

## **6. INCLUSIVE, INNOVATIVE AND SECURE SOCIETIES**

### **6.1. Inclusive societies**

Current trends at play in European societies bring with them opportunities for a more united Europe but also risks. These opportunities and risks need to be understood and anticipated in order for Europe to evolve with adequate solidarity and cooperation at social, economic, political and cultural levels, taking into account an increasingly interconnected world.

In this context, the objective is to enhance social, economic and political inclusion, combat poverty, enhance human rights, digital inclusiveness, equality, solidarity and inter-cultural dynamics by supporting interdisciplinary research, indicators, technological advances, organisational solutions and new forms of collaboration and co-creation. Research and other activities shall support the implementation of the Europe 2020 strategy as well as other relevant Union foreign policies. Humanities research may have an important role to play in this context. Specifying, monitoring and assessing the objectives of European strategies and policies will require focused research on high-quality statistical information systems, and the development of adapted instruments that allow policy makers to assess the impact and effectiveness of envisaged measures, in particular in favour of social inclusion.

The following specific objectives will be pursued:

#### *6.1.1. Promoting smart, sustainable and inclusive growth*

The constant quest for economic growth carries a number of important human, social, environmental and economic costs. A smart, sustainable and inclusive growth in Europe implies substantial changes in the way growth and wellbeing are defined, measured (including through the measurement of progress beyond the commonly used GDP indicator), generated and sustained over time. Research will analyse the development of sustainable lifestyles and socio-economic behaviours and values and how they relate to paradigms, policies and to the functioning of institutions, markets, firms, governance and belief systems in Europe. It will

develop tools for a better assessment of the contextual and mutual impacts of such evolutions and policy options in areas such as employment, taxation, inequalities, poverty, social inclusion, education and skills, community development, competitiveness and the Internal Market. It will also analyse how national economies evolve and which forms of governance at European and international level could help prevent macro-economic imbalances, monetary difficulties, fiscal competition, unemployment and employment problems and other forms of economic and financial disorders. It will take into account the growing interdependencies between Union and global economies, markets and financial systems.

#### *6.1.2. Building resilient and inclusive societies in Europe*

Understanding social transformations in Europe requires the analysis of changing democratic practices and expectations as well as of the historical evolution of identities, diversity, territories, religions, cultures and values. This includes a good understanding of the history of European integration. Besides, understanding the strains and opportunities arising from the uptake of ICT, both at individual and collective levels, is important in order to open new paths of inclusive innovation. It is essential to identify ways to adapt and improve the European welfare systems, public services and the broader social security dimension of policies in order to achieve cohesion and promote more social and economic equality and intergenerational solidarity. Research will analyse how societies and politics become more European in a broad sense through evolutions of identities, cultures and values, the circulation of ideas and beliefs and combinations of principles and practices of reciprocity, commonality and equality. It will analyse how vulnerable populations can participate fully in society and democracy, notably through the acquisition of various skills and the protection of human rights. The analysis of how political systems respond or not to such social evolutions and themselves evolve will thus be central. Research will also address the evolution of key systems that provide underlying forms of social bonds, such as family, work, education and employment and help combat poverty. It will take into account the importance of migration and demography in the future development of European policies.

Given the increasing socio-economic importance of digital inclusion, research and large-scale innovation actions will promote inclusive ICT solutions and the effective acquisition of digital skills leading to the empowerment of citizens and a competitive workforce. Emphasis will be given to new technological advances that will enable a radical improvement in personalisation, user-friendliness and accessibility through a better understanding of citizen, consumer and user behaviours and values, including persons with disabilities. This will require an "inclusion by design" research and innovation approach.

#### *6.1.3. Strengthening Europe's role as a global actor.*

Europe's distinct historical, political, social and cultural system is increasingly confronted with the impact of global changes. In order to further develop its external action in its neighbourhood and beyond and its role as a global actor, Europe has to improve its capacities for defining, prioritising, explaining, assessing and promoting its policy objectives with other world regions and societies to further cooperation or prevent or solve conflicts. In this regard, it also has to improve its capacities for anticipating and responding to the evolution and impacts of globalisation. This requires a greater understanding of the history, cultures and political-economic systems of other world regions, as well as of the role and influence of transnational actors. Finally, Europe also has to contribute effectively to global governance in key domains like trade, development, work, economic cooperation, human rights, defence and security. This implies the potential to build new capacities whether in terms of tools, systems

and instruments of analysis or in terms of diplomacy in formal and informal international arena with governmental and non governmental actors.

