



Department for  
Business, Energy  
& Industrial Strategy

# SCIENCE AND INNOVATION AUDITS

Call for Expressions of Interest



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# Call for Expressions of Interest

## Purpose

1. This document invites organisations throughout the UK with an interest in research and innovation to form into consortia and express interest in undertaking a Science and Innovation Audit (SIA).
2. The objectives behind SIAs are set out below followed by information on assessment criteria and further guidance.

## Process

3. The Science and Innovation Audits will follow the proposed process laid out below:
  - Consortia are invited to form and express interest in participating in an SIA (November 2016);
  - Consortia are selected to undertake an SIA and begin work on the audit (Spring 2017);

## Background

4. The Government is committed to an economy that works for all across all parts of the UK.
5. There is clear evidence of a link between R&D spending and national productivity. Studies show that public investment in the science base generates returns of at least 20% per annum in perpetuity in the private sector<sup>1</sup>. Science and innovation are also areas where the UK excels internationally. With 1% of the world's population the UK produces 6.4% of world publications, and receives 11.6% of citations and 15.9% of citations with highest impact<sup>2</sup>. The Global Innovation Index 2015<sup>3</sup> also showed the UK ranked 2<sup>nd</sup> in the world rankings (14<sup>th</sup> in 2010) out of 142 economies.
6. To make the most of these strengths, Jo Johnson, Minister for Universities and Science, announced Science and Innovation Audits in summer 2015. The policy was set out in the Productivity Plan as follows: *"It is crucial that the UK supports excellence wherever it is found. The government will therefore invite universities, cities, Local Enterprise Partnerships (LEPs) and business to work with the government to map the strengths of different regions through a series of science and innovation audits."*
7. It is intended that the SIAs will also support the delivery of England's Smart Specialisation strategy, and equivalent strategies within the Devolved Administrations. The data and analysis generated by the SIA (in essence deep dives in particular geographical areas) will also boost the work of the new Smart Specialisation Hub, which has been tasked with building the evidence base and developing a community of best practice around smart specialisation in England.

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<sup>1</sup> Hughes, Haskel and Bascavusoglu-Moreau (2014) "The Economic Significance of the UK Science Base

<sup>2</sup> [International Comparative Performance of the UK Research Base, December 2013](#)

<sup>3</sup> [The Global Innovation Index 2015](#)

8. The UK's science and innovation funding will continue to be allocated on a national basis to the strongest proposals on the basis of excellence. Audits are not intended as a route for separate consideration of proposals, but rather a way to help build evidence of potential global competitive advantage and begin to identify routes to realise that potential.

## Objectives

9. Science and Innovation Audits build, in part, on the argument, set out in Sir Andrew Witty's review of universities and growth<sup>4</sup>, that places can drive economic growth by focusing on their own research-driven sources of competitive advantage. More broadly, this fits within an approach to target support for research and innovation called 'Smart Specialisation' which originated in the EU<sup>5</sup>. Science and Innovation Audits have the potential to play an important role in helping England, Scotland, Wales and Northern Ireland to deliver their separate Smart Specialisation strategies and ensure that associated funding is used effectively.
10. We need to improve the UK's capability to identify and validate where existing and growing research excellence is coupled with emerging innovation strength. To do this well, links between research and innovation organisations and businesses need to be forged and strengthened, and we need to build a robust and powerful evidence base which can underpin future investment decisions.
11. There are many sources of useful data that can contribute to this evidence base, for example, the many rich datasets built up through administering the UK's research and innovation funding systems. Although increasingly accessible, these databases are insufficiently exploited by government or external users and are currently held separately by each funder. Combining these datasets with other sources, including patent and citation databases, could be a powerful method to identify existing and emerging clusters of research excellence and innovation. This will involve combining "state of the art" data science approaches, with a "bottom-up" view based on local data, knowledge and experience to examine an area's strength in science and innovation and relate these to a national and international context.
12. The objective of the Science and Innovation Audits will be to enable the fuller use of these datasets to:
  - Identify and validate areas of potential global competitive advantage across the UK;
  - Inform the development of the Industrial Strategy.
  - Increase access to and use of these datasets with the long term objective of developing a tool to inform the UK's future science and innovation strategies;
  - Provide an evidence base for strategic decision making on local innovation priorities;
  - Strengthen future bids for local investment, e.g. science capital bids, private sector, and other related funding;
  - Foster collaboration between universities and local businesses, local authorities and LEPs or their equivalents in the Devolved Administrations.

