External advice and societal engagement: Towards the 2016 and 2017 work programme of "Inclusive, Innovative and Reflective Societies" of Horizon 2020

CONTENTS

Acknowledgements

This report integrates the input from various EU platforms, projects and activities conducted in 2012, 2013 and 2014 involving thousands of academic and research organisations, private and public bodies, firms, NGO and citizens from the whole European Union.

All these actors, many of which are cited in this report, should be thanked for their contribution to the improvement of EU knowledge in the field of inclusive, innovative and reflective societies.

This external advice and societal engagement is very valuable and complements well the European Commission stock-taking of previous Research and Innovation (R&I) actions, the recommendations from the Advisory Group of Societal Challenge 6 and the insights from the Member States through the Programme Committee.

The 2016 and 2017 work programme of Societal Challenge 6 will have a budget of more than € 300 million. It deserves to be prepared and planned taking into consideration the largest possible range of views, experiences and insights from all Europe. This is the *raison d'être* of this report.

Several European Commission colleagues (DG RTD and DG CONNECT) helped to make this report comprehensive and covering the different dimensions of Societal Challenge 6. Many thanks to Iphigenia Pottaki (innovation), Philippe Keraudren (social sciences and humanities), Angela Liberatore (international cooperation), Jean-François Junger and Andrea Halmos (eGovernment), and Albert Gauthier (digital cultural heritage).

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External advice and societal engagement: Towards the 2016 and 2017 work programme of "Inclusive, Innovative and Reflective Societies" of Horizon 2020

Introduction

In preparing the work programme for the Societal Challenge 6 "Inclusive, Innovative and Reflective Societies" of Horizon 2020 for the period 2016-2017, the European Commission is ensuring adequate external advice and societal engagement. Article 12 of the Regulation establishing the programme specifies that this advice shall include "forward-looking activities; targeted public consultations, including, where appropriate, consultations of national and regional authorities or stakeholders; and transparent and interactive processes that ensure that responsible research and innovation is supported"[1].

To satisfy this requirement for Challenge 6, this report used a variety of actions and reports including the EU "Social Platforms" that aim *inter alia* to make recommendations for future research; and the *ad hoc* stakeholder consultations and conferences on key issues relevant to Social Challenge 6. The Lithuanian presidency was active and several European bodies have contributed position papers.

This report summarises that advice according to the general structure of specific activities set out in the Council Decision implementing Horizon 2020[2]. A fine structure has been added to the discussion of each specific activity to identify emerging themes of research chosen as far as possible to be coherent with the Strategic Agenda for the Union that was endorsed by the Council at its meeting on 26th and 27th of June 2014[3].

In total, this report reflect the views of around 3000 stakeholders coming from the academic world, the research community, public authorities, industry, trade-unions and non-governmental organisations. The consultation has been very extensive and touched stakeholders to varying degrees: from Internet-based applications to large conferences passing through face-to face meetings and participatory workshops.

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[1] Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)
[2] Council Decision of 3 December 2013 establishing the specific programme implementing Horizon 2020 - the Framework Programme for Research and Innovation (2014-2020)
[3] European Council, 26 and 27 June 2014

Principal sources of external advice and societal engagement

The background to the main sources used in this report is described here. Other sources are referenced in the text by footnotes.

Future Research Agenda for Sustainable Lifestyles

An important source of stakeholder expectations for research into sustainable growth and lifestyles is the SPREAD Social platform project which has successfully engaged very many stakeholders; one online discussion group alone enlisted more than 500 members. Among its outputs are: a Baseline Report; a set of sustainable lifestyles scenarios to 2050; practical actions in a road map to 2050. The results from all this work have been distilled into a research agenda[4].

European Agenda for Research on Cities and Social Cohesion

A European Research Agenda on "Cities and Social Cohesion" has been developed by the Social Polis platform funded under FP7[5]. The agenda draws on inputs from over 300 stakeholders from Europe and elsewhere; consultation was achieved by two large conferences and more than thirty smaller workshops, supplemented by on-line tools.

Research Agenda on Families and Family Wellbeing for Europe

The profound demographic, cultural and political transformations in Europe over the last few years have implications for all aspects of society. The critical changes that occur in the nature of the family and the conduct of family life are addressed by the work of the FamilyPlatform and in particular the research agenda delivered by the platform with the participation of more than 170 experts and stakeholders through a series of workshops and discussion groups and an internet platform for further discussion and involvement[6].

Promoting Innovation in Social Services

European welfare systems are transforming to adapt to a globalized world. Innovative mechanisms for service delivery should support this process by mobilising resources in a new and better way. An agenda for future research on innovation in the social science was delivered by the INNOSERV Social Platform funded under FP7[7]. This platform sought the views of practioners, experts and policy makers across Europe, through a series of forty two local workshops constructed around a series of twenty videos describing existing examples of social innovation. Insights from these events together with a review of the state-of-the-art and systematic examination of the drivers of innovation, linked by conceptual modelling of the innovation process informed the draft research agenda which was then refined by an extensive consultation. The final agenda represents the culmination of a two-year process involving close cooperation with several hundred stakeholders.

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[4] Final Research Agenda, SPREAD.
[5] European Agenda for Research on Cities and Social Cohesion, Social Polis, 2011.
[6] Research Agenda on Families and Family Wellbeing for Europe, FamilyPlatform.
[7] Promoting Innovation in Social Services: An Agenda for Future Research and Development, INNOSERV. The web-site contains also separate briefs for researchers, practitioners and policy-makers that give differing but complementary views of priorities.

The future of the Social Sciences and Humanities in Europe

In September 2013, The League of European Research Universities (LERU) published a collection of notes on each of the H2020 societal challenges to illustrate the potential contribution of research in the social sciences; LERU assemblies many of the leading research universities of Europe. This position paper was a product of the social science community within LERU[8].

Social Sciences and Humanities in European Research

The British Academy conducted a wide consultation with academies across Europe about the role of social sciences and humanities in Horizon 2020. The Academy worked closely with ALLEA (ALL European Academies) in inviting European academies to participate in two meetings, attended respectively by representatives of 16 academies and representatives of 24 academies in 19 countries[9].

Humanities in the Societal Challenges

Science Europe is an association of major European Research Funding and Research Performing Organisations; it is supported by various committees of academics including the Scientific Committee for the Humanities. This committee has compiled a brochure of case studies that demonstrate the tangible impacts of research in social sciences on real-world issues. It is more a source of inspiration and a documentation of achievement that an agenda for future research, but some of the findings are relevant[10].

A Digital Agenda for Europe

The Digital Agenda for Europe[11] is a key strand of the Commission's strategy to establish the conditions for sustained digital growth in Europe. In April 2012, the Commission launched a dedicated social media platform to gather input for the review of the DAE. Participation was considerable, with more than 1,400 platform members, making more than 2,000 contributions over the course of two months. Participation in Twitter was also high, with over 30,000 tweets by 5,000 people. The approach is original insofar as it tries to combine a targeted approach to consultation with the openness of social media.

ICT-driven public sector innovation

The Commission organised a public consultation on ICT-driven public sector innovation in March 2013; thirty nine contributions were received. An orientation paper was prepared from the consultation and an expert workshop in Brussels in January 2013[12] to capture the view of the stakeholders that was then fed into the preparation of the work programme for 2014-2015. Much of the work is still relevant to the programme for 2016-2017. The orientation paper was divided into

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[8] The future of the Social Sciences and Humanities in Europe: collected LERU papers on the SSH research agenda, League of European Research Universities, September 2013.

[9] SSH in European Research: paper for the Research, Innovation and Science Commissioner, British Academy and ALLEA.

[10] Humanities in the Societal Challenges: 12 Compelling Case Studies for Policy Makers, Science Europe.

[11] A Digital Agenda for Europe, COM/2010/0245, 26/08/2010

[12] Results of the Public consultation on directions for ICT-driven public sector innovation at European Union level Research and innovation in Horizon 2020.

three parts: vision for ICT-driven public sector innovation; measures related to drivers and trends; measures related to basic technology tools and other enablers. The first two parts are particularly relevant to research in the social sciences.

High Level Conference on E-government Issues

A high level eGovernment Conference was organised by the Lithuanian Presidency to examine the status of eGovernment in Europe and to discuss the roadmap for its viable future policy, governance, management and implementation[13]. Four hundred delegates participated. The principal aim of the conference was to foster high-level political debate and the exchange of best practices, but some lines of research can be inferred. From April to July 2013 researchers in the social sciences were consulted about their views on the content and management of the relevant components of Horizons 2020. The consultation elicited 306 responses from all over Europe. The report of the ensuing conference generated specific recommendations for content under the different Chapters of the Horizon 2020 Decision and led to the drafting of the Vilnius Declaration on "Horizons for Social Sciences and Humanities"[14].

eGovernment and Reduction of Administrative Burden: Applying the 'Once only' principle

The European Commission DG CONNECT organised a conference on 'eGovernment and Reduction of Administrative Burden: Applying the Once-Only-Principle' on 10 April 2014[15]: to discuss the results of a previously-commissioned report on the topic; to raise awareness about the potential savings and best practices and to discuss the next steps for the implementation at European and national levels. Fifty experts and practioners participated. 'Once-only' refers to the principle that citizens and businesses supply certain standard information only once, because public administration offices take action to internally share this data. The conference was mainly aimed at furthering implementation, but some topics for research can be inferred.

