Restricted - مقيد

هيئة تنمية البحث والتطوير والابتكار
Research Development and Innovation Authority

رؤية VISION 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA

OPEN ACCESS TO GOVERNMENT-FUNDED RESEARCH INFRASTRUCTURE IN THE KINGDOM OF SAUDI ARABIA

POLICY DOCUMENT

2023

Table of Contents

01 Preamble

The Kingdom of Saudi Arabia has recently set out national aspirations and ambitions to become a global Research, Development, and Innovation (RDI) powerhouse in the next 20 years. With intentions to boost the performance of its RDI ecosystem (currently ranked 51st in the GII), the Kingdom's national RDI aspirations and ambitions aim to increase RDI expenditure, maximize GDP contribution out of RDI, attract top local and international researchers and scientists, and propel the Kingdom's position in global RDI rankings.

In line with its ambitious vision, competitive advantages, and desire to protect the future of generations to come, the Kingdom has also announced four national priorities aiming to foster technological development and socio-economic growth. These are:

- Health and wellness
- Sustainable environment and essential needs
- Energy and industrial leadership
- Economies of the future

While research infrastructure is a key enabler for a nation's RDI output, the impact of a research infrastructure is not directly produced by the research infrastructure itself but rather by its users; therefore, users access to research infrastructure is a prerequisite to achieve innovation, scientific excellence, and socio-economic impact. Over the past decades, the Kingdom has invested significantly in research infrastructure managed by host organizations like higher education institutions or research organizations. However, only a few of these host organizations grant open access to this infrastructure, with an absence of a national policy setting out principles on open access to government-funded research infrastructure.

This has contributed to financial, innovation and operational challenges, including:

- Suboptimal use of existing government-funded research infrastructure, which has led to limited return on investment for government spending
- Limited accessibility to government-funded research infrastructure essential for cutting-edge research, which is hindering the RDI endeavors of ecosystem players
- Suboptimal collaboration between industry and RDI players, which is resulting in misalignment of RDI supply and demand
- Non-standardized access policies across host organizations and a lack of alignment with best practices

To address the identified challenges and help achieve the national RDI aspirations and ambitions of the Kingdom, this policy sets out national principles on open access to government-funded research infrastructure.

02 Objectives

Above all, this policy aims to set out national principles to be used as a reference by all host organizations managing government-funded research infrastructures in the Kingdom of Saudi Arabia and external users seeking access. It also aims to help achieve the following objectives:

- Facilitate RDI players access to government-funded research infrastructure
- Optimize use of existing government-funded research infrastructure
- Enhance efficiency of government spending on research infrastructure
- Maximize return on investment in government-funded research infrastructure
- Promote open innovation, reducing RDI ecosystem fragmentation
- Attract top local and international researchers and scientists
- Harmonize guidelines on open access to government-funded research infrastructure across the Kingdom

These strategic objectives will contribute to the strengthening of the Kingdom's RDI sector maturity to become global RDI powerhouse, supporting overarching national RDI aspirations and priorities such as catalyzing RDI endeavors, maximizing GDP contribution out of RDI, propelling the Kingdom's position in global RDI rankings, and fostering technological development and socioeconomic growth.

03 Terms and definitions

a) Research infrastructure

Facilities, resources, and services that are used by RDI players to conduct research, development, and innovation activities. Research infrastructure includes major scientific equipment (or sets of instruments); knowledge-based resources such as collections, archives, and scientific data; e-infrastructure, such as data and computing systems and communication networks; and any other tools that are essential to achieve excellence in RDI.

b) Government-funded research infrastructure

Any research infrastructure in the Kingdom that is partially or entirely funded by government funds.

c) Host organizations

Any organization (for example, higher education institution, research organization, or innovation hub) that hosts government-funded research infrastructure in the Kingdom.

d) Internal users

Users that are part of the host organization (or its network in case the host organization is part of a network) that manages the research infrastructure.

e) External users

RDI ecosystem players that are not part of the host organization (or its network). These users—both Saudi and non-Saudi—can be individuals, teams, and institutions from academia, business, industry, public services, and non-governmental organizations. They are engaged in the conception or creation of new knowledge, products, processes, methods, and systems, and in the management of projects. Teams can include researchers, doctoral candidates, technical staff, and students participating in research in the framework of their studies. In short, all users who are not considered internal to the host organization (or its network) are external users.

f) Access

The legitimate and authorized physical, remote, or virtual admission to, interactions with, and use of government-funded research infrastructure, and to services offered by host organizations. Such access can be granted, amongst others, to machine time, computing resources, software, data, data-communication services, trust and authentication services, sample preparation, archives, collections, the set-up, execution and dismantling of experiments, education and training, expert support, and analytical services.

g) Open access

Allowing external users to access government-funded research infrastructure to conduct research, development, and innovation activities.

h) Access unit

A measure specifying the access offered to external users. Host organizations are responsible for the definition of access units, which may vary from precise values like hours or sessions of beamtime, to gigabytes transmitted for the conduction of complex experiments or quotations based on external users' needs. Access units are helpful in planning the workload of the research infrastructure, measuring its utilization and effectiveness, and managing its maintenance.

04 Scope of Applicability

This policy applies to government-funded research infrastructure in the Kingdom of Saudi Arabia.

05 Principles

5.1 Access

- Where practicable, all government-funded research infrastructure in the Kingdom of Saudi Arabia should be made available for open access regardless of which host organization manages them.
- A host organization may decide to exclude a research infrastructure from open access or restrict its access to specific external users under the access limitation conditions detailed in this policy.

5.1.1 Access prioritization

- Access to research infrastructure may be prioritized according to three different access modes: 'excellence-driven', 'market-driven', and 'wide'. Host organizations may prioritize access according to one access mode, or any combination of them.

