**We regret we are unable to accept questionnaire responses by email, please use the online survey link to complete your response.**

The UK's Research and Innovation Infrastructure Landscape 2024

# **The UK's Research and Innovation Infrastructure Questionnaire**

Thank you for participating in this Research and Innovation Infrastructure landscape questionnaire. In 2019, UKRI published a Research and Innovation Infrastructure Roadmap on behalf of the UK Government. The principal objective for this programme was to create a long-term (approximately 2030) research and innovation infrastructure roadmap based on a complete picture of existing UK infrastructure (including key international facilities in which the UK participates), future requirements (research, economic and social), and resulting investment priorities. The Roadmap project resulted in two reports, a [Landscape Analysis](https://www.ukri.org/wp-content/uploads/2020/10/UKRI-201020-LandscapeAnalysis-FINAL.pdf)and an [Opportunity Report](https://www.ukri.org/wp-content/uploads/2020/10/UKRI-201020-UKinfrastructure-opportunities-to-grow-our-capacity-FINAL.pdf).

Five years on, we are conducting a major refresh of the roadmap. To do this we need to update our understanding of our existing infrastructure landscape and how it has changed since 2019. We are seeking to engage with infrastructures across the full range of disciplines and economic sectors, whether publicly or privately funded, as long as the infrastructure can be accessed by users besides its owner (including paid access).

The data gathered during our 2018 questionnaire provided us with critical insight and evidence that enabled us to better support the research and innovation ecosystem and wider landscape, for example by demonstrating the importance of technical skills. It also led to the publication of the [Infraportal](https://www.infraportal.org.uk/)website, a public online searchable tool that allows people to discover these important resources and facilities. This questionnaire will allow us to expand Infraportal to highlight even more of the infrastructure landscape as well as refresh our evidence base.

Participation in the questionnaire does not guarantee an infrastructure's inclusion in the refresh of the roadmap. However, participating infrastructures will be included in the online tool, Infraportal, and the information you provide will help inform the case for infrastructure.

The following pages describe what we mean by an infrastructure and who should complete this questionnaire.

Please email us at **infraroadmap@ukri.org**if you have any questions. Any information you give to us will always be processed in accordance with the relevant data law (GDPR). We will only use the information you provide to deliver the online directory of infrastructures and the refresh of the Research and Innovation Infrastructure Roadmap, or for our lawful, disclosed purposes. We will not make your personal details available outside UKRI without your consent, unless obliged by law. Please note, this programme is not a direct funding programme.

# **What is an infrastructure and what is in scope for this programme?**

What is a Research and Innovation Infrastructure and what is in scope for this survey?

Research and innovation infrastructures are diverse and can include:

* major or critical scientific equipment
* resources such as museum collections, archives, scientific data or social science databases
* living labs and test beds used for innovation.
* digital research infrastructures such as data and computing systems, and communication networks.

They can be single-sited (a single resource at a single location), distributed (a network of distributed resources), or virtual (the service is provided electronically but accessed through a single-entry point).

Examples of infrastructure include telescopes, synchrotrons, research ships, digital museum collections, ice core collections, administrative data, biobanks, imaging facilities, environmental sensor networks, digital twins, supercomputers and long-term cohort databases, living labs and innovation testing facilities.

Scope: Due to their variability, there is no simple, easy and consistent definition of scope for this programme across the different disciplines and sectors. As such the following criteria are a guide to assess whether an infrastructure is in scope for this exercise. If you think that your infrastructure meets these criteria we would welcome your participation in this survey.

Purpose: An infrastructure must provide an essential platform to conduct or facilitate excellent research and innovation that benefits the UK. Common synonyms for infrastructures include: asset, capability, platform, equipment, resource and facility.

Audience:A response per infrastructure, not per institution/hub/campus etc., is required (e.g. some institutions may house more than one infrastructure).

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. Access may extend to public, private or third sectors. Infrastructures may be open access or access may be managed, e.g. user registration, operational fees, competition, merit review, conditions, security.

Scale and longevity: An infrastructure must have some degree of strategic, international, national or regional importance. Infrastructures must have a sustained and/or substantial funding commitment, or expect to achieve this (e.g. to build, operate, upgrade, decommission). This funding can come from any sources (e.g. public, private and third sectors).

