

Bridging ORRI Gaps in Croatia: Key Actions and Collaborative Strategies

Policy paper

Introduction

Croatia has embraced open science as a national priority, aligning with the European Open Science Cloud (EOSC), the Organisation for Economic Co-operation and Development (OECD) recommendations, and UNESCO frameworks. In May 2025, The Ministry of Science, Education and Youth published the [Croatian Open Science Plan](#), as a key strategic document that clearly defines guidelines and recommendations for the implementation of the principles of open science in the Republic of Croatia. The plan prescribes activities and expectations for researchers, institutions and decision-makers, including the management of research data, the construction of infrastructure, open access to publications and the adaptation of the system of evaluation of scientific work to the principles of open science. The plan has a clear goal: to connect European and international principles of open science with the needs and development priorities of the Croatian scientific system.

The CORIB project aims to take a step further by addressing the broader societal impact of research through the promotion and implementation of Open and Responsible Research and Innovation (ORRI) in Croatia guided by Guidelines and Principles for Open and Responsible Research and Innovation (ORRI) developed by REINFORCING project (Photo 1).

There are still significant gaps in operationalising Open and Responsible Research and Innovation (ORRI), particularly in bridging conceptual principles with practical institutional change in the Croatian research ecosystem, despite noteworthy progress through initiatives such as Hrčak, DABAR, and CroRIS. These include fragmented institutional adoption, limited stakeholder integration, insufficient operational tools, and capacity gaps. Addressing these gaps requires systemic change, collaborative strategies, and alignment with European best practices.

This policy paper offers a roadmap for strengthening stakeholder collaboration and institutionalisation of ORRI in Croatia outlining key actions and collaborative strategies for Croatian universities and research organisations.



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Photo 1. ORRI Principles at Glance (REINFORCING)

The Croatian Open Science Landscape

Croatia has developed strong foundation for Open Science in terms of infrastructure, policy framework and international integration. Platforms such as CroRIS (National research information system), CROSBI (bibliography), DABAR (repositories) and Hrčak (scientific journals portal) provide a technical backbone for open access. The Law on Higher Education and Science from 2022 mandates open access to publicly funded research outputs, while the National Recovery and Resilience Plan emphasise research capacity building and open data. Croatia is a member of EOSC, participates in a couple of ERIC consortia, and aligns with OECD and UNESCO recommendations, especially emphasized in the Croatian Open Science Plan that was published in May 2025. Yet, challenges such as the uneven adoption of Open Science policies across institutions, limited integration of business and civil society stakeholders, and a lack of systematic evaluation of open science contributions to societal needs remains.





ORRI gaps and challenges in Croatia

The REINFORCING ORRI framework identifies critical principles such as anticipatory governance, inclusiveness, multi-stakeholder collaboration, and responsible evaluation. In Croatia, the following gaps persist:

- **Fragmented institutional adoption:** While universities in Zagreb, Rijeka, Split, and Zadar have formal open science policies, most research institutes lack ORRI-aligned governance and evaluation frameworks.
- **Weak stakeholder integration:** While quadruple helix collaboration is encouraged, industry, policy makers and civil society are not systematically engaged with academia in research. Structured mechanisms for joint agenda-setting remain underdeveloped.
- **Insufficient operational tools:** Research organisations often lack instruments for anticipatory governance, multi-stakeholder engagement, citizen participation, responsible evaluation, and DEI (Diversity, Equity and Inclusion) integration.
- **Capacity and skills gaps:** Training in inclusive methodologies, anticipatory governance, and societal impact assessment is not systematically embedded.

Policy Actions for ORRI institutionalisation

The following key actions are designed to address systemic ORRI gaps in Croatia by embedding responsible governance, collaboration, and inclusivity across the research ecosystem. They emphasize practical institutional reforms that align with European best practices, while linking national initiatives to EU-level frameworks. Importantly, these actions serve as a roadmap to ensure Croatian research organizations can effectively contribute to both societal needs and research excellence.

Action 1: Establish ORRI governance structure

Universities and research institutes in Croatia should support the implementation of ORRI principles through their existing institutional structures, such as Technology Transfer Offices, Offices for Projects and Mobility, as well as university libraries that oversee the publication of scientific outputs. These offices and services should serve as focal points for monitoring compliance, providing support, and embedding responsible practices into everyday research. By integrating transparency, accountability, and inclusiveness into governance frameworks, such structures would ensure that responsible research and innovation become a sustainable part of institutional culture.

