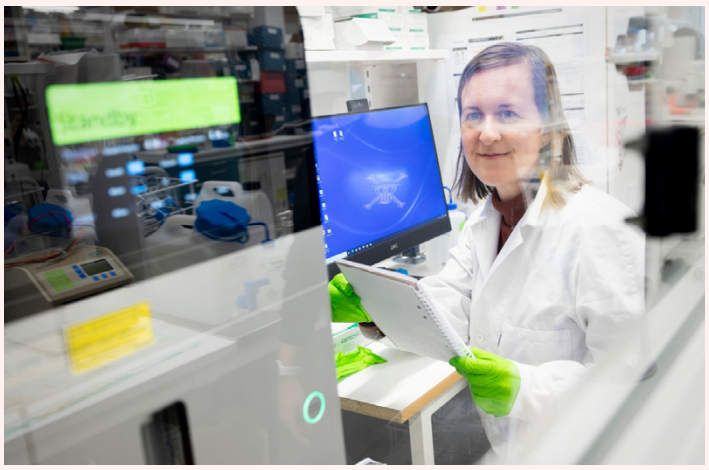
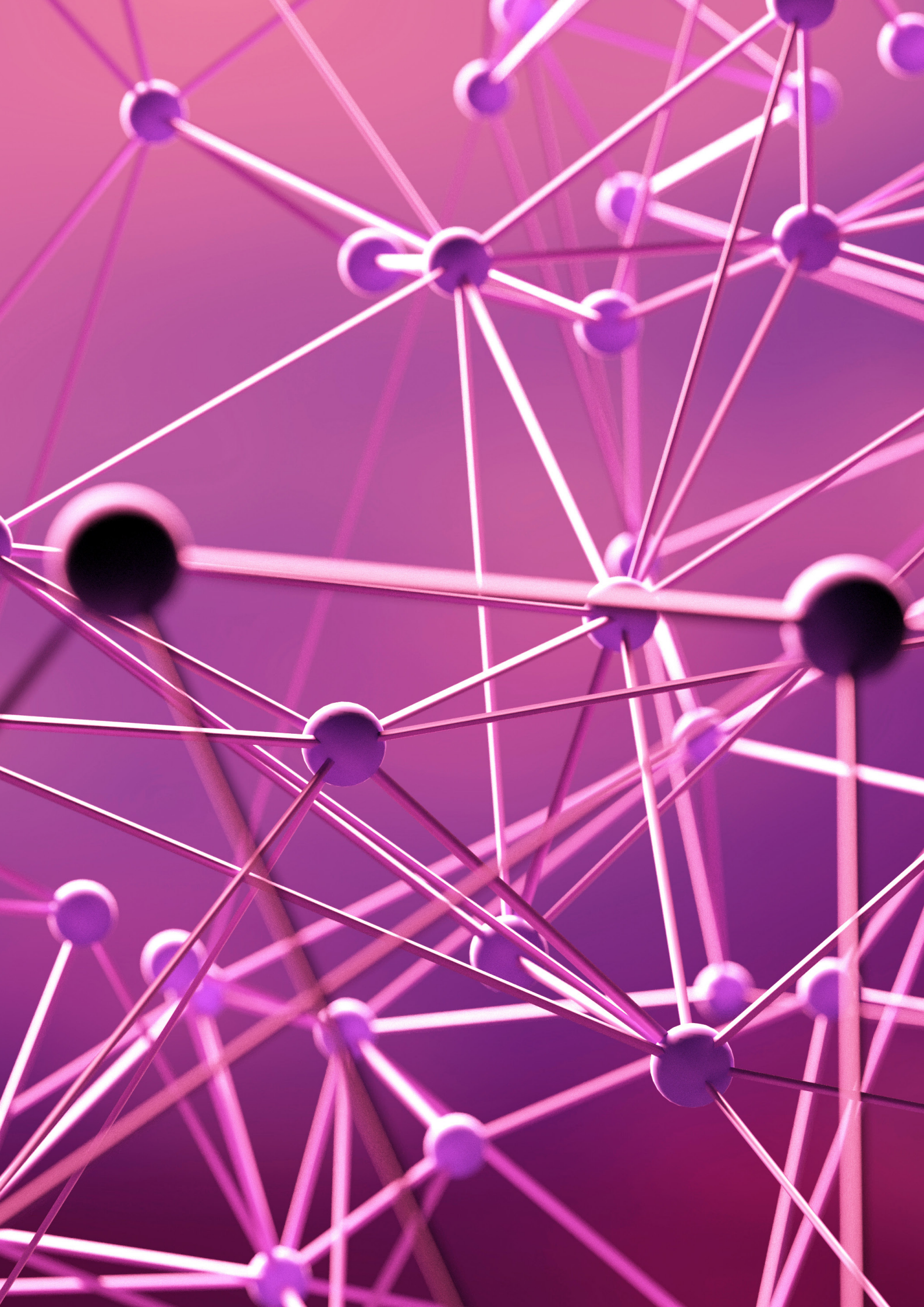
Karolinska Institutet