Short-term, focused projects without intended long-term sustainability (existing or planned) are not within scope, though we welcome responses from initiatives early in their journeys that have a goal for longer-term operations even when this has not been established. We welcome responses from infrastructures that are beyond the conceptual stage and have initiated their construction or implementation, even when this is not yet complete.

# **Completing the questionnaire**

We welcome submissions from all UK research and innovation infrastructures - whether based in the UK or internationally (i.e. where UK has an arrangement for access).

Please coordinate within your organisation and provide **one response per infrastructure.** The response should be provided at the level of the infrastructure, rather than at the level of the institution where these measures differ. Below are some examples.

In scope:

* Newcastle Urban Observatory
* Diamond Light Source
* European Social Survey
* National Wind Tunnel Facility

Out of scope:

* CERN (this is an institution housing more than one infrastructure - the level of response should be the infrastructure e.g. LHCb)
* University of Aberystwyth (another institution)
* Harwell Campus (this is a science park/cluster)
* Batlife Genetics Group clinical centrifuge (this is a small piece of equipment rather than an infrastructure)

**This offline copy of the questionnaire cannot be used to submit your response. Only responses submitted through the survey tool are accepted.**

The survey uses logic and displays certain pages and questions based on your responses to previous questions. This offline version contains every question and will be significantly longer than most people experience using the online tool.

Questions with a red asterisk\* are required and will need some form of text entry to advance. If the question is impossible to answer for your circumstances, please say so or put n/a in order to move on in the online tool.

Please keep answers concise, however, there are no character limits for the text boxes.

# **Your name and contact email address**

Q. Please enter your name: \*

Q. Please enter a contact email address. We will only use this address to contact you regarding this roadmap refresh programme, for example, if we need to clarify an answer. \*

# **Organisational model**

Q. Please indicate below what you are submitting a response for (if in doubt, select "not sure") \*

* An institution housing a single infrastructure with a core purpose to operate the infrastructure (e.g. Diamond Light Source)
* An infrastructure - for example, one hosted within a university, whether physical or digital, single site, mobile or all components/nodes of a distributed infrastructure
* A coordinating infrastructure - an infrastructure in its own right that coordinates other infrastructures within it, e.g. the Centre for Longitudinal Studies that also hosts four distinct cohort data infrastructures
* The national node of an international infrastructure
* Not sure which option to select

# **Infrastructure details**

Q. Name by which infrastructure is known (e.g. if it is known by its acronym or a short name, enter this): \*

Q. Full name of infrastructure if different

Q. Name of host organisation - only if applicable (e.g. if your infrastructure sits within a university the university would be the host):

Q. If you are a coordinating body for infrastructures, what are the names of the infrastructures that you coordinate?

Q. Where is your infrastructure located? For digital and data infrastructures, consider the location of the main human resource if this differs from the equipment. You can select more than one \*

UK / Outside of the UK / Mobile or extraterrestrial (e.g. ship, plane or space telescope)

Q. What is the operating model of your infrastructure? For example, a physical entity with a single site or a network of sites, a mobile infrastructure (e.g. ship), virtual (such as a biomolecular data resource) or a hybrid of these? You may select multiple options if relevant \*

Single-site / Distributed/Hub & spoke / Mobile / Virtual / digital (e.g. cohort or genomic data that can be downloaded)

Q. If you would like to provide further information, please do so below:

Q. If you are part of a distributed / network infrastructure, are you:

* The overall HQ or lead for a national infrastructure (sites all in the UK)
* The overall HQ or lead for an international infrastructure (sites in other countries)
* A node in a national infrastructure (sites all in the UK)
* A node in an international infrastructure (sites in other countries)
* Other

Q. If your infrastructure is mobile (e.g. ship, plane) or extra-terrestrial (e.g. space telescope) where are the administrative headquarters based?

