NON-NUCLEAR DIRECT ACTIONS OF THE JOINT RESEARCH CENTRE (JRC)

The JRC’s activities shall be an integral part of Horizon 2020, in order to provide robust, evidence-based support for Union policies. This shall be driven by customer needs, complemented by forward-looking activities.

Specific objective

The specific objective is to provide customer-driven scientific and technical support to Union policies, while flexibly responding to new policy demands.

Rationale and Union added value

The Union has defined an ambitious policy agenda to 2020 which addresses a set of complex and interlinked challenges, such as sustainable management of resources and competitiveness. In order to successfully tackle these challenges, robust scientific evidence is needed which cuts across different scientific disciplines and allows the sound assessment of policy options. The JRC, playing its role as the science service for Union policy making, will provide the required scientific and technical support throughout all stages of the policy-making cycle, from conception to implementation and assessment. To contribute to this specific objective it will focus its research clearly on Union policy priorities while enhancing cross-cutting competences and cooperation with the Member States.

The JRC’s independence of special interests, whether private or national, combined...
The JRC's independence of special interests, whether private or national, combined with its scientific-technical reference role enable it to facilitate the necessary consensus building between stakeholders and policy makers. Member States and Union citizens benefit from the research of the JRC, most visibly in areas such as health and consumer protection, environment, safety and security, and management of crises and disasters.

More specifically, Member States and regions will also benefit from support to their Smart Specialisation Strategies.

The JRC is an integral part of the ERA and will continue to actively support its functioning through close collaboration with peers and stakeholders, maximising access to its facilities and through the training of researchers and by close cooperation with Member States and international institutions that pursue similar objectives. This will also promote the integration of new Member States and associated countries for which the JRC will continue to provide dedicated training courses on the scientific-technical basis of the body of Union law. The JRC will establish coordination links with other relevant Horizon 2020 specific objectives. As a complement to its direct actions and for the purpose of further integration and networking in the ERA, the JRC may also participate in Horizon 2020 indirect actions and co-ordination instruments in areas where it has the relevant expertise to produce Union added value.

**Broad lines of activities**

The JRC activities in Horizon 2020 will focus on the Union policy priorities and the societal challenges addressed by them. These activities are aligned with the objectives of the Europe 2020 strategy, and with the headings 'Security and citizenship' and 'Global Europe' of the Multiannual Financial Framework for 2014-2020.

The JRC's key competence areas will be energy, transport, environment and climate change, agriculture and food security, health and consumer protection, information and communication technologies, reference materials, and safety and security (including nuclear safety and security in the Euratom programme). The JRC activities in these areas will be conducted taking into account relevant initiatives at the level of regions, Members States or the Union, within the perspective of shaping the ERA. These competence areas will be significantly enhanced with capacities to address the full policy cycle and to assess policy options. This includes:

(a) anticipation and foresight - pro-active strategic intelligence on trends and events in science, technology and society and their possible implications for public policy;
(b) economics - for an integrated service covering both the scientific-technical and the macro-economic aspects;
(c) modelling - focusing on sustainability and economics and making the Commission less dependent on outside suppliers for vital scenario analysis;
(d) policy analysis - to allow cross-sectoral investigation of policy options;
(e) impact assessment - providing scientific evidence to support policy options.

The JRC shall continue to pursue excellence in research and extensive interaction
with research institutions as the basis for credible and robust scientific-technical policy support. To that end, it will strengthen collaboration with European and international partners, inter alia by participation in indirect actions. It will also carry out exploratory research and build up competences in emerging, policy-relevant areas on a selective basis.

The JRC shall focus on:

**Excellent science**

(See also PRIORITY 'Excellent science')

(http://cordis.europa.eu/programme/rcn/664091_en.html)

Carry out research to enhance the scientific evidence base for policy making and examine emerging fields of science and technology, including through an exploratory research programme.

**Industrial leadership**

(See also PRIORITY 'Industrial leadership')


Contribute to European competitiveness through support to the standardisation process and standards with pre-normative research, development of reference materials and measurements, and harmonisation of methodologies in five focal areas (energy; transport; the flagship initiative 'Digital Agenda for Europe'; security and safety; consumer protection). Carry out safety assessments of new technologies in areas such as energy and transport and health and consumer protection. Contribute to facilitating the use, standardisation and validation of space technologies and data, in particular to tackle the societal challenges.

**Societal challenges**

(See also PRIORITY 'Societal challenges')

(See also H2020-EU.3.1.)

(http://cordis.europa.eu/programme/rcn/664237_en.html)

(a) **Health, demographic change and well-being**

(See also H2020-EU.3.2.)

(http://cordis.europa.eu/programme/rcn/664237_en.html)

Contribute to health and consumer protection through scientific and technical support in areas such as food, feed and consumer products; environment and health; health-related diagnostic and screening practices; and nutrition and diets.

(b) **Food security, sustainable agriculture and forestry, marine, maritime and inland water research, and the bioeconomy**
Support the development, implementation and monitoring of European agriculture and fisheries policies, including food safety and security, and the development of a bio-economy through e.g. crop production forecasts, technical and socio-economic analyses and modelling, and promote healthy and productive seas.

(c) Secure, clean and efficient energy

Support the 20-20-20 climate and energy targets with research on technological and economic aspects of energy supply, efficiency, low-carbon technologies, and energy/electricity transmission networks.

(d) Smart, green and integrated transport

Support the Union’s policy for the sustainable, safe and secure mobility of persons and goods with laboratory studies, modelling and monitoring approaches, including low-carbon technologies for transport, such as electrification, clean and efficient vehicles and alternative fuels, and smart mobility systems.

(e) Climate action, environment, resource efficiency and raw materials

Investigate the cross-sectoral challenges of the sustainable management of natural resources through monitoring of key environmental variables and the development of an integrated modelling framework for sustainability assessment.

Support resource efficiency, emission reductions and sustainable supply of raw materials through the integrated social, environmental and economic assessments of clean production processes, technologies, and products and services.

Support Union development policy goals with research to help ensure adequate supplies of essential resources focusing on monitoring environmental and resource parameters, food safety and security related analyses, and knowledge transfer.

(f) Europe in a changing world - Inclusive, innovative and reflective societies

Contribute to and monitor the implementation of the flagship initiative 'Innovation Union' with macro-economic analyses of the drivers and barriers of research and innovation, and development of methodologies, scoreboards and indicators.

Support the ERA by monitoring the functioning of the ERA and analysing drivers of and barriers to some of its key elements, and by research networking, training, and
and barriers to some of its key elements, and by research networking, training, and
opening JRC facilities and databases to users in Member States and in candidate
and associated countries.
Contribute to the key goals of the flagship initiative 'Digital Agenda for Europe' by
qualitative and quantitative analyses of economic and social aspects (Digital
Economy, Digital Society, Digital Living).
**(g) Secure societies - Protecting freedom and security of Europe and its citizens**

Support internal safety and security through the identification and assessment of the
vulnerability of critical infrastructures as vital components of societal functions, and
through the operational performance assessment and social and ethical evaluation of
technologies related to the digital identity. Address global security challenges,
including emerging or hybrid threats, through the development of advanced tools for
information mining and analysis as well as for crisis management.
Enhance the Union's capacity for managing natural and man-made disasters by
strengthening the monitoring of infrastructures and the development of test facilities
and of global multi-hazard early warning and risk management information systems,
making use of satellite-based Earth observation frameworks.

**Context**

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