Strategy for the Infrastructure Board

2025–2028



A medical university



Strategy for the Infrastructure Board 2025 – 2028

Dnr 1–306/2025

Contents

Summary

In 2024, the Infrastructure Board initiated work with its coming strategy to achieve its objectives and provide a basis for prioritising its actions.

The objectives for the work of the Infrastructure Board are to:

- Ensure access to research infrastructure of the highest quality and relevance for KI's researchers where there is a widespread need **(breadth).**
- Ensure access to research infrastructure of the highest quality, relevance and excellence where the need is more limited to certain research areas **(excellence)**.
- Ensure the best possible conditions for the operation of research infrastructure of the highest quality, and efficiency.

The strategic work has been divided into four areas developed below.

Identifying the needs of researchers is the basis for the Board's work. Here, the Board will conduct systematic work that includes seeking advice from an international advisory board, engaging in dialogue with KI's faculty bodies and line organisation, conduct user surveys and holding open meetings for dialogue with researchers.

In the area of **Researchers' Access to Research Infrastructure**, the Board will work to facilitate researchers' access to KI's research infrastructure, both regional (especially at the interface with healthcare) and national. Within this priority area, the Board intends to develop the processes for allocating operating funds to KI's core facilities, coordinate collaboration between core facilities and strengthen KI's participation in national infrastructures. The Board considers data management and data storage as particularly prioritised.

In the area of **Conditions for the Operation of Research Infrastructure**, the Board aims to promote coordinated and customised support in areas such as IT, finance, legal affairs and communication.

In the area **Follow-up of Actions,** the Board prioritises uniform and systematic management procedures and steering documents that describe KI's quality system for research infrastructure.

Introduction

A well-functioning research infrastructure is essential for researchers at Karolinska Institutet (KI). Over time, the Infrastructure Board at KI has invested increasingly in research infrastructure to ensure access to advanced methods and technologies, where quality and resource efficiency require consolidation into specialised units. The rapid development of methods and technologies requires that KI's research infrastructure is continuously evaluated and developed to remain relevant and effective.

The ability of universities to finance research infrastructure has become increasingly limited, as modern research infrastructure is often extensive, advanced, and expensive. Streamlining, increased coordination and joint utilisation of advanced research infrastructure are therefore becoming increasingly necessary. KI has extensive collaboration on research infrastructure with other universities, both nationally and regionally, and with Region Stockholm.

Research infrastructure is not clearly defined as the university's core activities (research) or as overhead-funded support activities but must be seen as a distinct activity. Research infrastructure differs from research in terms of its deliverables, content, funding, need for support functions, interfaces, as well as positions, career paths and skills development.

KI's research infrastructure is currently organised within KI's departments and Comparative Medicine. Some research infrastructure is also organised within KI's Professional Services.

