



**UI RESEARCH INFRASTRUCTURE  
PLAN 2024-2026**

## INTRODUCTION

Strategic development of research infrastructure strengthens universities in international competition by enabling scientists to conduct leading-edge research, educate graduate students, and promote collaboration. Robust research infrastructure is essential for addressing societal challenges.

In recent years, there has been an increasing emphasis on the shared use of costly research infrastructure. With the Science and Technology Policy Council's 2021 Roadmap for Research Infrastructure, collaboration around the acquisition and management of infrastructure across universities and research institutions in Iceland has grown. According to the Roadmap<sup>1</sup>, research infrastructure includes:

*“specialized equipment or facilities, archives, databases, electronic infrastructure, communication networks, and other tools essential for achieving success in research and innovation.”*

Substantial changes have occurred in research infrastructure management at UI, especially in the acquisition of high-cost equipment and access to databases, as well as data storage and processing solutions.

The UI Research Infrastructure Plan emphasizes the development of key research infrastructures already underway and addresses related issues such as promotion of research infrastructures and operational support.

During the plan's period, Schools and Institutions work on strengthening the framework and support for research infrastructure.

A key concept in the Research Infrastructure Plan is shared use, supporting numerous goals in UI26 (Interdisciplinary Approach, International Collaboration, Innovation and Progress, Knowledge Contributing to a Sustainable Society, Working Together with Society, High-Quality Graduate Studies, and, notably, Excellence in Research).

The Research Infrastructure Plan Working Group includes Birna Gunnarsdóttir (Project Manager, University of Iceland Research Institutions), Eiríkur Smári Sigurðarson (Research Manager, School of Humanities), Eiríkur Steingrímsson (Professor, Faculty of Medicine), Eiríkur Stephensen (Infrastructure Manager, University of Iceland), Hulda Proppé (Research Manager, School of Social Sciences), Íris Hrönn Guðjónsdóttir (Infrastructure Manager, School of Engineering and Natural Sciences), Kolbrún Þ. Pálsdóttir (Dean, School of Education) and Kristín Harðardóttir (Research Manager, School of Education). The final draft of the Research Infrastructure Plan was reviewed and approved by the UI Rector and School Deans.

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<sup>1</sup> [Vegvísir um rannsóknarinnviði. Drög að ferli vegvísis og úthlutunarstefnu Innviðasjóðs. \(rannis.is\) \(in Icelandic\)](https://rannis.is)

## FOCUS AREAS AND VISION OF UI26

- Universities are centers for free exploration of knowledge, creative thinking, innovation, and the education of future generations. They must lead with new knowledge and be willing to adapt in response to emerging challenges.
- The world faces complex challenges. Research, expertise, teaching, and knowledge dissemination by universities play a key role in promoting public health, welfare, healthy economies, and sustainable and just societies.
- Scholars at the university play a crucial role in democratic and informed societal debate in Iceland. The University's knowledge creation supports the nation in addressing various challenges, from environmental changes and natural hazards to rapid technological advancements and diverse threats to health and welfare.

## MAIN FOCUS AREAS OF UI INFRASTRUCTURE PLAN

- Establish a foundation for the University's future research infrastructure development plan.
- Promote shared and efficient use of research infrastructure.
- Support access to and use of international research infrastructure.
- Develop a data policy for the University.
- Strengthen digital research infrastructure at UI, considering the needs of all Schools.
- Prepare for the establishment of a Deep Tech Hub in the Science Park and a Health Science Hub at the University Hospital Campus.
- Ensure continued funding from the Centennial Fund to enhance research infrastructure within the Schools.
- Guarantee access to expertise in the use of research infrastructure.

## SHARED USE AND COLLABORATION

### FOCUS AREAS

- Shared use of research infrastructure wherever possible, including collaboration with other institutions and knowledge-based companies.
- To further promote shared use, the focus will be on:
  - Increased visibility of infrastructure through web portals (e.g., a new UI Research Infrastructure webpage, IRIS research gateway).
  - Access to registration/booking systems for research infrastructure.
  - Access control to facilitate prioritization of user groups.
  - Options for service fees to cover operational costs, partially or fully.
  - Usage tracking to ensure transparency in access control and fees.
- Ensure minimum access to essential equipment at no cost for academic staff and graduate students.
- Encourage UI staff to utilize research infrastructure abroad, where appropriate.
- Prepare and develop the operation of the Deep Tech Hub with input from all Schools and UI Research Institutions.

