



# The role of **CroRIS** in promoting **Open science** in **Croatia**

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# CroRIS\*

**\*Cro** = Croatian

**\*RIS** = Research Information System

Why the cat then? Well, it is actually a lynx.

And the Croatian word for lynx is, you guessed it - RIS!



# Croatian Research Information System **CroRIS**

- strategic project: **Scientific and Technological Foresight**
- contractor: **Ministry of Science and Education (MSE)**
- partner: University of Zagreb University Computing Centre - **Srce**
- co-financed by the EU through the European Regional Development Fund
- 2021 - tripartite agreement between MSE, Srce and **Ruđer Bošković Institute (RBI)**
  - both RBI (7) and Srce (8) hired new employees who now contribute together to the construction, maintenance, and ongoing development of CroRIS





# Croatian Research Information System **CroRIS**

## Key goals and objectives

- **centralization** of research information
- enhancement of **interoperability**
- promotion of **open science** and support of open access publishing
- **visibility** and **accessibility** of research outputs
- support for **comprehensive** data management
- fostering national and international **collaboration**



# **Evolution** of Research Information Management in Croatia

Previously, there was no centralised research information system. Information was scattered across various systems which CroRIS eventually integrated:

- Register of **Researchers**, Registry of **Research Organizations**, Registry of Higher Education **Institutions** (MSE) (2021)
- databases developed and maintained by RBI
  - Database of Project Activities in Science and Higher Education in Croatia (**POIROT**) (2022)
  - Database of instruments for scientific research (**Šestar**) (2022)
  - Croatian Scientific Bibliography (**CROSB**) (2023)<sup>3</sup>

A key aspect of the evolution in research information management is the role of institutional repositories and **DABAR** (Digital Academic Archives and Repositories), integral to Croatia's e-infrastructure

- interoperability between CroRIS and DABAR is currently under development



Patents and products

Events

Journals

CROSBİ (Publications)

Equipment and services

Projects

Persons

Organisational units

MSE Registers

All modules  
interconnected;  
seamless navigation  
between records.

Access to publications,  
projects, and equipment  
available from  
researcher's profile.

## CroRIS Today

- **centralised data hub** for all scientific activities in Croatia
- enables **interconnected** data navigation, enhancing research management efficiency
- facilitates **easier access, analysis, and management** of data
- supports enhanced **collaboration** and **visibility** in the scientific community



# CroRIS promoting **Open Science**

CroRIS plays a pivotal role in promoting open science through several mechanisms that align with global open science policies and practices.

- **CERIF** compliance
- compliance with **OAI-PMH** and **OpenAIRE**, and the European Open Science Cloud (**EOSC**)
- open **APIs**
- **public access** to metadata
- detailed **publication records** in CROSBI
  - providing and recording indicators of availability of records in **Open Access**
  - information about **peer review**
  - transparency of recorded **APCs**



## CERIF Standard

- Utilizes the Common European Research Information Format (CERIF) for data standardization
  - SQL + XML
- Aligning metadata with the Open Archives Initiative Protocol for Metadata Harvesting (**OAI-PMH**) for improved data interoperability



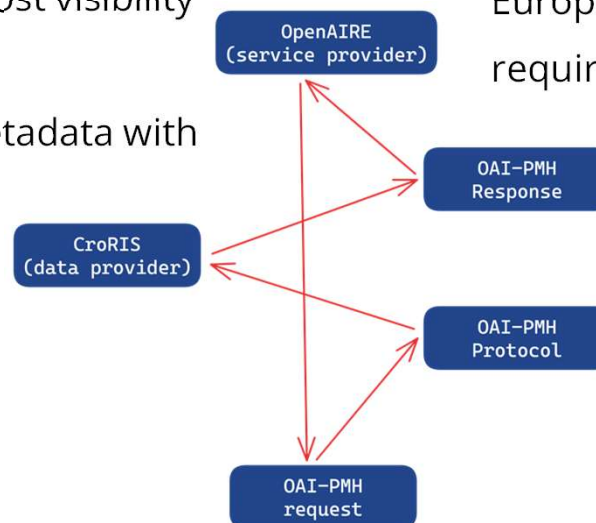
# Interoperability with global systems

## OpenAIRE

- compliance with OpenAIRE Guidelines v4 (for **CRIS** managers) and indexing by OpenAIRE Explore to boost visibility and interoperability
- alignment of the CroRIS metadata with **OAI-PMH** protocol

## EOSC

- Equipment and services module - adjustment of the **entry fields** with European Open Science Cloud (EOSC) requirements



# User-friendly APIs

Patents and products API

Events API

Journals API

Publications API

Equipment and services API

Projects API

Scientists API

Organisations API

- **publicly accessible** metadata via user-friendly APIs promoting transparency and usability
- APIs for accessing data on **Research, Projects, Equipment, and Publications**
- most CroRIS APIs are publicly accessible - exceptions include **restricted access** to researchers' personal data
- APIs enhance system **transparency** and are crucial for data integration and retrieval



## Enhancing research **visibility**

Central point to enhancing the visibility of Croatian research, the CROSBI module within CroRIS details each publication's access route and review status:

- **Open Access indicators**
  - URLs to full texts indicate whether publications are available via OA, facilitating wider dissemination and easier accessibility to the global research community
- **peer review transparency**
  - records show the peer review status, assuring quality and credibility
- **documenting APCs**
  - provides transparency in the financial aspects of publishing



## Future **plans and development** directions

- CroRIS is a central point to advancing Croatia's academic and research infrastructure
- future enhancements to go beyond current functionalities
- strategic directions are aimed at creating an integrated, accessible, and efficient research ecosystem



# Interoperability with **DABAR\***

\* Digital Academic Archives and Repositories

- plans to increase interoperability between CroRIS and DABAR
- enhanced process for depositing and accessing **full-texts** and **bibliographic records** - Dabar will provide URLs for OA files, enhancing accessibility
- seamless integration allowing users to **exchange metadata records** between CROSBIB and Dabar
- transfer of full-text files from old CROSBIB system to DABAR's institutional repositories
  - files to be made available in OA, managed by repository managers



## **DMPs** and **Research Data** as new types of objects in CroRIS

- focus on incorporating Research Data Management Plans (DMPs) records and Research Data records directly into CroRIS
- DMP and Research Data records to be listed as **bibliographic entries** with direct links to their storage locations (Dabar or other repositories)
- optimisation of RDM and improved visibility and accessibility of research data
- future plans include **interlinking** research information with related data on funding, projects, institutions etc. for comprehensive data integration
- this interoperability will enhance the utility of CroRIS as a research management tool



## Enhancing **transparency**

- emphasis on open access and transparency as core values in future CroRIS developments
- example: before the development of Šestar (now Equipment and services), **no comprehensive database existed** in Croatia for showcasing research equipment and detailing associated data
  - CroRIS's enhancements aim to **fill the gap**, providing robust visibility for research infrastructure
- plans to expand the Events module to include detailed records of event participants and their roles
- cataloging organisational units to provide clear insights into the entities behind research activities



## Conclusion

- CroRIS is a key tool in advancing the open science framework and supporting the Croatian research community
- the system exemplifies a robust approach to managing and disseminating research outputs nationally and internationally
- future developments will further enhance its functionality and impact on the scientific community





# Thank you!

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