

Hilary Benn MP
Chair of the Committee
Committee on the Future Relationship with the European Union
House of Commons
London
SWIA OAA

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Dear Mr Benn

Response to your request (23rd July 2020) for evidence regarding the Brexit negotiations and the Innovation, Research and Technology Sector

Thank you for your letter on the 23rd July, and the range of questions it contained.

I have attached a response to those questions, providing answers where AIRTO and its Members have both the background knowledge and a relevant view or comment.

The answers to the questions do not go into full detail for some of the issues, such as the challenges previously referenced in relation to the space industry, and those for AIRTO Members such as NIAB (National Institute for Agriculture Botany) who have a unique role in Europe which will no longer be viable – to the detriment of both the EU and the UK. I am very happy to provide further information on these specific aspects of the UK leaving the EU, if they are required by your committee.

This is a very concerning time for AIRTO Members, and we will provide full support to any activities that can remove the current uncertainty of the future UK relationship with EU and European research programmes.

Yours sincerely

Professor Richard Brook OBE FREng
President
Association for Innovation, Research and Technology Organisations

Committee on the Future Relationship with the European Union

AIRTO's response to questions in Hilary Benn's letter of 23 July 2020

- What are the key priorities if your members and your sector in general regarding science and research in the negotiations between the UK and the EU? Has the Covid-19 pandemic changed any of these priorities? What might be the consequences of a deal which does not meet these priorities?
 - The key priority for the Innovation, Research and Technology (IRT) sector is to have the current access to European research programmes continue in a manner that is the same as, or close to the current scope and processes.
 - It is crucial that there is no gap between the current and future arrangements, with Horizon 2020 finishing at the end of this year and Horizon Europe immediately starting.
 - It is also crucial that details of how the UK will be involved in EU research programmes are confirmed as soon as possible. The current lack of any detail means collaborations and applications cannot be planned, and there is a real risk of a severe downturn in UK involvement in EU research programmes in the short and medium term. A gap in research activity threatens jobs and loss of specialist expertise which will not be recoverable within any reasonable timescale. Most AIRTO Members do not have the financial resources to deal with a significant discontinuity in their research portfolios, and the consequent enforced downscaling will feed through also to diminish the industrial participation in collaborative research and development which AIRTO Members' activities stimulate and support.
 - The Covid-19 pandemic has not changed these priorities, but has added pressure to timescales and has introduced some areas of research where cross-European collaboration will be extremely important in delivering effective research in a timely manner.
 - Not meeting these priorities will leave the sector in limbo regarding a significant part of its research funding, will compromise collaborations with European partners leading to less effective projects and programmes, and will severely degrade the output of the IRT sector. This is at a time when the UK's recovery from the current crisis and its future prosperity is dependent on applied research and development, and the ensuing exploitation of the results by industry.

- To what extent did the UK Government consult your sector before publishing its negotiating aims and draft texts? How well does what the Government has proposed meet its needs? What further provisions would you have advised the Government to seek?
 - There has been no formal consultation with the IRT sector regarding negotiation aims and draft texts.
 - The latest information the sector has is the Prime Minister's announcement of 27th February 2020, that the Government will endeavour to have the closest relationship with the Horizon Europe Programme, and that the Cabinet unanimously support this negotiating stance.
 - If the Government is successful in this aim of close relationship with Horizon Europe and other EU and European research programmes such as Euratom

and the flagship European Earth Observation Programme, Copernicus, it will meet the IRT sectors first objective. However, the signs are not good at the moment, and timing and further information are crucial. Planning for alternative national replacement programmes is urgently required as a contingency measure.