#### *6.1.4. Closing the research and innovation divide in Europe*

There are significant regional disparities across Europe in research and innovation performance which need to be addressed. Measures will aim at unlocking excellence and innovation and will be distinct, complementary and synergistic with policies and actions of the Cohesion policy Funds. They include:

- Linking in a competition emerging institutions, centres of excellence and innovative regions in less developed Member States to international leading counterparts elsewhere in Europe. This will involve teaming of excellent research institutions and less developed regions, twinning of staff exchanges, expert advice and assistance and the development of joint strategies for the establishment of centres of excellence that may be supported by the Cohesion policy funds in less developed regions. Building links with innovative clusters and recognising excellence in less developed regions, including through peer reviews and awarding labels of excellence to those institutions that meet international standards, will be considered.
- Establishing 'ERA Chairs' to attract outstanding academics to institutions with a clear potential for research excellence, in order to help these institutions fully unlock this potential and hereby create a level playing field for research and innovation in the European Research Area. This will include institutional support for creating a competitive research environment and the framework conditions necessary for attracting, retaining and developing top research talent within these institutions.
- Supporting access to international networks for excellent researchers and innovators who lack sufficient involvement in European and international networks. This will include support provided through COST and National Contact Points.
- Supporting the development and monitoring of smart specialisation strategies. A policy support facility will be developed and policy learning at regional level will be facilitated through international evaluation by peers and best practice sharing.

## **6.2. Innovative societies**

The shrinking Union share of global knowledge production emphasizes the need to maximise the socio-economic impacts and efficiency of research and innovation policies and to increase substantially transnational policy synergies and coherence. Innovation will be addressed in a wide sense, including large scale policy, user- and market-driven innovation. These activities will support the achievement and functioning of the European Research Area and in particular the Flagship initiatives of the Europe 2020 strategy in favour of the 'Innovation Union' and the 'Digital Agenda for Europe'.

The following specific objectives will be pursued:

### *6.2.1. Strengthening the evidence base and support for the Innovation Union and European Research Area*

In order to assess and prioritise investments and strengthen the Innovation Union and the European Research Area, the analysis of research and innovation policies, systems and actors in Europe and third countries as well as the development of indicators, data and information infrastructures will be supported. Forward-looking activities and pilot initiatives, economic analysis, policy monitoring, mutual learning, coordination tools and activities and the development of methodologies for impact assessment and evaluations will also be needed, exploiting direct feedback from research stakeholders, enterprises, public authorities and citizens.

To ensure a single market for research and innovation, measures to incentivise ERA compatible behaviour will be implemented. Activities underpinning policies related to the quality of research training, mobility and career development of researchers will be supported, including initiatives to provide for mobility services, open recruitment, researchers' rights and links with global researcher communities. These activities will be implemented seeking synergies and close coordination with the Marie Curie Actions under 'Excellent science'. Institutions presenting innovative concepts for the rapid implementation of ERA principles, including the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, will be supported.

As regard coordination of policies, a facility for policy advice will be set up to make expert policy advice available to national authorities when defining their National Reform Programmes and research and innovation strategies.

To implement the Innovation Union initiative, there is also a need to support (private and public) market-driven innovation in view of enhancing the innovation capacity of firms and fostering European competitiveness. This will require improving the overall framework conditions for innovation as well as tackling the specific barriers preventing the growth of innovative firms. Powerful innovation support mechanisms (for e.g. improved cluster management, public-private partnerships and network cooperation), highly specialised innovation support services (on e.g. IPR management/exploitation, innovation management, networks of procurers) and reviews of public policies in relation to innovation will be supported. Issues specific to SMEs will be supported under the specific objective 'Innovation in SMEs'.