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<sup>4</sup> [Encouraging a British Invention Revolution: Sir Andrew Witty's Review of Universities and Growth](#)

<sup>5</sup> [National/regional innovation strategies for smart specialisation](#) (European Commission)

13. The SIAs will also help Government and local organisations examine how investment in science and innovation leads to local productivity. Areas of focus include:
- Excellence in science and research, highlighting areas of world-leading and internationally-competitive strengths;
  - Strengths in innovation activity;
  - Science and innovation assets and capability including institutes and facilities;
  - Local industrial strengths and capacities, especially in nascent industries and emerging disruptive technologies;
  - Local ability to work collaboratively across the science and innovation landscape;
  - Levels of engagement between the research base and the business community;
  - Coherence with other existing or planned activity to support research and innovation including the development of local infrastructure;
  - The comparative strengths on which to build future innovation, growth and prosperity.

## General guidance on developing an expression of interest

14. Consortia will be asked to submit an **Expression of Interest (EOI)** to undertake an audit. The EOI should describe the consortium, its geographical extent and set out its preliminary hypotheses about local business, innovation and research strengths that could be investigated and evidenced through an audit. The EOI addresses open questions for which there are no one right answer. Further discussion of what is meant by hypothesis is included at annex A.
15. Expressions of Interest will be considered against the following criteria:
- The creativity and ambition of the hypotheses put forward, The potential to achieve global competitive advantage and have impact on the chosen geographical area;
  - World leading excellence and the potential to drive growth through research and innovation, and advancing disruptive or emerging technologies;
  - Strong business presence (of a variety of sizes and types); identifying potential to drive growth through innovation, translation of research and uptake of disruptive technologies; and
  - Commitment and extent of collaboration and partnership of a broad range of relevant partners and quality of and support for the leadership within the consortia and capacity building measures, with particular reference to business engagement where this is identified as a weakness.
16. In addition, when selecting consortia the government will take in to account the desirability of achieving broad coverage of the UK.
17. The call for expressions of interest will remain open for six weeks. BEIS officials will work with the consortia to answer any questions they may have during this period. An expert group formed to advise on England's Smart Specialisation Strategy and supplemented by representatives suggested by the Devolved Administrations will be asked to review the

resulting expressions of interest and advise Ministers on the best approach in taking them forward. Final decisions on which consortia should go forward will be taken by Ministers.

18. The application should set out how consortia will resource and conduct their SIA, including how they will incorporate the support supplied by BEIS (described below).
19. Other than this analytical support, the Government will not fund consortia to undertake Science and Innovation Audits; this reflects the need for government and consortia to share the responsibility of producing a useful audit report, that the prime costs to consortia are likely to be the opportunity cost of the senior individuals involved (which is hard to quantify) and to reflect the benefit an audit is expected to bring to the consortia.

## Determining location and composition of consortia

20. We want local consortia to come together to propose audits in their geographical areas. Although some audit areas may map onto cities, other audits may focus on looser groupings which may cross existing boundaries (both economic and national).
21. Consortia may choose to involve any organisation which contributes to the relevant strength and potential that exists within the locality. They should not feel constrained by existing local, regional or devolved boundaries. However, as a minimum we would expect representation from the following in all consortia:
  - At least one Higher Education Institution, Research Institute or other organisation eligible for public funding for research;
  - Relevant innovation organisations (such as Catapults) or Public Sector Research Establishments;
  - At least one Local Enterprise Partnership in England, recognised public sector economic development body in the Devolved Administrations or Local Authority;
  - Relevant business and/or business and sector representative groups.
22. We recognise that various consortium configurations are possible. However, we suggest that an effective consortium would consist of a number of groups from a geographical area, each focussed on an existing research strength and its links to innovation and business in that area.
23. The scale of consortia should be sufficient to enable activity of global significance to flourish. Therefore, within reason, multiple groups emerging from one area should combine to form a single larger consortium.
24. Other scenarios for consortia composition may arise. Their inclusion would be acceptable provided it is feasible to analyse them with broadly the same methodology and datasets as other audits. For example, there is evidence of Research Council investment, Innovate UK grants or funding council assessments of excellence. Possible alternate configurations are discussed below:
  - **Wider geographical spread of consortia:** audits are intended to focus on particular geographical areas but as existing links between organisations will often extend more widely it would be acceptable for part of a group forming a consortium to come from elsewhere in the UK. EOIs drawn from locations that are separate geographically but

are strongly linked by industrial sector will be considered but would be strengthened by a coherent connection to place.

- **Wider thematic research areas:** in the context of the SIAs Science is taken to refer to the full spectrum of research activities. Proposals on any theme are equally acceptable on the basis that a case is made for the links between research excellence and innovation potential.

