

The importance for Ukrainian R&D system RI's mapping and the Slovak case study

Serhii Zharinov, Danica Zendulková, Iryna Tsybenko, Sophia Zherebchuk

***State Scientific and Technical Library of Ukraine
Slovak Centre of Scientific and Technical Information***

16th International Conference on Current Research Information Systems (CRIS2024)
Vienna, Austria May 15-17, 2024

EU experience on RIs' mapping



European Strategy Forum
on Research Infrastructures



CatRIS
Catalogue of Research
Infrastructure Services



MERIL
MAPPING OF THE EUROPEAN
RESEARCH INFRASTRUCTURE
LANDSCAPE



Why we need RI's mapping?

- ✓ The "Map" allows identifying research infrastructure objects crucial for addressing current challenges and needs in the field of science during crisis conditions. By visualizing key objects, the system facilitates quick identification and response to urgent challenges.
- ✓ Given that the "Map" will be interactive, scientific institutions and universities can efficiently collaborate, exchange resources, and information to collectively address issues.
- ✓ Considering changes in scientific activity due to war, the "Map" will help scientific groups and institutions quickly adapt and reallocate resources to support strategic research and initiatives.
- ✓ Through systematic data visualization, the "Map" becomes a tool for monitoring and evaluating the effectiveness of conducted scientific activities, identifying ways to optimize them.
- ✓ The "Map" can serve as a tool for digital coordination, assisting in managing scientific resources and logistics in challenging and constrained conditions.
- ✓ Digital infrastructure visualization expands the possibilities for the scientific field to impact socio-humanitarian processes, contributing to broader understanding and public participation.

Ukrainian legislation allows for various forms of existence and operation of RI

Centers of Shared Scientific Equipment Use

These are facilities that provide access to scientific equipment for shared use among multiple research groups. They serve as hubs for collaborative research activities where scientists can leverage specialized tools and instruments.

State Key Laboratories

These laboratories are designated by the government as essential for advancing research in strategic areas. They typically focus on cutting-edge research and innovation, contributing significantly to national scientific progress.

Structures of Unique Character

This category encompasses specialized entities that possess a unique and distinctive character. These structures may have unconventional or highly specialized research functions that contribute uniquely to the scientific landscape.

National Scientific Centers

These are institutions that play a pivotal role in fostering advanced research within specific domains. National Scientific Centers often concentrate expertise and resources to address critical challenges and push the boundaries of scientific knowledge.

Scientific Objects of National Importance (or Heritage)

This category includes research entities that hold a status of national significance. These could encompass specific scientific collections, archives, or unique facilities that are integral to the country's scientific heritage.

This diversity in forms is driven by the necessity to ensure financial support from the state for infrastructure and aligns with the specific objectives pursued by each RI

URIS
**National electronic system of scientific and research
information**



The key task is to combine all research data, information, procedures and services; research institutions, universities, academia. We make Ukrainian science more open

URIS as a key element within the National Plan for Open Science highlights its pivotal role in the development and improvement of the electronic scientific information system

One of the essential next steps in the development of URIS is the creation of the "Science Map of Ukraine" system

National electronic system of scientific and research information

National Ukrainian CRIS system

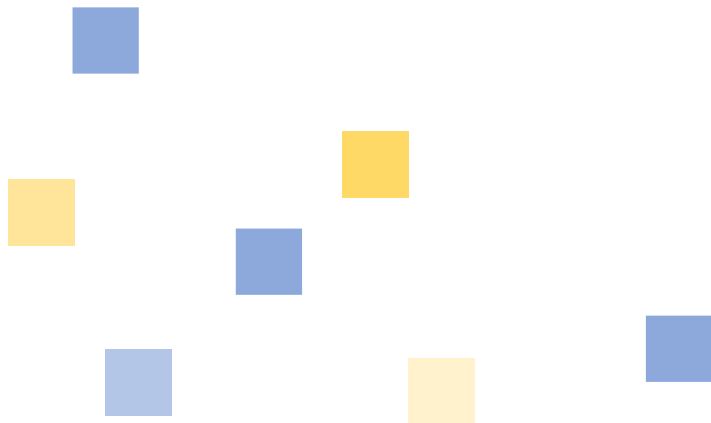
A multifunctional information and communication system that facilitates the collection, organization, processing, storage, and utilization of data and information pertaining to the sphere of scientific and scientific-technical activities in Ukraine, enabling the fulfillment of functions by its subjects, and providing informational support and assistance in their activities.