### *6.2.2. Exploring new forms of innovation, including social innovation and creativity*

Social innovation generates new goods, services, processes and models that meet societal needs and create new social relationships. It is important to understand how social innovation and creativity may lead to change in existing structures and policies and how they can be encouraged and scaled-up. Grassroots on-line and distributed platforms networking citizens and allowing them to collaborate and co-create solutions based on an extended awareness of the social, political and environmental context can be a powerful tool to support the objectives of Europe 2020. Support will also be given to networking and experimentation of the use of ICT for improving learning processes, as well as to networks of social innovators and social entrepreneurs.

It will be essential to promote innovation in order to foster efficient, open and citizen-centric public services (eGovernment). This will require multidisciplinary research on new

technologies and large-scale innovation related in particular to digital privacy, interoperability, personalised electronic identification, open data, dynamic user interfaces, citizen-centric public service configuration and integration and innovation driven by users, including in social sciences and the humanities. Such actions will also address social-network dynamics and crowd-sourcing and smart-sourcing for co-production of solutions addressing social problems, based on open data sets. They will help to manage complex decision-making, in particular the handling and analysis of huge quantities of data for collaborative policy modelling, simulation of decision-making, visualisation techniques, process modelling and participatory systems as well as to analyse changing relationships between citizens and the public sector.

#### *6.2.3. Ensuring societal engagement in research and innovation.*

Enabling all societal actors to interact in the innovation cycle increases the quality, relevance, acceptability and sustainability of innovation outcomes by integrating society's interests and values. This requires developing specific skills, knowledge and capacities at individual and organisational as well as at national and transnational levels. A scientifically literate, responsible and creative society will be nurtured through the promotion of and research on appropriate science education methods. Gender equality will be promoted in particular by supporting changes in the organisation of research institutions and in the content and design of research activities. In order to improve knowledge circulation within the scientific community and the wider public, the accessibility and use of the results of publicly funded research will be further developed. An Ethics Framework for research and innovation, based on the fundamental ethical principles including those reflected in the Charter of Fundamental Rights and all the relevant Union laws and Conventions, will be promoted in coordination with relevant international organisations.

#### *6.2.4. Promoting coherent and effective cooperation with third countries.*

Horizontal activities will ensure the strategic development of international cooperation across Horizon 2020 and address cross-cutting policy objectives. Activities to support bilateral, multilateral and bi-regional policy dialogues in research and innovation with third countries, regions, international fora and organisations will facilitate policy exchange, mutual learning and priority setting, promote reciprocal access to programmes and monitor the impact of cooperation. Networking and twinning activities will facilitate optimal partnering between research and innovation actors on both sides and improve competencies and cooperation capacity in less advanced third countries. Activities will promote coordination of Union and national cooperation policies and programmes as well as joint actions of Member States and Associated Countries with third countries in order to enhance their overall impact. Finally, the European research and innovation 'presence' in third countries will be consolidated and strengthened, notably by promoting the creation of European 'science and innovation houses', services to European organisations extending their activities into third countries and the opening of research centres established jointly with third countries to organisations or researchers from other Member States and Associated Countries.

### **6.3. Secure societies**

The European Union, its citizens and its international partners are confronted with a range of security threats like crime, terrorism and mass emergencies due to man-made or natural disasters. These threats can span across borders and aim at physical targets or the cyberspace. Attacks against Internet sites of public authorities and private entities for instance not only

undermine the citizen's trust but may seriously affect such essential sectors as energy, transport, health, finance or telecommunications.

In order to anticipate, prevent and manage these threats, it is necessary to develop and apply innovative technologies, solutions, foresight tools and knowledge, stimulate cooperation between providers and users, find civil security solutions, improve the competitiveness of the European security, ICT and services industries and prevent and combat the abuse of privacy and breaches of human rights in Internet.

The coordination and improvement of the security research area will thus be an essential element and will help to map present research efforts, including foresight, and improve relevant legal conditions and procedures for coordination, including pre-normative activities.

Activities will follow a mission-oriented approach and integrate the relevant societal dimensions. They will support the Union's policies for internal and external security, defence policies, and the relevant new provision of the Lisbon Treaty, and ensure cyber security, trust and privacy in the Digital single Market. The following specific objectives will be pursued:

#### *6.3.1. Fighting crime and terrorism.*

The ambition is both to avoid an incident and to mitigate its potential consequences. This requires new technologies and capabilities (including against cyber crime and cyber terrorism) for the support to health, food, water and environmental security which are essential for the good functioning of society and economy. New technologies and dedicated capabilities will help to protect critical infrastructures, systems and services (including communications, transport, health, food, water, energy, logistic and supply chain, and environment). This will include analysing and securing public and private critical networked infrastructures and services against any type of threats.