Mobile by default

Public sector innovation and the modernisation of public administration are important elements of economic strength and competitiveness. The availability of mobile internet offers the possibility of public sector innovation through mobile applications, which support quick access to integrated data and location-based services (mGovernment). As a part of its effort to elicit the views of stakeholders the Commission organised a workshop 'Mobile by default - Leveraging Mobile Technology to Extend eGovernment's Reach and Scope' in May 2014 in Brussels with the aim to take stock of practice, to discuss means to promote mobile government and to determine priorities for action[16].

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[13] High Level Conference on E-government Issues, Vilnius, 14-15 November, 2013.
[14] Vilnius Declaration – Horizons for Social Sciences and Humanities.
[15] eGovernment and Reduction of Administrative Burden: Applying the 'Once only' principle, Brussels, 10 April 2014.
[16] Mobile by default? – Leveraging Mobile Technology to Extend eGovernment's Reach and Scope, 21 May 2014, Brussels.

Social Inequalities

Social inequalities are a substantial threat to social cohesion. The conference "Social Inequalities in Europe" held in Athens on 20th June presented results from several projects funded under FP7 and emphasised the need for further debate and policies tackling the roots of inequalities[17].

Improving poverty reduction in Europe

IMPROVE is a project funded by FP7 with the aims to improve social cohesion in the European Union and to complement, reinforce and modify the European welfare states by social innovation. In November 2013, the project organised a conference on Conference poverty reduction in Europe[18]. Although mainly directed to the presentation of results from the project and to recommendations for policy, the conference did also generate some ideas for further research.

Building inclusive welfare systems: A dialogue between research and practice,

All over Europe, social protection systems are being reformed. Welfare states are seeking to increase participation in the labour market by formerly excluded groups and to improve the efficiency of employment services. Access to benefits has been reduced and the governance systems of social policies are changing. More emphasis is often put on local governance because it can respond more effectively to local conditions. In June 2014, four pertinent research projects funded by the European Commission– COPE, FLOWS, LOCALISE and WILCO – presented their policy-relevant findings at a conference in Brussels and drew some conclusions for further research in a joint conference report[19].

Tolerance, Pluralism and Social Cohesion

The final conference of the ACCEPT project funded under FP7 resumed the successful work of the project on a comparative analysis of policies across Europe and the development of indicators of tolerance and concluding by reflecting on ideas for further research[20].

Research and Innovation on Sustainable Urban Dynamics

As part of its consultation over Horizon 2020 the Directorate General for Research and Innovation organized a one day stakeholder seminar on 'Sustainable Urban Dynamics' in which 70 researchers, administrators, urban planners and stakeholders from around Europe participated. A record of the event is available[21].

Future of Cultural Heritage - Impact of external developments

The way cultural heritage is conceived, protected and shared is changing. Much material is now preserved and transmitted digitally and some is created in the same way. In December 2012, the

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[17] Social Inequalities in Europe Conference, 20 June 2014, Athens, Greece.
[18] Improving poverty reduction in Europe, 14-15 November 2013, Brussels.
[19] Joint Policy Conference "Building Inclusive Welfare Systems: A Dialogue between Research and Practice".
[20] Tolerance, Pluralism and Social Cohesion: Responding to the Challenges of the 21st Century in Europe, Conference report.
[21] Research and Innovation on Sustainable Urban Dynamics, 2013, Directorate-General for Research & Innovation, Brussels

European Foresight Platform organized a workshop to discuss the trends and drivers of change that may affect thinking about cultural heritage in the future and the topics for research that follow[22].

Research Meets Diplomacy: Europe as a Global Actor

In June 2014, DG Research and Innovation, in cooperation with the FLASH-IT project, organized a conference on "Research Meets Diplomacy: Europe as a Global Actor" to take stock of research financed under the Socio-economic Sciences and Humanities programme under FP7 and to discuss future topics for research on the EU as a global actor in Horizon 2020[23]. The debates concentrated on: Europe as a global actor; the EU neighbourhood especially the Mediterranean, and the EU's role in the wider world. Over 120 experts participated from the public and private sector.

The discussion in the following sections compiles the main research recommendations from these texts and some others. For ease of reference the headings include the section number of each topic from the Council Decision setting out the overall H2020 programme.

Inclusive societies (6.1)

The ALLEA position paper endorsed this activity although without specifying its expectation of the detailed content. The paper notes that with increased economic internationalisation and new technologies exploiting the potential of superfast broadband, the world of work is likely to be transformed in the coming decade. Policy-makers will need a close understanding of the rapidly changing structure of employment and work, and its implications for education, skills and training, and for people's experiences of their working lives and life-course patterns, including risks of precariousness, unemployment and social exclusion. As the constraints on ever-increasing material prosperity become more severe, social progress is likely to be increasingly assessed in terms of the quality of people's lives. Research needs to focus on the changing extent and distribution of inequality and its implications for intergenerational justice, personal well-being and quality of life. Enhancing social mobility will become an ever more urgent issue if Europe is to make full use of its talent. This requires a deeper understanding of the determinants of, among other questions, the intergenerational transmission of inequality, in particular the role of changing family structures and the potential for policy to offset early disadvantage.

Smart, sustainable and inclusive growth (6.1.1)

Alternative economic models and new indicators

The SPREAD Social platform was established with the specific objective to consult stakeholders on a suitable research agenda for this topic. The platform takes a sustainable lifestyle to be defined as "patterns of action and consumption used by people to affiliate and differentiate themselves from others, which: meet basic needs, provide a better quality of life, minimize the use of natural resources and emissions of waste and pollutants over the lifecycle, and do not jeopardize the needs of future generations". This definition recognises the fact that lifestyles serve as "social

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[22] Future of Cultural Heritage - Impact of external developments, 18 December 2012 Conference report.
[23] Research meets diplomacy: Europe as a Global Actor 5 June 2014, Brussels.

conversations", in which people express their social position and psychological aspirations to others. This definition recognises that lifestyle is not merely a means of subsistence, but essential in defining a position in society. The SPREAD research agenda attempts to reconcile this social determinant with planetary resource limits whilst recognising that sustainable solutions need to be tailored to specific contexts.

The agenda notes four relevant "mega-trends": climate change; economic growth; the accumulation of material goods and technical and social innovation. The research need at this level is to understand the uncertainties and conditions pertaining to these trends. Examples are: the analysis of unintended social consequences of environmental solutions; improved understanding of geographical and cultural differentiation of sustainable lifestyles, values and patterns of consumer behaviour; the relationship between sustainable lifestyles and demographic change. The detailed research agenda is based upon eight areas where skilful intervention can enable sustainability: the economic system, policy frameworks, infrastructure and spatial planning (discussed under 6.1.4), information technology and social media, social institutions (discussed under 6.1.2) , collective actions, (discussed under 6.1.2) individual behaviour and governance processes.

A fundamental assumption of the platform is that sustainability requires actions to decouple economic growth from resource use and to develop new business models, based on radically improved energy and material efficiency[24]. Research is needed on alternative economic principles and models for societal development, as well as for new indicators of progress that are not based on GDP. Some indicators have been proposed and used by NGOs and CSOs, but they have not been widely adopted. Research on alternative economic and business models and indicators – and their possible drawbacks and side-effects – needs to be intensified with contributions from researchers from different disciplines.

Challenges to sustainable lifestyles

Income has contradictory consequences for sustainability. Wealthier households are more likely to purchase sustainable products, but this is off-set by greater consumption of high environmental impact goods and services such as long-distance air travel. Inequity is a principal cause of discontent, and one of the main drivers of material consumption. Research into customised strategies is needed to stimulate a shift in sustainable lifestyles among different income groups and to address the problem of high-income consumers with high environmental impact. New economic instruments can help. Household finances and the balance between debt, savings and consumption strongly influence consumption patterns. Research is needed to create a better understanding of the impact of consumer credit and saving behaviours on everyday life and how policy can ensure that household economics shape everyday life within ecological limits.

Changing the work-life balance opens new opportunities for sustainable behaviour. Analysis of the effects of the shift from income to leisure time in countries where the working week has been reduced would be helpful in understanding the consequences for the environment, for society and for individuals and household. There is a trend to shift from ownership of goods to access e.g. car sharing. The consequences for the economy and society should be clarified by research and if the practice is efficient and sustainable then policy recommendations should be formulated

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[24] The Stockholm Memorandum: Tipping the Scales towards Sustainability. 3rd Nobel Laureate Symposium on Global Sustainability, Stockholm, Sweden, 16-19 May 2011.