- The IRT sector needs to know immediately the detail of the Government's plans, their timing, and full details of contingency plans if it is not successful in achieving this "closest relationship".
 - The sector also urges the Government to separate the negotiation of access to EU and European research programmes from other aspects of the current negotiations, in order that a quicker, specific agreement on access to research programmes can be achieved. The last minute negotiations/brinkmanship of, for example trade agreements, are not appropriate to negotiations on access to research programmes, and will be extremely damaging to the UK science and innovation infrastructure and its short, medium and long-term outputs.
 - It has been reported that where information has been offered on priorities, there have been instances where the response has been "it's too late". A closer working relationship between the UK Government and the IRT sector is clearly needed to plan for the future and avoid these types of problems.
- How do the UK and the EU's positions in the negotiations compare with regard to science and research? On which areas are the UK and EU's aims farthest apart? Where do their positions align? What is your assessment of the level of technical detail the negotiators have grappled with on this topic to date? Do you believe science and research has received sufficient focus this far?
 - AIRTO has been given no information on the current negotiating stances of the UK and EU.
 - However, it is fully aware that key members of the European IRT sector are highly supportive of the UK continuing participation in European research programmes. This is also the case for the UK and European academic sector – see the Russell Group joint statement of 22nd July 2020.
 - Some AIRTO Members are also Members of EARTO (European Association of Research and Technology Organisations). EARTO Members are supportive of a continuing role for the UK IRT sector in EU and European research programmes, and somewhat baffled why agreements for this role have yet to be put in place.
 - The focus of the UK's negotiation with the EU has not been primarily on access to research programmes. This is understandable. However, this is also why AIRTO is suggesting the subject of access to the research programmes is separated from the main negotiation to avoid it always being some way down the list of priorities. This will allow the negotiation to be on a more focused basis, and will allow the needed quick resolution to be achieved.
 - Which EU agencies and programmes relevant to science and innovation are open to third party participation? What is the legal basis for this co-operation? Could you set out the role of the Court of Justice of the EU for any agencies you have highlighted? What is the level of involvement in decision-making for third countries in these EU agencies and programmes? Which of these agencies and programmes do you

understand are being discussed in the negotiations between the UK and the EU?
Which of these do you wish the UK to prioritise?

- The main target for UK participation in EU research programmes is Horizon Europe and its successors, because of its size, scope, and existing collaborations based on access to Framework funding.
 - However, other more focused programmes, both EU and European, are important from more specific sectors such as energy and space.
 - The Government's announcement in February mentioned Euratom and Copernicus. NPL lead the European measurement network EUROMET. There are other examples where UK organisations play key roles in EU and European research networks. A thorough assessment of all such programmes, together with the current level of UK participation, must be the basis for decisions on future participation. A reasonable default position is that participation should continue where it is already in place. Involvement in EU and European research programmes will involve collaborative research, contracts for research, development and manufacture, and involvement in key infrastructures.
- Does an agreement need to be reached in the EU's Multi-annual Financial Framework before any detailed discussions can take place about how much the UK would need to contribute to EU programmes of agencies? How is a third country's contribution to an EU agency or programme in the field of science and innovation calculated? Are any third countries currently receiving more in funding than they contribute? Are there any non-financial benefits for third countries that would appear to justify their status as net payers into the EU's science and research programmes?
 - AIRTO and its members do not have the relevant information to answer these questions with any confidence.
- Are there any lessons for the UK with regards to the EU-Switzerland relationship, and how this has affected Swiss participation in Horizon 2020?
 - AIRTO believes that Swiss access to Horizon 2020 is based on a contribution to the overall budget based on its GDP compared to that of the EU.
 - This decouples the national contribution to the research programmes from the actual success of its universities, research organisations and industry in winning funding from the programme.
 - This type of arrangement would be beneficial to the UK, as it has been successful in winning proportionally more projects than pro rata to its contribution to date, and it is expected that this success will continue. Typically, the UK has won approximately 150% of its contribution to Framework Programmes in grants to UK organisations for collaborative research and development.
 - Switzerland also has the right to observers attending meetings on the scope and delivery of the Horizon 2020 programme.
 - However, we believe that Switzerland's stance on freedom of movement had damaging consequences for the level of participation by Swiss-based academics, numbers of whom reportedly moved to institutions in other countries.

- To what extent is science and research co-operation isolated from the wider political context of the negotiations? To what extent are any discussions on science and research related to other areas of negotiations, such as regulatory standards or labour mobility, or the unilateral data adequacy assessments? What implications could these other provisions of a future UK/EU agreement have on your members and your sector in general?
 - Involvement in EU research programmes can be separated from the main UK-EU negotiations as suggested above.
 - However, this does not mean that UK science and research activities are not closely coupled with a number of the wider political priorities driving the negotiations.
 - Science and research co-operation is in many respects closely coupled with a number of the wider political priorities driving the negotiations.
 - Science and research co-operations inform many of the topics on which agreements are required to underpin trading with the EU and compliance with standards and regulation designed to ensure public safety and wellbeing. The work of the network of Notified Bodies that test and accredit many imported and exported products is underpinned by the outcomes of science research and co-operation between the parties to determine the standards and procedures required to conduct product examination and testing such that each trading partner will accept the work of the other. Without such mutual recognition agreements trading is susceptible to the imposition of a variety of sometimes hidden non-tariff barriers.
 - The UK has already since January 2020 been excluded from this network of Notified Bodies. The impact is that UK suppliers will in many areas have to send products to an EU country to be tested, possibly to different standards to those applicable in the UK. The UK in turn will need to duplicate test and accreditation facilities for its own purposes to replace those hitherto available to it within the EU. Replication of independent test and accreditation facilities to replace the output from capacity currently within the EU but no longer accepted by the UK will be costly for the UK taxpayer. The alternative of reducing UK requirements for testing and accreditation would be potentially hazardous to public safety.
 - Adjusting to new patterns of regulation and demand constitutes a major and costly disruption to our members which undertake testing and accreditation as part of their business.
 - On national standards, NPL and other National Measurement System Bodies collaborate via the EUROMET system to research and agree the underpinnings of the metrology infrastructure across the UK and the EU and this feeds through into many aspects of policy affecting trading and public safety.
 - The UK's science and research capability is in turn impacted by matters to do with immigration and visa allocations. This affects industry as well as the IRT sector and academia. Some specialisations are in very short supply and the UK's competitiveness in attracting talent is easily damaged by any sense of decoupling between their science and research interests and unfettered access to major international scientific and research efforts, particularly given the potential political and logistical complications of dealing with

