Online questionnaire for the Green Paper on a common strategic framework for EU research and innovation funding.

This European Commission **Green Paper** proposes major changes to EU research and innovation funding to make participation easier, increase scientific and economic impact and provide better value for money. The questions are the same as those set out in the Green Paper. To facilitate responding, you are asked to rate the relative importance of the aspects covered in each of the questions. Text responses are limited to 1500 characters. If you wish to provide detailed written comments you are encouraged to use the written response submission form.

Information about the respondent

- I am answering as: AIRTO, Association of Independent Research and Technology Organisations
- Country of location: United Kingdom
- My/ my organisations' main activity is Trade organisation; sector representation
- The name of my organisation is AIRTO Ltd.
- AIRTO member organisations participate in FP7.
- Do you intend to submit a separate written response to this consultation? No

Working together to deliver on Europe 2020

The questions in this section correspond to Section 4.1 of the Green Paper.

1. How should the Common Strategic Framework make EU research and innovation funding more attractive and easy to access for participants? What is needed in addition to a single entry point with common IT tools, a one stop shop for support, a streamlined set of funding instruments covering the full innovation chain and further steps towards administrative simplification?

- Targeting CSF investment in technology areas where there are substantial global market opportunities and increased likelihood of investment would make programmes more attractive to industry.
- The full research and innovation cycle should be covered by the CSF, spanning incubation of fundamental research through to the testing and demonstration of applied technologies.
- The nature of the support should be tailored to the stage of the innovation cycle that has been reached.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

2 How should EU funding best cover the full innovation cycle from research to market uptake?

- EU funding should cover the full innovation cycle from basic research, technological development, demonstration and validation to the rapid translation to markets using

instruments and project sizes matched to the stage of development and maturity of the technology and application.

- A realistic recognition of the length of business cycles in certain sectors like biomedicine and aerospace is essential. That means that topics and subject areas should remain within the CSF for a sufficient length of time to ensure completion of the full innovation cycle and should not 'come and go' too quickly. The nature of the support provided should develop as the maturity of the technology and applications develop.
- Market uptake of research will be increased where there is large global demand, and where research activities are aligned with agreed EU and national strategies and industrial policies in specific sectors.
- Roles for organisations that specialise in translational research should be encouraged within programmes to assist with the incubation of technologies and applications and their progression along the maturity scale.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

3 What are the characteristics of EU funding that maximise the benefit of acting at the EU level? Should there be a strong emphasis on leveraging other sources of funding?

- EU funding instruments potentially draw together capabilities from across a broad range of countries to address challenges that are beyond the capabilities of single nations to address, creating resource groupings with critical mass on a larger scale than would otherwise be possible. The requirement for multi country participation in projects stimulates the formation of such high capability teams.
- Where EU funding is coordinated with National Programmes there is opportunity to reduce duplication and increase efficiency.
- In sectors where good alignment between National and EU programmes does not yet exist, there should be encouragement to develop strategic agendas.
- For long life-cycle technology areas there is a risk of financial markets failing to make investment, so EU funding plays a vital role in facilitating technology maturation. This is best delivered by establishing dedicated sectoral streams of funding within the CSF.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

4 How should EU research and innovation funding be used to pool Member States' research and innovation resources? Should Joint Programming Initiatives between groups of Member States be supported?

- Where there is not a coherent approach to mobilising Member States around global/societal challenges EU research and innovation funding support may provide an incentive to propagate greater strategic working practices across the EU.
- Many technology sectors will have research challenges that are best approached at EU level, benefiting from critical mass and scale and breadth of expertise. However it is important to note that there will be limitations to bringing research efforts together at EU level as a result of constraints imposed by national strategic priorities.

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How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

5 What should be the balance between smaller, targeted projects and larger, strategic ones?

- Coordination between projects and resources could be significantly improved. Larger projects frequently address higher levels of maturation, i.e. technology demonstration, and need to be held in balance with smaller projects aimed at developing technologies prior to demonstration.
- Generally the existing balance within FP7 is good, but it varies between sectors. This is another important reason for sectors to develop strategic research agendas so that project sizes and types can be held in balance within the CSF.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

6 How could the Commission ensure the balance between a unique set of rules allowing for radical simplification and the necessity to keep a certain degree of flexibility and diversity to achieve objectives of different instruments, and respond to the needs of different beneficiaries, in particular SMEs?