UK only / Outside of UK / Both UK and non-UK

Q. If 'UK', please enter your postcode or post codes. If 'outside of UK', please enter the country. For distributed infrastructure, please enter all relevant postcodes/countries. If your infrastructure is mobile or virtual/digital please include the postcode of the headquarters. \*

Q. Please enter a short description of your infrastructure. \*

Q. If your infrastructure has a web page or website, please provide a link.

Q. Which of the following terms describes your infrastructure? You may select as many as you wish \*

Equipment / Facility / Physical collection / Digital collection / Data (i.e. information) / Database (i.e. hardware) / Digital infrastructure / Supercomputing (HPC, HTC etc) / Digital models and virtual systems / Software, workflows / Living lab / Test bed or testing facility / Other

Q. If you selected other, please tell us what term you would use to describe your infrastructure

# **Lifecycle stage**

Q. What stage is your infrastructure at? \*

* Design / planning / scoping
* Implementation / build / development
* Operational (including regular upgrades and maintenance)
* Termination
* Repurposing
* Major upgrade (e.g. step change in capability)

Q. If you would like to provide further information, please do so below:

Q. In what year did your infrastructure begin operations or in what year are operations planned to commence?

Q. What is the expected operational lifespan (in years from start of operations) of your infrastructure? \*

up to 5 / 5-15 / 15-25 / over 25

# **Organisational structure**

Q. What is the current legal structure of your infrastructure? Please choose the most appropriate answer. \*

* The infrastructure has no separate legal personality and is currently dependent on time-limited funding (includes infrastructures being established which may go on to have other legal models or long term funding)
* The infrastructure has no separate legal personality but is a long term investment supported by committed funding from the host institution or other sources
* The infrastructure has a national legal personality such as a UK limited company or Belgium AISBL, e.g. Diamond Light Source
* The infrastructure is established as an international legal entity, e.g. Intergovernmental Organisation or ERIC

Q. If you have a national legal personality what is its structure? You may select more than one if this is relevant e.g. a charity and a UK Ltd company.

|  |  |
| --- | --- |
| * Company limited by shares, UK (private Ltd)
* Company limited by shares, UK (public Plc)
* Company limited by guarantee, UK
* Trust, UK
* Charitable Incorporated Organisation, UK
 | * Registered as a charity (please select legal personality too)
* Non-departmental public body e.g. UKRI
* Non-UK national legal entity (e.g. GmbH)
* International agreement
* Other
 |

Q. Please specify:

# **Scope and collaboration**

Q. How would you define the scope or reach of your infrastructure? \*

Local (e.g. within an institution, campus, county) / Regional / National / International

Q. Does your infrastructure collaborate with other infrastructures or organisations? \*

Yes / No

Q. Is this collaboration nationally or internationally?

Nationally only / Internationally only / Both nationally and internationally

Q. Please tell us which countries you collaborate with.

Q. Please describe the nature and extent of these collaborations.

Thinking about the capability that your infrastructure provides (or will provide) to your current researchers or innovators, how far would these people need to go to access a similar type of capability if your infrastructure was unavailable? If you're a UK infrastructure hosting a major collection, for example, where some similar items may be found in the UK but the closest collection of a similar scale and capability is in USA, you should choose "to another continent".

Q. We appreciate that many infrastructures are unique, so please think quite broadly in terms of accessing a capability that would enable a researcher to solve their problem rather than finding an exact replicate of your infrastructure. \*

* Within the same region (or devolved administration) of the country where your infrastructure is located
* To another region (or devolved administration) of the country where your infrastructure is located
* To a different country within the same continent
* To another continent
* There is no other capability similar to that provided by my infrastructure in the world (whether physical or virtual)
* Mine is a virtual (digital) infrastructure and alternative entry points or alternative infrastructures are also virtual

Q. Do you work directly with UK government? If so, please tick the government departments that you work with. You may tick more than one.

|  |  |
| --- | --- |
| * None
* Department for Science, Innovation and Technology
* Department for Business and Trade
* Department for Culture, Media and Sport
* Department for Education
* Department for Energy Security and Net Zero
* Department for Environment Food and Rural Affairs
* Department for Transport
* Department for Work and Pensions
 | * Department of Health and Social Care
* Cabinet Office
* Foreign, Commonwealth and Development Office
* HM Treasury
* Home Office
* Ministry of Defence
* Ministry of Housing, Communities and Local Government
* Ministry of Justice
* Other
 |

# **Subject areas and economic sectors**

Q. Which of the following subject areas is your infrastructure relevant to or helps to solve problems? Select as many as you wish.

