UKRI Research and Innovation Infrastructure Roadmap:

Frequently Asked Questions

1. Questions about the Report

- *What is the purpose of the initial analysis? Why have you produced it?*

  The report aims to present a summary of our work to date to help facilitate further discussions and feedback in the final phase of the programme. This is not the final roadmap. This report synthesises key points from questionnaires to existing infrastructures and consultation workshops with stakeholders and the extensive advisory networks within the organisations involved in the roadmap programme.

- *What's in the initial analysis?*

  An initial analysis of the landscape of research and innovation infrastructures available to UK researchers and innovators. It is presented as an indicator of our current understanding. It draws from two questionnaires conducted with over 800 existing infrastructures, supplemented with insight gained from consultation workshops and interviews with stakeholders. These span research disciplines and cuts across the research and innovation spectrum. For further information, see section 4 below.

2. Next steps and Engagement

- *What happens next?*

  The project has already received significant input from the UK academic and industrial community. To develop the final roadmap, we are conducting two workstreams:

  - Landscape analysis - assessing the landscape of research and innovation infrastructures currently available to researchers and innovators (within the UK and key activities overseas) to create snapshot of our current capability.

  - Assessment of future priorities and opportunities – identifying priority capabilities and future needs and opportunities that could be addressed by infrastructures. We hope to share more of our progress shortly.

  We will continue to discuss with stakeholders as we develop the final report, especially to fill gaps in our analysis of current capability and future opportunities for the UK. The final report will not provide a prioritisation of possible investments. It will present an overall picture of the UK's strengths and opportunities to inform future investment decisions.

- *How will the roadmap engage with infrastructures and users?*

  The programme is engaging widely with infrastructures and user communities, making use of existing advisory mechanisms where appropriate. We are using a mix of methods to gather information and feedback including questionnaires, interviews and workshops. We are also drawing on existing work and roadmapping exercises already undertaken within individual communities and several parallel exercises to consider future needs.

  Over the final months of the roadmap programme we will be addressing critical gaps in the coverage of infrastructures in our landscape analysis. The roadmap team is compiling a list of infrastructures to further interact with over winter 2018/19 and information about omissions should be communicated to infrastructure@ukri.org

- *How can I stay in touch / input into this work?*

  Updates will be posted on the UKRI infrastructure webpage: https://www.ukri.org/research/infrastructure/. You can engage in the process in a range of ways including through talking to your funding body as part of ongoing conversations about future needs and priorities. General enquiries about particular sections of the report should be clearly labelled and sent to infrastructure@ukri.org

- *What will the final roadmap do? What's going to be different?*

  The final roadmap will set out detail on future capability needs, options for how these might be achieved and areas for further work. The roadmap is not a funding programme but will act as a strategic guide to support funder decision making.

  We will also share more detailed analysis of the current landscape, filling in critical gaps in coverage.

- *Will this be an ongoing programme of work or a one-off?*

  This is the start of an ongoing programme initially building the 'first edition' of the roadmap but with an understanding that it will be refreshed and refined on a regular basis (e.g. every 4-5 years). This will allow evolution of the approach and for issues that emerge from our analysis which require further work for to be taken forward.

3. Scope of the Programme

- *Infrastructure is often interpreted as large scientific facilities; will this be the case with this roadmap?*

  We are not limiting this work to large scientific facilities. Whilst we use the term "infrastructure", others may be more familiar with terms such as facilities, assets,

capabilities, collections or platform, which are all synonymous with our use of "infrastructure" in the context of the Roadmap.

Our intention is to generate a broad view of the landscape covering the breadth of disciplines represented within UKRI and including key innovation infrastructures which may be discipline or sector focused. While an infrastructure will need to meet a scale criterion, the mapping work covers many capabilities across the range of disciplines (e.g. museums, archives and data from cohort studies as well as laboratories and e-infrastructure).

- *There are important infrastructures outside academia; are these in scope?*

  Yes. This programme is focused on large scale activities and looking across the full spectrum of disciplines, inside and outside academia. Our minimum requirements are that the infrastructures must receive **substantial public funding** and meet the following criteria:

  - **Purpose**: An infrastructure must provide an essential platform to conduct or facilitate excellent research and innovation that benefits the UK.
  - **Accessibility**: An infrastructure must provide access, resources or related services to the wider UK research and innovation community outside the infrastructure host institution / owner / operator. Publicly funded users may include higher education institutions, institutes, public sector research establishments, Research and Technology Organisations and other research and innovation organisations. In addition, access may extend to private or charitable users (e.g. industry), international users of UK facilities and UK users of international facilities. Access may be managed, e.g. user registration, fees, competition, merit review, conditions, security.
  - **Scale and longevity:** An infrastructure must have some degree of strategic, international, national or regional importance. It must have a sustained and/or substantial UK public funding commitment (e.g. to build, operate, upgrade, decommission). This funding can come from multiple public sources in addition to any funding from non-public sources. Short term, focussed projects without long term sustainability (existing or planned) are not within scope.