The financial crisis has promoted policies for economic growth and job creation at the cost of policies for sustainable societies. Research is needed to help create robust policy frameworks on the regional, national and European levels that support a shift to sustainable lifestyles in the long term without putting the current level of prosperity at risk. Present policies mostly focus on promoting sustainable consumption by greening markets and products, but leaving material and consumerist values unquestioned. The share of environmental tax revenue in GDP is decreasing in most countries; further study is needed of the possibilities and obstacles to green taxes. More generally, there is a need better to understand how existing and new policies affect consumer values, how the framing of policy is changing, what values get accepted as a social norm, and in what direction accepted values shape consumer choices towards or away from sustainable consumption. Innovation determines the future offer of goods and services and policy typically promotes technical innovations. Research is needed on how innovation policy can be redesigned to foster social innovation and sustainability.

There is a growing understanding about the environmental impacts from products for European markets that are produced in developing countries. Trans-boundary policies that help reduce environmental and social impacts of goods produced outside Europe are also necessary, but information about the environmental and social impacts of different supply chains is poor and should be improved. There is a need to update analyses of some critical areas, such as the rebound effects of policies or methods of accounting for the full environmental and social impacts of European consumption in developing countries. Research is needed on cultural differences within the EU and the extent to which policy tools can be tailored to fit specific social and cultural norms.

Individual values and social norms

The rapid development of information technology has had a profound influence on consumption patterns and social behaviour and has potential to contribute to sustainability e.g. online shopping, e-learning, e-medicine and home automation. Social media stimulates exchange of information, but also influences the way people construct and present their identity. In both respects there is the potential to turn these effects towards sustainability. Reconciling human behaviour with the technological potential of new products can be achieved more easily with a good understanding of the rational or irrational motives that underlie consumption. The development of persuasive technology that aims to stimulate energy efficiency and other sustainable practices is relatively new and ripe for research, particularly addressed to possible concerns over privacy that might undermine large-scale deployment. With some exceptions (e.g. the CAPS initiatives discussed later) existing research on the potential of social media to disseminate information focuses mainly on marketing and advertisement; research is needed to understand how social media can influence the dynamics of lifestyles and consumer behaviour and how they can be used to promote sustainable and healthy lifestyles. Intelligent games can explore aspects of sustainability through simulation and there may be potential for new games that appeal to and stimulate emotional and social capabilities. The relationship between social media ICT and the way people shape and manage relationships and their behavioural routines requires further research; little is known about the impacts of social media on mental health and well-being, and on community cohesion, social capital and social inequalities.

Fundamental to sustainable growth is that individuals adopt sustainable lifestyles. The research challenge lies in understanding the complex interplay between needs, available resources and technology, economic systems and infrastructure and then in developing different options to

stimulate resilient lifestyle change. More contextualised and nuanced knowledge is needed on mechanisms for changing behaviour of different societal groups and individuals in different roles: at work, as family members, as individuals, as consumers and citizens. Happiness research and research into intrinsic wellbeing should also be explored to help address unsustainable lifestyles. Consideration of values is important in framing policy for sustainable lifestyles; with no appeal to values other than self-interest, it is likely that the money saved in one sustainable action will be redirected to other activities which may be more damaging. This rebound effect means that environmental improvements in one area do not contribute to overall environmental improvement. More research is needed on when and to what extent the framing of policy in terms of extrinsic values undermines the opportunity to promote behavioural changes based on intrinsic values. Research is also needed on strengthening the brand of sustainable lifestyles and analysing examples of sustainable lifestyles that are fun and that reinforce social status. There is a need for further research on tools and interventions that can make consumers more aware of the environmental impact of consumer goods and to prevent deceptive green marketing.

Individual behavioural change towards sustainable consumption is not sufficient; there must also be collective change. Research is needed to understand how civic initiatives and active citizenship can be fostered, and what forms of policy support are effective. Consumption fulfils an important social function; it signals belonging, mutual understanding, and adherence to shared societal norms and it can be stressful for people to adopt a lifestyle that is significantly different from their peers. There is a deficiency in understanding alternative ways of social construction of identity and the possibilities to communication with others in less material ways. Segmentation research on groups representing different lifestyles would be useful for customising policy tools and packages. Mechanisms for shaping social norms need to be better understood, especially the roles of the market, business, government and local communities.

There is a need better to understand how governance towards more sustainable lifestyles can be shaped, and what roles different stakeholders can play. It is necessary to close the gap between governance theory and practical initiatives that aim at more sustainable lifestyles. Research topics than can support this process include: how to build and improve collaboration and partnerships between government, business and civil society; how to foster networks that support change, exchange knowledge and experience, set new norms, provide resources and skills and to understand how different actors view their opportunities to achieve more sustainable lifestyles.

Organisations for open and creative societies (6.1.2)

Social institutions to support low income groups

Many of the sources reviewed for this report observed that the roles of citizen and state in the provision of welfare are changing with significant implications for social cohesion. The SPREAD Platform observed that stressed state budgets have caused many countries to reduce government provision, stimulate market-based strategies in public services and emphasise the self-responsibility of citizens. Consequently, local social institutions for education and welfare are increasingly involved in helping citizens to discharge their responsibility for a sustainable society. This extended role requires a new knowledge and new skills for professionals working in the institutions. Research can help to define better how social institutions can support and facilitate citizens to adopt sustainable lifestyles for example in developing new methods and training programmes to empower

professionals and in validating these tools as effective means to foster sustainable lifestyles among citizens. The role of professionals in social institutions to support lower income groups to change their everyday consumption routines is particularly important. The cost-effectiveness of interventions should be clarified to support policy-making. Deeper understanding is also needed of which policy measures are effective to stimulate informal social institutions in relation to sustainable lifestyles. This research should provide insight into the effects of local empowerment initiatives in the long run and identify critical success factors; it should also identify effective incentives for grassroots civil society initiatives that contribute to sustainable lifestyles (e.g. start-up budgets, educational courses, mentoring, supervision and legal advice).

Evidence-based policies for social inequality and new indicators of deprivation

ImPRovE (Poverty Reduction in Europe: Social Policy and Innovation) is a research project funded by FP7 that aims to improve the basis for evidence-based policy making in the area of poverty, inequality, social policy and social innovation in Europe. According to analysis made by the project, for more than 30 years developed welfare states have failed to construct policies successfully to manage poverty among the working age population; this chronic failure suggests that there are severe structural obstacles. The project also found evidence to suggest that the capacity of 'rich' countries to deal with economic shocks has declined. Macroeconomic disruptions increase poverty and inequality through unemployment and through changes in wages differentiated by groups. Inequality in incomes has been moving upwards from the 1980s and is estimated by the OECD to be at the highest level for the past half century. This is a consequence of unequal individual earnings, with some striking increases in top incomes, but is also affected by income from self-employment and capital assets. Social factors are also involved, such as the growth of single person households. At the same time redistributive capacity has been declining. Redistribution through transfers and direct taxes has fallen since the mid-1990s, and social spending has stagnated. Tax reform has been partly responsible, but declining benefits is the more substantial effect: non-elderly benefit expenditure in OECD has fallen; minimum income protection levels have fallen; support for the unemployed has been reduced and in many countries child benefits also.

The crisis has worsened measures of income distribution and material deprivation in many EU countries, especially in the South and East of the Union. Despite this countries have coped better with the crisis than in the Great Depression, because welfare policies have provided some automatic stabilisation. Increasing inequality is injurious to the ideals of solidarity the Union and will destabilise monetary union. The critical need is to reverse the erosion of income protection, which is not easy in times of budget stringency. More and better jobs will alleviate poverty through higher employment and will increase tax revenues for benefits. Poor and less skilled people need to be equipped to compete for jobs. Effective income support and direct redistribution and more progressive tax structures are also options[25]. The results from ImPRovE and other projects have contributed significantly to the creation of a framework for mapping the distributive record of EU welfare states and the impact of changes in tax and benefit systems, but it needs further research to understand the processes at a finer level that recognises the multiple source of diversity (e.g. intergenerational and for migrant groups).

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[25] Dealing with negative economic shocks, Brian Nolan.

A joint conference between several FP7 projects working on social inequalities in Europe reviewed their combined results and proposed further lines of research. In the last decades income inequality has increased in most rich countries and the numbers at-risk of poverty or social exclusion have grown, but consumption inequality has not increase proportionally. Instead, lower income groups have borrowed to consume and become indebted as a consequence, causing inequality in wealth to rise[26]. There are puzzling aspects to the timing and patterns of inequality across Europe, only partially explained by traditional drivers. These findings combined with similar observations from SPREAD constitute a compelling case to understand better the impact of consumer credit on sustainability and reinforce the need for research on the changing role of debt in society and its implications.