AIM

Ensuring the adoption of effective management decisions in the sphere of science in Ukraine based on comprehensive and reliable data involves:

- Data integration
- Digitization of procedures
- Development of services and solutions
- Data normalization
- Establishment of analytical tools



Tasks

- ✓ Simplify procedure execution (application filling, reporting, etc.).
- ✓ Minimize the need for redundant data entry.
- ✓ Establish an analytical toolkit.
- ✓ Ensure convenient access to data and information about science in Ukraine for all stakeholders (according to access rights).
- ✓ Provide informational and advisory support to scientists and research institutions.



Module for Maintaining the State Register of Scientific Institutions Supported by the State

Module for Recording Lost and Required Research Infrastructure



The future development, 2024

The development plan for the System includes both the enhancement of existing functionalities and the creation of new modules

Science Map of Ukraine

Visualization of data regarding:
Research infrastructure
Scientific institutions and higher education institutions (HEIs)
Executing entities of scientific projects

Module for Shared Research Facilities Services

Providing the ability to order/reserve and receive services from SFFCs through the System

Improvement of:

Registry portal
Profiles module
Certification module
Competitions module
Other modules

The stages of data monitoring in URIS

Preparation

Determining the objects or entities that are subject to analysis

Determining metadata

Identification of existing procedures and development of new ones



Data Collection

Module Configuration

Procedure Launch and Data Collection

Data Verification

Export to Mapping Module

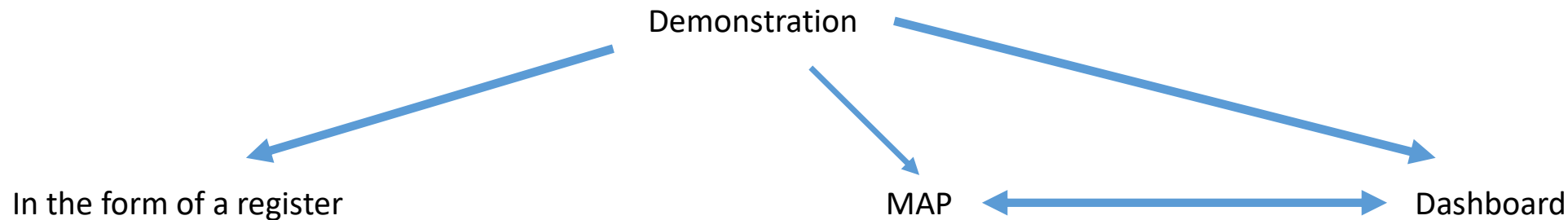


Visualization

Set up the new toolkit within the mapping software

Define access permissions for the new toolkit

Export to Mapping Module



Підтримка держави Нацнадбання

Назва установи або ЄДРПОУ Q

Кількість записів на сторінці
10

Чинність

- ☐ Втраатило чинність
☐ Чинне

Наказ яким включено установу

Всі

Підпорядкування

В реєстрі "Підтримка держави" за Вашим запитом знайдено матеріалів: 3317

Державне підприємство «Одеський науково-дослідний інститут зв'язку»

Чинність

Чинне

Наказ яким включено установу

Наказ МОН №26 від 11.01.2024 року

Підпорядкування

Адміністрація Державної служби

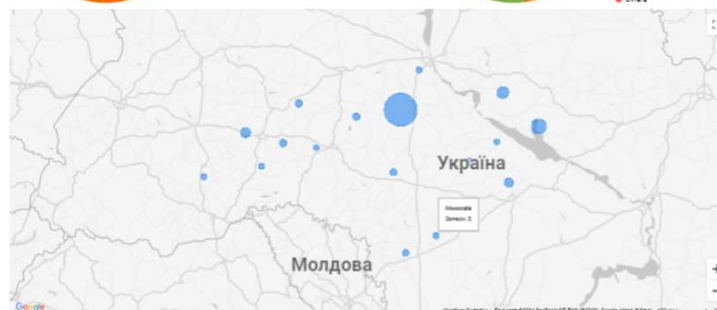
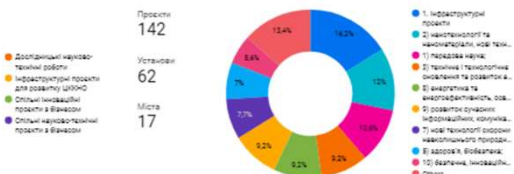
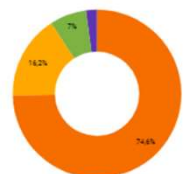
ЄДРПОУ

