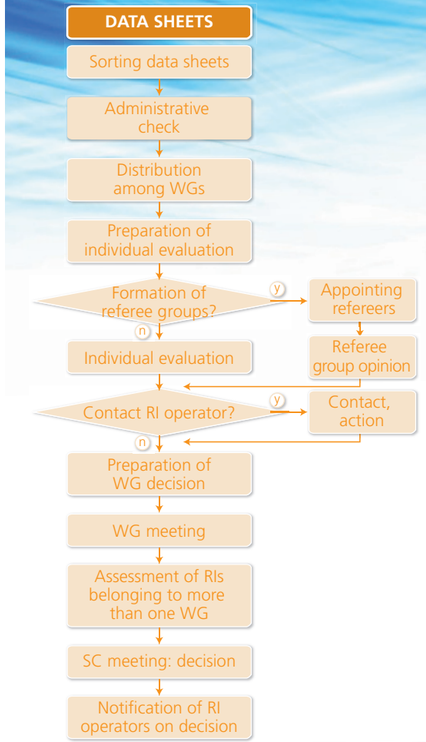
During the two surveys, the following selection and evaluation procedure was applied



varied widely (between 2 and 48). Taking into consideration the network and group RI members, a total of 438 RIs were invited to take part in the second register survey.

- **Register survey 2:** following the processing of the replies submitted to the first survey, the operators of infrastructures that could potentially be considered strategic research infrastructures were invited to complete a second survey. The purpose of this step validated by the directors of research organisations was to gather information that offered significantly more details than the information gathered in the first survey in order to make decisions on awarding the first set of SRI statuses based on information in accordance with a transparent process and pre-defined criteria. According to the decision of the SC, 63 RIs were awarded the status of strategic research infrastructure (SRI), of which 19 were operated within a network (RIs operated jointly by different organisations), 15 were operated in groups (RIs operated in a concerted manner within the same organisation), and 29 were operated individually.
- The register was published in April 2011; its search interface is publicly available in Hungarian on https://regiszter.nekifut.hu/, and in English on https://regiszter.nekifut.hu/en.

Planned activities:

- Launch of the RI register: research infrastructures that were not classified as SRIs can request to be included in the NEKIFUT system to ensure visibility of their services. With continuously expanding the database by such information, an internet-based service will be developed.
- Updates of the SRI register: the National Research Infrastructure Register will achieve its objectives if it will be updated continuously – every 2 years in the optimal case. This means that it will be possible to regularly award the SRI status to new infrastructures, as well as to review SRIs that are already present in the register. From the IT point of view, updating the data is already possible.

Further information is available on: https://regiszter.nekifut.hu/en

NEKIFUT REGISTER 2008–2010

Kaleidoszkóp INFORMATION SYSTEM NATIONAL INNOVATION OFFICE

NIH NATIONAL INNOVATION OFFICE

The Hungarian Government launched the National Research Infrastructure Survey and Roadmap (NEKIFUT) project as a part of its 2007–2013 mid-term science, technology and innovation (STI) strategy.

In addition to fulfilling national expectations, the launch of the project serves to address the recommendation of the European Strategy Forum on Research Infrastructures (ESFRI) – the advisory board established by the European Commission and EU Member States – that each Member State should elaborate its national research infrastructure development strategy.

NEKIFUT'S OBJECTIVES:

- The assessment of the Hungarian research infrastructure: the preparation, publication and operation of an online register of national research infrastructures, in order to optimise their use;
- The formulation of a unified national strategy and programme for the development of research infrastructures.

NEKIFUT'S METHODOLOGY:

- Strategy formulation was initiated with the use of foresight techniques.
- The entire process was carried out in broad cooperation with the scientific community. The project was lead by an 18-member Steering Committee (SC), while the three main academic branches (physical and engineering sciences, life sciences, social sciences and humanities) were examined by separate working groups (with a total of 83 members). Overall, the project addressed several thousand researchers.
- A comprehensive, online survey was conducted in order to prepare the register of research infrastructures.
- This process has resulted in numerous valuable outputs, including the development of indispensable tools and methodologies for the governmental research infrastructure development programme; the definition of various infrastructure categories with an internationally unique system for their classification; and the assessment and classification of existing research infrastructures. It has further resulted in the IT development for the register itself.