### RELATED ACTIONS

- Create guidelines on fees for accessing UI research infrastructure and access control.
- Develop agreements on access to UI research infrastructure for external researchers.
- Implement a registration/booking system for research infrastructure.
- Construction of the Deep Tech Hub in Vatnsmýri.
- Construction of the Health Science Hub at the University Hospital Campus.
- Survey on UI staff's use of research infrastructure abroad.
- Support researchers' travel to access international research infrastructure unavailable in Iceland and those participating in developing international research infrastructure, as feasible.
- Launch a research infrastructure webpage on the UI website with information about key research infrastructure and services.

## DATA AND QUALITY

### FOCUS AREAS

- The University of Iceland will develop a data policy, including an updated Open Access Policy<sup>2</sup>, aligned with Act no. 45/2018 on the re-use of public information, with amendments in 2024. Access to research data and outcomes will be free whenever possible.
- Data quality will be ensured in the collection, storage, and dissemination of research data, adhering to ethical guidelines, especially regarding sensitive personal data.
- Consider funding for database development, which requires extensive work in data collection and recording.
- The e-infrastructure IREI will be central for the use, storage, processing, and sharing of research data.
- Implement a comprehensive data management service involving key players like the Division of Science and Innovation, IREI, the National University Library, Research Managers, and others.
- Provide support and guidance on using artificial intelligence for research data collection, analysis, and interpretation.

### RELATED ACTIONS

- Research Infrastructure Day with a focus on data
- Introduce and implement IREI across all faculties.

## EQUIPMENT, FACILITIES, AND INFRASTRUCTURE

### FOCUS AREAS

- Development of general and specialized research facilities including the Deep Tech Hub.
- Support for infrastructure on the National Roadmap for Research Infrastructure.
- Strengthening the UI Equipment Fund: Expand resources to support research infrastructure beyond the Infrastructure Fund's primary focus.
- Address maintenance and repair costs.

### RELATED ACTIONS

- The UI and Science Park's "Infrastructure Project" steering group will select a registration system for research infrastructure and prepare the operational model of the Deep Tech Hub.
- Mapping service and maintenance needs to improve predictability and cost-effectiveness in research infrastructure operation.

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<sup>2</sup> [Open Access Policy | University of Iceland](#)

## HUMAN RESOURCES AND SUPPORT SERVICES

### FOCUS AREAS

- Support professional leadership in infrastructure development.
- Facilitate skills and knowledge exchange on research infrastructure within the university.
- Hiring specialized staff for infrastructure and data management support (including AI).
- Promotion of the activities at Science Park, Auðna, and the Deep Tech Hub as hubs for innovation and networking across all Schools.

### RELATED ACTIONS

- Familiarize new staff with research infrastructure resources.
- Mapping training and development needs for researchers, specialists, and administrative staff when it comes to research infrastructure.

## FUNDING

### FOCUS AREAS

- Support research infrastructure funding, in consideration of plans for future operations.
- Continue to provide matching grants through the Matching Grant Fund for the Infrastructure Fund.
- Continue to support the purchasing of equipment for teaching and research through the Equipment Purchasing Fund.

### RELATED ACTIONS

- Ensure continued support from the Centennial Fund and align funding with the Infrastructure Plan (2019-2021) to enhance infrastructure at UI schools.
- Organise procurement with cost efficiency in mind.
- Encourage the government to put in place tax exemptions for research equipment.

## APPENDIX: KEY RESEARCH INFRASTRUCTURE PROJECTS WITHIN THE UNIVERSITY

### RESEARCH INFRASTRUCTURE HUBS

UI is developing two major research infrastructure hubs: the Deep Tech Hub at the Science Park in Vatnsmýri and the Health Sciences Hub at the new Landspítali University Hospital site on Hringbraut. These hubs are intended to support interdisciplinary collaboration by providing high-quality research environments for academic and startup communities.

**Deep Tech Hub:** The University Council approved involvement in this initiative in 2023. The new facility will integrate research facilities across disciplines and aims to offer 5,500 m<sup>2</sup> of lab space and 3,700 m<sup>2</sup> of office space for academics and entrepreneurs. The purpose of the Deep Tech Hub is to support the sharing of, facilitate access to and increase the operational efficiency of research infrastructure. Design tenders are planned for autumn 2024, with construction expected to start mid 2025. In accordance with a memorandum of understanding, UI intends to use 2,400 m<sup>2</sup> of the building and further memorandums of understanding are currently being prepared and collected from research institutions.