Definitions

Research Infrastructure

The European Commission defines[1] research infrastructure as facilities, resources and related services used by the research community to conduct research in their respective fields: this definition includes scientific equipment and research materials, knowledge-based resources such as collections, archives or structured scientific information, information and communication technology-based infrastructures such as Grid, computing, software and communications, an any other unique means necessary to conduct research. These infrastructures may be located in a single place or dispersed (i.e. form an organised network of resources) in accordance with Article 2a of Council Regulation (EC) No 723/2009 of 25 June 2009 on the Community legal framework for a European Research Infrastructure Consortium (ERIC)[2].

Core Facilities

A core facility can be defined as a service unit open to all users at KI, providing services, resources, and expertise in specific areas to support the needs of researchers. The definition is under review and may be modified. A core facility funded by the Infrastructure Board must charge user fees and have a transparent queuing system.

[1] Article 2(91) of Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty.

[2] OJ L 206, 8.8.2009, p. 1.

Starting points for the strategic review

The Infrastructure Board reports to the Faculty Board and coordinates resources and investments in research infrastructure[3,4], including cooperation with Region Stockholm as well as national and international initiatives. The Board has a special responsibility for supporting investments in core facilities and shared research equipment. The Infrastructure Board's initiatives include operational support for core facilities, co-financing of national infrastructures, strategic initiatives and supporting KI's departments in their responsibility for core facilities and other research infrastructure.

KI's Professional Services support the work of the Infrastructure Board and provide support to core facility managers and department management in their operation of core facilities.

In the risk analysis for 2024, KI emphasised that the conditions for clinical research and postgraduate education have been assessed as a medium risk[5]. The risk analysis describes, among other things, that access to research infrastructure/core facilities needs to be improved.

In 2024, the internal audit at KI conducted a review of KI's core facilities[6] and concluded that KI does not generally make overall decisions on what types of core facilities are necessary for conducting research but reacts to proposals that come from within the organisation. This results in a lack of coordination of resources and, in some cases, competing activities. The internal audit also notes that KI has implemented major improvements that have strengthened governance and follow-up, but that there is still room for further improvements. Of the internal audit's recommendations to KI, the following are particularly relevant to the Infrastructure Board's responsibilities:

- To further develop the definition of what a core facility is to allow for more customised governance.
- To continue the work on formulating more coherent and systematic management procedures procedures to utilise the core facilities more effectively.
- To consider developing more coordinated and customised support to the core facilities.
- To prepare a steering document describing KI's quality system for research infrastructure.

[3] Prepare proposals for decisions to the President regarding KI's participation in national research infrastructure, work to ensure that KI's researchers have access to high-quality research infrastructure in a resource-efficient manner, promote favourable conditions for the operation of KI's research infrastructure, follow up investments in research infrastructure, collaborate with other bodies, units and organisations, especially departments, the Committee for Research, Comparative Medicine and Region Stockholm, with the aim of establishing and creating good conditions for high-quality management and organisation of infrastructure issues.

[4] https://staff.ki.se/our-ki/faculty-board/the-infrastructure-board

[5] Audit plan 2024, dnr 1-1031/2023

[6] Audit of Karolinska Institutet's core facilities, dnr 1-512/2024

Objectives for the work of the Infrastructure Board

The objectives for the work of the Infrastructure Board are based on the assignment from the Faculty Board.

The Infrastructure Board shall:

- Ensure access to research infrastructure of the highest quality and relevance for KI's researchers where there is a widespread need **(breadth).**
- Ensure access to research infrastructure of the highest quality, relevance and excellence where the need is more limited to certain research areas **(excellence).**
- Ensure the best possible conditions for the operation of research infrastructure of the highest quality, and efficiency.

Structural outline

The Infrastructure Board's strategy is intended to support the Infrastructure Board in achieving its objectives for research infrastructure and create a basis for prioritising the Board's actions. The strategy addresses the overall assignment to the Board from the Faculty Board and considers KI's risk analysis for 2024 and the internal audit's review of KI's core facilities.