#### *6.3.2. Strengthening security through border management*

Technologies and capabilities are also required to enhance systems, equipments, tools, processes, and methods for rapid identification to improve border security, including both control and surveillance issues, while exploiting the full potential of EUROSUR. These will be developed and tested considering their effectiveness, compliance with legal and ethical principles, proportionality, social acceptability and the respect of fundamental rights. Research will also support the improvement of the integrated European border management, including through increased cooperation with candidate, potential candidate and European Neighbourhood Policy countries.

#### *6.3.3. Providing cyber security*

Cyber security is a prerequisite for people, business and public services in order to benefit from the opportunities offered by the Internet. It requires providing security for systems, networks, access devices, and software and services, including cloud computing, while taking into account the interoperability of multiple technologies. Research will prevent, detect and manage in real-time cyber-attacks across multiple domains and jurisdictions, and to protect critical ICT infrastructures. The digital society is in full development with constantly changing uses and abuses of the Internet, new ways of social interaction, new mobile and location-based services and the emergence of the Internet of Things. This requires a new type of research which should be triggered by the emerging applications, usage and societal trends.

Nimble research initiatives will be undertaken including pro-active R&D to react quickly to new contemporary developments in trust and security.

#### *6.3.4. Increasing Europe's resilience to crises and disasters*

This requires the development of dedicated technologies and capabilities to support different types of emergency management operations (such as civil protection, fire fighting and marine pollution, humanitarian aid, civil defence, conflict prevention, development of medical information infrastructures rescue tasks and post-crisis-stabilisation) as well as law enforcement. Research will cover the whole crisis management chain and societal resilience, and support the establishment of a European emergency response capacity.

Activities across all mission areas will also address the integration and interoperability of systems and services including aspects such as communication, distributed architectures and human factors. This also requires integrating civilian and military capabilities in tasks ranging from civil protection to humanitarian relief, border management or peace-keeping. This will include technological development in the sensitive area of dual-use technologies to guarantee interoperability between civil protection and military forces and amongst civil protection forces worldwide, as well as reliability, organisational, legal and ethical aspects, trade issues, protection of confidentiality and integrity of information and traceability of all transactions and processing.

#### *6.3.5. Ensuring privacy and freedom in the internet and enhancing the societal dimension of security*

Safeguarding the human right of privacy in the digital society will require the development of privacy-by-design frameworks and technologies since the conception of products and services. Technologies will be developed allowing users to control their personal data and its use by third parties; as well as tools to detect and block illegal content and data breaches and to protect human rights on-line preventing that people's behaviours individually or in groups is limited by unlawful searching and profiling.

Any new security solution and technology needs to be acceptable to the society, comply with Union and international law, be effective and proportionate in identifying and addressing the security threat. Better understanding the socioeconomic, cultural, and anthropological dimensions of security, the causes of insecurity, the role of media and communication and the citizen's perceptions, are therefore essential. Ethical issues and protection of human values and fundamental rights will be addressed.

#### *6.3.6. Specific implementation aspects*

Whereas research will have a civil security orientation, coordination with the activities of the European Defence Agency (EDA) will be actively pursued in order to strengthen cooperation with EDA, notably through the already established European Framework Cooperation, recognising that there are areas of dual use technology relevant for both civil and military applications. Coordination mechanisms with relevant Union Agencies, such as e.g. FRONTEX, EMSA and Europol, will also be further strengthened in order to improve the coordination of Union Programmes and policies in the field of both internal and external security, and of other Union initiatives.

Taking into account the particular nature of security, specific arrangements will be put in place with regards to programming and governance, including arrangements with the Committee referred to in Article 9 of this Decision. Classified or otherwise sensitive information related to security will be protected and particular requirements and criteria for international cooperation may be specified in work programmes. This will also be reflected in the programming and governance arrangements for Secure Societies (including the comitology aspects).