## Analytical support and summary report

25. Recognising the challenge of collating, using and interpreting the data made available through SIAs, the Government will provide analytical expertise and capacity to deliver the independent data analysis required. The analytical team will work with the consortia chosen to undertake the audits, providing essential support and independent advice. Rigorous analysis of the various datasets will be provided and we will work with the selected consortia to validate, explore and publish the hypotheses proposed by the consortia. This will also ensure comparability between the different audits.
26. Consortia will be asked to produce a narrative report, working with Government support to ensure that SIAs are robust and to ensure a broad consistency in structure, approach and content. The final SIA should contain a coherent narrative structure, accessible to non-specialists, based on both the analytical evidence and in-depth knowledge of the area. This assessment of performance should include a detailed analysis of current strengths and identify key areas of future potential with the aim of developing world-leading capability.
27. The support offered is evolving along with the SIA project reflecting the feedback from the first consortia to go through the SIA process. Further details will be provided via our mailing list should this differ significantly from what is described above (please email [scienceinnovationaudits@beis.gov.uk](mailto:scienceinnovationaudits@beis.gov.uk) to join the mailing list).
28. We have not set a specific number of SIAs within this wave; selection will depend on the quality of the EOIs received and other relevant factors.

## Application process and timeline

29. Applications should identify a single point of contact for queries within the consortium's lead organisation. An organisation cannot be a lead partner for more than one consortium, but could potentially form part of more than one consortium.
30. Expressions of interest should be submitted by email to [ScienceInnovationAudits@beis.gov.uk](mailto:ScienceInnovationAudits@beis.gov.uk) by **13 January 2017** using the template at Annex A. These expressions of interest will be assessed and prioritised by BEIS with input from an independent panel (as described in section 16) with the final selection of audit areas to be taken by Ministers.

31. The timetable is set out below:

Date	Event
13 January 2017	Deadline for expressions of interest
Spring 2017	Decisions on the 3rd wave SIAs announced.

## Complying with State Aid and other relevant legislation

32. With reference to State Aid: the SIA process and resulting reports, although developed in close collaboration with a variety of external groups, are commissioned and owned by BEIS. Although referencing and taking input from specific areas, their primary purpose is to enhance the UK's capability to evidence decision making nationally.
33. Guidance on State Aid is available from the Department of Business, Innovation and Skills at <https://www.gov.uk/state-aid>. If in doubt, bidders should seek legal advice.

## Feedback

34. Successful consortia will be invited to participate in individual feedback activities via the analytical contractor and through BEIS to ensure successful completion of the Audits and to help inform future waves of Audits.

## Freedom of information

35. BEIS is subject to the Freedom of Information Act 2000, which gives a public right of access to information held by a public authority. This may result in applications, communications between us and the institution, information arising from this work, or the outputs from the work undertaken being subject to disclosure if a valid request is made to us. We will comply with such requests in accordance with the legislation and our own policies.
36. BEIS is committed to transparency and openness. Our methodology and analysis will be publicly available and the finished audits will be published as jointly branded.
37. Institutions can, if they wish, provide potentially sensitive information (such as information relating to commercial interests) in a separate annex attached to the application form. This will highlight to us that there are concerns about disclosure.
38. Where we consider it to be appropriate and practicable we will seek the views of applicants before disclosing this information in response to a Freedom of Information request. The applicant acknowledges that information provided in the annex is of indicative value only, and that BEIS may nevertheless be obliged to disclose this information. Our assumption will be that all information in the main application documents can be disclosed on request.
39. Further information about the Freedom of Information Act is available at <http://www.ico.org.uk/>