Growing inequality matters for two reasons; first because it is associated with poverty and second, because it translates into imbalances in political power that are incompatible with democracy. A feature of much modern policy is a reliance on market-based solutions unaccompanied by compensatory and balancing policies. Wealthy people are sheltered from economic uncertainty by their own resources, but working people need a collective institutional basis of trust to perform effectively. Growing insecurity in labour markets intensifies inequalities in economic rewards and has many further social impacts[27]. In times of economic crisis and austerity, gender inequality persists, while new forms of discrimination emerge[28]. Females are more at risk of poverty than men in almost all countries of the EU, are more likely to suffer high levels of material deprivation and are less likely to be working. An analysis of the determinants of health with respect to welfare system classification, social capital, as well as with regard to education, employment status, income, and material deprivation also demonstrates a significant negative impact of economic crisis on health with greater emphasis on the most deprived socio-economic groups. Total birth rates in Europe fell dramatically in almost all countries during the last 40 years; a probable reason is the rise of job and income instability and labour market polarisation. High proportions of temporary workers, especially among young generations, lead to growing unhappiness and dissatisfaction, especially for women combining child bearing and good careers. Precarious jobs and weak legislation for employment protection affects fertility intentions and family-work behaviour of women[29].

Inequality and financial deprivation undermine the creation of an inclusive society. Research that focuses on income-poverty is insufficient; it helps to identify the poor, but it fails to provide information on the process and the experiences of people who are poor or at risk of poverty. Families may suffer from one of many forms of deprivation, for example educational deprivation, illiteracy or lack of social acceptance which disconnects them and their children from participation in important areas. This diminishes their chances for future development and success, particularly for children. Effort should be made to model new measurements and scales to obtain insight into these "weak" indicators of social deprivation.

These excessive social imbalances are inimical to solidarity across the Community and threaten the long-term sustainability of the European Monetary Union as much as excessive economic imbalances. Correcting such imbalances requires the social dimension to be mainstreamed into all

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[26] Beyond market forces: a story of changing economic inequalities in rich countries, Virginia Maestri.
[27] Employment, inequality and social policy, Colin Crouch.
[28] The impact of crisis on gender inequality: The Greek case, Joanna Tsiganou.
[29] Social inequalities, fertility and subjective well-being in Europe, Tatiana Karabchuk.

EU policies, notably into macroeconomic and budgetary surveillance[30]. Social science research is needed to strengthen the evidence, understand better the processes and to identify policies that can correct present trends to lower equality and higher exclusion.

The living environment has a considerable impact on the wellbeing of families. Access to an adequate living environment is not equal across Europe or within different social groups. Poorer people, foreign minorities and people from rural areas are often disadvantaged. It is important to understand the consequences of a poor living environment for future opportunities, health and family behaviour, for example the transition to parenthood and childbearing decisions. There is a need for comprehensive, comparable and country-specific research with regard to detailed projects on living environments and neighbourhood using harmonised conceptual definitions. This is also relevant to topic 6.1.4.

Access to media shapes family life, places demands on resources and increases the demand for new skills. Differential access can create social differences and contribute to social inequality. It also affects family management and relationships. There is a need to understand differences in media literacy and consumption between social classes, ethnicities and different cultures. Research should address the factors that drive particular forms of media consumption in families, but also how trends in family life influence the development and demand for particular forms of media: which social groups are at the forefront of new trends and which families are excluded. Significant inter-disciplinary demands arise covering psychology, sociology and communication sciences.

New and open welfare governance

A slightly different perspective on social inequalities, emphasising issues of governance, was provided by the presentations and discussions of the conference on Building Inclusive Welfare Systems that was organised jointly by four FP7 projects working in the field. Presentations from the COPE project addressed the topics of integrated governance of welfare[31] and managing exclusion in times of crisis[32]. To improve integrated governance it was recommended to: increase awareness for the Europe 2020 targets at the national and local level; create national and cross-sector anti-poverty alliances, and to mobilise transversal networks among NGOs, political parties and scientific experts for the purpose of designing evidence-based policy solutions. To manage exclusion in times of crisis it is necessary to: design policy that recognises local cultures, traditions and politics; draw together public and private efforts to combat poverty and social exclusion; improve the transparency and accessibility of local services and benefit systems, and develop information on citizen rights and how services can be accessed.

The LOCALISE project team discussed integrated social and employment policies at the local level, concluding that local networks should: recognise the heterogeneous nature of the problems disadvantaged persons are facing and local peculiarities, both in terms of actors and target groups; develop a clear and well-structured framework for resource-pooling, data-sharing and the usage of instruments, and work to shared objectives[33]. Two innovative suggestions for policy makers were: to

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[30] Excessive social imbalances in the Eurozone, Frank Vandenbroucke.
[31] Taking stock of Europe 2020: towards a multilevel, multi-stakeholder & integrated poverty arena? Matteo Jessoula.
[32] The fight against poverty and social exclusion in times of crisis, Håkan Johansson.
[33] Integrated social and employment policies at the local level, Martin Heidenreich.

create local multi-stakeholder observatories on social solidarity and activation, and to provide greater multi-level coordination on shared policy objectives via units that combine both administrative and scientific staff[34].

The FLOWS presentation discussed critical aspects of the participation of women in the labour market, concluding that the discourse between national governments and the EU is disconnected from the local political authorities who administer policies making and even more remote from ordinary people. For EU policies to be effective, new types of vertical governance and dialogues between different policy levels must be established. In the case of the restricted participation of women in the labour market, the project concluded that there is no single causal factor and therefore no single solution. Supply side social investment strategies do not trigger employment opportunities for women; women's employment is mainly demand-driven and correlated to the size of the public sector; consequently, limiting the welfare state discriminates against women's jobs.

The WILCO project studied the sustainability and diffusion of social innovation. Their work indicated that social innovations can more easily gain recognition and sustainability with open governance[35]; social innovations meet special difficulties when policy fields are marked by hierarchical, uniform, closed services and systems with little local autonomy. There is a need for welfare policies that allow greater acceptance of innovative concepts and which bridge the gap between dispersed innovatory changes and central state policy interventions[36].

Based on these inputs the joint conference elaborated several ideas for further research. More research is needed on how and under what conditions successful social innovations can be institutionalised more broadly and scaled up in order to extend their impact. It is also necessary to understand better how decisions are made about social and employment issues; the existing system is complex and lacks transparency and there is not enough empirical knowledge about how best to share decision-making authority in multi-level political systems. Better research evidence on what actually works in practice and what conditions are necessary for it to work is important for practitioners. There are significant linkages here to the discussion in the later sections on innovation.

Mobility, migration and multilingualism in a globalised world

Research into mobility and migration is important in a globalised world, both migration flows between European member states and migration inflows from third country nationals. There are important differences in policy and legislation in the two cases. Many countries pursue policies to encourage and seek to retain only migrants with high potential; this can lead to increased inter-country inequality; it can also affect family life as migrants may have families in the country of origin. Repatriates may have established a relationship and started a family and want to stay. More research into the effects of brain drain/brain gain on social inequality and family life is necessary. The topic is closely linked to integration; integration is a long-lasting, dynamic and complex process that neutralises social exclusion or separation and sets conditions on the host society if it is to succeed. International labour migration is a normal component of the life course in a globalised world and gives rise to specific transnational cultures that includes aspects from different countries. Research is necessary on the evolution and empirical commonalities of transnational systems in

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[34] [How do different institutional contexts influence local activation policies? Paolo Graziano](#).
[35] [Social innovation at the local level: Taco Brandsen](#).
[36] [Building inclusive welfare systems: a dialogue between research and practice, Adalbert Evers](#).

Europe and how it affects family life. Intra-European migration is affected significantly by education, especially higher education. The European Union supports international lifelong learning with several programmes for different stages in the life-course, but there is no study comparing educational mobility in different European countries. Such analysis is essential to assess the impact on societal inequalities and to determine whether different levels of participation of different social, ethnic or gender groups in the educational system in different EU countries can be mitigated by EU programmes. Mobility, especially work-related mobility, is very important in family life. There is a lack of research on the importance of mobility for the careers of spouses and the impact on partnership and family life, especially family formation and the stability of relationships.

Multilingualism poses a challenge to creating inclusive societies. Multilingualism is a consequence of mobility and migration, but also a part of the European tradition. Migration and mobility intensify language contact and linguistic diversity. Research should address the causes and consequences of intense language contact, linguistic diversity and hybridity and contribute to solving ensuing social tensions; it should identify the conditions under which multilingual education will be an asset for the individual and for society and should also address language issues in key areas: fostering traditional and multimedia literacy; ensuring successful communication in multilingual encounters, efficient and fast language learning and effective interpreting and translation services. Given the high degree of linguistic diversity in Europe, combined with its academic excellence in linguistics, Europe can lead in devising solutions to the challenges from migration-based linguistic diversity and the growing need for automated language mediation. These are concerns shared with the whole world, and Europe can be a strong player in providing solutions. As successful migration depends on integration into a new cultural context, attention should be given to programmes for second language acquisition.

Social cohesion requires better understanding of the condition of ethnic or national minorities that often suffer from social and financial inequalities have lower standing in society and fewer opportunities in the labour market. Research into the success of national policies in integrating these groups into society as equal citizens, would strengthen understanding of how different political strategies affect their wellbeing and their perception of their role in society.