The subject areas follow the [Common Aggregation Hierarchy (grouping)](https://www.hesa.ac.uk/collection/coding-manual-tools/hecoscahdata/cah) used in UK higher education. \*

|  |  |
| --- | --- |
| * Medicine and dentistry
* Subjects allied to medicine
* Biological and sports science
* Psychology
* Veterinary science
* Agriculture, food and related subjects
* Physical sciences
* Mathematical sciences
* Engineering and technology
* Computing
* Architecture, building and planning
* Social sciences
 | * Law
* Business and management
* Language and area studies
* History, philosophy and religious studies
* Education and teaching
* Combined and general studies
* Media, journalism and communications
* Design, and creative and performing arts
* Geography, earth and environmental studies
 |

Q. Which sector(s) of the economy do you see yourselves contributing to or working with? Please choose as many as relevant \*

* Research and development
* Education and training
* Public policy
* Manufacturing (food, textiles, chemicals, pharmaceuticals, aggregates and metals, machinery, electronics, transportation, instrumentation)
* Computing, data (including AI) and communications
* Transportation
* Construction
* Creative industries, recreation, arts
* Health and social services
* Utilities (energy and non-energy)
* Engineering services
* Financial services, insurance, legal
* Agriculture, forestry and fisheries
* Retail, wholesale
* Services - all other
* Other

# **Users**

Q. What is the most appropriate way of estimating the number of users that your infrastructure has or will have? \*

|  |  |
| --- | --- |
| * Individuals (inc. researchers from academia or business)
* Groups (e.g. research group, company account)
* Downloads/hits
 | * Experiments
* Other
* Not yet known
 |

Q. If you selected 'other', please specify:

Q. What is the most appropriate timeframe for estimating your user numbers? \*

Annual / Since operations began / Other / Not applicable - infrastructure is not operational

Q. If you selected 'other', please specify**:**

Q. Using this measure, approximately how many unique users does your infrastructure have? Leave blank if your infrastructure is not yet operational

Q. If known, how many are PhD or Masters students? If helpful please provide a short explanation. Leave blank if your infrastructure is not yet operational

Q. Please tell us whether your userbase is stable, growing or declining, and any other aspects you would like to expand on

Q. Do you have users from outside the UK? Please exclude people who are already living in the UK for another purpose, such as overseas students and staff \*

Yes / No / Don't know

Q. What are the main countries that your international users come from?

Q. Can you tell us why users from outside the UK choose to use your infrastructure? (you can select more than one)

* No similar capability is available elsewhere etc.
* A similar capability exists closer, but has no capacity/long waiting times
* A similar capability exists closer, but the quality of this infrastructure is better (larger collection/newer technology etc.)
* The "package" (e.g. access to complementary facilities, expertise of staff or user support etc.) is significantly better at this infrastructure
* Availability of Trans National Access funding or another similar scheme/mechanism
* Bi- or multilateral agreements between infrastructures or nations
* It’s part of our mission/contract
* We're part of an international collaboration and our community is international
* There is no UK vs non-UK distinction we make on access (e.g. for a digital service)
* Other

Q. If you selected Other, please specify:

Q. Has the number of international users changed in the last 5 years?

Yes – increased / Yes – decreased / No significant change

Q. If you would like to provide a brief explanation please do so:

Q. Does your infrastructure (or its host institution) have policies to ensure research security and integrity and enable international collaboration? \*

Yes / No / Unsure

Q. Could you briefly outline these, for example protocols, risk management, provision of tools such as Trusted Research Environments?

# **Capacity and demand**

Q. How do you measure the capacity of your infrastructure, e.g. experimental days per year, CPU hours, samples processed. If your capacity is essentially unlimited (e.g. an open access data infrastructure) please state this. \*

Q. If appropriate, what percentage of your infrastructure's capacity could be available for internal or external users (on average)? We recognise that for many infrastructures there may be peaks and troughs and the optimum capacity may be less than 100% for different reasons, e.g. maintenance periods, running background processes.

Q. If appropriate, what percentage of capacity is regularly used either by internal or external users? For open data infrastructures consider the % of the time that the resource is available.