13917415

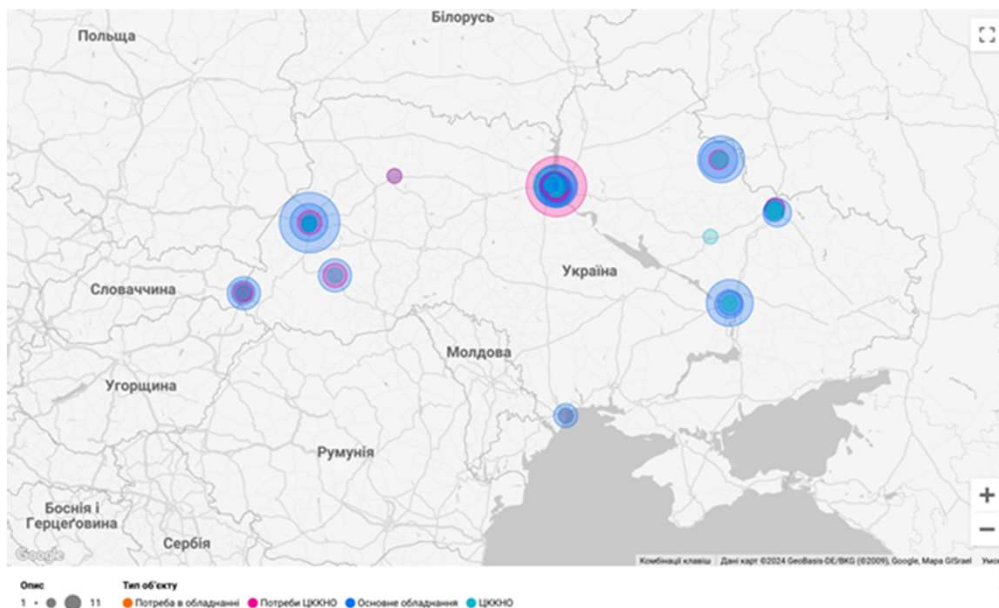
Дата завершення

10.01.2025

Конкурс реімбурсація 2024

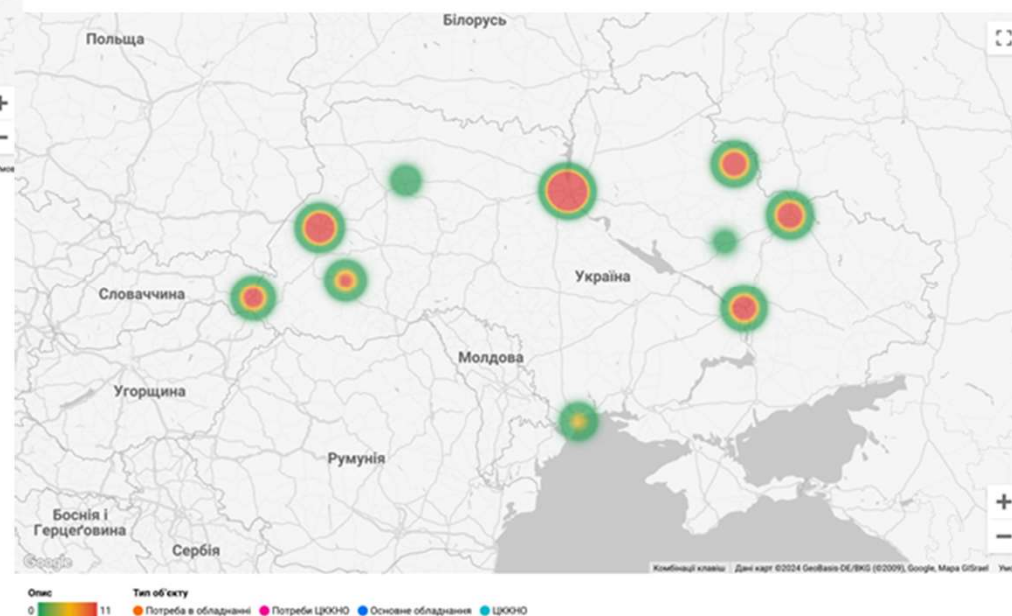


Місто	Кількість установ	Кількість проектів *	Унікальні секції	Унікальні напрями	Назва Установи	Кількість проектів *	Унікальні секції	Унікальні напрями
1. Київ	26	80	4	18	1. Одеський державний університет	11	2	6
2. Харків	9	21	4	11	2. Національний технічний університет України «Київський політехнічний інститут імені Ігоря Сікорського»	8	3	6
3. Одеса	3	14	3	8	3. Київський національний університет імені Тараса Шевченка	7	3	4
4. Львів	4	10	3	7	4. Національний університет «Богдана Хмельницького» у Львові	6	3	4
5. Дніпро	4	8	2	5	5. Інститут електрозварювання ім. Є. О. Патона НАН України	5	1	3
6. Рівне	1	4	3	2	6. Дніпровський національний університет імені Олеся Гончара	4	2	3
7. Житомир	2	4	3	4	7. Інститут фанки національного академії наук України	3	3	4
8. Тернопіль	2	4	1	3				



The initial stage of testing the necessity of mapping research infrastructure (RI) in conditions of military aggression has revealed challenges in relocating RI objects.