THE DEVELOPMENT OF THE **NEKIFUT** REGISTER

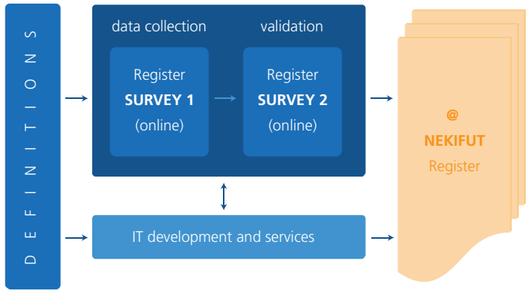
The functionalities of the NEKIFUT register are:

- The establishment of the register of Hungarian research infrastructures of strategic importance (SRI);
- Filling up the SRI register with the initial data;
- Collecting data necessary for the description and assessment of the current status of Hungarian research infrastructures;
- The comprehensive data collection (recommendations for developments, reasons, facts, arguments) to develop a vision for the future and formulate recommendations.

The first important steps of the project included the development of **definitions** for research infrastructures and strategic **research infrastructures**, as well as the **planning of the work processes**.

These definitions were necessary for the classification of already existing, operational research infrastructures. The examination of international practices indicated that there existed no widely accepted definition for research infrastructure. The definitions used elsewhere were not suitable as bases for decision making; therefore, in the initial phase of NEKIFUT it was necessary to build a new, schematically **interdependent** family of definitions.

The methodology applied involved online consultation among the members of the working groups and the steering committee,



Planning of the work process, development of definitions

followed by group discussions to arrive at the final approval of definitions.

The categories introduced for the classification of research infrastructures were:

- research infrastructure (RI)
- strategic research infrastructure (SRI)
- background infrastructure for research (BRI)
- foreign research infrastructure (FRI)

RESEARCH INFRASTRUCTURE (RI)

Within the NEKIFUT project, research infrastructure (hereinafter: RI) is defined as those facilities or families of facilities, live and physical material repositories, data repositories, as well as information systems and services which are indispensible for scientific research activities and for the dissemination of the results. Those human resources which are necessary for the professional operation, use and services of research infrastructures are considered to be an integral part of RIs.
The structure and size of research infrastructures depends largely on the specificities of the given scientific field, as well as the needs of the research community using it.

STRATEGIC RESEARCH INFRASTRUCTURES (SRI)

Strategic research infrastructures (hereinafter: SRI) are those RIs which meet each of the following criteria:

- they contribute to solving tasks of national strategic significance;
- they enable performing research of international significance;
- they provide opportunities for research for several, independent research groups, and their users have equal opportunities to access them on the basis of pre-defined, publicly available rules and conditions;
- their organisational, financial, management and human resource conditions ensure that they operate in a way to enable all of the above.

BACKGROUND INFRASTRUCTURE FOR RESEARCH (BRI)

The following points are considered important for the definition of background infrastructure for research:

- Maintaining the infrastructure is indispensible for sciences (and fields served by them); without it, it would be impossible to fulfil some of the basic tasks of scientific studies;
- The infrastructure equally serves more or all scientific fields, in other words, it is not specific to any particular scientific field/area;
- The infrastructure is indispensible in the area of education and, in particular, in higher education. That is, it does not exclusively serve the purpose of research;
- The infrastructure is currently financed nationally and it is necessary to continue this financing approach;
- The infrastructure is not among the SRIs in international (European) practice.

The survey for the register was conducted in a two step process:

- **Register survey 1:** this was a widely distributed, online-questionnaire-based survey, both disseminated to the general public and sent directly to all leaders of significant research organisations. Its aim was to gather comprehensive information and to identify research infrastructure of strategic significance. 3881 responses were collected. Following the processing of the responses and the exclusion of duplications, 1772 research infrastructures in use and in operation were identified, while around 1000 responses addressed recommendations for RI developments. Following the decision of the Steering Committee, operators of 86 potential strategic research infrastructures (SRI) were invited for the second register survey, of which 64 were single-sited RIs, and 22 were networks. The number of RIs participating in networks