FUNDING OF SCIENCE AND HEP

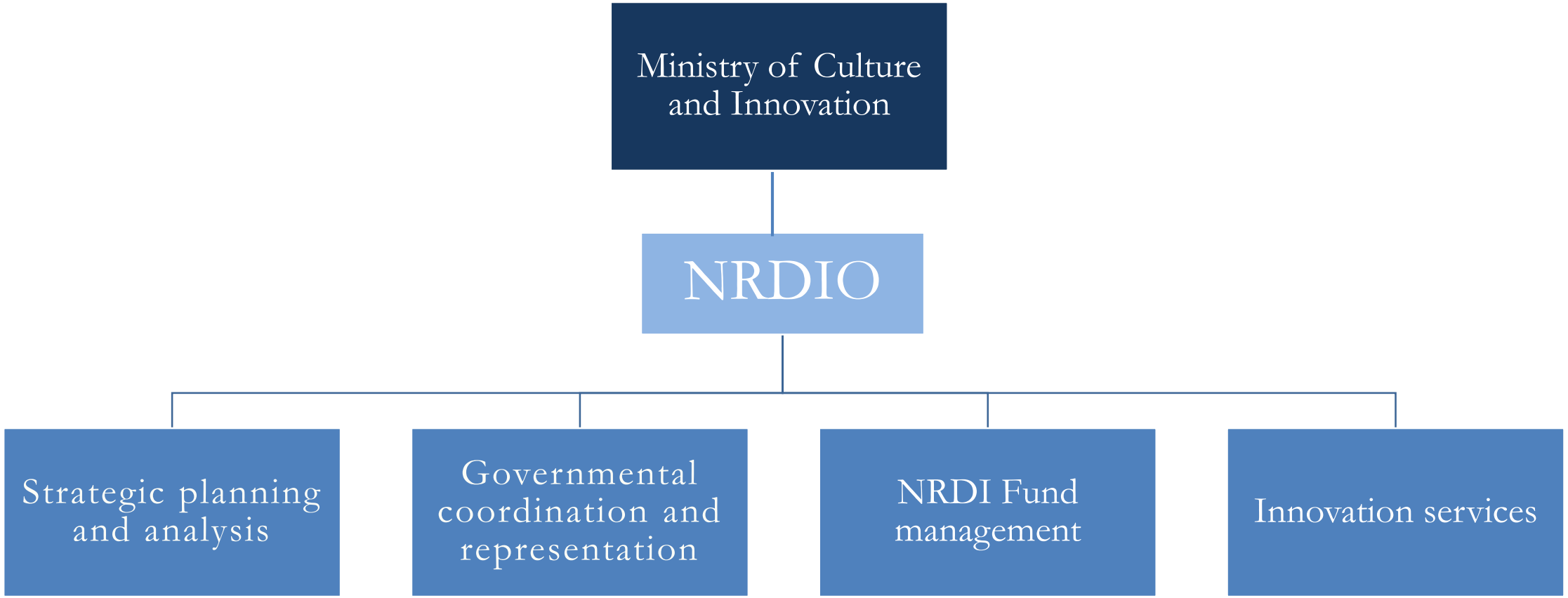
Dr Istvan SZABO Vice president

National Research, Development and Innovation Office of Hungary

Budapest, 23 September 2022

NATIONAL RESEARCH, DEVELOPMENT
AND INNOVATION OFFICE
HUNGARY

National Research, Development and Innovation Office



PROGRAMMES AND INSTITUTIONS

Challenge based RDI

Global megatrends, social, economic, technological challenges

National Laboratories

Institutional approach

Sustainable institutional system beyond project based calls

Science Parks

Cooperation-oriented framework

Universities as centres of innovation ecosystem

Territorial Innovation Platforms

PROGRAMMES AND INSTITUTIONS

Knowledge utilization

RDI capacities and stakeholder demand

University Innovation Ecosystem

Focusing of resources and projects

Concentration of resources

Thematic Excellence Programme

HR capacities of research

Flexible carrier path and applied R&D topics

Cooperative Doctoral Programme

MAIN FINANCIAL PILLARS

NRDI Fund

- Central budget
- Yearly Program Strategy
- Funding Agency: NRDIO Office
- Review panel: National Science Policy Council

Operational Programs

- European co-financing
- 2014-2020: EDIOP, CCHOP
- 2021-2027: EDIOP Plus
- Ministry of Culture and Innovation

Horizon Europe

- Central EU Fund
- NRDI Office:
  - National contact points
  - Support to foster Hungarian participation