The strategy is divided into:

- KI researchers' needs for research infrastructure
- KI researchers' access to research infrastructure
- Conditions for operating KI's research infrastructure
- Follow-ups of actions

Based on this division, actions will be defined for the overall assignment to the Board from the Faculty Board, KI's risk analysis and the internal audit's recommendations.

KI researchers' needs for research infrastructure

The internal audit notes that KI generally does not make overall strategic decisions about the types of core facilities that are necessary for conducting research but reacts to proposals that come from within the organisation in a call for proposals. However, the fact that the proposals come from the organisation has a strength in identifying core facilities interested in offering advanced services to support researchers.

Aimed objectives

The Infrastructure Board has systematic processes for identifying and evaluating KI researchers' needs for research infrastructure. The Infrastructure Board makes strategic decisions on investments in research infrastructure based on the needs of KI researchers and an analysis of available external resources, while also considering the core facilities' interest in providing services.

Actions

- Annual follow-ups with the core facilities include how they identify researchers' needs.
- Inventory of future needs through open meetings for dialogue with researchers, user surveys and interviews with a small group of researchers.
- Systematic inventory and evaluation of researchers' needs based on dialogue with the Research Committee and departmental groups.
- Ensuring that processes to allocate operational funds include strategic decisions that consider the needs of researchers. This includes reviewing the assessment process.

KI researchers' access to research infrastructure

The Infrastructure Board shall work to ensure that KI's researchers have access to existing high-quality research infrastructure in a resource-efficient manner.

Aimed objective

The Infrastructure Board has an overview of working groups and initiatives within research infrastructure.

Actions

- Regular invitations to dialogue meetings with relevant stakeholders.

In the following section, a division is made into:

- KI's research infrastructure
- Regional research infrastructure
- National Research Infrastructure
- E-Infrastructure

The Infrastructure Board will also monitor developments regarding international research infrastructure.

KI's research infrastructure

KI's research infrastructure should be characterized by breadth and excellence. KI's research infrastructure comprises a diversified landscape where the concept of a core facility is not clearly defined and where no overall strategic decisions are made about geographical location, duplication or coordination of resources.

Aimed objectives

The Infrastructure Board works actively to ensure that methods and technologies are at the forefront and that KI's researchers have good knowledge of and access to the research infrastructure provided by KI. The Infrastructure Board makes strategic decisions on the coordination of resources and the geographical location of core facilities.

Actions

- Review of the research infrastructure portfolio by an international advisory board in 2026.
- Explore the possibility of creating a 'Tech Watch Core' that continuously monitors new emerging technologies that can strengthen KI's research infrastructure portfolio.
- Further develop the definition of core facility.
- List the existing research infrastructure landscape with a focus on coordination and geographical location.
- Ensure that processes for allocating operating funds and annual follow-ups take coordination and cooperation into account.
- Fund a communicator resource.
- Organise a core facility exhibition with a target group of KI researchers.

Regional research infrastructure

The Infrastructure Board will work to improve access to core facilities for clinical research and to ensure that KI's researchers have access to regional core facilities.

Collaboration with Region Stockholm

To promote high-quality research and lead the development of healthcare in Stockholm, it is crucial that KI and Region Stockholm collaborate effectively also in terms of access to research infrastructure.

Aimed objectives

A common platform for data availability and biological samples for research is established. Researchers from KI and Region Stockholm have access to accredited analyses. Establish more joint research infrastructures between KI and Region Stockholm.

Actions

- Identify actors who provide data and samples.
- Engage in dialogue with relevant actors to simplify and coordinate processes for data and sample collection regarding permits and agreements.
- Ensure that information about existing infrastructures and contact points is available on the websites of KI and Region Stockholm.
- Investigate coordinated and common standards for freezer storage, pricing and traceability of samples.

Collaboration within Stockholm Trio

Each university within Stockholm Trio (KI, KTH, and Stockholm University) has an extensive research infrastructure, but there is a lack of overview and coordination.

Aimed objective

Research infrastructure within Stockholm Trio is made accessible to its researchers.