- Past improvements have led to some simplification of administrative procedures.
- A reduction in the time taken to assess bids and award funding would be welcomed.
- The complexity and burden of navigating the administrative process (both pre and post award) is still sometimes cited a barrier to engagement, especially by SMEs, where administrative resources can be very limited.

[**Very important**, Important, Of some importance, Unimportant, Don't know]

7. What should be the measures of success for EU research and innovation funding? Which performance indicators could be used?

- The CSF should recognise the long life cycle of many technology developments in sectors such as biomedicine and defence. It is not unusual for innovations to take over 10 years to reach market. There is a risk of adopting only short-term measures such as patents filings, at the expense of more enduring evidence of knowledge transfer and commercial success. Broader measures of success should be included, such as jobs created and capability and capacity developed.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

8. How should EU research and innovation funding relate to regional and national funding? How should this funding complement funds from the future Cohesion policy, designed to help the less developed regions of the EU, and the rural development funds?

- In cases where EU, national and regional strategies align to target the creation or retention of high-value skilled jobs, and the building of new infrastructure, EU funding can be successfully deployed to generate critical mass for important projects. Sustained and growing alignment between EU, national and regional funds will improve efficiency.

- Regional funding may available preferentially to SMEs, who tend to have more limited scope for collaboration. But regional funding can encourage clustering which can in turn lead to new and sustained supply chain relationships.
- Attention should be paid to channelling funding to compliment national and regional funding that targets capacity building.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

Tackling Societal Challenges

The questions in this section correspond to Section 4.2 of the Green Paper.

9. How should a stronger focus on societal challenges affect the balance between curiosity-driven research and agenda-driven activities?

- EU research and innovation funding plays a potentially important role in addressing societal challenges and improving the well being of EU citizens. From an industry and global competitiveness perspective, funding should be directed towards challenges that lead in turn to new market opportunities and areas where demand pull will drive adoption of the products and services developed.
- Thematic areas focussing on sectors such as Aeronautics, Defence, Space and Security are vital, as there are uniquely demanding competitive R&D challenges and technology lifecycles in these sectors, requiring long-term, large collaborative programmes to reduce risk and make significant progress.
- Blue Skies research should ideally be orientated towards eventual delivery of application impact in order to secure a measure of industrial involvement and engagement.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

10. Should there be more room for bottom-up activities?

Bottom up activities should be encouraged but should match strategic objectives, relate to technology roadmaps wherever possible and have clear market applications and routes to market in mind.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

11. How should EU research and innovation funding best support policy-making and forward-looking activities?

- The CSF should support policy-making by commissioning projects that reduce scientific ambiguities that frequently make some areas of policy formulation particularly difficult. This is particularly relevant where standards and regulations need to be underpinned by robust scientific evidence.
- Strategic Research Agendas within CSF themes, combined with corresponding regulation, standards and certification at the EU level, are key tools for bringing about the desired future societal and economic impacts.

- Where possible, the role of the end-users in proposals and projects should be encouraged. This maximises alignment between research content and end-user need. Project assessment processes should take into account end-user needs, as opposed to assessing solely on the scientific content and excellence.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

12. How should the role of the Commission's Joint Research Centre be improved in supporting policy-making and forward-looking activities?

The Joint Research Centre should play some role in the evaluation of research, monitoring progression towards milestones and informing priorities for future EU action.

How important are the aspects covered in this question? [Very important, Important**, Of some importance**, Unimportant, Don't know]

13. How could EU research and innovation activities attract greater interest and involvement of citizens and civil society?

