

## Joint Research is essential to addressing grand challenges

Europe and the World are facing unprecedented challenges which have to be addressed individually and collectively. Europe must be at the forefront of finding solutions to global challenges, such as climate change, as well as specific regional challenges such as an ageing population or urbanisation. These challenges are all linked: climate change threatens for instance food production systems, which also have a correlation with health factors. Our cultural heritage is threatened while global oceans are subject to multiple stresses including acidification due to excess emissions of carbon dioxide.

These are “grand societal challenges” and combined efforts are needed to solve them. The solutions need to be informed by robust evidence, knowledge and innovation. This requires that our best and most dedicated researchers are enabled to work on these, in a co-operative, creative and sustained manner with the aim to inform policies and support decision making from local to global levels. Europe, through its excellent science base and facilities, has the resources to tackle these challenges.

Recognising this, EU member states and associated countries have established joint research efforts and shared activities that aim to optimise use of their resources and capabilities through joint research programmes. The objective is to enhance research outputs and communication of these to decision makers. Since 2009, they have been working successfully through Joint Programming Initiatives (JPIs) that are designed to develop and support co-operative research and innovation in addressing ten shared societal challenges.

### Ten societal challenges

The JPIs have established a unique transnational approach for research collaboration in Europe and with associated countries. The JPIs work closely with the European Commission (EC) – to address shared goals and ensure alignment of investment, so as to increase the impact of their research programmes and investments and to jointly build the European Research Area.

The JPIs now aim to build on what has been established and the lessons learned since 2009 to achieve a coherent, comprehensive, long-term and strategic process to advance solutions-oriented research to further explore and address these challenges. The aim is to optimise research investments, pool research capacities and avoid unnecessary duplication or fragmentation of research and innovation efforts. This will enable greater sharing of data, evidence and utilisation of research infrastructures to provide robust analysis and solutions.

### How does it work

The Joint Programming Initiatives (JPIs) are led by research funding organisations, research councils and ministries, from participating European countries. Together they initiate cross border research through shared calls and other research actions based on Strategic Research and Innovation Agendas (SRIA) designed to address specific societal challenges. In doing so



they provide knowledge and analysis that contribute to advancing international policy objectives, including the EU 2020 goals on smart, sustained inclusive growth, the UN 2030 Sustainable Development Goals, the UNFCCC Paris Agreement and the goals of the World Health Organisation (WHO) as well as support decision makers working to advance these objectives at local, national and regional scales. Details on the JPI's portfolio of activities can be found in brochure Joint Programme Initiatives <link>.

## Achievements

The JPIs have proven to be the most effective way to mobilise national research capacities in a joint mission. They have brought greater visibility to EU research and with the European Commission they are contributing to build a vibrant and effective European Research Area. Currently this mechanism is the most successful European example of transnational, long-term, mission-oriented programmes for research, development and innovation.

The JPIs have enabled the participating EU member states and associated countries to shape and align long-term research and innovation agendas and priorities. This has allowed the establishment of a wide range of shared research calls and investments. The involvement of key stakeholders, for instance in co-designing actions, and continuous assessment of the results of ongoing joint actions guarantees that research results will be relevant to them and meet their needs.

The JPIs have become strategic hubs for international research cooperation, providing a gateway for increased participation in linking regional, national, European and international levels e.g. through interacting with initiatives such as PRIMA, BONUS, and the Belmont Forum.

Research outputs are already being used in policy and decision making processes and this is expected to increase and become more influential.

## The Future

The JPI process has only really started and it must evolve and develop. The JPIs must consolidate their membership and embrace new countries that are committed to multi-annual mission-oriented programmes and investments. This involves

- Further alignment and co-operation of national policies, resources and capacities for research, development and innovation
- Enhanced links and dynamics with EC research programmes and structures
- Working closely with other international or multinational research initiatives.

The ultimate aim is to improve operational coherence to ensure that end-users including policy- and other decision makers and the citizens of Europe have access to the evidence-based knowledge that they need. The Forum of the JPI Chairs and the High-level Group for Joint Programming (GPC) are central to these developments and to ensure that Europe leads in tackling the grand societal challenges of our times.

## 10 JPIs since 2009



Water Challenges for a Changing World



Healthy and Productive Seas and Oceans



More Years, Better Lives - The Potential and Challenges of Demographic Change



Antimicrobial Resistance - The Microbial Challenge - An Emerging Threat to Human Health



Connecting Climate Knowledge for Europe



Global Urban Challenges, Joint European Solutions



Agriculture, Food Security and Climate Change



Cultural Heritage and Global Change: A New Challenge for Europe



A Healthy Diet for a Healthy Life



Alzheimer and other Neurodegenerative Diseases