**Health Sciences Hub:** Focused on life sciences research, this hub will provide shared facilities for studies on topics ranging from chemical synthesis and analysis of bioactive compounds to drug development. The hub will support the advancement of disease diagnostics and preventive methods to improve public health, with sustainability as a guiding principle. It will offer equipment for imaging, chemical analysis, genetic engineering, cell cultures, and specialised facilities for biotech and healthcare companies.

### EXAMPLES OF EXTENSIVE RESEARCH INFRASTRUCTURE COLLABORATION

The National Roadmap for Infrastructure supports research infrastructures by encouraging collaboration between universities, research institutions and industry partners. This approach aims to:

- Enhance research quality and Iceland's competitiveness globally.
- Create attractive environments for research training and international partnerships.
- Strengthen Iceland's ability to address societal challenges in a rapidly changing world.

The Roadmap promotes efficient investment in expensive / high quality infrastructure, shared use and interdisciplinary collaboration. UI took part in six research infrastructure projects funded as part of the 2021 Roadmap:

- *EFNGREIN* aims to develop, maintain and improve access to infrastructure for analytical chemistry research. This infrastructure is essential for both basic and applied molecular sciences. It will support research and development in Icelandic universities, research institutions and industry within the fields of medicine, pharmacy and pharmaceutical sciences, molecular life sciences, biotechnology, medical and chemical engineering, nutrition and chemistry.
- *The Materials Science & Engineering Centre* is a research centre housing instrumentation for advanced materials science and engineering analysis and fabrication. The centre is a collaboration between the University of Iceland, the UI Science Institute, Reykjavík University and IceTec. The centre coordinates the running of and access to advanced research and development infrastructure in Iceland for both academic and industrial research. It offers equipment for the fabrication of

materials, from additive manufacturing down to microfabrication, and detailed material analysis of everything from hardness and chemical composition down to atomic structure.

- *EPOS Iceland* is a collaborative project for the construction of earth sciences research infrastructures that enable FAIR (findable, accessible, interoperable, re-usable) open access to geoscientific data and services from Iceland.
- *From Molecules to Precision Medicine (SAMSNID)*. Rapid technological advancements in the life sciences now enable comprehensive analysis of macromolecules in tissues and cells. These methods involve cell cultivation and sorting, various types of DNA and RNA analysis – including within living cells and tissues – and significant advancements in imaging and flow cytometry. The latest technology, CRISPR-Cas9, allows scientists to genetically modify cells and animals faster and more effectively than before. To participate in the revolution that this technology will bring, we believe it is essential to better organise the scientific infrastructure in this country and further strengthen the connection between life science research and clinical research. Examples include using basic research results to select target molecules for biopharmaceuticals and for cell-based therapies.
- *The Centre for Digital Humanities and Arts (CDHA)* is a platform for development, hosting and discussion of access to digital databanks in the humanities and arts, and for research based on digital databanks. The databanks include both linguistic resources, i.e. texts and languages, and resources in other formats, such as images, videos, 3D models, sounds and visual arts in digital formats. CDHA will coordinate international collaboration in digital research infrastructure in humanities and arts, and work in the spirit of providing open access to research data. CDHA is a collaboration between ten Icelandic institutes, based on central research infrastructure for the humanities and arts. Digital humanities (DH) is a rapidly growing research field at the intersection of humanities and information technology (IT). DH applies IT methods to research subjects in the humanities and arts, allowing for new interdisciplinary research and research topics, and new opportunities for the dissemination of research.
- *IREI*: The purpose of the Icelandic Research e-Infrastructure (IREI) project is to build a powerful, scalable and unified IT platform for scientific work (e-science) in Iceland, which is essential for active research groups in Icelandic universities and research institutions. IREI offers four support services: consultancy, storage, processing power and sharing. The supercomputers at the Division of Information Technology at UI have been used for calculations by researchers in remote sensing, earth sciences and life sciences, dramatically reducing the time required to analyse large datasets. Increasing numbers of users are taking advantage of data storage on the NextCloud system that UTS has set up on its servers, and IREI has evidently become a key resource for data services within the Icelandic scientific community.

As well as the research infrastructure funded through the Roadmap, there is also GAGNÍS, which is a collaborative data service for Icelandic research institutions, providing open-access data storage that meets international standards.