- European citizens are the eventual beneficiaries of research and innovation investment. Therefore public engagement and propagating awareness and understanding by the public of the European collaborative research agenda is important.
- Explanation of the relationships between EU research activities and socio-economic challenges and outcomes should be encouraged.
- The CSF has a role to play in attracting young talent into science, technology, engineering and mathematics and in providing employment opportunities which should be disseminated and promoted more widely.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

Strengthening competitiveness

The questions in this section correspond to Section 4.3 of the Green Paper.

14. How should EU funding best take account of the broad nature of innovation, including non-technological innovation, eco-innovation and social innovation?

- Large returns on investment frequently come from technological innovation which then enables and underpins wider innovation in business processes, social infrastructures and ecosystems. Therefore, although broader innovation should be embraced, it is important not to lose sight of the need for continual technological advance in order to underpin innovation in general and, in particular, in the economic competitiveness that underpins wealth creation for Europe.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

15. How should industrial participation in EU research and innovation programmes be strengthened? How should Joint Technology Initiatives (such as those launched in the current Framework Programmes) or different forms of 'public private partnership' be supported? What should be the role of European Technology Platforms?

- Industrial participation depends on the selection of relevant, attractive themes and availability of funds for the CSF.
- Industry, as an investor in these programmes, has an important role to play in setting priorities and in evaluating projects to maximise their exploitation.
- The administrative burden is a barrier to participation. Tackling this problem is key to strengthening industry's participation.
- Continuity of instruments for financial support is essential; participants from industry, including SMEs, are familiar with existing instruments for Collaborative R&D, and Integration and Demonstration activities. Therefore major changes which could disrupt participation and increase administrative burden should be avoided.
- Public Private Partnerships (PPP) in the CSF could be beneficial; within FP7 funding from existing themes (NMP, ICT, Environment, Energy; and Transport), are brought together with existing instruments. The PPP mechanism focuses funding on specific themes and demonstration of results and is constructed around significant funding requirements needed to mobilise a critical mass of resources when private financing alone cannot sustain the desired developments.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

16. How and what types of Small and Medium-sized Enterprises (SME) should be supported at EU level; how should this complement national and regional level schemes? What kind of measures should be taken to decisively facilitate the participation of SMEs in EU research and innovation programmes?

- All types of SME should be encouraged but particularly high growth SMEs addressing major global opportunities, those working with larger end user partners and those that could be suppliers to the public sector under public procurement initiatives aimed at pulling through innovation to early customer adoption.
- SME participation in the CSF could be further stimulated by simplification of administrative processes and reporting requirements, pre and post award, availability of shorter term project formats and shorter assessment periods for applications.
- Regional funding is important to SMEs as it can facilitate formation of technology clusters, which can in turn encourage collaboration and participation in wider EU programmes.
- The role of the EIB and similar funding mechanisms could be better communicated to the SME community.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

17 How should open, light and fast implementation schemes (e.g. building on the current FET actions and CIP eco-innovation market replication projects) be designed to allow flexible exploration and commercialisation of novel ideas, in particular by SMEs?

- Designing schemes to offer relatively easily access to small project funding to assist SME's in undertaking feasability and proof-of-concept work would enable SMEs to drive forward innovations in a more timely fashion. Greater awareness of FET and CIP mechanisms should be promoted.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

18. How should EU-level financial instruments (equity and debt based) be used more extensively?

- CSF could relinquish the annualisation of budgets for large strategic projects; to make funds available when required according to needs and progress in projects and to increase flexibility in deployment of funding.
- Instruments within the EIB, RSSF and CIP need to be better communicated.
- Improved alignment of Venture Capital and public funding should be also considered. This can in part be achieved where EU support can be provided through public procurement contracts as opposed to grants. This will increase the confidence of Venture Capital to invest at early stage but where there is a demonstrable initial public sector customer for the product or service.
- Some EU-level financial instruments should be dedicated to investment in infrastructure.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

19. Should new approaches to supporting research and innovation be introduced, in particular through public procurement, including through rules on pre-commercial procurement, and/or inducement prizes?