Integration, inclusion and assimilation

Across Europe, minorities have been formed through migration and the normal way in which nation-states have responded is by assimilation into the dominant culture. The question arises whether toleration is a necessary or sufficient response in democratic societies, particularly as toleration is dependent on the 'good will' of those in dominant positions of power[37]. One view is that people seek more than mere toleration and non-discrimination; people seek respect and it is important that group identity be recognised. An alternative view is that in fact Europeans have tolerated too much of the intolerant practices of some minorities which fuels an inclination across the European continent towards intolerant liberalism; against this background toleration may be essential. There is a need for research to redefine concepts of integration and of inclusion in contrast with assimilation. Specific research issues are: when is public intervention required; is tolerance enough; what is allowed to be public and what is deemed to be private?

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[37] Tolerance and Pluralism in Europe: New Analytical Findings and Possible Policy Consequences, Tariq Modood.

The ACCEPT Consortium created indicators of tolerance to guide practice and as tools for policy makers, both for self-assessment and for comparisons[38]. The indicators covered two areas of public life; a set for school life covered *inter alia* the curriculum, teaching material and segregation; indicators for political life addressed tolerance of intolerant discourse and practice, policies of exclusion and special arrangements for minorities. The project applies indicators to fifteen EU member states and on the basis of this evidence compiled a series of reports covering the nature and extent of exclusion of native minorities, Roma and immigrants[39]. There is still much uncertainty and controversy over best practice in defining and applying indicators and measuring practice. The approach is useful, but research is still needed to address wider issues of exclusion in governance; society is not only a matter of policies, it is about markets, labour market, civil society actors and how these different actors interact and produce possibilities of integration in everyday life. Sound research evidence on these processes would be valuable.

Several participants to the ACCEPT stakeholder conference noted a gap between policies for integration and their practice. For instance, references to citizenship and human rights are included in school curricula across all European countries, but implementation is often weak. Similarly, the rhetoric about integrating minorities and Roma is not habitually matched in implementation. It was noted that intolerance is rising in all areas with Muslims and Roma often singled out as conflicting with European liberal societies. Research can help comprehend the origins of this gap between rhetoric and practice and help devise means of implementation more closely aligned with policy.

The growing presence of Islam has reframed religion as a consideration in public life. While in previous decades religion in the public sphere had become a marginal topic, through the claims of Muslim communities religion has again become a central concern. It is necessary to achieve both the freedom of religion and freedom from religion; to be able to practice religion free of discrimination yet also to be free from religious domination by state, peers and parents; the tension cannot be easily resolved[40]. The research questions that are thus posed are: how much religious diversity can we accommodate in our institutions; in what ways can religion be a resource for social cohesion? A case study from Science Europe is illustrates how social science research can illuminate these questions. The project Religion and Society Programme drew upon the experience of 240 researchers to gather scientific evidence to help understand how religion has changed over recent decades and what this means for citizens and society. The research showed that religion in Europe has changed dramatically over recent decades, with a crisis in traditional forms of leadership and the rise of new local and global religious networks based in social media. It was found that most religious people are far more liberal than is generally assumed with attitudes than may run counter to those of the leadership[41].

This final stakeholder conference of ACCEPT Pluralism also stimulated an interesting debate on the relationship between research and policy. Several qualifications were voiced: reliable research is needed to support civil society and NGOs in practical work, along with the need for tools to assess positive and negative impacts of policies; research should balance independence with response to policy needs; most policies are formulated more on ideological principles and the balancing of socio-

[38] Indicators of Tolerance in European Societies, Anna Triandafyllidou.
[39] Tolerance Indicators.
[40] Let's Talk About It: Accommodating religious diversity in Europe's schools, Tore Olsen.
[41] Religion and Society, Linda Woodhead.

economic and political interests than on policy research; what policy-makers (at national or EU levels) need is reliable, accessible information, data and clear analyses rather than lists of policy recommendations; establishing the link between the policy and research communities is difficult because the policy process has so many levels of inputs that it is often difficult to trace impact.

Work-life balance and the EU social model

Europe is not only made up of cultures, identities, languages and institutions, but also houses the "European social model" that includes a well-developed welfare system and social rights, educational quality, policies aimed at regulating the labour market to combine flexibility with income protection, and consultation, concertation or bargaining of collective groups and representative associations. Comparative and fundamental research, including legal research should examine the evolution of the European paradigms and allow for a meaningful interchange with the social protection paradigms to be found outside Europe.

Working-time and leisure-time affect wellbeing, but it is unclear how. Measurement of wellbeing would be improved if they embodied time allocation. The ambiguity of the effect on work on wellbeing must be accepted; some work clearly makes a positive contribution to well-being through a sense of fulfilment. Possibly, there is a critical threshold above which higher work intensity makes a person worse off. Unpaid work (such as care for children and the elderly) is another source of complexity. Work-sharing may be a means to preserve jobs and permanently to raise employment and as a tool to encourage a more equal distribution of economic power and rewards[42]. Deeper research is needed into the relationship between work and well-being and into existing practice to achieve a better balance, successful policies and factors governing success.

Several participants to the ImPRovE conference noted that research is required to illuminate policy options for social investment and social protection. The EU needs a basic consensus on its social model but that is flexible enough to be effective over the range of conditions found across Europe and that can be adapted to specific common policy challenges[43].

The life-course model of the family

One consequence of the profound demographic, cultural and political transformations in Europe over the last few years is diversification of form and practice in family life: in parenthood, child rearing and work-life balance. Traditional models of how best to reconcile work and family life have been eroded. The social platform created under FP7 (FamilyPlatform) has proposed a research agenda for family studies. It notes that the social environment and living conditions of families diverge widely across Europe differentiated by systems of law, education, health and welfare structures. The structures of families and practices are correspondingly dissimilar, but the state of knowledge about families has not kept up with the pace of change; there is a need for a stronger evidence base, better indicators and more effective monitoring.

Research on family wellbeing should focus on the whole life-course and particularly on transitions. Some data on the transition to parenthood is available, for example the age of the first-born child, the desire for children and attitudes to childcare and employment, but little is known about the interplay between the development of these patterns and policy measures, e.g. the impact of

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[42] Past and future evolution of the distribution of work, Andrea Brandolini.
[43] A framework for further research, Frank Vandenbroucke.

different legal frameworks on timing or family form. There is a lack of longitudinal studies and understanding of changing trends and little is known about what mechanisms, considerations and attitudes drive the tendency to smaller family size. The existence of different gender role and parenthood concepts also needs to be taken into account. Research is required to determine the influence of these concepts on fertility decisions.

The increased variety of family forms is based on greater tolerance of non-traditional family forms and a higher incidence of separation; this variety implies different support needs. More information is needed on how pair-headed, lone-parent, homosexual, teenage mother, patchwork, minority and migrant families live and how transitions in life-course and in family life have become more complex as family life becomes more diverse. Assurance of equality of opportunity becomes more elusive, especially for children who grow up in different types of family. The expected participation of parents in the upbringing and education of their children has increased, but the educational background of families and their financial means differ. There is little empirical evidence available regarding the suitability of different mechanism of support and the factors that affect the response of families. Studies are needed to identify the effectiveness and acceptability of support schemes according to the character of different groups. Civil society organisations can contribute to the research and policy processes. Practice is variable; in some cases e.g. family education, organisations are often integrated into the policy process, in others the opportunity is missed. A better understanding of how family organisations can contribute could be achieved; innovative methods of participation have to be found and tested.

The decrease in the stability of relationships has a significant influence in the multiplicity of family forms. Research needs to go beyond the existing basic data into the field of separation and divorce in order better to understand the drivers and consequences, especially for the well-being of children, and to support possible interventions to stabilise family relationships. Care and custody arrangements and particularly their impact on parent-child relationships have to be researched in detail and also from the child's point of view, including the development of family relationships after separation and as to how and when children can be involved in the decision-making processes. The material situation of post-divorce families and its development over time is also relevant. The establishment and maintenance of relationships is significant also for older people; it is important to understand how intergenerational relationships develop in new family models, to what extent children can provide support and what arrangements they prefer and can afford. Opportunities may exist e.g. for local ´skills markets´ that could access the experience and time of the elderly and integrate them better in the community.

The diversity and complexity of modern societies makes heavy demands on managing family life, especially for women that compromise goals of gender equality and increasing female participation in the labour force. The fulfilment of gender roles is vital for the personal gender identity of the partners, but it can lead to dissatisfaction, overload, conflicts and frustration. A satisfying arrangement is important for the stability of partnerships and therefore for the growth and development of the children. There has been some research into the nature, timing and valuation of paid and unpaid work within the family, but there needs to be better comparability. Childcare is often performed at the same time as household tasks and this should be recognised as an indicator of overloading and to identify gender-related differences. Methodological development is vital on an interdisciplinary basis. A family-centred reorganisation of labour would help manage the work-life

balance problem, but research on fathers is scarce and more effort is needed to inform appropriate policies (e.g. support at the company or public-sector level, but also in the form of socio-political interventions).

Deeper insight into the nature, structures and formation of relationships within the family and their vulnerability is needed, through interdisciplinary studies of long duration and with innovative approaches. Studies should include *inter alia* consequences of parental absence and the roles of fostering or adoption and the relationships between adult children and their elderly parents and the interaction between grandparents and grandchildren, both of which are influenced by rising employment rates and mobility. Research on emotional relations as well as care giving, education and financial support is important.