Measures are being implemented on-site to protect and prevent further losses. Forming data attributes for RI objects, aligned with regulatory frameworks, will enable interoperability with state registers, enhancing accessibility for governmental agencies and the public.



The main strategic goals of the project



ensuring continuous updates and maintaining relevance of information about research institutions and projects, accommodating diversity of scientific fields, safeguarding personal data, and enhancing transparency of the scientific infrastructure.



creating a digital tool that facilitates visualization and accessibility of information, ultimately strengthening Ukraine's position in the global scientific community.



monitoring, collaboration, and resource utilization, especially in times of crisis such as armed conflicts and post-war recovery.

The Slovak Case Study - policy



Main document ***Roadmap of research infrastructures - SK RI Roadmap 2020 -2030*** frameworks a system of monitoring, assessment, management and funding RI

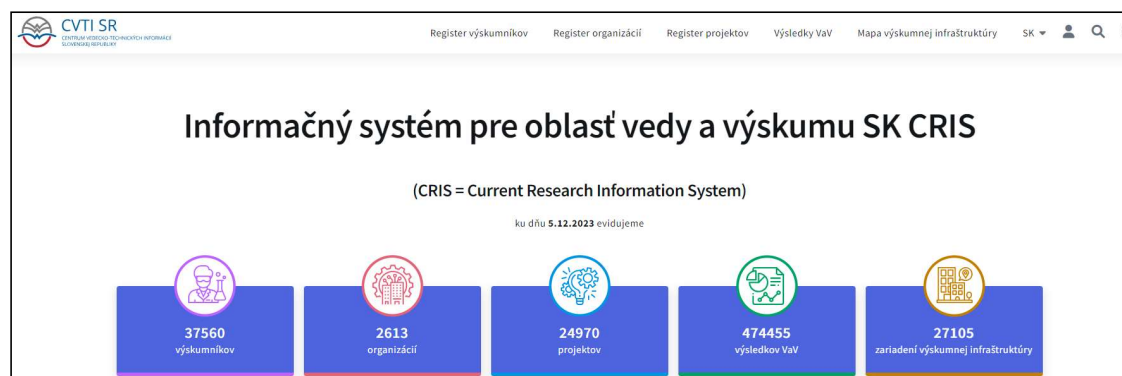


It describes significant research infrastructures: University science parks, research centres and centres of excellence



