

25 March 2022  
Paris, France

The ESFRI  
**20th anniversary**  
conference

European Research Infrastructures  
at the heart of scientific discoveries

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## CONFERENCE OUTCOMES

### ESFRI 20<sup>th</sup> Anniversary Conference: European Research Infrastructures at the heart of scientific discoveries

As part of the [French Presidency of the Council of the European Union](#), the Ministry of Higher Education, Research and Innovation, the French [Académie des sciences](#) and the [European Strategy Forum on Research Infrastructures \(ESFRI\)](#) organized the [ESFRI 20<sup>th</sup> Anniversary Conference: European Research Infrastructures at the heart of scientific discoveries](#).

The conference took place in **Paris**, at the [Institut de France](#), on **March 25, 2022** and gathered around **300 participants** to celebrate the achievements of ESFRI and the importance of the European policies for the development of high-level scientific research capable of meeting the major contemporary challenges.

The conference brought together **key stakeholders**, including policy experts, facility managers, leading and young researchers, to explore the drivers behind the development of the rich European Research Infrastructures (RIs) landscape and to discuss emerging trends and challenges for the future. The conference provided an important opportunity to explore the range of cutting-edge work being undertaken across the research domains that are reliant on the services provided by European RIs. Several outstanding scientists as well as promising young researchers shared with the audience their major discoveries and illustrated how they have benefited from these unique facilities.

In the 1960s, European states created intergovernmental organizations around major disciplinary research instruments. 20 years ago, European states and the European Commission created **ESFRI, a strategic forum to foster the scientific integration of Europe**

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by establishing common European RIs, strengthening the global competitiveness of our research and innovation system. ESFRI's activities not only led to the successful creation of consecutive common RI roadmaps at European level, but also made European states develop dedicated RI roadmaps at national level.

## Research infrastructures for fundamental and applied science

**RIs are at the heart of scientific discoveries** such as the Higgs' boson at CERN, the observation of a black hole at ESO, the role of the ocean in climate change thanks to ARGO, the evolution of the Universe with the European supercomputers, the study of gravitational waves with LIGO and Virgo interferometers and the genomics databases like EMBL-Bank to study orphan diseases. Synchrotrons are a remarkable example of the interdisciplinarity of RIs, serving thousands of users from all communities, even in humanities, as it is the case for the restoration of works of art.

Major instruments of RIs are also **technology accelerators**. They support industrial research and development efforts by strengthening their competitiveness. Besides, in terms of job creation, training through research and technology and spin-offs from innovation (start-ups), RIs provide excellent "return on investment".

Finally, large-scale infrastructures offer extraordinary possibilities of **acquisition and exploitation of data**, sharing networks and high-performance computing resources to face contemporary challenges and to tackle environmental, climate as well as health issues.

## Past, present and future of ESFRI and the impact of Research Infrastructures on society and contemporary challenges

The ESFRI 20<sup>th</sup> Anniversary Conference created a momentum not only to look back on **ESFRI's achievements** but also to **discuss emerging trends**. The conference illustrated the pioneer and strategic nature of the European policy on RIs, which no Member State would be able to finance alone.

The conference highlighted the dynamics of the development of the European RIs landscape over the past 20 years. The sixth edition of the **ESFRI Roadmap**, published in 2021, features **41 European RIs** already implemented and **22 infrastructure projects** that are 'in the making'. When realised, the total joint investments in these initiatives will exceed **24 billion euros**.

ESFRI created a trusted environment where national governments, the scientific community and the European Commission can discuss all topics related to RIs. It developed a methodology for **identifying investment priorities in RIs**, which is a global role model, both for decision-making at national level and, in particular, for international endeavors. Finally, ESFRI developed a high-level expertise and knowledge about RIs, their development and operation, becoming a **knowledge hub for better policymaking**.

With the support of ESFRI, RIs are evolving into an **interconnected and interoperable ecosystem**, which goes beyond the area of research and innovation. RIs are also recognized as important actors of regional development in many spheres of economy and show strong outreach to many sectoral policies and agendas. They are vectors of innovation, talent attractors and catalyst for collaboration.

In the future, new efforts will be needed in order to maintain European RIs at the **cutting edge of science and technology**, providing them with long term funding for operation and further development. Their impact must be strengthened by promoting services in support of our common policy priorities and by connecting them better with industry so that they can underpin industrial innovation.

In particular, ESFRI will focus on improving its roadmap process, identifying domains where services need to be further developed, filling in the existing gaps. Joint effort of RIs, national governments and the European Commission will also be needed to develop effective funding and operation models ensuring **sustainable and inclusive access to RI services and resources**. By their nature, RIs require long term investment and therefore further synergies among the variety of funding sources need to be exploited. It is also essential to make sure the existing RIs have the necessary conditions and support to reach their full research and innovation potential and to create favourable conditions for their sustainability.

During the Conference it was confirmed that RIs have the potential to strengthen relations between higher education, research, innovation and services to industry, as well as to society at regional and European level. To make significant advances in areas linked to societal, ecological and economic transitions, RIs must make contributions towards **a climate neutral Europe, the recovery from the pandemic and the digital transition**.

### Support from the Presidencies of the Council of the European Union

Underlining the role ESFRI plays in enhancing European excellence in research and innovation and building on the priorities of preceding presidencies of the Council of the European Union, France welcomes the ESFRI Roadmap 2021 and stresses its support to ESFRI work. France has accompanied the development of the European RI landscape since more than twenty years and is an active member of 48 ESFRI roadmap RIs out of 63. All these 48 RIs are also included into the national roadmap. Further development of a coherent and strategic landscape of RIs should become one of the main conditions and facilitators for the optimization of a common European effort in future deployment of **intelligent scientific choices and proper investments into European RIs**, to give answers to pressing scientific and societal needs.

Enhancing the strategic work of the presidencies of the Council of the European Union, the upcoming Czech presidency will place RIs in the top priority position and will prepare the Brno declaration on RIs, inviting stakeholders to develop a fully integrated RIs ecosystem. RIs must appear at the forefront of European priorities, assuring that the equipment of excellence supports ambitious and innovative European projects, at the highest international scientific level.

### Conclusions

In 20 years, ESFRI succeeded in structuring and strengthening **a RIs landscape that enables and promotes excellent science in Europe**. As the result of cooperation between European states, the added value of European RIs for each country is multiplied. This capacity creates outstanding conditions for European research and innovation to be globally competitive, enabling Europe's leadership in a broad range of research and innovation areas and different market sectors.

Looking ahead, the objective must be to take European RIs to the next level. This means recognising the potential of RIs to attract talent, induce innovation and delivering solution to societal challenges without losing sight of the importance to support fundamental excellent science.

To **unlock the full potential of RIs** we need to make sure that they provide state-of-the-art services and that these services are easily and readily accessible. More efforts are needed to ensure the long-term sustainability of RIs and their connections with innovation ecosystems, including industry.

*Useful links and resources:*

To watch the Conference recap video, click [here](#)

Watch the full video recording of the Conference [here](#)

For more information about the Conference, please visit the [event page](#)

To learn more about ESFRI, please visit the [ESFRI website](#)

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**FRANCE22**  
FRENCH PRESIDENCY  
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