For example, an infrastructure may be able to run at 80% availability for users, because 20% time is required for maintenance. However, due to a shortage of operating staff it has run for 60% of the time for users plus the 20% of time needed for maintenance. In this case you would answer 60% to this question and 80% to the previous question.

Q. For your infrastructure, typically how far ahead are you able to predict and plan for capacity or capability needs?

0-3 years / 4-6 years / 7-10 years / more than 10 years

Q. How has demand changed for your infrastructure over the last 10 years?

Physical access

Increased / Stable / Decreased / Not relevant

Virtual (digital) access

Increased / Stable / Decreased / Not relevant

Remote access (e.g. sending samples)

Increased / Stable / Decreased / Not relevant

# **Access**

# Q. Does your infrastructure have a policy or practice of providing access to users outside of the institution in which it is located? This can be charged for or free access. \*

Yes / No / Not applicable - infrastructure not yet operational and policy unknown

Q. To what extent?

|  |  |
| --- | --- |
| * No access to the wider community
* Access via relationship with an internal user (e.g. co-investigator) only
 | * Access to the wider community on a restricted basis (e.g. % of time/resources)
* Access to the wider community, unrestricted
 |

Q. How is it decided who can use your infrastructure? You can select multiple options. Please answer for your infrastructure's primary function. For example, if your telescope provides user access based on peer reviewed experimental proposals, but after an embargo period releases all the data openly, please answer "Based on excellence". \*

|  |  |
| --- | --- |
| * Based on excellence, e.g. peer reviewed proposals
* Based on payment, e.g. buy time or access
* Open access (with or without registration)
 | * Ringfenced proportion of access, e.g. to own PhD students
* Membership quota e.g. international agreement
* Other
 |

Q. If you would like to please provide a brief explanation of your access policies please do so

Q. How would you describe how users access (or will access) your infrastructure? Please select all options that contribute to 10% or more of access mechanisms. \*

In-person / Remotely (e.g. sending a sample to be analysed) /

Virtual (e.g. accessing a digitised record online, downloading a database)

Q. If you would like to provide a brief explanation of how users access your infrastructure please do so:

Q. Has this access model changed in the last five years? \*

Yes / No / Not applicable - infrastructure has not operated over that time period

Q. If yes, please provide details of how the access model has changed:

# **Industry and Commercialisation**

Q. Is your infrastructure used by industry?

Yes / No

Q. If so, please state what % of overall usage is by industry on average per annum and whether this is direct access by industry or indirectly through a collaboration (or both)

Q. Please tell us approximately how many companies your infrastructure interacts with

Q. Have any spin outs or patents been developed by your infrastructure over the past 10 years? You may select multiple options \*

Direct spinouts / Indirectly supported spin out of another entity / Yes – patents / No

Q. If so please provide brief details, including the number of spinouts/patents

Q. Please answer this question by considering the ways in which your infrastructure is or will be used as best you can.

Q. Considering all usage, which of the following broad Readiness Levels [RLs] (e.g. technology, data, product, business) are relevant to the output of your infrastructure? Typically lower RL levels correspond to research and higher RL levels to innovation.

We have provided equivalent RL descriptors for infrastructures whose output is research driven as well as those used for innovation so not all words will resonate with each infrastructure. Please select options that account for at least 10% of the output only. You may select as many as appropriate.

* RL 0 Challenge or opportunity identified
* RL 1 Basic research, fundamentals observed
* RL 2 Lab research, data exploration, concept and application have been formulated
* RL 3 Applied research, proof of concept, business concept described
* RL 4 Small scale prototype, pilot, experimental research, algorithm validation against sample data, business model development
* RL 5 Large scale prototype, pilot, experimental research or business model tested in intended environment, algorithm validated against real data
* RL 6 Prototype system tested or algorithm integrated in intended environment, quality assurance
* RL 7 Demonstration system, product development, market fit demonstrated
* RL 8 System integration, evaluation, business model fine tuned
* RL 9 Finished product, service or business model proven in real environment