- other significant science and research teams in leading powers, notably those in China and, in some areas, in the US.
- The implications for our Members and sector could be a loss of access to talent and consequentially competitiveness. Costs of doing business could rise also. This, coupled with need to travel long haul to reach alternative markets and other research and business partners would reduce profitability and potentially the high level of export success currently enjoyed by many members. Some have already established operations outside the UK in order to mitigate some of the risks identified above.
 - It is worth noting also that science and research links strongly to the legal framework of Intellectual Property protection and to regulations surrounding ethical standards in research activities. Furthermore, exploitation of research outcomes is affected by regulation surrounding topics such as data privacy and applications of AI and autonomous systems. Lack of international agreement on such matters can block routes to exports markets and seriously hamper private investment in new entrepreneurial ventures.
- Could you sketch out a possible compromise between the UK and EU on science and research and how it might be achieved?
 - As discussed above, separating the negotiation regarding access to research programmes from the main UK-EU negotiations will be effective in terms of reaching a rapid conclusion, and allow the negotiation to focus on only the relevant factors.
 - This will be helped by reaching an agreement being a win for both sides. UK participation is hugely beneficial to European science, research and innovation, as well as beneficial to the UK.
 - For the Framework Programme, a Swiss style agreement will be ideal, with a contribution related to national GDP compared to that of the EU, decoupling the national contribution from success in winning funding, and having rights of attendance at key meetings and committees. This will allow the UK's historic success in being a net beneficiary from EU research programmes to continue.
 - Based on parameters set out by the UK and EU draft legal texts, could reaching an agreement with the EU restrict the UK's ability to pursue co-operation agreements covering science and research with third countries? If so, how? How might any future joint UK-US-EU multi-lateral collaboration work, or do differing regulatory and data standards prevent such collaboration? Is the UK pursuing co-operation arrangements with countries that already have agreements with the EU on participation in science and research agencies and programmes? If so, what does these arrangements look like?
 - AIRTO has not been provided with any recent draft legal texts regarding access to EU research programmes.
 - Achieving the close UK relationship with EU research programmes will maintain the status quo. The UK will be able to pursue the same bilateral and multilateral research agreements that it does currently.

- However, the default arrangement for the participation of non-EU countries in collaborations appears to be that the non-EU countries bear their own costs rather than being reimbursed from pooled EU funds, in contrast to the situation for Switzerland as discussed above. This requires considerable planning for a participating non-EU country on a project by project basis and considerable uncertainty as to future availability of their national funding to support large, multi-year programmes.
 - The previous Science Minister, Chris Skidmore, promoted the importance of the UK to maintain “open access” for collaborate research and development. AIRTO considers this a very important message for the UK Government to send out to existing and potential international partners, and to back up this message with real support and actions.
- What would happen if agreement was not reached between the UK and the EU on science and research? What would the international legal baseline they would fall back on? What would be the consequences of this for your members and your sector in general?
 - Failure to reach an agreement will be extremely detrimental to UK science and research.
 - The most obvious loss will be the funding, particularly as the UK is a net beneficiary from the EU Framework programmes such as Horizon 2020. This funding can be replaced by UK national funding. However, this will take time to organise, and the different payment method between EU and national programmes will cause cash-flow problems for many organisations – the EU provide “up-front” payments to ensure organisations are not restricted from participating in projects because of cash-flow risks, UK projects pay in arrears.
 - A longer-term loss will be the lack of involvement in the world’s biggest research programme in the form of Horizon Europe and its successors which will result in reduced collaborations and diminished access to world-leading partners. This is also the case for more specific EU research programmes. Diminished access to project partners is likely also to result in a reduction in the innovation that typically arises most often from interactions with other participants.
 - Overall, the result of no agreement will be a diminution of UK science, research, development and innovation at a time when it is needed to support the recovery from the current Covid-19 crisis, when the country is facing challenges such as “zero carbon”, and the Government strategy is for the UK to be a science and innovation “superpower”.
 - An inability to bring evidence of science and research co-operation to the global stage will detract from the UK’s ambition to be this science and innovation superpower.
 - Lack of UK involvement in EU and European infrastructure research programmes will isolate the UK from developing important national assets. It will also mean the UK no longer has access to the skill sets necessary for successfully delivering large infrastructure projects. Current reliance on international programmes means these skill sets are in short supply in the UK, and will have to be re-developed if independent programmes are to be successfully delivered.