Act LXXV 2014 on scientific research, development and innovation

System of RDI programmes of NRDIO

International and domestic research and technological infrastructures

Researchers

Businesses

HEIs and Research institutions

New National Excellence Programme

National Conference of Student Research

Basic research („OTKA")

Forefront Research Excellence Programme

Cooperative Doctoral Programme

Calls for business enterprises (NRDI Fund and operational programmes)

Horizon Europe

International calls

Science Parks

Competence Centres

Thematic Excellence Programme

National Laboratories

University Innovation Ecosystem

International Excellence

FINANCING SCHEME OF NRDI FUND 2021

Individual excellence	Thematic programmes	Business innovation
Horizontal programmes	National security and defense Health National challenges: Secure society and environment, Industry and digitization, Culture and family	Horizontal programmes
NRDI Fund Research sub-fund: HUF 105.762 billion		NRDI Fund Innovation sub-fund: 76.53 billion

Gov. Decree 1077/2021. (II. 27.) on 2021 Programme Strategy of NRDI Fund

THE NATIONAL RESEARCH INFRASTRUCTURE COMMITTEE (NRIC)

Chair: Zsolt Fülöp, Atomki
Vice-chair: István Szabó, NRDIO
Members: 6 scientific advisors – according to the ESFRI thematic areas

Tasks:

Makes proposals for:

- joining new international research infrastructures
- the development of domestic research infrastructures

Makes recommendations for:

- the evidence based design of funding schemes supporting research infrastructures
- the establishment of a monitoring and evaluation system of RIs and monitoring of our international memberships
- all matters concerning the domestic research infrastructures

HUNGARY'S MEMBERSHIPS IN INTERNATIONAL RESEARCH INFRASTRUCTURES

Health & Food (7)

Physical Sciences & Engineering (8)

Social & Cultural Innovation (7)

Energy (1)

Environment (1)

E-infrastructures (1)

Σ 25 RI

Membership fees: Σ 12,8 m EUR/2021

IDENTIFYING THE TOP NATIONAL RIS AND NETWORKS - SURVEY

Aim:

- identifying the best domestic research infrastructures and infrastructure networks
- providing international visibility of Hungary's research excellence
- making research services visible and available
- awarding the Outstanding Research Infrastructure title to RIs

April 2021 – launching the online questionnaire

two-step peer review evaluation (with the coordination of the NRIC)

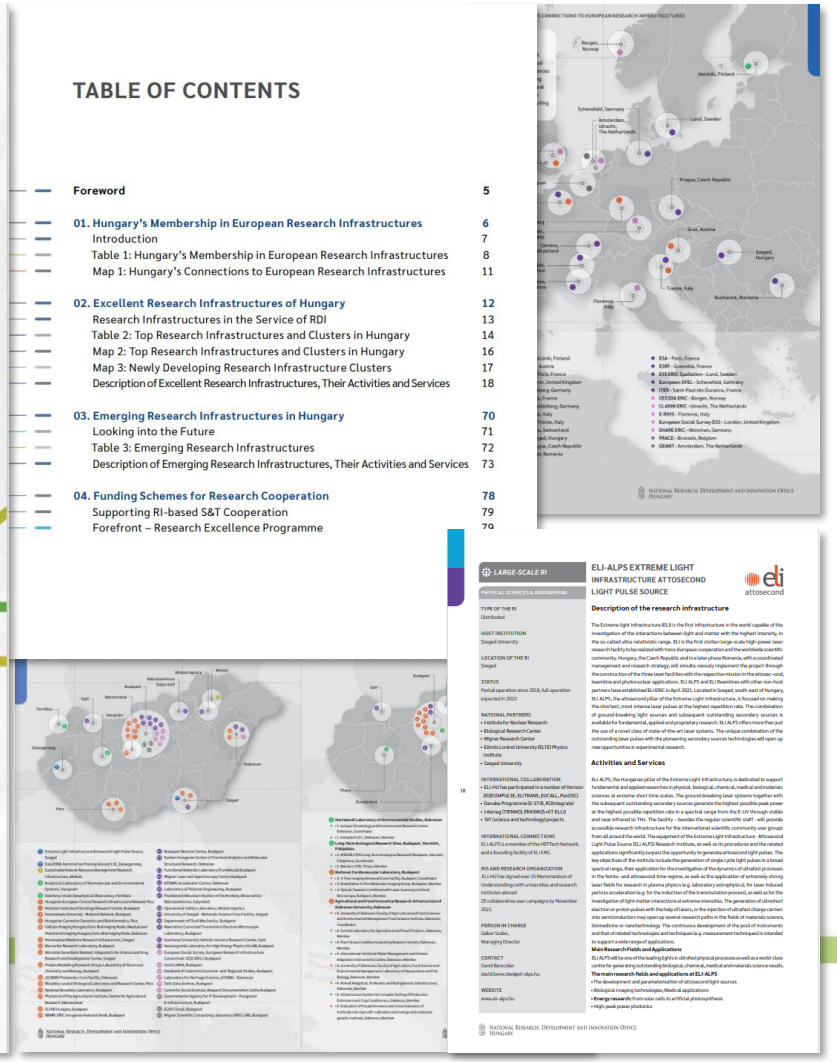
October 2021 – decision

December 2021 – awarding ceremony

Evaluation:

- uniqueness, scientific excellence, national strategic significance, size of the network
- international cooperation, relations
- open access and use
- education and training
- industrial innovation cooperation

TOP RESEARCH INFRASTRUCTURES IN HUNGARY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ELI-ALPS EXTREME LIGHT INFRASTRUCTURE ATTOSECOND LIGHT PULSE SOURCE

Description of the research infrastructure

Activities and Services

$2 + 40 + 10 + 5 =$

$57 =$

- 2 Large scale key RIs
- 40 Excellent RI
- 10 Excellent new RI clusters
- 5 Emerging RIs

https://nkfih.gov.hu/english/top-rife-hungary2021

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SUPPORTING RI-BASED S&T COOPERATION – HU TNA scheme

2021-4.1.2-NEMZ_KI – call for proposal

‚A' Sub-program (outgoing)

Supporting the use of research and measurement opportunities provided by international research infrastructures.

‚B' Sub-program (incoming)

Supporting the use of the significant domestic research infrastructures by international researchers

Announcement: September 2021

Funding/project: 0,5 - 2 m HUF (EUR 1 350-5 500)

Earmarked budget: HUF 100 million HUF

Eligible costs of the researchers or PhD, MSc students related to:

- outgoing/incoming travel
- stay of abroad/in Hungary
- project-related travel within the given country
- disseminating the results of the project
- participation in international conferences
- cost of materials, tools and instrumentation

Closed on 31 Aug 2022

THEMATIC EXCELLENCE PROGRAMME (TEP) 2021

Budget: 75 billion HUF
Duration: 12 months (until 2025)

Primary aim:
To support RDI activities of university-based knowledge centres and research sites.

Sub-programmes:
- Health (e.g.: COVID-19 and post-COVID related research activities)
- National research activities: Culture and family, Safe society and environment, Industry and digitalisation
- National defence research area (e.g.: cyber security, Artificial Intelligence, robotics)

THEMATIC EXCELLENCE PROGRAMME (TEP) 2021

Additional goals

- Ensuring the participation of PhD students and young researchers in research programmes
- Strengthening the embeddedness in the international research community
- Promoting cooperation between others actors of the innovation ecosystem
- Compliance with Open Access principles
- Promoting more active Hungarian participation in the Horizon Europe programme

Related TEP 2021 Projects

Institute for Nuclear Research

Accelerator-based nuclear technological R&D

Project goals:

- Production and examination of new isotopes
- Production of new surface layers by particle irradiation
- Development of new detectors based on Nanotechnology.

Eötvös Loránd University

Project goals: Phenomenology of Particle Physics, Experimental Particle Physics at the Large Hadron Collider, Participation in experiments carried out at different particle accelerators.

RELATED TEP 2020 PROJECTS

Eötvös Loránd University

- ✓ Quantum correlations have been measured in the nuclear collisions of RHIC and LHC to determine the properties and spatial distribution of the quark.
- ✓ A new "Centre for Astrophysics and Space Sciences" was established in February 2021.
- ✓ The University has participated ininternational projects: e.g.: the STAR collaboration at the RHIC accelerator, the CERN NA61/SHINE experiment.
- ✓ The University was the first Hungarian entity to join the CERN LHCb experiments.

National Laboratories (NL)

BUDAPEST

- National Laboratory of Tumor Biology
- HCEMM NL
- National Laboratory of Agricultural Technology
- Molecular Fingerprinting NL
- Secure Technologies NL
- National Laboratory for Nanoplasmonic Laser Fusion
- National Laboratory for Info-communication and Information Technology
- Autonomous systems NL
- Artificial Intelligence NL
- Quantum Information NL
- Social Innovation NL
- National Laboratory for Digital Heritage

SZEGED

- National Laboratory for Laser-based Transmutation
- ELI NL
- National Laboratory for Biotechnology