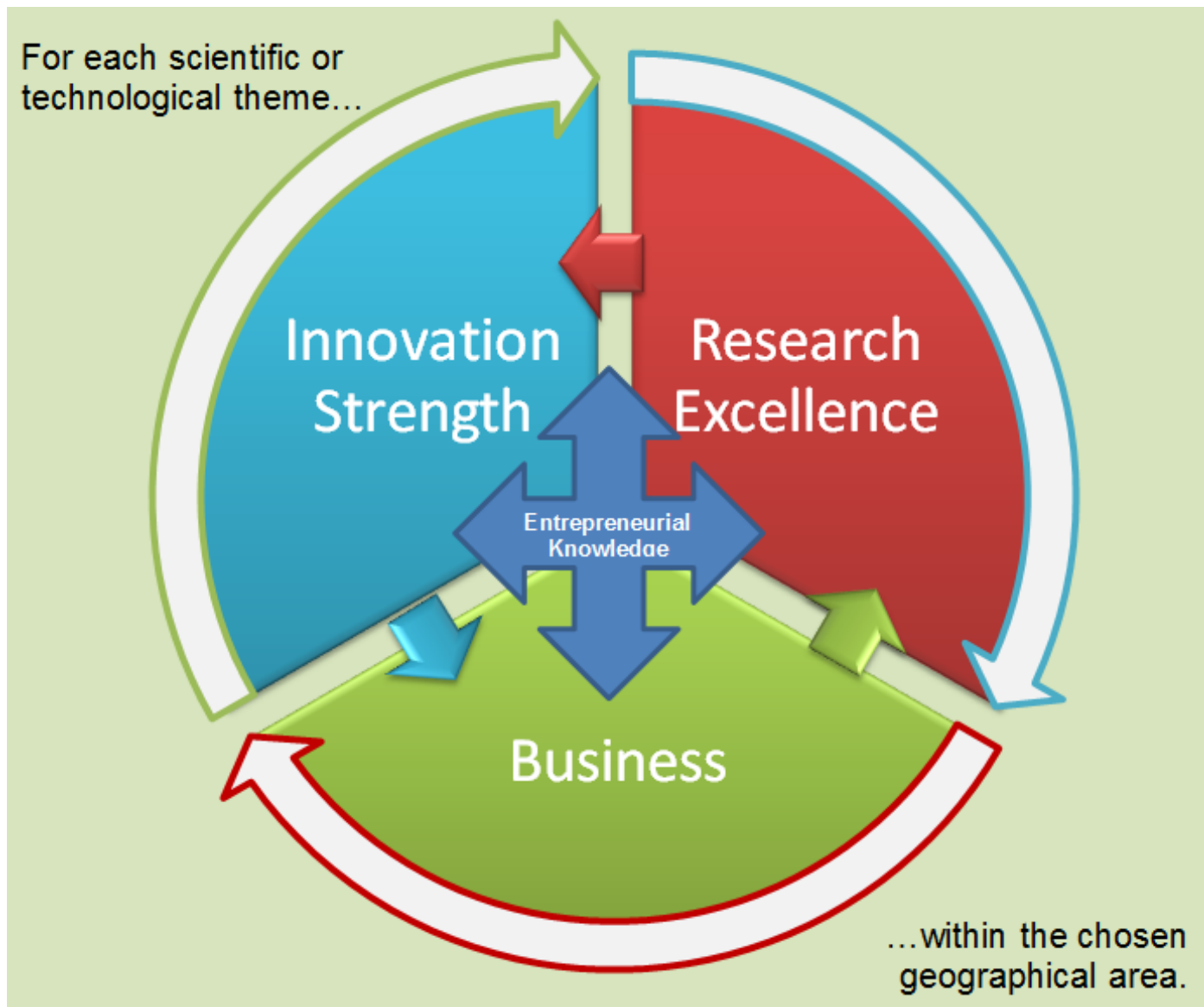


40. We have considered the Public Sector Equality Duty (PSED) in developing the process behind the Science and Innovation Audits and, in giving due regard to the three requirements of the PSED, we do not believe the process would affect people, or groups, who share protected characteristics. We will continue to give due regard to the Public Sector Equality Duty as further decisions are made, and will record all analysis undertaken to meet the requirements of the PSED.

## Contacts

41. Enquiries should be sent to: [ScienceInnovationAudits@beis.gov.uk](mailto:ScienceInnovationAudits@beis.gov.uk) or to relevant BEIS Local offices.

## Theme and Place-based Economic Development 'Hypothesis' Model



The term hypothesis in this context a line of enquiry based on the combination of a scientific and/or technological theme, a geography, and network of organisations that fulfil the following criteria:

1. Synergistic links between research excellence, business, and innovation strength, utilising 'entrepreneurial knowledge'.
2. Relevance to the geographical area defined by the consortia. (The geographic boundary may be defined by the footprint of the thematic area or areas).
3. Of a scale that is globally significant, proportionate to the maturity of the thematic area explored.
4. With potential for significant growth, of particular benefit to the economy of the geographical area defined by the consortia.

The objective of the SIA would be to test these hypotheses against available evidence.

Notes:

- Consortia should include one or more (but no more than five) hypotheses in their proposal.
- The SIA does not seek comprehensive coverage of all the areas of strength or potential in the geographical area defined by the consortia.
- Consortia composition, the themes explored and other issues of geography are interrelated and will need to be iteratively developed during the process of drawing up the EOI.



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