  1. Excellence-driven access

  The excellence-driven access mode is exclusively dependent on the scientific excellence, originality, quality, and technical and ethical feasibility of an application evaluated through host organizations' internal procedures.

  2. Market-driven access

  The market-driven access mode applies when access is defined through an agreement between the external user and the host organization that will generally lead to a fee for access and may remain confidential.

  3. Wide access

  The wide access mode applies when access is readily available and broadly open to the public. The host organizations adopting this mode maximizes availability and visibility of the data and services provided (for example, online scientific data, or digital services provided by the host organization).

5.1.2 Access processes, interactions, and support measures

- Host organizations should clearly communicate to external users the processes and interactions involved in accessing research infrastructure. This may consist of applying, negotiating, evaluating, providing feedback, selecting, admitting, approving, performing feasibility checks, setting up, using, monitoring, and dismantling.
- To facilitate access, host organizations are encouraged to offer support measures to external users, such as guidance through user manuals, trainings, technical support services, online or digital booking tools with visibility on research infrastructure inventory, accommodation support, relocation, and immigration support.
- External users may be required to demonstrate that they have the knowledge and/or skills required to use the research infrastructure. Where the external user does not have the required knowledge/skills, the option to train new users can be made available.

5.2 Intellectual property rights

- In general, external users leveraging government-funded research infrastructure within a host organization should enjoy complete rights over their own IP.
- Providing access to government-funded research infrastructure does not give the host organization the ability to claim IP rights to work done by others.
- In case of collaborative research, IP rights should be detailed by the host organization in accordance with national IP legislation.

5.3 Acknowledgments and co-authorship

- External users should acknowledge the contribution of the host organization in any output (for example, publication, patent, and data) derived from research conducted within a host organization's realm.
- In accordance with good scientific practice, external users are also encouraged to offer co-authorship to those working at the host organization who have made genuine scientific contributions to their work.

5.4 Health, safety, security, and environment

- Host organizations should undertake necessary actions, including instruction, to ensure the health, security, and safety of any external user accessing government-funded research infrastructure, and minimize the impact on the environment.
- Where applicable, external users should comply with security, safety, and environmental rules, and with procedures in force within the host organization. This particularly concerns notifying host organizations about the introduction of material and instrumentation that could introduce risks or ethical issues to the facility.

5.5 Damage responsibility and quality assurance

- Host organizations should ensure that the government-funded research infrastructure is used correctly and with due care required in the given circumstances.
- Conditions detailing what happens in the unlikely event of equipment damage (which excludes normal wear and tear) should be clearly communicated.
- Host organizations are encouraged to set in place mechanisms to control and evaluate the quality of access, for example by:
  - Conducting quality control testing to eliminate the risk of non-conforming outcomes
  - Seeking feedback from external users
  - Monitoring the consequences of access to the research infrastructure

5.6 Data management and confidentiality

- Host organizations should ensure that research data are appropriately maintained, archived for a reasonable period, and are available for review and (re-)use.
- Host organizations and external users should have an agreement on how to (re-)use the research data. If appropriate, they are also encouraged to consider providing open access to research data.
- Host organizations and external users should agree on a data management plan, outlining how research data will be handled.
- Host organizations and external users should abide by confidentiality obligations as stipulated by the host organization's internal rules and procedures and in compliance with the National Data Management Office policies (where applicable).

5.7 Access limitations

- A host organization may exclude a government-funded research infrastructure from open access or restrict its access to a specific external user under the following considerations (among others):
  - National security and defense considerations
  - Privacy and confidentiality considerations
  - Commercial sensitivity and IP rights considerations
  - Ethical considerations
  - Operational and capacity considerations
  - Legal and contractual obligations

5.8 Inventory and utilization tracking

- Host organizations should keep record of the government-funded research infrastructure they manage through a transparent and well-maintained inventory.
- Host organizations should use appropriate tools (for example, access units) to track the utilization of the government-funded research infrastructure they manage.
- Efforts will be made to integrate host organizations' inventories of government-funded research infrastructure in a national portal or other online tools, with an aim to improve visibility for external users and facilitate intergovernmental coordination and stakeholders' engagement.

5.9 Maintenance monitoring

- Host organizations should use appropriate tools to monitor the maintenance of the government-funded research infrastructure they manage.
- Proper planning should be done to ensure that the government-funded research infrastructure is procured and maintained for a reasonable time/productive life.
- As a good practice for research infrastructure management, a documented maintenance strategy can be developed by each host organization for the research infrastructure they manage. The host organization can adopt an in-house maintenance model or an outsourced model, depending on its needs.

06 Responsibilities

To achieve the objectives of the policy—without prejudice to the competencies of other government agencies—a list of the expected roles for policy implementation follows below.

The entity	Responsibilities
Research, Development, and Innovation Authority	Assumes responsibility for encouraging and supporting the RDI sector; coordinating the activities of institutions and scientific research centers; proposing policies, legislation, and regulations; and providing sector funding. As the custodian of this policy, RDIA will coordinate its implementation and measure its impact.
Host organizations	Host organizations will use principles outlined in this national level open access policy as a reference when granting open access to the government-funded research infrastructures they host.

07 Policy implementation

The principles of this policy should be used as a reference by all host organizations managing government-funded research infrastructures and external users seeking access (in alignment with relevant existing or newly established legislation, strategies, initiatives, and programs) to achieve the policy objectives.

08 Review and update

The RDIA has the right to periodically review the policy for the following reasons:

- Economic, security, social, cultural, and technical developments
- Any developments that occur in the obligations signed by the Kingdom of Saudi Arabia in international agreements
- If internal or external influences affect its validity
- Any other matters that the RDIA deems appropriate