PÉCS

- National Laboratory for Virology
- National Laboratory of Human Reproduction

VESZPRÉM

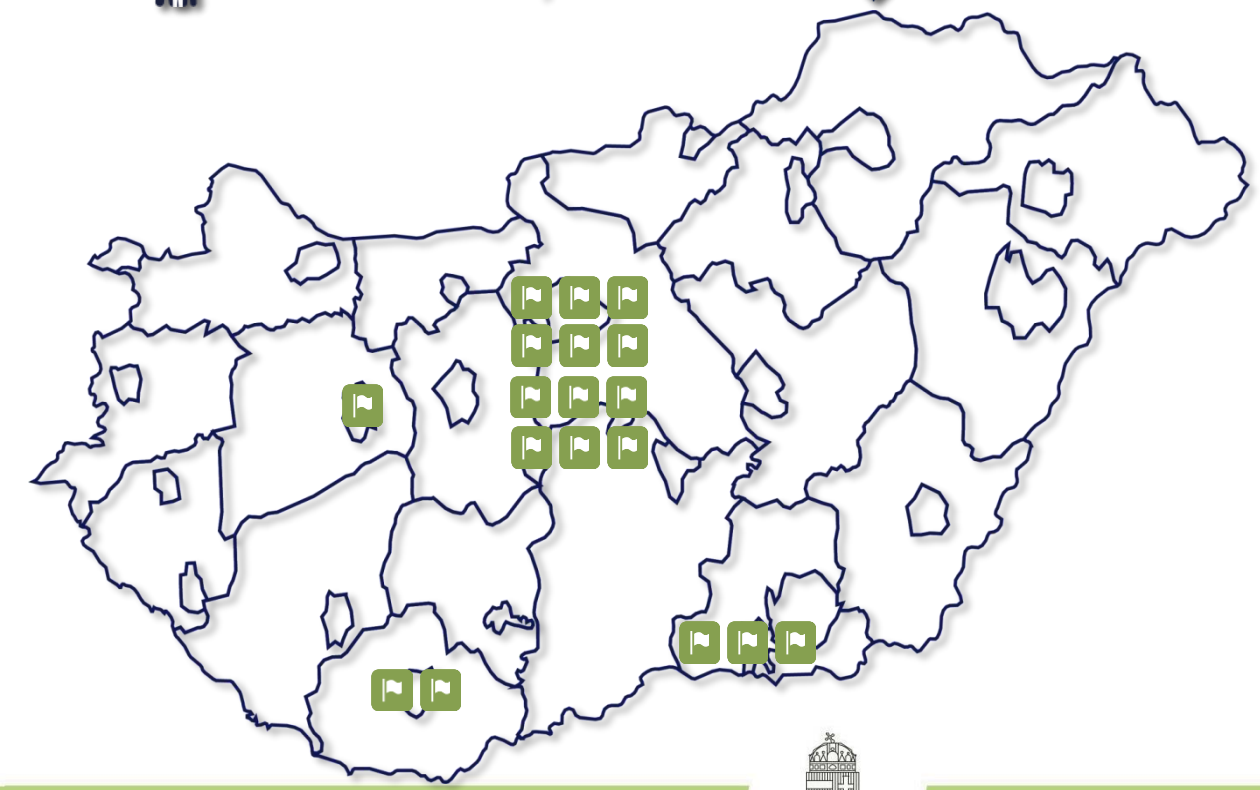
- Multidisciplinary Laboratory for Climate Change

Secure society and environment

Industry and digitization

Culture and family

Health



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Hungary

INDIVIDUAL RESEARCH EXCELLENCE PROGRAMMES (OTKA)

Aim:

- to encourage internationally recognized, basic research excellence, support of projects
- a kutatói pálya elején járó, tehetséges fiatal kutatók önálló tudományos programjai elindításának támogatása
- supporting the launch of independent scientific programmes of talented, young researchers at the beginning of their careers

Sub-programmes:

- Postdoctoral excellence programme
- Young researchers' excellence programme

- **Forefront Research Excellence Programme (Élvonal):**
  - ✓ Its purpose is to provide opportunities for successful researcher participation in the programmes launched by the European Research Council
  - ✓ International excellence is in its centre.

RELATED PROJECTS OF THE RESEARCH EXCELLENCE PROGRAMMES

Statistics of OTKA:

- ✓ 2021: 20 funded projects in the field of Phsysics; 4 in Particle Physics
- ✓ 2022: 19 funded projects in the field of Phsysics; 4 in Particle Physics

Statistics of Forefront programme:

- ✓ 2018-2021: 7 funded projects in the field of Phsysics; 1 in Particle Physics
- ✓ 2022: 1 funded projects in the field of Phsysics; 0 in Particle Physics

Successful Hungarian institutions:

- Wigner Research Centre for Physics
- Institute for Nuclear Research
- University of Debrecen
- Eötvös Loránd University

Thank you for your attention.

For further information: www.nkfih.gov.hu/english

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