Q. On balance, where do or will the outputs of your infrastructure lie on a research to innovation spectrum? \*

Research-Innovation spectrum

|  |  |
| --- | --- |
| * Mostly research
* Biased towards research
* Similar balance of research and innovation
 | * Biased towards innovation
* Mostly innovation
 |

# **Staffing and skills**

Q. How many staff work at your infrastructure (headcount)? Please estimate if a precise answer is difficult (e.g. for an open source project, or when staff work across multiple infrastructures within an institution) \*

Q. What is the equivalent number of FTEs (Full Time Equivalents)? You may have fewer FTEs than the headcount if you have staff contracted to part time hours, or if staff have other roles in the organisation besides their work with your infrastructure. Please estimate if a precise answer is difficult (e.g. for an open source project) \*

Q. If you would like to provide further information on either staffing headcount or FTEs, please do so below:

Q. How many of your staff are currently undertaking a PhD/DPhil (i.e. PhD students)?

Q. What percentage of your staff are female, if available?

Q. What percentage of your staff are from a BAME (Black, Asian, and minority ethnic) background, if available?

Q. What percentage of your staff have a country of origin that is not the UK, in available?

Q. If you would like to provide further information on any of the above metrics, please do so below:

Q. Which of the below are general human resource barriers that your infrastructure has faced in the past 2 years? Please select all that are relevant

Visas/immigration / Pay / Retention / Regulation / Sufficient skills / Other

Q. If you selected other, please describe

Q. What percentage of staff are research staff?

Q. What percentage of staff are technical staff?

Q. What percentage of staff perform other roles, such as management and administration.

Your answers to this and the previous two questions (research + technical + other) should add up to 100%

Q. Of the technical staff employed at your infrastructure, what % are graduate or highly skilled technical staff? Typical job families include (but are not limited to):

|  |  |
| --- | --- |
| * research software engineer
* senior data scientist
* facility manager
 | * beamline engineer
* senior curator
 |

Q. Of the technical staff employed at your infrastructure, what % are non-graduate or entry level technical staff? Whilst each circumstance may be different, some examples include:

|  |  |
| --- | --- |
| * trainee estates electrician
* assistant laboratory technician
* data entry officer
 | * project support officer
* animal care technician
 |

Your answer to this and the previous question should total 100

Q. Do you face any challenges or barriers in relation to recruiting and retaining research staff? If so, please provide us with details:

Q. Do you face any challenges or barriers in relation to recruiting and retaining highly skilled technical staff? If so, please provide us with details:

Q. Do you face any challenges or barriers in relation to recruiting and retaining other technical staff? If so, please provide us with details:

Q. Do you face any challenges or barriers in relation to recruiting and retaining other staff (e.g. administration, engagement, business development, management)? If so, please provide us with details:

Q. If you wish to provide any other details about staffing please do so:

# **Wider engagement**

Q. Does your infrastructure directly undertake wider engagement activity, such as school visits, public talks?

No / Yes

Q. What types of engagement activity are performed? You may select more than one

|  |  |
| --- | --- |
| * School visits (to the infrastructure)
* Outreach to schools
* Public talks
* Public visits
* Public events
 | * Policy or VIP visits
* Policy events or engagement
* Art-based engagement
* Social media
* Other
 |

# **Costs**

Q. What is/was the cost of establishing your infrastructure in £GBP?

Q. If the infrastructure has been long established please estimate what it would cost to establish today. We appreciate that this may be challenging for some infrastructures to estimate, for instance a priceless collection of cultural artefacts, so in these cases any indication of scale would be welcome.

Q. What is/was the annual operating cost of your infrastructure in £GBP? Please include required routine maintenance and upgrades in this estimation. If costs vary from year to year, for example because of cyclical routine refreshes, please provide an average.

Q. If you would like to provide further cost information, please do so below. For example, how you calculated costs if the infrastructure was established a long time ago or has multiple cycles of data collection, or it requires a major upgrade every five or ten years or in response to a change in regulation etc.:

Q. What sources of public funding make/made up a significant contribution to the costs of

establishing your infrastructure (>5%)?

