



Croatian Presidency of the
Council of the European Union



European Strategy Forum
on Research Infrastructures



European Research Infrastructures for a smarter future

Croatian Presidency Conference

**Zagreb, Croatia
18-19 March 2020**

1. Background

Addressing the big challenges of the 21st century, such as climate change, the increasing loss of biodiversity and environmental quality, demographic changes, shaping the industrial and digital transitions as well as ensuring the long-term sustainability of the European quality of life requires **a new ambition for European science**.

Research infrastructures are key elements in providing the necessary data and services for **European scientists** to conduct cutting-edge research in a variety of scientific fields and for **European business** to develop new products and services. They foster development of new types of materials enabling their analysis down to molecular level and testing in extreme conditions. They enable the development of **new technologies** for exploiting various energy sources, developing new treatments for illnesses or making our cities more liveable. They give us tools to **understand better our universe, our planet and ourselves as humans**.

As European Research Infrastructures form **the backbone of our competitiveness in science and innovation**, their quality and the ability to provide the needed services and data largely determines **our capacity to produce the new knowledge**, innovation and understanding that Europe needs to tackle the challenges we face. A new way of working is also necessary, with **scientific disciplines joining forces** to bring holistic responses.

Our **shared investments in Research Infrastructures** in the last decades have equipped us with some of the most advanced and sophisticated facilities in the world. It is now vital to **harness the full potential** of these infrastructures to deal with complex questions and more effectively serve industry, to contribute to education and jobs and to improve citizens' lives. We need a stronger focus on the direction and societal impact of our shared investments.

Recognising the demand for European science to effectively support the needed economic, social and environmental transitions, the **European Strategy Forum on Research Infrastructures (ESFRI) in its**



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“**White Paper on Future Directions of ESFRI**” laid out the specific role research infrastructures can and should play in this context.

2. Concept and objectives

The overall objective of the conference is to **explore the potential of European Research Infrastructures** to make a meaningful impact on the European strategic agendas and identify the ways in which this could be achieved. The outcome of this high-level event will provide a **new impetus for the European research infrastructure policy**, supporting full realisation of the potential of the European Research Area to drive the necessary changes in our economy and society.

The conference will provide a **platform for discussion and dialogue** between policy, research and industry stakeholders on the changes that are necessary to jointly address the big challenges of our times. It will also increase the visibility of **opportunities provided by Research Infrastructures** and promote partnership between business and academia.

The conference is divided into three main blocks and concludes with a high-level panel identifying directions for future European research infrastructure policy. The presentation of the ESFRI “White Paper on Future Directions of ESFRI” in the opening plenary, with its key messages, will set the scene for the discussions throughout the conference.

Block 1. Building synergies between sectoral investments in Research Infrastructures and the European strategic agendas

Though the **role of science for evidence-based policy making and in developing sectoral policies** in fields such as health, environment, energy, economic and social policies, and many others, is recognized, the necessity of joint sectoral investment in state-of-the-art research infrastructures hereby is largely ignored in political debates. Research infrastructure investment priorities are set mainly in the science sector, and the alignment with other sectoral policies remains indirect, at national, regional and European level. **The lack of integration of RIs into other sectoral policies** is a missed opportunity for investment and an obstacle to science-driven economic, social and environmental transitions.

Research infrastructures also play a key role in the creation of effective innovation ecosystems as they are strongly rooted in the regions and critically influence regional development. The **full potential of research infrastructures in this context is not yet realized** by the regional authorities and RIs are not sufficiently included in the planning, design and implementation **of the Regional Smart Specialization Strategies**.



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This session will focus on exploring the ways to improving synergies between sectoral investments in research infrastructures and selected big European policy agendas – Green Deal, energy transition and regional development.

Block 2. The role of Research Infrastructures in the mission-driven activities of Horizon Europe

Horizon Europe will provide an opportunity to better **embed the research infrastructures into the European science agenda**, focusing on maximizing their impact. The greater use of a **challenge driven approach** across the entire Horizon Europe programme will promote further **integration of the European research infrastructure ecosystem**.