- Exploitation of the capacity of public sector procurement to drive innovation to its final stages and stimulate high-risk innovation has clear potential but is a challenge. Public procurement is undoubtedly a demand side lever that can emulate the successful practices taken deployed in the US. Pre-commercial procurement (PCP) of research from the private sector is a novel scheme that could be deployed with great benefit and could lead to increased early stage Venture Capital investment, as noted above.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

20. How should intellectual property rules governing EU funding strike the right balance between competitiveness aspects and the need for access to and dissemination of scientific results?

- The IP provisions of FP7 are generally workable, and should be preserved in the CSF, while IPR management options should remain under each project consortium's coordination.
- Provisions regarding joint ownership of IPR could be overhauled. Joint IP should be anticipated from the project initiation stage in the consortium agreements. This provision currently permits individual joint owners to sublicense third parties without consent of the other joint owners (contrary to the usual rules on joint ownership of IPR) and without any restriction on the third parties. Reverting to the usual requirement for prior consent of the other joint owners would be welcomed.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

Strengthening Europe's science base and the European Research Area

The questions in this section correspond to Section 4.4 of the Green Paper.

21 How should the role of the European Research Council be strengthened in supporting world class excellence?

Industry involvement and participation should be promoted to reinforce EU excellence in areas with industrial relevance. Industry should be involved as evaluators and experts to encourage early adoption and exploitation wherever possible.

How important are the aspects covered in this question? [Very important, Important, **Of some importance,** Unimportant, Don't know]

22 How should EU support assist Member States in building up excellence?

Sector themes encourage Member States to build excellence. Ensuring these themes keep pace with emerging challenges is essential to build future excellence.

The roles of translational research organisations should be encouraged.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

23. How should the role of Marie Curie Actions be strengthened in promoting researcher mobility and developing attractive careers?

The level of funding and nature of Marie Curie actions should be maintained and promoted. In particular, engineers and technologists from industry should be encouraged and facilitated to move to other research laboratories for a significant period of time.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

24. What actions should be taken at EU level to further strengthen the role of women in science and innovation?

Any initiatives to strengthen the role of women should compliment existing initiatives that Member States may already be operating.

How important are the aspects covered in this question? [Very important, Important, **Of some importance**, Unimportant, Don't know]

25. How should research infrastructures (including EU-wide e-Infrastructures) be supported at EU level?

- Specialised research infrastructure is a key deliverable of the European strategic research agenda – and essential to maintaining global competitiveness in science and technology, but is clearly very expensive to establish and sustain. However failure to invest in infrastructure risks decline in facilities and expertise. Measures to encourage capacity building in priority areas should therefore be supported.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

26. How should international cooperation with non-EU countries be supported e.g. in terms of priority areas of strategic interest, instruments, reciprocity (including on IPR aspects) or cooperation with Member States?

- International cooperation should be encouraged for strategic, global challenges for which collaboration on a global scale is pivotal, e.g. where expertise or infrastructure in the EU is constrained or too limited to be effective on its own.
- The EU has a key role in stimulating international collaboration with global leaders e.g. in the US, Canada, China and Japan etc.
- EU CSF instruments should be targeted primarily on European competitiveness and societal benefit and the motivation for international cooperation driven primarily by opportunities for eventual European business and commercial advantage, with purely political considerations playing a complimentary but secondary role.

How important are the aspects covered in this question? [Very important, **Important**, Of some importance, Unimportant, Don't know]

27 Which key issues and obstacles concerning the ERA should EU funding instruments seek to overcome, and which should be addressed by other (e.g. legislative) measures?

- Streamlining of rules and implementation of the various instruments within the CSF.
- Increase in funding for applied R&D and reinforcing the relationships between research and future market demand, especially by involving end users, customers and procurement agencies in calls and projects where appropriate.
- Increase in the prioritisation for objectives linked to boosting sustainable economic growth
- Increase in alignment between EU, national and regional funding.
- Prioritising research programmes and priorities by aligning them to Strategic Research Agendas.
- Aligning non-EU international collaboration with fundamental research challenges.

How important are the aspects covered in this question? [**Very important**, Important, Of some importance, Unimportant, Don't know]

Closing questions

Are there any other ideas or comments which you believe are important for future EU research and innovation funding and are not covered in the Green Paper?
[Free text]