FamilyPlatform found adequate comparable data to be lacking in all aspects of family life, arguing that there is a need for more comparable national data, especially for the new member states and for the rarer family forms[44]. Data about individuals, families and networks will give insight into relationships and support mechanisms. New indicators should be devised that describe the situations of families and countries more precisely, addressing aspects such as living standards, education and relationships and that better describe the reality of family forms, dissolution of the family, the family as a network, and intergenerational relationships. Children's views need to be incorporated. With of increasing migration, it is essential to analyse social and demographic data on the extent and structure of immigration into and within the EU, as well as the origin, destination and motivation of migrants. Currently it is hard to compare data on migration flows, as different measurements and concepts are used in the EU countries.

National and regional family policies need to be monitored better to understand how family-related frameworks, laws and rules vary across the Union. Critical comparison can help in understanding the effectiveness of policy measures and is necessary to assess how intentions and goals of the EU compare with the prevailing situation in the member states. Developmental processes should be examined in order to understand cultural backgrounds. Evaluation should not focus on isolated measures but study complex and interrelated systems of regulations Comparative studies of the different types of institutional frameworks can be used to study stability and changes in family policy regimes. Consensual criteria have to be found to enable us to make clearer comparisons of data between the member states (indicators on family forms, relationships, poverty, and education) and categories of policy interventions and measures.

Caring for others through social and technical innovation
Care for those who cannot care for themselves is fundamental to inclusion; care for the old is of particular concern as increased longevity, more possibilities of health care and the high cost of provision stimulates demand for care outside formal institutions. As family patterns become more varied, so family care models will become more diversified. A first research requirement is to compare current practice in care provision in Member States, differentiating the different requirements of care for children, the elderly, the temporarily ill and for disabled people. The comparison should determine to what extent state welfare systems support care in the family and to what extent they drive it. Little is known about the expectations of providers and recipients of care and this also needs to be assessed, including the views of children. For the elderly, longitudinal

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[44] Research Agenda on Families and Family Wellbeing for Europe, FamilyPlatform.

studies would extend understanding of the last phase of life and would help devise mechanisms of sustainable support; a better knowledge of physical and mental deterioration and related care needs will inform better policies for recipients and providers of all kinds of care.

Technical and social innovations can reshape care relations within families and the relationship of families to professional care providers. Research is needed to link the offer in innovation to the demand and to ensure effective application. Migrant carers are prominent in care for the elderly; they pose new challenges for families and nation states regarding their legal status, the affordability of care services in general, and the quality of the care provided. Research on actual and desired care relations and the potential of innovation will inform policies, remove obstacles to better care and support care-givers, whilst recognising the financial and economic considerations and acknowledging the specific environments of families according to location and by social class. Research into care is has strong relevance to gender, as the division of household duties and family activities by gender is unbalanced.

Understanding and dealing with violence

Violence is prejudicial to social stability and its origins and manifestations need to be better understood. Violence is defined differently in different nations and cultures and varying legal sanctions are linked to these definitions. There are also variations in the individual risk of experiencing violence, further differentiated into violence on men, women, children, elderly, disabled people, as well as people in institutions or private care and individuals from certain social groups or living in specific areas. It is hard to obtain information on family violence and it is thought that many cases remain unreported; access to victims and offenders is also difficult. Abuse in care relationships is especially sensitive. It is particularly important to improve knowledge and methods with regard to children as victims of violence, and also regarding child offenders. There is a high demand for comparative research; prerequisites are a common definition of violence and standardised and agreed indicators for domestic violence, rape and sexual assault. Research into counselling, refuges and housing for victims provided by statutory services and NGOs has to be extended together with research into policing and criminal justice and the impact on health, perpetrator programmes and professional training.

Valorising multiple concepts of justice

The League of European Research Universities (LERU) has argued that the evolution towards a more inclusive society will require in-depth and sustained critical analysis of mechanisms, ideas and approaches that create exclusiveness and reinforce social vulnerability, such as unilateral criminal justice responses mainly based on retribution and the excluding effects of certain types of risk assessment[45]. Research is needed in to determine means of integrating the principles of inclusiveness, citizen's participation and respect for otherness in justice responses. For centuries Europeans have been highly mobile; this population dynamic has added greatly to its unique economic, social, linguistic and cultural dynamic. Systematic research combining historical and social-scientific research is of utmost importance to understand under what conditions societies profit from migration, both within and from outside Europe. Research on the impact of cultural differences regarding conflict and conflict resolution within Europe's increasingly heterogeneous societies, will allow to valorise multiple concepts of justice and to enhance the democratic

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[45] The future of the Social Sciences and Humanities in Europe: collected LERU papers on the SSH research agenda, League of European Research Universities, September 2013.

participation of citizens in addressing Europe's justice challenge. Social innovation has a role here to help develop new and better forms of human organisation that enhance the efficiency of livelihood assets, but also the bottom-up dynamics that individuals and collectives develop and which provide resilience in times of crisis. This also relates to justice in its broad societal meaning that promotes accessibility to social life and that facilitates social cohesion through non-violent conflict resolution. Research on emerging bottom-up dynamics of justice and conflict resolution and their interaction with the official top-down justice system is required to increase understanding of overlap and conflict among them and the evolution towards more integrated hybrid approaches.

Europe as a global actor (6.1.3)

The position paper from ALLEA notes that a focus on the inter-relationship between Europe and other regions of the world is essential. The way in which Europe interacts with other parts of the world has long been recognised as of vital importance, and programmes should address how Europe can learn and benefit from experiences elsewhere in the world, and how connections to identity and migration, can strengthen society in Europe and contribute towards the development of robust and sustainable policies.

EU anticipative capacity in external affairs

In June 2014, DG Research and Innovation organized a stakeholder conference on "Research Meets Diplomacy: Europe as a Global Actor" to discuss future topics for research on the EU as a global actor in Horizon 2020[46]. The conference reviewed the large amount of work performed within the activity "Europe in the World" under FP7 according to three major themes: interactions and interdependencies between world regions and their implications; conflict, peace and human rights; Europe's changing role in the world. A synopsis of the outputs from the projects is available[47]. Subsequently the conference explored three major themes for future research: the EU's capacities as a global actor; the emblematic neighbourhood policy with an emphasis on the Mediterranean, and the EU's role in the wider world and key global challenges. The key objective was to identify the knowledge needed for sound foreign policy making and how it can be realistically delivered by European research projects. The 2014/15 transition in the EU institutions and the appointment of the new High Representative for Foreign Affairs will be a key moment for a strategic discussion on the EU as a global actor and proposals for skilful research could find acceptance.

With respect to improving the capacities of the EU as a global actor, the conference concluded that the first need was for a better understanding of the preconditions for effective action. This requires research into specific cases better to understand how the EU interacts with third countries. For instance, the bi-regional cooperation arrangements promoted by the EU may not work in certain areas (as in Latin America and the Caribbean and a similar failure to promote regional integration in the South East Mediterranean). Research is needed to define the context of relationships more accurately and to understand the problems and challenges. Research is also necessary to enhance the EU's anticipative capacities through a better understanding of themes that will affect future interactions, for instance the influence of younger generations on the socio-political evolution or the limits and potentials of socio-ecological transitions in third countries.

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[46] Research meets diplomacy: Europe as a Global Actor 5 June 2014.
[47] Europe as a global actor: European Socio-Economic Sciences and Humanities Research Projects under the Seventh Framework Programme (2007-2013).

The Euro-Mediterranean partnership

According to the Italian Presidency of the Council (1/7/2014 – 31/12/2014), the Mediterranean area should be a key priority for the EU. The Mediterranean region is of particular importance to the EU, for historical reasons, for certain demographic synergies, for its resources of energy and because of the present political, economic and social conjunction that is potentially destabilising for Europe[48]. A better integrated programme of political and socio-economic research is needed to examine the drivers of sustainable and inclusive growth in the region and as a support to policy including EU foreign policy. Applied research on long-term socio-economic challenges in the Euro-Mediterranean should remain important in Horizon 2020 mainly on the topics of: energy and climate change mitigation; climate change adaptation with a focus on water efficiency and agriculture, waste management and food security[49]. The link between the long-term challenges and drivers of political and socio-economic change and tensions should be researched along with links between private sector progress and urban and rural development and implications. Scenario analysis is a relevant tool to explore strategies and policies for the region and to define the challenges and act upon them with alternative policy tools. Research is needed to identify the conditions for inclusive and sustainable socio-economic including the role of human capital and intangibles and the creation of employment, especially by means that ensure realisation of the demographic dividend in the South and East Mediterranean. New forms of partnerships to manage south-south and south -north migration need to be assessed and new thinking developed about growth models and win-win socio-economic partnerships, particularly concerning social innovation and innovative monetary, financial mechanisms to promote growth, burden sharing and social protection[50].

