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The Right Honourable Greg Clark MP
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Department for Business, Energy & Industrial Strategy, 1 Victoria Street, London SW1H 0ET

Jo Johnson MP
Minister of State for Universities, Science, Research and Innovation
Department for Business, Energy & Industrial Strategy, 1 Victoria Street, London SW1H 0ET

Wednesday 9 November 2016

Dear Sirs,

As the Autumn Statement 2016 fast approaches, with the major changes that have occurred in the UK's trading outlook since the referendum to exit the EU occurred in June, AIRTO is renewing its call for the Government to capitalise on the extensive network of innovation assets across the UK to invigorate future economic growth. AIRTO represents the UK's Innovation, Research & Technology (IRT) sector (encompassing Public Sector Research Establishments (PSREs), Catapult Centres and long-established Research & Technology Organisations (RTOs)), which employs more than 57,000 highly skilled people and adds value in excess of £32Bn to the economy¹. **We are offering a tangible delivery route for the innovation component of the Government's industrial strategy to stimulate the UK economy beyond Brexit by capitalising on the expertise and experience in science, engineering, business and innovation vested in the IRT sector.**

We realise that the Government has a complex task ahead, requiring difficult decisions and compromises to be made. The Prime Minister has set out the over-arching goal for the government to deliver "a country that works for everyone". Within this, AIRTO wants to see 'an innovation eco-system and infrastructure that works for everyone', because innovation is the bedrock for the UK's future prosperity and success in free global markets. AIRTO has identified four key innovation priorities for the Autumn Statement:

1. **Placing innovation at the heart of industrial strategy.**
2. **Mitigating aspects of Brexit that risk constraining the UK's capacity to innovate and grow business** in global markets, particularly markets beyond Europe (in which context the availability of skilled STEM, innovation and commercialisation professionals is key).
3. **Investing in innovation and innovation management skills development** for the future by creating a national innovation skills training initiative.
4. **Strengthening the national innovation infrastructure** and its capacity by investing further in Innovate UK and fully capitalising non-profit distributing translational RTOs and PSREs.

To identify the key actions needed in relation to these four priorities we have enclosed a brief summary for your consideration. We hope this is helpful and should be pleased to engage further on any of the points raised to offer our support to help shape an innovation eco-system that works for everyone.

Yours sincerely,

The Board of Directors of AIRTO

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¹The impact of the Innovation, Research and Technology sector on the UK Economy; Oxford Economics, November 2014

AUTUMN STATEMENT 2016 - KEY PRIORITIES FOR INNOVATION IDENTIFIED BY AIRTO:

1. Place innovation at the heart of industrial strategy:

AIRTO welcomes plans for a new industrial strategy, placing innovation at its heart is essential to stimulate productivity and growth for the UK. With uncertainties surrounding the future trading relationship with the European Union, it is extremely important to set a bold vision with a clear, strong and cohesive roadmap, providing an action plan for investment in the infrastructure and skills needed to enable the UK to keep pace with and ideally outperform, competitor nations. The national industrial strategy for the UK should:

- Provide access to the resources essential for successful innovation and economic growth, particularly skills and finance.
- Set out consistent priorities and provide supporting measures for challenging, riskier aspects of innovation and commercialisation.
- Outline priorities for the challenge-led innovations needed to improve the economy, national security and well-being.
- Support and influence other major government policy agendas which drive actions and behaviour of key departments (e.g. BEIS, Defra, DFT, etc.), to avoid conflicting policies from hindering industry's capacity to operate.

A 'hands-off' approach to industrial strategy is insufficient for a country with such a strong knowledge-based economy, dependent on driving innovation to achieve growth. Scientific and technological knowledge can be better directed towards industrial benefit across supply chains in key industrial sectors and regions when supported by government intervention. Having a sector framework will provide some key areas for focusing investment and policy interventions and encouraging industry and public sector to coalesce around particular strengths of national importance for future economic development.

The Prime Minister has set the over-arching goal for the government to deliver "a country that works for everyone," but the apparent simplicity of such a statement disguises the complex and very necessary challenge of aligning industrial strategy successfully to cater for public attitudes and perceptions as well as the differing needs of the UK's various regions, while also working to secure the commitment of business. Consultation with regions is vital to achieve a seamless 'fit' between the national industrial strategy and regional growth strategies.