* Government department direct (BEIS, DSIT, DEFRA, DfT, etc.)
* UKRI including the Research Councils, Innovate UK, formula-based grants provided to Higher Education Providers by Research England
* University (where the source was the public sector e.g. UKRI, Research England)
* Devolved administration funder (HEFCE, HEFCW, SFI, DfENI)
* Arms-length body (e.g. Met Office, UKSA) European funding (e.g. Horizon, structural funds)
* Local/Regional public funds e.g. LEP
* International contributions
* Other
* No public funds
* Unable to answer

Q. Which of the following non-public funding sources were/are significant for the establishment of your infrastructure (>5%)? You can select multiple options

* Private sector - cash
* Private sector - in kind (e.g. land, skills, IP)
* University (where the source was mostly the private sector, e.g. endowment, student fees)
* Charity
* Philanthropy
* Other
* None
* Unable to answer

Q. How dependent is/was the establishment of your infrastructure on funding originating from UK public sources (e.g. governmental department, arms-length bodies, Research Councils, Innovate UK, devolved funders: HEFCE/HEFCW/SFC/DfENI)?

Establishment

|  |  |
| --- | --- |
| * <10% costs
* 11–30% costs
* 31–70% costs
 | * 71–90% costs
* >90% costs
 |

Q. What sources of public funding make/made up a significant contribution to the costs of

operating your infrastructure (>5%)?

* Government department direct (BEIS, DSIT, DEFRA, DfT, etc.)
* UKRI including the Research Councils, Innovate UK, formula-based grants provided to Higher Education Providers by Research England
* University (where the source was the public sector e.g. UKRI, Research England)
* Devolved administration funder (HEFCE, HEFCW, SFI, DfENI)
* Arms-length body (e.g. Met Office, UKSA)
* European funding (e.g. Horizon, structural funds)
* Local/Regional public funds e.g. LEP
* International contributions
* Other
* None
* Unable to answer

Q. Which of the following non-public funding sources were/are significant for operating your infrastructure (>5%)? You can select multiple options

|  |  |
| --- | --- |
| * Private sector - cash
* Private sector - in kind (e.g. land, skills, IP)
* University (where the source was mostly the private sector, e.g. endowment, student fees)
* Charity
 | * Philanthropy
* Other
* None
 |

Q. How dependent is/was the operation of your infrastructure on funding originating from UK public sources (e.g. governmental department, arms-length bodies, Research Councils, Innovate UK, devolved funders: HEFCE/HEFCW/SFC/DfENI)?

Operation

|  |  |
| --- | --- |
| * <10% costs
* 11–30% costs
* 31–70% costs
 | * 71–90% costs
* >90% costs
 |

# **Data and digital infrastructure**

Q. Would you consider that your infrastructure is a data or digital infrastructure or has a significant requirement for or dependency on data/digital infrastructure?

* Data/digital is its primary function (e.g. genomic database, AI resource)
* It is not its primary function but it has a significant requirement for data/digital infrastructure (e.g. it produces a lot of data or requires complex software so has dependencies on digital infrastructure)
* No

Q. Please provide us with further details including how you plan for and provide the required digital infrastructure, including whether these requirements are considered as part of a broader strategy (e.g. institutional strategy, domain initiative)

Q. Do you envisage digital research infrastructure and data becoming more relevant or important to your infrastructure in the next 5-10 years?

Yes / No / I don't know

# **Environmental sustainability**

Q. Was environmental sustainability considered or costed when planning the establishment or operations of your infrastructure? you may select more than one option

Establishment – yes / Operations – yes / No

Q. What aspects of environmental sustainability were considered?

|  |  |
| --- | --- |
| * Carbon footprint
* Resource use
* Procurement
 | * Access mode and travel
* Biodiversity
* Environmental benefits
 |

Q. Were any mitigations implemented? Please briefly explain if some/all were not implemented

Q. Has environmental sustainability since been considered for the operations of your infrastructure? (e.g. retrofit)

Yes - considered and some measures taken / Yes - considered but measures yet to be taken / No

Q. What aspects of environmental sustainability have been mitigated for since your infrastructure was planned?

|  |  |
| --- | --- |
| * Carbon footprint
* Resource use
* Procurement
 | * Access mode and travel
* Biodiversity
* Environmental benefits
 |