As discussed in a EuroMed stakeholder meeting in Cairo in 2014, research should be continued on health, demographic change, food security, energy, transport and climate change[51]. From the "inclusive societies" perspective, research should focus on human rights, democratisations, conflict prevention, management and resolution, security and the role of other external actors in the Mediterranean region. This is all the more important in that part of the region is falling into prolonged conflicts that are detrimental to stability and sustainability in the region, in Europe and beyond. Socio-economic research in the region must become more accessible and more effectively applied to policy-making. Novel approaches to integration with the region should be considered, including a greater exchange of scientists and more interaction between private sectors and research centres to facilitate adoption of technology for commercial purposes. It is important to develop a new generation of researchers who will drive innovation and change towards sustainable objectives.

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[48] Agora Med Spring
[49] EuroMed session, Chairman introduction, Domenico Rossetti.
[50] Research on the Mediterranean region and what it implies for the EU's foreign policy, Rym Ayadi.
[51] Meeting EuroMed common challenges - Research and Innovation cooperation, Cairo, 9 February 2014.

The role of the EU in the wider world

The EU R&I collaboration with third countries cover most parts of the world: in addition to the Mediterranean region mentioned above, the EU cooperation deals with the eastern neighbourhood, the Western Balkans, Africa, Latin America and ASEAN[52].

Some examples of cooperation can be given. In the specific case of Latin America lessons were drawn from two collaborative research projects funded by the European Commission under FP7. The first concerned Environmental Governance in Latin America and the Caribbean - Developing Frameworks for Sustainable and Equitable Natural Resource Use (ENGOV). A first phase of this work documented the profound changes in the political, economic and social contexts in Latin American and Caribbean (LAC) countries over the past ten years. Historically, key themes in EU-LAC relations have been the ecological limits to extractive and productive activities; the economic and political problems of resource-based growth; social tensions and conflicts around natural resource use and the challenge of improving and democratizing the governance of natural resource use. Shifts in global markets have created new partnerships for trade and capital, but strengthened the dependency on primary commodities; international environmental policies have created new challenges for resource; policy reforms have created more equitable non-renewable resources management, but not more sustainability; reforms in the agricultural sector have been limited. A second phase of work concluded that territories and people were under pressure from the need to produce at large-scale for global markets; local communities continue to be neglected despite new legislation; there is a need for updated information on the changing realities of resource use and management and better information on how international policies and programmes are embedded nationally. Based on these conclusions the following research themes were proposed: to reinforce democratic and participatory decision-making; to improving urban-rural connectivity and to strengthen socio-environmental security[53].

A second FP7 project 7FP, COMET-LA, was designed to research sustainable community-based governance models in the management of environmental challenges. The project addressed the problem that local communities are driven to use natural resources to generate incomes because they obtain no direct revenue from the protection of natural resources; in addition they lack knowledge and management tools and have no significant voice in the policy arena. The project successfully delivered locally-adapted tools and training and initiated better empowerment of local communities. Based on this experience it identified priorities for further work as: enhancing the understanding of local sustainable governance models for natural resource management; building bridges between global and local policies; better lobbying of relevant policymakers in the countries with the research outcomes. At the global level cooperation between the EU and LAC region needs to be strengthened in research and education area; local communities should be engaged in research projects with clearly specified functions. At the local level, research is needed: better to empower owners of natural resources; to foster sustainable management of renewable resources; to linking market vision and sustainability; to promote internalisation of social and environmental

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[52] IncoNet – Eastern partnership and Eastern partnership policy; Coordination of Research policies with the Western Balkan Countries; New knowledge partnerships – Africa; EU science and technology cooperation with Latin America; EU research and innovation with the Association of Southeast Asian Nations.
[53] The challenge of sustainable governance of natural resources from the perspective of EU-LAC cooperation: Insights from research, Barbara Hogenboom.

costs; to encourage the distribution of social and environmental costs and benefits; to develop sustainable technologies based on local assets[54].

Participants to the conference noted that a large part of the global economy is located in the Far East, where historically the presence of the EU has not been strong, and the importance of this region grows steadily both in terms of its economic output and political presence. The EU needs to reposition itself to manage better in this part of the world. Research is a critical support to this process as it improves the understanding in Europe of the capabilities and needs of the region. There are marked differences in culture between Europe and Asia that spill over into the field of science. Further effort is required to identify appropriate modalities that recognise the heterogeneity of the region, existing sub-regional groupings, the competence of research institutions and universities and topics of mutual interest. Policy-making for the Pacific is complex, because it is affected by many external impacts, especially climate change and fishing.

Sustainable and inclusive environments (6.1.4)

A European Research Agenda on "Cities and Social Cohesion" has been developed by the Social Polis platform funded under FP7[55]. The agenda defines two main challenges to social cohesion in urban areas. The first concerns the implications of global change and the second is to deliver acceptable governance of cohesion and diversity in urban contexts. Changes in the global economy have affected employment and income opportunities and transformed social relations of gender, class, age and ethnicity, thereby eroding urban social cohesion. Increasing polarisation in income, occupational positions and opportunities underlie the current economic malaise. The adoption of neo-liberal policies throughout the global economy and the decline of the welfare state have contributed to enhance the place of civil society in the quest for social change and also to the rise of radical political groups. This complex and dynamic conjunction offers opportunities for research to determine new and alternative forms of social and spatial organisation. Urban populations are diverse and becoming more so; tensions between diversity and social cohesion in the city as a whole have not been systematically explored. Managing diversity is therefore a relevant topic for research that will question existing governance mechanisms and seek new forms of participation in governance.

Within the scope of these major challenges SocialPolis defines five research topics: urban social cohesion and the environment; developing a plural economic approach to foster urban social cohesion; dynamics of social exclusion; drivers and social outcomes of urban regeneration in European cities; social cohesion in cities in the emerging economies of the South. Some examples of stakeholders conferences on these issues took place in the frame of the FP7 projects CHANCE2SUSTAIN in Bonn in June 2014 and URBACHINA in Chongking in May 2014[56].

Ecology and urban social cohesion

Ecological problems are increasingly seen to a main influence on urban social cohesion. Unequal access to resources creates new interdependencies between inhabitants and social groups that, depending on circumstances, can give rise to solidarity or to new forms of conflict; they may also stimulate the rethinking principles of justice within respect to urban environments. Adaptation to

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[54] Participatory governance of natural resources and bottom-up initiatives, Mª del Mar Delgado.
[55] European Agenda for Research on Cities and Social Cohesion, Social Polis, 2011.
[56] Urban chances, city growth and the sustainability challenges; Sustainable urbanisation in China.

and mitigation of global environmental change equally constitutes an extraordinary challenge to maintaining or fostering urban social cohesion: evidence suggests that there is a serious potential for urban conflict arising from policy and other interventions to confront the global environmental challenge. Research is needed to document and analyse the environmental implications of urban change and their uneven consequences for different social groups (research on the injustices arising from uneven access to resources within the city or uneven protection from negative environmental impacts including those from the mitigation of and adaptation to global climate change and research on the technological, institutional and political processes related to understanding the making of socio-ecologically cohesive and sustainable urban communities). Building and regenerating sustainable infrastructures requires comparative research to determine models for cities that are more inclusive.

Reducing a city's carbon footprint and waste output while boosting local production of services and goods still needs more research; it affects energy supply, transport, communications, food production and buildings. It also requires a better understanding of linkages between urban and rural environments. One approach might be to study small-scale examples in towns that have been successful and to evaluate their suitability for large-scale application. Both self-governance and self-organizing processes of innovation deserve further research attention.

Dynamics of innovative urban economies

Simple dualistic models of market versus public sector, formal versus informal economy or advanced versus traditional activities are inadequate fully to comprehend the dynamics of urban economies. A pluralistic economic analysis recognises formal and informal economies, market and non-market resources, social and community entrepreneurship and neighbourhood initiatives to produce and exchange goods and services. This was discussed at the final stakeholder final SELUSI conference[57].

Research should focus in particular on those factors and dynamics that have produced greater integrated development and social cohesion in existing urban economies and identify ways of steering plural economies to foster urban social cohesion. The unfavourable economic and financial conditions and the deepening of the ecological and energy crises have intensified some existing exclusionary processes and have created new ones; riots and makeshift camps in the periphery of European cities make evident the link between exclusion dynamics and social cohesion. It is important to understand the risks that old and new forms of the social exclusion pose to societal cohesion in urban areas. Research should address the multidimensional nature of inequalities, their social and spatial determinants and how they shape paths of exclusion and inclusion (how different processes of discrimination and exclusion drive individuals to marginalisation and deprivation, the consequences of attempts by the affluent middle classes to segregate themselves from the urban fabric).

The Directorate General for Research and Innovation organized a stakeholder seminar on 'Sustainable Urban Dynamics' with the intent to sound opinion on future research[58]. The consultation structured its recommendations according to ten topics: measuring and forecasting housing needs; integration and cohesion in urban areas functionalities, sharing and lifestyles; export

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[57] Social enterprise and social business innovation in Europe.
[58] Research and Innovation on Sustainable Urban Dynamics, 2013, Directorate-General for Research & Innovation, Brussels.

of EU urban best practices in third countries; economic, social and environmental city resilience; urban regeneration including artistic assets; welfare city visions; urban tools to attract and retain people; urban socio-ecological transition; cross-cutting urban issues - data; gender; foresight.