- *Does this include investments in universities capital infrastructure such as kit within departments or individual laboratories?*

  We are not seeking to capture all capital investments in all UK universities or research organisations. The focus of this exercise is to capture strategically important infrastructures which are nationally or internationally important to the UK and the research and innovation communities they serve. There are existing catalogues of university kit such as equipment.data that are complementary to our work. In addition, the infrastructures included must provide access, resources or related services to the wider research and innovation community beyond any individual institution.

- *How will international infrastructures be addressed?*

  European and other international infrastructures are in scope for this work. As part of the initial landscape analysis, we have reviewed European and international organisations that

are vital for the UK research and innovation community. This analysis informs a picture of the UK's current infrastructure landscape, identifying strengths (current and emerging), gaps and areas of potential duplication nationally or internationally. This will be used to:

- highlight areas where the UK would wish to seek to influence the direction of potential international activities to best meet UK requirements (including potential collaborative arrangements)
- promote the UK as a global leader in research and innovation, supporting international negotiations and attracting new investment partners or collaborators.

- ***What sort of innovation capabilities are you including?***
  An example would be the network of Catapult centres who receive funding through Innovate UK.

- ***Will the roadmap include facilities that have been announced but are not up and running yet?***
  Yes, we will factor these in.

- ***Will the final roadmap determine which organisations and infrastructures will be funded?***

  No, this is not a funding programme. The aim of the programme is to map existing capabilities and identify opportunities for new capabilities. This will feed into subsequent work within UK Research and Innovation and with Government as part of broader financial planning. If an infrastructure is included in the roadmap it does not guarantee funding, and if it is not included this does not preclude funding.

- ***How does this fit with the Industrial Strategy and the Government's commitment to 2.4%?***

  The Industrial Strategy's clear ambition is for the UK to be the best place in the world for research and business. The availability of internationally-competitive research infrastructure is critical to the UK's global status in research and innovation. The Industrial Strategy Green Paper committed that UKRI would develop a roadmap to "deliver the institutions and infrastructure we need for a world-leading research and innovation base".

  This programme forms part of the detailed analysis now underway to develop a broader roadmap to 2.4% of UK GDP invested in R&D by 2027. It complements the International Research and Innovation Strategy and the summary of UKRI's stakeholder engagement on how to reach the 2.4% target (to be published in 2019).

  UKRI has recently sent a questionnaire to university pro vice chancellors of research (PVCRs) requesting information on the uses and management of formula funding (including Higher Education Research Capital (HERC) funding). This work is separate to the infrastructure roadmap, but information from both will contribute to the UKRI evidence base to inform its policy decisions and advice to ministers.

- ***How does this process link to the current work on the European Strategy Forum on Research Infrastructures (ESFRI) roadmap?***

The UKRI Roadmap will describe our current commitment to international infrastructures, including UK participation in ESFRI Research Infrastructure Projects and Landmarks. These infrastructures are prioritised in the [ESFRI Roadmap 2018](#). The next ESFRI Roadmap update will be in 2021. National delegations will ensure that the list of prioritised infrastructures in the ESFRI Roadmap is up to date and consistent with the UKRI Roadmap. The UK is involved in numerous ESFRI Projects and Landmarks.

4. Initial Analysis

- *What did you do to gather the data?*

  We conducted two questionnaires with existing infrastructures within the UK alongside using previous analysis of capability within particular communities and in-house knowledge of funding organisations.

- *How did you identify infrastructures to survey?*

  We proactively contacted organisations and infrastructures funded through UKRI Councils and other BEIS public sector research establishments (e.g. Met Office), alongside key infrastructures highlighted by Government Departments. The questionnaire was also open to any infrastructure to respond via our website which was promoted for us through the National Academies, AIRTO and several university groups.

- *How are you using the data?*

  We are using the data to build our understanding of the current landscape at both a macro and sector level. It provides a useful input into analysis of gaps in capability alongside information gathered through workshops and community engagement.

  We are developing a discovery portal to showcase infrastructures identified through the programme to help researchers, businesses and others find suitable capability.

  We are not using the data to make funding decisions about individual infrastructures.

- *How many research and innovation infrastructures does the UK have?*

  Our questionnaires have identified over 700 infrastructures with national significance although we know there are gaps still to fill.

- *I don't think chart x/ map x/ chapter x is representative of my sector? Why is my infrastructure not mentioned?*

  We used a variety of methods to engage with all infrastructures during the questionnaires. However, we're aware that we may have missed some or that some were unable to engage with us at that time. One of the purposes of releasing the initial landscape report is to further engage with those missing infrastructures. We are reopening the questionnaire alongside the report's publication (December 2018 to mid-January 2019). To participate please email infrastructure@ukri.org

- ***What are the critical gaps in the data?***

  Whilst we are aware that there will be individual infrastructures in all sectors that we did not engage with, we are aware of particular gaps in the space and clinical sectors. We are also unsure of the full extent of our coverage in the arts, humanities and heritage areas.

- ***I didn't respond to the questionnaire – what do I do? Can I fill it in now?***

  We are reopening the questionnaire alongside the report's publication (December 2018 to mid-January 2019). To participate please email infrastructure@ukri.org

- ***Will UKRI do the questionnaire again in future years?***

  We would hope to repeat some form of landscape analysis as part of any refresh of the roadmap in future years. This will allow us to track changes over time.