2. Mitigate aspects of Brexit that risk constraining the UK's capacity to innovate:

The national industrial strategy must anticipate, account and plan for the UK leaving the European Union by ensuring:

- Retention of established partnerships across supply chains and with key innovation partners.
- Continued access to people and skills and making sure that the UK can attract talent from overseas simply and cost-effectively.
- Maintenance of funding for innovation at pre-Brexit levels.
- Access to new sources of innovation funding to compensate for the loss of current EU schemes (e.g. Horizon 2020). ***A huge opportunity exists to create a replacement fund for innovation, centred on driving new international challenge-led strategic alliances in key sectors where the UK is world-leading, e.g. space, aerospace, materials, transport, future cities, life sciences, construction, agri-food, etc. Such a scheme could support UK innovation centres of excellence in developing new supply chains overseas*** (a prerequisite for driving exports), also acting as a catalyst for driving new business-led innovation.
- Access to alternatives to European Structural Funds for large strategic infrastructure investments in regional economies, to boost regional infrastructures and so continue attracting industrial investment.

3. Invest in skills development for innovation:

Investing in the skills base needed for innovation and commercialisation is essential; there is a clear shortage of the multi-skilled people needed to deal with the many critically important innovation challenges for the UK, especially the vital 'soft/people' skills needed for management and business planning; supply chain operation; finance; technology management and new product and service development. An apprenticeship programme to develop innovation leaders could be a solution to this challenge, based on a series of secondments, to academia, the finance sector, government departments and commercial industry, similar to the traditional fast-track graduate development scheme in a large enterprise. Such a scheme would require financial support, but yield a younger generation of multi-skilled practitioners.

The IRT sector would be ideally placed to offer such a skills programme, working in conjunction with commercial enterprises, universities and government departments, thereby capitalising on the vital role that the IRT sector already plays in contributing to the development and retention of the UK's skills base through provision of scientists, engineers and technologists. Such a programme would enhance the sector's capacity to boost existing professional development pathways for talented graduates and PhDs through specialist training and varied work experience.

4. Strengthen national innovation infrastructure and capacity:

Emulating competitor nations, like Germany where investment in their IRT sector has been very strong (via Fraunhofer-Gesellschaft, for example) has been very beneficial for the UK. The UK established Research Associations to tackle innovation after both World Wars and, more recently, a new modern generation of RTOs, in the form of the Catapult Centres, has been launched. More still needs to be done to invest in, update and strengthen this innovation infrastructure in support of the government's industrial strategy because we still under-invest in translating research outcomes into commercial enterprise. The IRT sector is well able to tackle this challenge given better and more appropriate access to financial capital.

The establishment of UKRI could lead to a closer working framework for Innovate UK and the Research Councils, but retaining a strong emphasis on the distinctive mission of Innovate UK is vital if the UK is to continue to compete globally.

In summary, the government should increase investment in:

- Processes for stimulating innovation and embedding the results in industry as a key driver of productivity.
- Innovation programmes, including via Innovate UK, to generate new opportunities, stimulate competition and new supply chains.
- The full span of the UK's innovation infrastructure, extending beyond the Catapult Centres, to harness the expertise and thought-leadership of the IRT sector in shaping strategy and policies.
- Initiatives for challenge-led and business-led applied research collaborations across Research Council interfaces, Innovate UK, the IRT sector and industry partners.
- New innovations originating outside of the university research base, supporting them across the 'valley of death'.

The government should also aim to improve:

- Access to risk finance for the innovation community and its industrial partners.
- Capitalisation of non-profit distributing RTOs and PSREs, as key contributors to the UK's infrastructure for innovation.
- Productivity in public services to drive costs down, as an alternative to further cuts in the services themselves, particularly focusing on public procurement of innovative products/services on an early adopter basis (e.g. from SMEs with export growth potential).

Declaration of interests:

This representation is made by the Association of Innovation, Research and Technology Organisations (AIRTO). The organisation represents research and technology organisations operating in the space between the academic research of universities and the commercial needs of industry. AIRTO members undertake research and development and knowledge and technology transfer. This submission does not necessarily represent the views of individual member organisations. AIRTO currently comprises organisations employing more than 40,000 scientists and engineers¹, with a combined annual turnover in excess of £5 billion (AIRTO Ltd. is a company limited by guarantee registered in England No. 1217006 Register office address: National Physical Laboratory, Hampton Road, Teddington, Middlesex, TW11 0LW. AIRTO is a not-for-profit organisation funded by membership subscriptions and managed under contact by NPL). The members of AIRTO currently are:

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References

¹ The impact of the Innovation, Research and Technology Sector on the UK Economy; Oxford Economics, November 2014.