

WHAT IS JOINT PROGRAMMING?

In Europe, as well as globally, we face a number of societal challenges that no country or region can tackle alone. Addressing these so-called Grand Societal Challenges efficiently and effectively will require combined efforts and new ways of collaboration between countries. In this context, the European Commission introduced Joint Programming (JP) to the European Parliament and the Council of European Union in 2008. It is one of the priorities for implementing the European Research Area (ERA). JP is an intergovernmental process enabling European Member States and associated and third countries to participate in those joint research programming activities that are strategically important and offer synergies. The objective is to better align the 85 per cent of research and innovation investments spent at national level. Member Countries participating in Joint Programming are expected to engage in concerted and joint planning, implementation and evaluation of national research and innovation programmes to define common priorities. This provides a basis for long-term cooperation, increasing the value of research, development, innovation and infrastructure investments at all levels; regional, national and European. Such an approach requires a top-down, high-level sustained strategic intergovernmental dialogue. Only this will ensure the shared political visions needed to respond to these grand challenges in the form of commonly agreed Strategic Research and Innovation Agendas (SRIAs) that can also take into account diverse stakeholder needs.

ADDRESSING THE GRAND SOCIETAL CHALLENGES EFFICIENTLY AND EFFECTIVELY REQUIRES COMBINED EFFORTS AND NEW WAYS OF COLLABORATION BETWEEN COUNTRIES.

WHAT ARE JOINT PROGRAMMING INITIATIVES?

Joint Programming Initiatives (JPIs) were launched in the major research fields focused on tackling the Grand Societal Challenges via European Council conclusions in 2009. JPIs are Member State-led, bringing together national research funding organisations, ministries and research councils both in Europe and further afield. This ambition, of aligning national programmes, strategies and policies, extends beyond the matching of RD&I funds. The alignment process (Fig 2) covers various phases, from setting joint objectives and forging a common vision and a SRIA between countries to developing appropriate framework conditions and selecting appropriate instruments. Developing joint Strategic Research and Innovation Agendas is an aligning mechanism in itself due to the required national strategy decision processes involving national decision makers and policy actors and ensuring broad stakeholder involvement. JPIs are long-term processes that contribute to EU and global policy objectives including EU2020 smart, sustained inclusive growth, UN Sustainable Development Goals and WHO goals. As mission-oriented programmes, the JPIs address complex issues requiring an integrated, inter- and transdisciplinary approach. A portfolio of implementation measures and instruments, based on the developed strategies was, and continues to be, developed for supporting and strengthening joint transnational actions (Fig 2). With these activities, the JPIs intend to complement the European Commission's activities under Horizon 2020 and other programmes by taking advantage of national programmes, competences, skills and infrastructures. In addition, the JPIs can develop into platforms that can engage in partnerships with the European Commission. This is based on the recognition that the Commission impacts strongly on transnational cooperation in areas that have had to achieve critical mass.

Fig 2: Alignment process based on the example of JPI Urban Europe



JPIs – THE WAY FORWARD

In recent years, the focus has been on developing and establishing the JPIs, their governance structures and portfolios. The coming years will be dedicated to scaling up the JPIs and strengthening and broadening their activities and instruments.

- JPIs are platforms to jointly face the complex societal challenges, open to all European Member States, Associated Countries and international partners. Therefore, they aim to widen participation in Europe and beyond, reinforcing long-term partnerships between governments and RDI communities to build critical mass and impact.
- JPIs have proven their value in addressing societal challenges through aligned transnational and intergovernmental efforts. However, the global dynamics and developments that influence these challenges demand a high responsiveness for developing future priorities, instruments and activities. Therefore, the JPIs will continue to adapt their strategies and priorities to match the coming research and innovation needs.
- As mission-oriented programmes, JPIs have developed their portfolios not simply for funding research and innovation but also for delivering impact, improving efficiency of these RDI investments and providing evidence that supports policy making. The JPIs will gradually continue improving and extending their implementation measures and instruments to fit the needs of the respective research and innovation areas.
- Flexibility in selecting, developing and adapting the instruments and activities to meet the needs of the research and innovation area allows countries and partners to participate in actions that match their national priorities and needs.
- Although each JPI is addressing a specific societal challenge, many of these are interlinked, calling for a coordinated approach. The first cross-JPI activities are already underway, with a commitment to further strengthening these joint efforts. The ten JPIs have regular exchanges and engage in mutual learning on areas of common interest, both thematically and operationally.
- For JPIs to become European hubs on a global scale for their respective societal challenges demands national commitment and transnational, European collaborative efforts. This requires policy, strategic and operational alignment not only among participating national partners but also within various policy fields at the national level as well as between JPIs and European Commission activities, eg, the European Research Framework.

JOINT PROGRAMMING INITIATIVES



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WHAT ARE THE BENEFITS OF PARTICIPATING IN JPIS?

JPIS are building and maintaining communities – this needs a long-term approach.