Action 2: Strengthen Quadruple Helix Collaboration

Building up regional innovation councils that bring together academia, government, industry, and civil society could be a powerful way to strengthen Q-Helix collaboration. These councils would provide structured mechanisms for joint agenda-setting, helping to overcome stakeholder silos. In Croatia, various initiatives and councils already exist,





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though they often operate primarily at the institutional level. Strengthening their activities through enhanced awareness-raising about the importance and responsibility of such an approach is essential for creating broader impact. In parallel, bottom-up citizen science initiatives—supported through national repositories and platforms such as Hrčak and DABAR—should be further scaled up to ensure inclusive participation in scientific discovery and innovation.

Action 3: Embed societal goals and Diversity, Equity and Inclusion (DEI) framework

Embedding societal goals into research requires the introduction of mandatory Gender Equality and Inclusiveness Plans, aligned with the EU GEAR tool (Gender Equality in Academia and Research). Most scientific and research institutions in Croatia already have publicly available Gender Equality and Inclusiveness Plans. These commitments are also part of the horizontal principles that must be emphasized when applying to national calls financed through EU funds. Training programmes should be organised and delivered by institutional Offices for Projects and Technology Transfer Offices, which should also hold responsibility for promoting ORRI principles. Through these measures, Croatian universities and research organisations can ensure their outputs reflect diversity, equity, and inclusion, thereby increasing societal trust and impact.

Action 4: Advance anticipatory governance

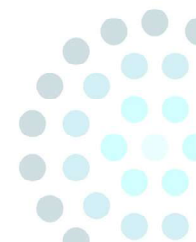
To prepare for emerging societal and technological challenges, anticipatory governance should become a standard element of research practice in Croatia. This can be achieved by incorporating foresight methodologies such as horizon scanning and scenario planning into HRZZ-funded projects and national R&I programmes.

Action 5: Reform research evaluation and incentives

Current evaluation systems focused on bibliometric indicators should be reformed to reward open access publishing, FAIR data practices, citizen engagement, and societal impact. National funding mechanisms, including HRZZ grants should be explicitly linked to ORRI compliance and performance. Such reforms would create powerful incentives for researchers to embrace ORRI principles and embed them in their daily work.

Collaborative strategies for ORRI mainstreaming

Strengthening ORRI in Croatia cannot be achieved by isolated institutional reforms alone; it requires sustained collaboration across sectors and levels. Collaborative strategies should build bridges between universities, research institutes, government bodies, industry and private sector actors as well as civil society organisations. Such partnerships are essential to ensure that research not only advances knowledge but also addresses societal needs, supports inclusive growth, and enhances public trust in science.





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National ORRI Platform: A key step is the creation of an ORRI-Croatia platform that brings together universities, research institutes, industry, SMEs, NGOs, and government institutions. This platform would function as a coordination hub for implementation, enabling stakeholders to exchange experiences, develop common guidelines, and monitor progress through shared indicators. By offering a space for continuous dialogue, the platform would reduce fragmentation and strengthen Croatia's collective voice within the European Research Area.

Ideally, the ORRI platform should be coordinated by the Ministry of Science, Education and Youth, although at present this may be difficult to achieve. As an effective alternative, coordination could be undertaken by the emerging Network of Technology Transfer Offices, which operates under the Ministry's authority. Within this network, certified scientific managers, educated in the principles of responsible research and innovation and accountable for their promotion, are already engaged in guiding researchers and connecting stakeholders across the innovation ecosystem.

By empowering this network, Croatia would not only secure a national mechanism for embedding ORRI principles but also demonstrate leadership in aligning with European standards. This would increase the visibility of Croatian research, strengthen trust between science and society, and amplify the country's capacity to attract competitive EU funding.

EU Alignment and Visibility: Croatia should actively align its ORRI mainstreaming efforts with European initiatives including EOSC services ([Strategic Research and Innovation Agenda- SRIA](#)) and [OECD Guidelines](#). By ensuring interoperability and visibility, Croatian research organisations can benefit from participation in European consortia and increase their competitiveness in securing international funding. Showcasing successful ORRI initiatives on the European stage will also reinforce Croatia's reputation as a forward-looking research ecosystem that prioritises responsibility, inclusivity, and societal impact.

Capacity Building through European Synergies: Developing skills and competencies is crucial for embedding ORRI. Universities and research institutions in Croatia should actively partner with European networks such as [OpenAIRE](#), [EOSC](#)-related initiatives and project [REINFORCING](#) to co-design training in governance, ethics and inclusivity. Joint workshops, mobility programmes, and summer schools would enable Croatian researchers and administrators to learn from best practices abroad while contributing local insights, ensuring mutual reinforcement of knowledge and practice.

Pilot Living Labs: To demonstrate ORRI in action, thematic Living Labs in priority areas such as innovation in digital health, climate adaptation, and sustainable mobility could be established. These Living Labs would serve as experimental environments where researchers, policymakers, businesses, and citizens co-create solutions to pressing societal challenges. They would not only test ORRI principles in practice but also provide





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tangible examples of how research can deliver societal value, thereby encouraging wider adoption across institutions.