Q. If a carbon valuation has been conducted for your infrastructure please provide us with details

Q. Does your infrastructure have plans to meet net zero by 2050 (or sooner), as its own strategy or part of a wider organisational strategy? If so please provide brief details

Q. What barriers does your infrastructure face in improving its environmental sustainability and meeting net zero?

# **Reviews and evaluation**

Q. Has there been an independent review or evaluation of your infrastructure? You may select more than one option.

* Yes - of the infrastructure itself, e.g. implementation programme evaluation, operational review
* Yes - of the output of the infrastructure, e.g. its economic, scientific or societal impact
* No
* Not relevant (e.g. not yet operational)

Q. Please describe when it/they took place, by whom and whether there is a publicly available report:

# **Future trends**

Q. What are the top drivers or opportunities that you believe will impact your infrastructure over the medium term (typically up to 10 years, but whatever "medium term" is relevant for your infrastructure)? You can fill in up to five drivers / opportunities and up to five barriers / challenges.

Q. If you have considered responses to these drivers / opportunities, please tell us here:

Q. If you have considered mitigations to these barriers / challenges, please tell us here:

# **Alignment with key government priorities**

Q. The government's top level missions are listed below. Please tick all that your infrastructure supports or delivers against

|  |  |
| --- | --- |
| * Kickstart economic growth
* Make Britain a clean energy superpower
* Take back our streets
 | * Break down barriers to opportunity
* Build an NHS fit for the future
 |

The Department for Science, Innovation and Technology (DSIT) is the largest government department for funding research and innovation. DSIT focuses on improving people’s lives by maximising the potential of science and technology. Their priorities are:

1. Accelerate innovation, investment and productivity through world-class science, research and development.
2. Use technology for good by ensuring that new and existing technologies are safely developed and deployed across the U.K, with the benefits more widely shared.
3. Drive forward a modern digital government which gives citizens a more satisfying experience and their time back.

Q. Please briefly tell us if or how your infrastructure aligns with these priorities:

1. Accelerate innovation, investment and productivity through world-class science, research and development.
2. Use technology for good by ensuring that new and existing technologies are safely developed and deployed across the U.K, with the benefits more widely shared.
3. Drive forward a modern digital government which gives citizens a more satisfying experience and their time back.

Q. Please briefly tell us if and how your infrastructure delivers against other specific government priorities, for example top level drivers or the priorities of other governmental departments. There is no need to provide generic statements such as the importance of R&D for driving productivity.

# **Is there anything else you would like to tell us?**

Q. Please let us know if there is anything else you would like to tell us, e.g. if we failed to ask you something you consider important:

# **Next steps**

One of the aims of the Infrastructure Programme is to increase awareness of UK infrastructures via publication in a searchable online tool, [Infraportal](https://www.infraportal.org.uk/Searchmap).

Infraportal was established in 2019 and includes over 800 infrastructure entries. If your infrastructure is not currently listed in Infraportal we would like to add it. To add it we would only include:

* infrastructure name, description, website URL, location and discipline and economic sectors to aid searching
* contact information relevant for the infrastructure (not your personal details)

It will not include all of the other information you have provided in this survey and you will be able to verify this information before it is published.

Q. Are you happy for us to include your infrastructure in Infraportal if it is not already listed? \*

Yes / No / It is already listed

Thank you. Please provide us with the email address (and telephone number if possible) that you would like displayed as the contact for the Infraportal entry:

We will provide updates to the refresh of the UK Research and Innovation Infrastructure Roadmap programme on UKRI's website from autumn onwards. If you wish to keep up to date with the programme please visit [the UKRI website](https://www.ukri.org/what-we-do/creating-world-class-research-and-innovation-infrastructure/)later in the year. The full programme is expected to run for around 12 months, and we expect to publish our findings in Summer 2025.

Thank you for telling us about your infrastructure and supporting the refresh of the research and innovation infrastructure roadmap.

Please check you are happy with your answers for your infrastructure before submitting. You cannot go back after clicking the 'Submit' button. You can choose to download a copy of your answers using the link provided on the next page after finishing the survey and before leaving the site. However, it is only available for a limited period and only until you leave the site, so please don't delay downloading it.

If you discover any errors after you have submitted your response, please contact us at infraroadmap@ukri.org.