New forms of long-term collaboration between local, regional, national and European policy makers and actors that reduce fragmentation and increase the impact of national RD&I investments:

- Building trust and encouraging collaboration between national research policy makers, ministries, funding agencies, research performing organisations and related stakeholders from differing countries;
- Building critical mass in the related RD&I fields based on national strategies, policies, competences and programmes;
- Benefitting from institutional alignment and partnering with international research organisations in strategic programmes, and
- Building upon national/regional/local RD&I competences, strategies and priorities, benefitting from direct access to local stakeholders, aligning and connecting them in transnational activities on a European level.

Fostering and testing innovative approaches and science-policy cooperation:

- Establishing European innovation ecosystems that foster stakeholder involvement and co-creating new solutions;
- Turning science into practice through new partnerships and dedicated programme management, including strategic community building, translating science into policies, driving new innovation models and disseminating and communicating research results to support their exploitation, and
- Leveraging and testing new tools and ways of cooperation, setting up new instruments and facilitating mutual learning.

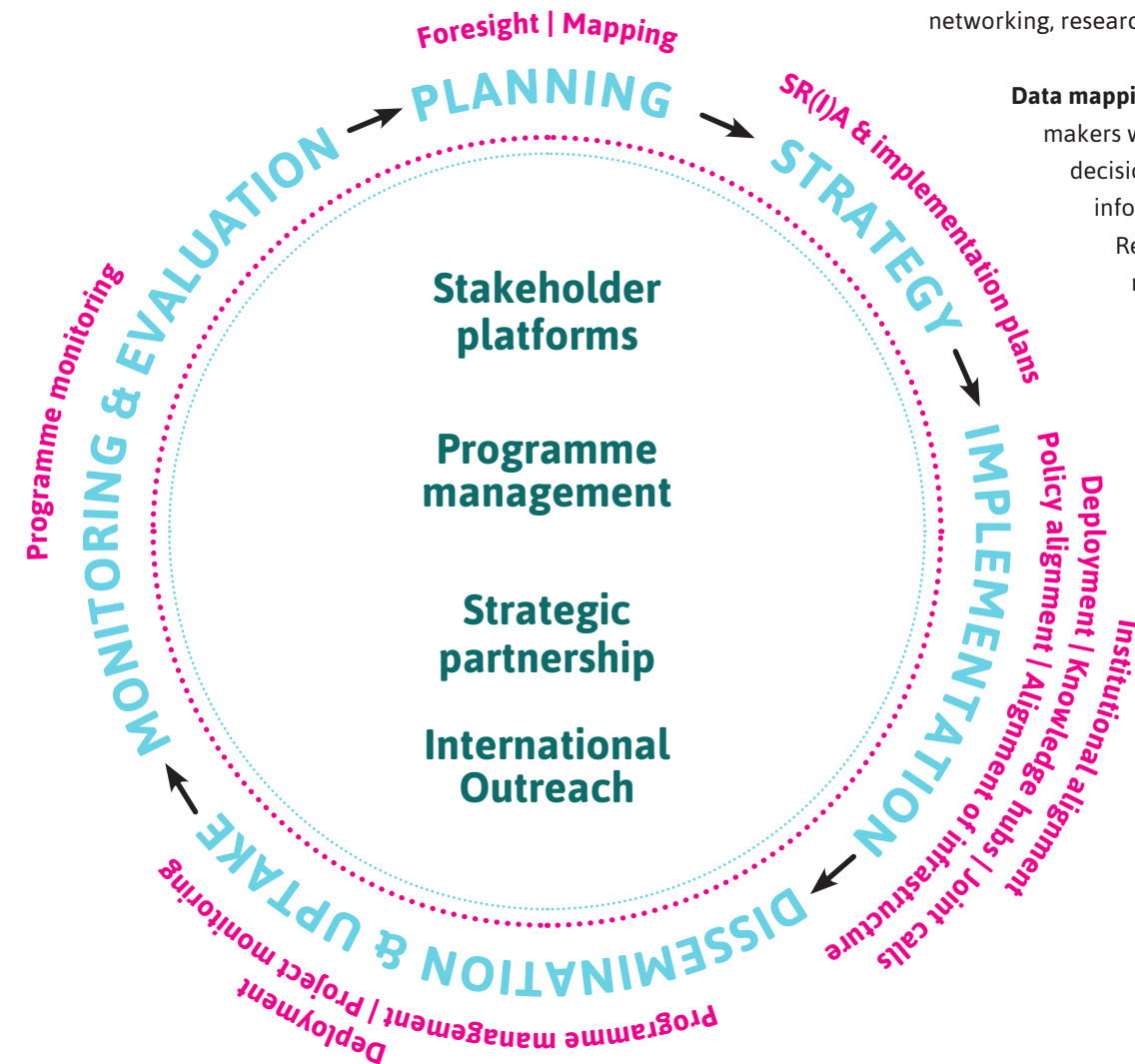
JPIS as gateways for scientific excellence, relevance and international cooperation:

- Driving scientific excellence and competitiveness through joint calls and actions and participating in relevant European and international programmes;
- Showcasing European science on global societal priorities to the world and contributing to international agenda setting, and
- Raising visibility of European competences and achievements and representing the European RD&I community in international cooperation.