In sum, these collaborative strategies offer Croatia a pathway to move from fragmented, project-based initiatives to a systemic approach for embedding ORRI. Through national coordination, European partnerships, practical experimentation, and strategic alignment, Croatia can foster a culture of responsible and inclusive research that resonates both locally and across Europe.

Added value of REINFORCING platform and CORIB ORRI Help Desk at CTT (FESB)

The REINFORCING project serves as a transformative and deeply integrated support mechanism for Open and Responsible Research and Innovation (ORRI), offering far more than guidelines or temporary funding. Central to its role is the [REINFORCING ORRI Platform](#), a One-Stop Source platform working as a consolidated digital hub designed to become Europe's go-to resource for ORRI knowledge, tools, and community connection. Drawing from over a decade of ORRI-related experiences, including RRI Tools and SUPER MoRRI, the platform consolidates proven practices, contemporary insights, and actionable resources in one accessible, continuously updated space. Beyond mere curation, the platform functions as a dynamic ecosystem. It provides structured support mechanisms: grant information, technical tools, case studies, and best practices, while also hosting training modules and workshops tailored to different institutional needs. Institutions can engage with customised ORRI pathways, receiving step-by-step guidance designed to help them navigate complex implementation challenges.

What truly sets the platform apart is its emphasis on community and co-creation. It connects organizations through a vibrant network of ambassadors, facilitators, and peers who have successfully embedded ORRI principles into practice. The virtual ORRI Map enables institutions to identify local experts and potential collaborators, fostering peer-to-peer learning and regional matchmaking. This design ensures that institutions don't just learn from documentation but engage in a living, supportive learning community.

Crucially, the platform is backed by substantial resources and tangible incentives. REINFORCING has mobilised cascading grants ranging from €20,000 to €60,000 to help institutions to incubate or scale up ORRI implementation. These funds are paired with mentoring, matchmaking, and training services, helping to reduce regional disparities especially in Balkan territories and bridge gaps in open innovation and mission-driven research. The REINFORCING platform thus embodies a full-service ecosystem: strategic guidance, community networks, funding, and capacity-building, all integrated.





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Project CORIB is one of the 96 projects rewarded under the REINFORCING cascading grants. To foster ORRI and drive institutional change, the CTT established the [ORRI Help Desk](#), a central advisory service for researchers, innovators, and academic as well as research & innovation support staff, particularly at the Faculty of Mechanical Engineering and Naval Architecture and beyond. The Help Desk serves as a dedicated first-response support hub throughout the entire research and innovation lifecycle, from conceptualisation to commercialization, guiding users in applying ORRI (Open and Responsible Research and Innovation) principles in practice. Key areas of assistance include research ethics and data integrity, stakeholder engagement (involving citizens, industry, and public institutions), gender equality, diversity and inclusion, open science, data sharing, process transparency, and responsible science communication. The service offers free, expert guidance tailored to ethical aspects of research design (such as informed consent and data privacy), open access practices (including FAIR data and open publishing), citizen co-creation methods, and strategies to communicate research responsibly to broader audiences. Additionally, the Help Desk provides access to templates, guides, tools, and infographics to support practical application of ORRI principles. Support is delivered via multiple channels through a contact form or email, for advisory sessions, and a mentoring programme for more complex issues. Altogether, the ORRI Help Desk exemplifies an institutional mechanism that lowers entry barriers to ORRI, builds long-term researcher capacity, and operationalizes open and responsible research practices in the Croatian context.

For Croatian universities and research institutions, drawing inspiration from the ORRI Platform model offers several advantages. By mirroring its structure, integrating capacity building with funding, peer networks, best practices, and customizable pathways Croatia can ensure sustained ORRI uptake beyond project lifecycles. Embedding the Help Desk within a broader institutional strategy that echoes the REINFORCING platform's design could significantly accelerate ORRI culture change, foster cross-institutional learning, and improve access to European ORRI initiatives and grants.

Conclusion

Bridging ORRI gaps in Croatia requires systemic institutionalisation, robust multi-stakeholder engagement, and the integration of societal values into research processes. By establishing ORRI governance, strengthening Q-helix collaboration, embedding DEI, and aligning incentives with ORRI principles, Croatian research organisations can strengthen trust, foster innovation, and maximise the societal benefits of science.

The ORRI Help Desk, established at the Centre for Technology Transfer (CTT) at the Faculty of Mechanical Engineering and Naval Architecture, stands as a positive example that can guide the institutionalisation of Open and Responsible Research and Innovation across Croatian universities and research institutions.

