattractive location for a research career, and are increasingly likely to consider leaving.

### Immigration messaging must improve

Immigration messaging is viewed by an international audience. Whether it is through political speeches, rhetoric in the media or policy decisions, the UK's attractiveness as a place to live and work is defined by these actions. It is not enough to announce that the UK will allow scientists and engineers to come to the UK. Living and working here must be an attractive proposition, and the immigration system and rules must make a good first impression. Engagement with our members shows that negative messaging plays a crucial role in determining whether skilled migrants want to come to the UK. We hope the Government will heed many of the recommendations made in the recent Home Affairs Select Committee report on immigration, including on messaging and use of evidence.

### Promote the UK as a place to learn, earn and contribute, working to combat the hostile climate for migrants

Some existing policies for non-EEA migrants are used to appear tough on migration while damaging the UK's ability to attract and access the 'brightest and best' the Government states they want to welcome to the UK. The UK Government's wider immigration system and policies are seen by EEA nationals and UK employers as a signal of the Government approach to immigration control. Therefore, as we navigate Brexit, Government must reconcile its divergent messaging on immigration. For instance, as raised earlier, the cap on skilled workers through Tier 2 is counter-productive and damaging to UK interests. Such policies tarnish the international view of the UK as a place for highly skilled individuals to work and contribute. Domestically this policy serves to create uncertainty and damage productivity of UK employers, including research organisations, engineering firms and the NHS.

### Priorities for Brexit: Funding and collaboration

In a survey by CaSE<sup>8</sup> on the role of EU membership in UK science and engineering research:

- 95% of researchers asked agreed that EU membership supports and maintains academic collaborations
- 66% of researchers asked agreed that EU membership supports new industry collaborations

### Seek early agreement on UK participation and influence in priority EU R&D programmes and their networks, including Horizon 2020 and its successor

Changes and uncertainty relating to EU funding and programme access is beginning to have an impact on research careers. In some universities a high proportion of Principal Investigators are funded by H2020. Across the sector, programmes such as the Marie-Skłodowska-Curie Actions are a vital source of talented researchers early in their career. Uncertainty about the future of these programmes and of future migration and settlement rights mean that, particularly for early career researchers, the UK is increasingly being seen as too risky to build a career in the long-term. We understand that Government are seeking to clearly communicate their position on Horizon 2020 access and underwriting of successful

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<sup>8</sup> [Role of EU membership in UK science and engineering research](#), CaSE and EPC, 2015

bids. This is a helpful step. We are also pleased to see that the Government have indicated their preferred position is for participation in future EU R&D programmes.

### Assess impact of likely EU funding changes

In FP7, the UK was a net beneficiary of EU research funding, paying in €5.4bn and receiving €8.8bn between 2007-2013. EU funding is an important part of the UK research landscape; 50% of the increase in funding for research in UK universities between 2007/08 and 2013/14 can be attributed to EU government sources. Some regions are more heavily reliant on EU government funding and could suffer disproportionately if EU funding streams change<sup>9</sup>. The same is true for different institutions and disciplines<sup>10</sup>. To inform Government action to mitigate potential detrimental effects on UK research and innovation capacity and strength, the Government should assess the differentiated dependence on EU research and innovation funding and put in place plans to prevent undesirable consequences such as reduced capacity in certain sectors, disciplines, or regions.

### Set an interim milestone to increase public investment in R&D to 0.7% of GDP

Public investment is a reliable driver of private investment in R&D. Research commissioned by CaSE found that public investment ‘crowds in’ private investment, attracts overseas investment, and every £1 of public investment in R&D raises private sector output by 20p each year in perpetuity<sup>11</sup>. Based upon the evidence presented in the report, a virtuous circle can be proposed in which additional public investment in research leads to increased private sector research, which leads to an increase in absorptive capacity of the private sector to make use of public sector research, hence amplifying economic benefit.

In the Autumn Budget the Government announced an additional year of funding as part of the target to increase total public and private R&D investment to 2.4% of GDP. We propose Government set an interim milestone to increase public investment in R&D to 0.7% of GDP by 2022. This interim milestone equates to an ambitious increase in public investment and frontloads the public investment portion of the Government’s overall target of 2.4% by 2027. However, for UK and foreign businesses considering their global R&D investment decisions, the UK must do more in the next five years than it has in the past to actively attract investment to counteract major risk factors and uncertainties in the external environment arising from the Brexit process. Increasing public investment further is certainly not the only lever the government has to increase private investment, but it is an essential part of the package, without which the Government’s 2027 target will not be met.

## Priorities for Brexit: Regulation and standards

Deliver a stable regulatory environment that facilitates trade, access to markets, and innovation

The UK is a world-leader in regulatory development and we should build on that strength. It is important to be clear on the future regulatory framework for research and innovation. An important concern is how harmony with the EU will be maintained for the purposes of research and trade. A frequently raised example is what will happen regarding UK implementation of the EU Clinical Trials Directive that is due

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<sup>9</sup> [Role of EU membership in UK science and engineering research](#), CaSE and EPC, 2015 (p9)

<sup>10</sup> [Examining Implications of Brexit for the UK Research Base](#), Digital Science, 2016

<sup>11</sup> The Economic Significance of the UK Science Base, Haskel et al for CaSE, 2014

to come into force after exit day. The UK has significant strengths and high standards in regulatory development and standards of practice, and that we should bring more attention to this during negotiations.

To do so, Government should:

Prioritise stability and harmonisation of regulations and standards for science & engineering

Seek continued influence on EU and international regulation that impacts on UK science & engineering

Embed the Innovation Principle in the Government's approach to regulation.