JPI IMPLEMENTATION ACTIONS FOR TRANSNATIONAL ALIGNMENT AND COOPERATION

All JPIS have developed SRIAs that define common ground for cooperation and setting targets for joint actions. Alongside these agendas and related implementation plans, JPIS are creating and maintaining an environment for mission-oriented research and innovation. Joint calls for transnational research and innovation projects provide a solid basis for generating new knowledge, fostering transnational exchange and validating new solutions. However, ensuring knowledge uptake by policy and exploitation of these results requires additional activities and instruments. In addition, there are efforts to develop shared infrastructures, data and knowledge hubs and strategic programme management. Accordingly, the JPIS have developed a portfolio of instruments tailored to their specific topics and requirements over the last few years (Fig 3). Table 1 summarises the portfolios established by each of the JPIS to date.

Fig 3: JPIS' portfolios of instruments along the innovation policy cycle



Foresight: Prospective exercises assist in creating joint visions and providing important frameworks for strategy development.

Strategic Research and Innovation Agenda: These are essential in defining the common agenda and joint actions. They summarise the main ambition of JPIS, defining research and innovation priorities and guiding selection and development of implementation measures.

Joint Calls: Established by the JPIS, these are guided by the priorities of the respective Research and Innovation Agendas. For each of the calls, funding agencies individually decide their involvement and the budgets they commit, depending on their national agendas and priorities, according to the variable geometry principle. In some cases, they establish cooperation with the European Framework Programme (H2020) through ERANET Cofunds.

Knowledge Hub: A "Knowledge Hub" is an innovative, tailor-made instrument, unites three complementary dimensions; networking, research and capacity building.

Data mapping: This provides scientists and policy-makers with relevant data for evidence-based decision-making. Data mapping also helps inform development of the JPI's Strategic Research Agendas and any calls or research proposals that will follow from them. They identify relevant sources, helping individual projects avoid repeating work and ensuring that research proposals remain well informed about possible data sources.



Aligned or shared infrastructure: Aligned or shared infrastructure may comprise physical labs for developing and validating new technologies and solutions or databases or living lab eco-systems for demonstrating and exploiting new concepts and solutions.

Alignment of research performing organisations: National investments in research performing organisations (such as universities or applied research organisations) represent a high proportion of national RDI budgets. By setting up strategic, long-term partnerships between these organisations, the various research actors can generate knowledge, develop new solutions and drive innovation to connect.

Policy alignment: As mission-oriented RDI programmes, JPIS aim to provide scientific evidence for policy makers. This involves translating research results into policy recommendations, exchanging national policies that address the given societal challenges and jointly developing policy measures.

Stakeholder involvement: Setting up a long-term research and innovation programme on societal challenges requires not only funding research and innovation projects but also strong stakeholder involvement. Appropriate models for involving stakeholders that recognise the complexity of the JPIS' priorities need to be established along the entire knowledge and innovation chain.

Programme management: Programme management covers a variety of actions for exploiting project results more effectively; strategic analysis of projects, generating added value for follow-up actions through results and data as well as supporting the RDI community in building new partnerships and cooperation. International outreach: JPIS aim to establish themselves as European hubs on a global level in their respective research areas. Dedicated outreach activities allow the initiatives to connect with related RDI programmes in other regions of the world, become partners in joint calls and exchange information on strategic issues and long-term priorities. International partners appreciate JPIS as outstanding instruments for non-European countries to collaborate with European Member States on strategic and executive level.

GOVERNANCE MODEL OF JPIS

Each JPI has developed its own governance structure according to the specific needs of the chosen challenge and research area. However, all share a common understanding of the main principles of the JPI governance model (Fig 4). Some have

developed governance principles for sustainability, stakeholder orientation and open access as overarching guidelines for their mode of operations and for implementing their Strategic Research Agendas.



Fig 4: generalised governance model of JPIS

JOINT ACTIONS

	JPND	MYBL	OCEANS	CLIMATE	URBAN EUROPE	HDHL	AMR	CULTURAL HERITAGE	WATER	FACCE
SRA / SRIA	•	•	•	•	•	•	•	•	•	•
Joint Calls (no EC co-funding)	•	•	•	•	•	•	•	•	•	•
Joint calls with EC co-funding	•	–	•	•	•	•	•	•	•	•
Programme Management	•	•	•	–	•	•	•	•	–	•
Stakeholder Involvement	•	•	•	•	•	•	•	•	•	•
Knowledge Hub	•	–	•	•	–	•	•	•	•	•
Data mapping	•	•	•	•	–	–	•	•	•	–
Foresight	•	•	•	•	–	•	•	•	•	–
Alignment of RPOs	•	–	•	•	•	–	–	–	–	–
Shared research infrastructure	•	–	•	–	•	–	–	•	–	–
Policy alignment	•	•	•	–	•	•	•	•	•	•
International outreach	•	•	•	•	•	•	•	•	•	•

Table 1: Implementation measures of JPIS