Action

- Establish a website for joint research infrastructure.

National research infrastructure

The Infrastructure Board will work to ensure that KI's researchers have access to high-quality national research infrastructure in a resource-efficient manner, and that KI participation in national research infrastructure is well prepared.

SciLifeLab has a unique role in providing large-scale research infrastructure to KI researchers. As one of four host universities, KI has a special responsibility for SciLifeLab, from which several core facilities at KI receive funding from. SciLifeLab is a driving force in the development of large-scale molecular techniques and methods and plays key roles in realising KI's ambitions in precision medicine and data-driven research.

In 2025, KI will host four national research infrastructures funded by the Swedish Research Council and participate in a further ten. The Infrastructure Board is responsible for KI's co-funding. KI researchers are major users of several of these national research infrastructures. National infrastructures also include national research databases.

The **MAX IV** and **European Spallation Source (ESS)** research infrastructures are very large Swedish investments, both in terms of direct investments in the facilities and resources to increase Swedish utilisation of the facilities. MAX IV is currently used to a very limited extent by KI's researchers and knowledge about ESS is limited.

The **National Academic Infrastructure for Supercomputing in Sweden (NAISS)** provides computing resources for large-scale data calculations and storage in all subject areas.

Aimed objectives

KI has developed its collaboration with SciLifeLab on research infrastructure and joint efforts with SciLifeLab have led to scientific and medical breakthroughs. KI's researchers' use of national research infrastructures has increased, and KI has clear processes for KI's participation in and funding of national research infrastructures.

Actions

- Dialogue with SciLifeLab for joint efforts in exposure of unique resources, implementation of new methods and workshops for core facilities that support related research areas.
- Information about, and support for, the use of national research infrastructures.
- Process for KI's prioritisation of participation in, and funding of, national infrastructures.

E-Infrastructure

E-infrastructure is of crucial strategic importance for KI. The area is large, complex and requires coordination withing KI and with other actors. The Infrastructure Board does not have authority in all areas and therefore needs to prioritise its efforts in e-infrastructure. The extremely rapid technological development, not least in the field of AI, leads to both opportunities and challenges, including the latter:

- Increasing costs due to ever-increasing amounts of research data.
- Risks in terms of information security.
- Increasing complexity due to increasing regulatory requirements.
- Difficulties in collaborating across organisational boundaries.

Aimed objectives

KI has integrated local and external digital resources to provide researchers with a wide range of solutions. This allows to compare different providers and choose the most appropriate solution that balances quality and cost. KI focuses on managing research data throughout its lifecycle, with an emphasis on facilitating the sharing, analysis and storage of data in accordance with current security and privacy requirements. KI has facilitated research collaborations across organisational boundaries.

Actions

- Collaboration with national and European infrastructures such as SciLifeLab and NAISS, as well as Region Stockholm and Stockholm Trio.
- Activities for skills development in AI and e-infrastructure.

Conditions for the operation of research infrastructure

The Infrastructure Board has worked systematically to improve the conditions for operating core facilities, including in the form of a management system for core facilities and a single point of contact.

Aimed objectives

The Infrastructure Board contributes to favourable conditions for the operation of KI's research infrastructure and to enabling them to provide services to researchers and companies.

Actions

- Develop proposals for coordinated and effective support, with a particular focus on agreements and pricing models.
- Organise regular meetings for core facility managers to exchange information and learn from each other.
- Organise core facility exhibition targeting researchers and companies.