ESFRI: Slovakia is member of three ESFRI projects and eight infrastructures

The Slovak Case Study – the SK CRIS system

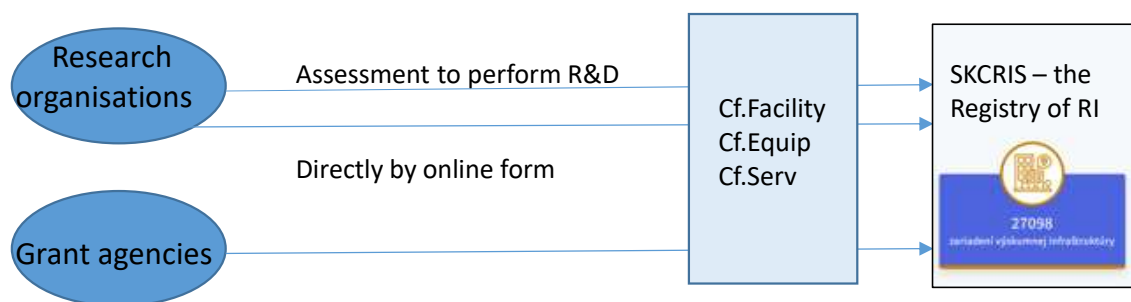


The Slovak Current Research Information System (SK CRIS) as part of the Central Information Portal for Research, Development and Innovation (CIP RDI) has the status of an Information system of public administration, defined by Act 275/2006 on information systems of public administration. The Slovak Centre of Scientific and Technical Information (SCSTI) is responsible for operating, maintaining and providing technical support to this system on behalf of the Ministry of Education, Research, Development and Youth of the Slovak Republic.

The Slovak Case Study – data flow

We collect the data to the SK CRIS system by the Assessment of competence to perform research and development. The applicant for the assessment documents what infrastructures are available to him. This is primarily about laboratory equipment, or the laboratory as a whole.

National research infrastructures are usually inserted by the research organisations that operate them or by the grant agencies' data on the infrastructure built within the framework of EU SF projects.



The Slovak Case Study – software solution

The software module for research infrastructure meets the requirements of CRIS system:

- Relational data model CERIF 1.6
- Well-defined workflow and user interface
- Online forms
- API interface
- System of classifications (international: MERIL, CatRIS; national: research areas)
- The SK CRIS module Map of Research Infrastructure is in test operation and it still waiting for final data migration and routine use. The database currently contains records of about 27 000 research infrastructures, laboratories and devices.

Vyhľadavanie

Vyhľadanie:

Geotická

Organizácia

MERIL kategória

RIS kategória

Výskumník

Projekt

Skupina odborov vedy a techniky

Cena (EUR)

Vymazať filter

Vynájsť

Mapa výskumnej infraštruktúry

SK CRIS > Mapa výskumnej infraštruktúry

Exportovať dáta (xlsx)

Vyhľadavanie

Vyhľadanie:

Geotická

Organizácia

MERIL kategória

RIS kategória

Výskumník

Projekt

Skupina odborov vedy a techniky

Cena (EUR)

Vymazať filter

Vynájsť

Endoskopická veža na výučbu gastroenterológie

SK CRIS > Mapa výskumnej infraštruktúry > Endoskopická veža na výučbu gastroenterológie

Zariadenie

Druh: laboratórne zariadenie

Príloha kúpeľ: 1

Laboratórium: 00000000

Risk obstarávania: 148074 EUR

Obstarávacia cena (EUR): 148074 EUR

ISBN: kategória: RIS kategória

Organizácia

Typ: Výskumná škola

Názov: Univerzita Pavla Jozefa Šafárika v Košiciach

ICD: 00000000

Kraj: Košický kraj

Okres: Slovenská

Názov: Košice - mestská časť

Adresa: Štefánikova 124/2

Projekt

Názov: Inovácia a rozvoj RT na zariadení

Príloha kúpeľ: 1

Laboratórium: 00000000

Risk obstarávania: 148074 EUR

Obstarávacia cena (EUR): 148074 EUR

ISBN: kategória: RIS kategória

Výskumník

Meno: Štefánik

Príloha kúpeľ: 1

Laboratórium: 00000000

Risk obstarávania: 148074 EUR

Obstarávacia cena (EUR): 148074 EUR

ISBN: kategória: RIS kategória

Conclusions

The findings from the Slovak case study emphasize the importance of mapping Research Infrastructures (RI) in shaping Ukraine's approach to RI management.

By drawing upon European experiences, particularly from ESFRI, Ukraine can develop a tailored mapping system. The "Science Map of Ukraine" will enable efficient resource allocation and strategic planning, crucial during wartime and post-war recovery.

The development of the RI module within URIS is a significant step, facilitating data gathering and integration. Moving forward, refining methodologies and leveraging legal frameworks will enhance accessibility and utilization of RI data across various sectors.

Thank you very much
for your attention