In particular, the **Missions of Horizon Europe** aim to mobilise all relevant knowledge, expertise and creative potential of European science, business and policy-making. **Achieving the Missions' objectives** will also require the different research infrastructures to put together existing data, generate new data and develop joint services targeting complex research questions.

This session will explore **the potential of European research infrastructures** to support the implementation of selected Horizon Europe Missions.

Block 3. Education and jobs – how Research Infrastructures can shape the future?

Research Infrastructures are knowledge hubs for excellent science and are therefore natural **meeting points of research, education and innovation** where the three pillars of economic competitiveness and social progress reinforce each other. As such, research infrastructures play an important role in the **European education system**, as they are usually closely linked to universities and provide them with important services supporting educational curricula and lifelong learning.

Research Infrastructures also provide **quality, knowledge-based jobs and unique opportunities for training highly skilled human capital**, especially in relation to developing and implementing advanced technologies, state-of-the-art engineering, data stewardship, analysis and quality control as well as research infrastructure management and operation. Reaching out to schools and the local communities, they also encourage scientific curiosity and understanding in the society.

This session will discuss the **contribution of RIs to scientific literacy, skill development and jobs of the future**.

European Research Infrastructures for a smarter future – high-level policy panel

The final session of the conference will provide space for a general **reflection on the European research infrastructure ecosystem** and how to make it more effective, sustainable and impactful in the context of the **European Research Area evolution**. This session will draw out the **key messages** for the future European research infrastructure policy, feeding into **conference conclusions**.

3. Programme outline

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| 18 March 2020 | |
| 13:00 – 13:15 | Opening Session <u>Welcome and Introduction to the agenda</u> Croatian Presidency |
| 13:15 – 14:00 | Introductory Keynotes <u>ERA evolution and Horizon Europe</u> <u>ESFRI White Paper presentation</u> |
| 14:00 – 15:30 | Block 1. Building synergies between investments in Research Infrastructures and the European strategic agendas <u>Plenary speech setting the scene</u> <u>Parallel Session 1 – Green Deal</u> <u>Parallel Session 2 – Energy transition</u> <u>Parallel Session 3 – Regional development</u> |
| 15:30 – 16:00 | Coffee break |
| 16:00 – 16:15 | Invited Talk 1 Big science at RIs |

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| 16:15 – 17:45 | <p>Block 2. The role of Research Infrastructures in the mission-driven activities of Horizon Europe</p> <p><u>Plenary speech setting the scene</u></p> <p><u>Parallel Session 1 – Mission Cancer</u></p> <p><u>Parallel Session 2 – Mission Water or Climate</u></p> <p><u>Parallel Session 3 – Mission Cities</u></p> |
| 17:45 – 18:00 | <p>Invited Talk 2</p> <p>RI engagement in citizen science</p> |
| 18:00 – 18:15 | <p>Close of Day 1</p> <p>Croatian Presidency</p> |
| 20:00 | <p>Conference Dinner</p> |
| <p>19 March 2020</p> | |
| 9:00 – 9:15 | <p>Opening Day 2</p> <p>Croatian Presidency</p> |
| 9:15 – 10:45 | <p>Block 3. Education and jobs – how Research Infrastructures can shape the future?</p> <p><u>Plenary speech setting the scene (20')</u></p> <p><u>Parallel Session 1 – RIs for education</u></p> <p><u>Parallel Session 2 – RIs as job creators</u></p> <p><u>Parallel Session 3 – RIs as training providers</u></p> |
| 10:45 – 11:15 | <p>Coffee break</p> |
| 11:15 – 11:45 | <p>Summary of parallel sessions</p> |



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| 11:45 – 12:45 | European Research Infrastructures for a smarter future – policy panel |
| 12:45 – 13:00 | Conference conclusions Croatian Presidency |