Follow-up of actions

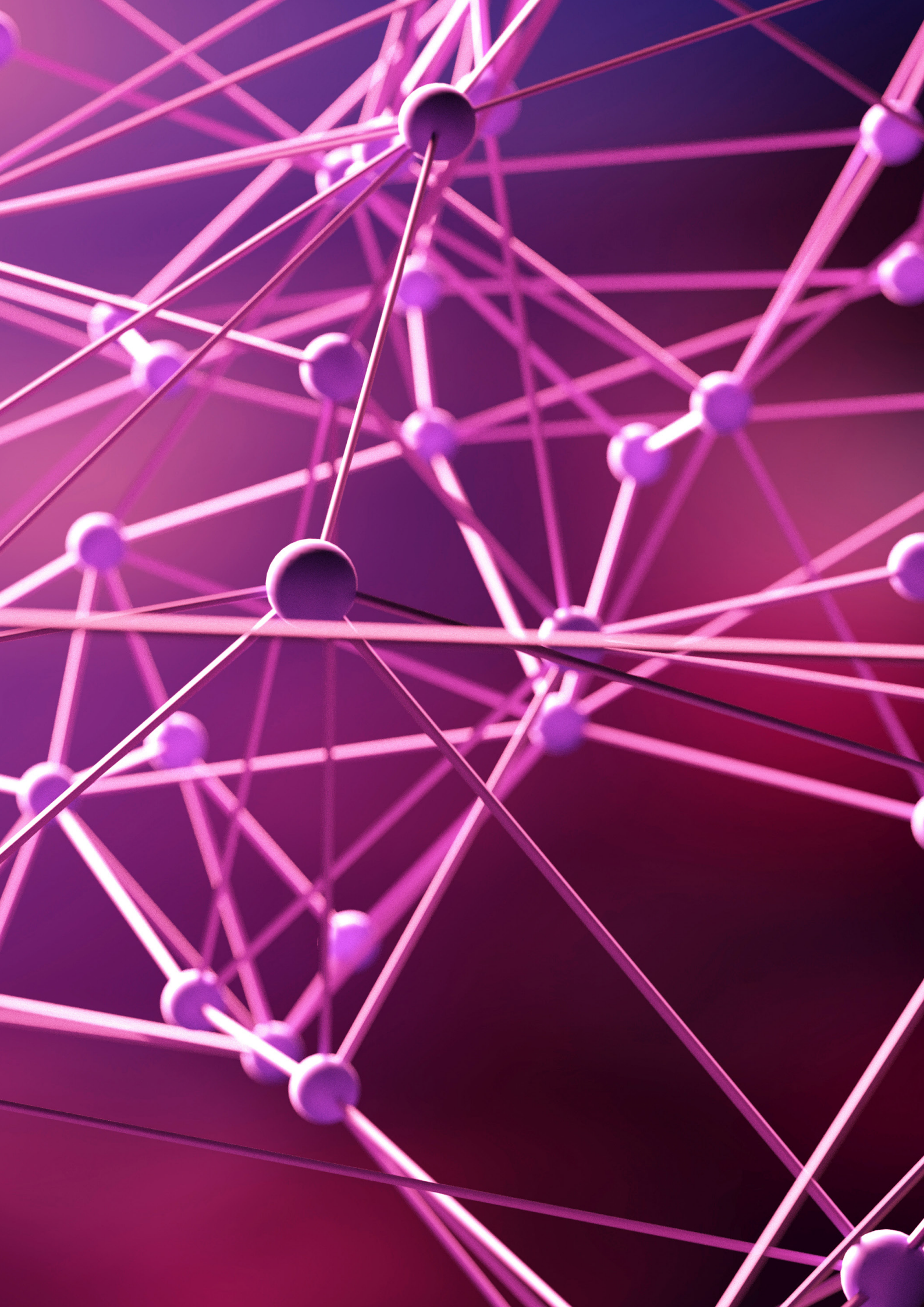
In its review of KI's core facilities, the internal audit notes that KI has implemented major improvements that has strengthened governance and follow-up, but that there still is room for improvement.

Aimed objectives

The Infrastructure Board ensures coordination and efficient use of resources by allocating grants where they add most value within the overall portfolio of core facilities. The Infrastructure Board follows up its actions in an appropriate manner and ensures that resources are used efficiently.

Actions

- Formulate more coherent and systematic management procedures to ensure efficient use of the core facilities and resources provided.
- Prepare a steering document describing KI's quality system for research infrastructure.
- Follow up and clarify the importance of user fees.



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