- The effect on AIRTO Members will be mainly financial in the short and medium term. In the longer-term, it will reduce key collaborations and leveraging-in of industrial partners to collaborative research and development activities. There is also the prospect of IRT sector organisations setting up activities in Europe in order to access EU research programmes, taking key activities and expertise outside of the UK.
 - AIRTO Members will also face more specific challenges in some sectors. These include access to collaborative research and development grants and commercial contracts in the energy (Euratom, ITER etc.) and space sectors, and also where a UK organisation provides services that will not be accepted by the EU once the Brexit process is completed – such as NIAB’s role in plant testing. World-leading facilities being unable to stay in the UK will be highly detrimental to the UK’s ambition to be a science and innovation superpower.
 - As far as AIRTO is aware, there is no commonly accepted legal baseline for collaboration in scientific research and each collaboration will need to be negotiated separately on a case by case basis. This will impose a considerable additional overhead on our Members and introduce particular difficulties for smaller organisations.
- Is it clear what your members and employers in your sector must do to prepare for the end of the transition period? How much progress have been made on preparations so far? Do SMEs face any additional challenges?
 - The uncertainty over UK access to EU research programmes means that short, medium and long-term plans are difficult to put in place with any certainty.
 - This is why a resolution to the question of UK access to EU and European research programmes, and the terms of such access are an extremely urgent priority.
 - SME Members of AIRTO are affected in the same way as larger members, each depending on their level of involvement with EU research programmes.
 - UK SME industrial partners in EU research programmes again are subject to this lack of any certainty in access to EU research programmes.
 - Many of the costs of preparation are not an allowable overhead for grant reimbursement purposes and the slim margins available on contract research do not provide a secure basis for bearing the additional costs arising from Brexit.
 - Progress ranges from those AIRTO Members that have already set up operations in another EU country, investing their resources outside the UK, to pivoting to new areas of activity and dropping those that are thought to not be viable after Brexit, and to carrying out only minimum necessary investigation into likely changes in operating practices. Additionally, it should be noted that dealing with Covid-19 has put a huge strain on AIRTO Members and diverted resources from essential Brexit preparations. Government assistance will be needed to ensure survival in some instances, particularly where Members do not have recourse to existing public core funding, shareholders, or unencumbered assets against which to borrow.
- What has been the recent experience of your sector with regard to access to projects with EU partners, applications to EU funding streams, retention of EU staff

and students and other such EU science and research matters that should continue to be applicable during the transition period?

- There has been some reluctance from European consortia to include UK participants in their proposals, following the Brexit vote. This has not been systematic or widespread, and has been countered by a continuing message from the EU that UK participation in a proposal/project is welcome and does not compromise its competitiveness.
- The UK continues to be successful in winning Horizon 2020 projects. However, AIRTO Members have found that success rates for proposals has been decreasing. This is thought to be as a result of increased competition rather than poorer proposals or any bias against proposals with UK partners.
- Often, successful proposals are built on existing relationships with EU organisations and this has continued. These EU organisations are fully supportive of the UK continuing involvement in EU research programmes.
- AIRTO members employ a significant number of EU staff – at the time of the Brexit referendum this was typically 20%. Numbers of EU staff have fallen as levels of leavers have been as typically expected, and at the same time applications for vacancies and new posts have fallen.
- AIRTO members are keen to be able to employ the best staff from around the world, at all levels, including those from the EU without any restrictions.
- Similarly, some AIRTO Members have post-graduate students undertaking research. There were significant levels of anxiety amongst EU students at the time of the Brexit referendum, but this has reduced significantly as the new rules and regulations have emerged.