Urban growth patterns in Europe are uneven; many cities are growing, others are stagnant and some are shrinking. Development of innovative techniques for measuring and forecasting housing needs is a priority as it provides the basic foundation for planning sustainable and inclusive urban environments. Shifting demographic patterns must be taken into account. Research is needed to understand how people can be integrated into neighbourhoods more effectively and how those neighbourhoods can be integrated into the larger urban fabric. Households are increasingly heterogeneous in terms of age, income, employment status and ethnic background, and many are living in deprived neighbourhoods that need reconnection with the mainstream urban fabric; such places are often associated with crime, vandalism, poor quality of life and a sense of marginalisation (cf. "dynamics of social exclusion" in SocialPolis).

Shared functionality – from ownership to access
Shared functionality in urban environments could contribute greatly to sustainability, but it implies a rethink and reorganization of the way goods and services are consumed and supplied. Sharing of cars and bicycles is well-established, but there may be scope to extend this model to other functions and research is needed to identify the opportunities and necessary conditions.

Europe has a long and rich urban experience and many of its cities are prosperous, efficient, relatively clean and with a high quality of life. They are often different from cities elsewhere in the world. Despite these advantages, Europe has failed to forge a strong connection to urban research; most research on cities is still based on US cities which may not be representative of those found elsewhere. Greater effort should be made to identify and delineate good practice examples from Europe that can be shared with third countries, particularly the fast-growing cities of the South.

Europe faces many challenges including demographic decline, social polarization, depletion of natural resources, and loss of competitiveness. These conditions affect also urban planning. Policy responses to these threats are already being worked on, but continuous research is required to assure that challenges are properly anticipated and addressed. New integrated models of planning and governance will be required to assure sustainability and resilience; they should recognise the economic and demographic trajectory of Europe and the possibility that the capacities of the public sector may diminish in the future.

Urban regeneration and artistic assets
Over the past 20 years, many European cities have attempted to regenerate obsolete harbour and industrial areas as well as deprived neighbourhoods located in both the historical centres and the city peripheries. These initiatives aim to increase the urban competitiveness of neighbourhoods and cities, to improve living conditions and to promote social inclusion. Research is needed to understand better how urban regeneration processes affect social cohesion. The focus should be on the whole city as a unit of analysis and comparison. European cities are diverse in terms of size, spatial configurations, demography and their state regimes for welfare so it will be necessary to define typologies of the cities and the regeneration processes. Comparative case-studies on a range of city and regeneration types should improve understanding of the conditions under which urban regeneration might foster social cohesion. The case studies should identify the drivers of

regeneration programmes (the actors, objectives, negotiations, discourses) and the impacts on social cohesion for new and old inhabitants, on the housing market, on the socio-spatial structures of the urban metropolitan area and on governance and political participation. The necessity to renew urban environments will continue to grow. Soft conditions for successful intervention are often overlooked; regeneration should be tailored to the historical context. Artistic assets can be mobilised for urban renewal and research is needed into how to exploit the arts as a vehicle for intercultural dialogue and social inclusion in urban contexts.

Affordable services

Social housing and social cohesion do not always go hand in hand; research on that relationship should be pursued. As underlined by the SocialPolis stakeholder platform, the connection between urban development and social welfare regimes in Europe may also warrant more investigation to avoid radical regional divergence.

Understanding the factors that influence how people move within and between cities is an important but underexplored avenue of research and a prerequisite for improving mobility with urban infrastructure. More emphasis should be placed on developing 'everyday space' in urban settings rather than 'prestige' projects that absorb massive resources yet may not positively affect mobility. More research effort should be devoted to finding out how to influence urban development in a way that exploits personal networks more effectively.

Flexible and holistic spatial planning

The SPREAD Platform on Sustainable Lifestyles saw the quest for spatial planning schemes and models that support and accommodate sustainable lifestyles as an important topic of research, noting that the configuration of our cities, infrastructure, supply systems and housing limits the scope for individual choice and locks people into unsustainable practices. SPREAD argued for a holistic approach to spatial planning taking into account impacts on human behaviour, health and lifestyle. Flexible spatial planning concepts should aim to promote not only sustainability in technical terms, but also social sustainability and should be designed to lock-in sustainable behaviour. Green public space generates no revenue and is expensive to maintain, but is important for health and well-being of residents. The relationship between buildings, green space and health requires exploration. Financial stringency is causing some local governments to ask citizens to take responsibility for the maintenance and management of urban public space. Research into the costs and benefits of such actions is needed as it is also for the scalability and transferability of current trends such as urban farming, guerrilla gardening and slow food. The promotion of public transport and energy efficient housing is a critical aspect of sustainability. Research should ascertain the values and motivations governing citizen behaviour in these respects and should identify critical success factors and incentives for promoting public transport and stimulating investment in energy efficiency in buildings.

There are several cross-cutting issues that are relevant to all research areas. Good data is required both for the past and the present: for example the ownership of buildings and the share of social housing. Good data is a pre-requisite for foresight studies which comprise a second cross-cutting issue. The role of women is pertinent to all the tasks identified; it can be expected to change over time and this also should be analysed.

Innovative societies (6.2)

The evidence base and support for the Innovation Union and ERA (6.2.1)

The European Research Area has been many years in gestation. The concept was launched at the Lisbon European Council in March 2000 with the expressed intent to improve cooperation among national research policies and programmes. In 2002, the Barcelona European Council set a target of 3% of GDP for research; this was the first commitment by Member States to a specific EU objective in the sector. In 2008, the Council introduced the Ljubljana Process to improve the political governance of ERA. The following year the Lisbon Treaty came into effect that defined a shared competence between the EU and the Member States for research and technological development. An ERA framework and supporting measures were announced in the 2010 Innovation Union Flagship initiative of the Europe 2020 strategy[59] and a reinforced ERA was designed in 2012[60]. The Impact Assessment accompanying this proposal identified several critical weaknesses in European research: limited competition amongst research institutions and universities leading to insufficient specialisation; barriers to cooperation formed by the low compatibility and interoperability of national research programmes; distortions among national labour markets for researchers; limited progress on gender equality and gender dimension in research content; restricted circulation of and uneven access to scientific knowledge[61]. To address these weaknesses the reinforced ERA sets five priorities, namely:

- More effective national research systems
- Optimal transnational co-operation and competition
- An open labour market for researchers
- Gender equality and gender mainstreaming in research
- Optimal circulation, access to and transfer of scientific knowledge including via digital ERA

Partnerships with the EU and representative bodies of the main actors in the field have help guide practice across the Union towards common standards and one of the most important of these is the partnership with Science Europe. Science Europe is an association of European Research Funding and Research Performing Organisations, founded in 2011 by the merger of existing bodies. Together the members represent a substantial part of the European resources for the funding and performance of research. An explicit goal of Science Europe is to contribute to strengthening the ERA and to this end it has published a road map for its members to work towards common standards and practices in nine priority areas that closely parallel the aims of the ERA Communication[62].

Improving governance and priority-setting within ERA
The VERA project is being funded under FP7 to generate evidence and ideas that will improve the governance and priority-setting within ERA[63]. Within this project scenarios have been proposed to explore various ways that the ERA might evolve with the eventual aim of identifying robust options for future policy. The conclusions of this work are not yet available, but some of the preliminary

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[59] Europe 2020 Flagship Initiative: Innovation Union, COM(2010) 546, Brussels, 6 October 2010
[60] A Reinforced European Research Area Partnership for Excellence and Growth, COM(2012) 392, Brussels, 17 July 2012
[61] Executive Summary of the Impact Assessment, SWD(2012) 211, Brussels, 17 July 2012
[62] Science Europe Road Map, December 2013.
[63] Forward Visions on the European Research Area, VERA.

diagnostics do indicate some useful lines of research[64]. The project notes that the achievement of more effective national research systems is limited by the heterogeneity of systems and funding mechanisms. Many countries still do not use regular, efficient, and transparent institutional assessment to allocate funds; official statistics on the use of competitive funding are often not available, which makes it difficult to perform reliable quantitative monitoring. In terms of improving transnational co-operation and competition, the current level of alignment is too low to have a serious impact on large and complex challenges and this is unlikely to change much while there are such significant differences between countries with regard to R&D expenditure and R&D Infrastructure. Open, merit-based and transparent recruitment is increasingly recognised in the regulations and legislation, but difficulties persist with implementation. Conditions of recruitment and employment vary considerably across member states this affects the ability of different countries to attract both national and foreign researchers. This fragmentation is a main obstacle to the creation of a single labour market for researchers. Member states are moving towards a better gender balance in science and research, using a variety of measures including legislation, government strategies and activities designed to promote cultural change, but research to evaluate their impact is needed. More generally, the project suggests that given the complexity of the ERA the monitoring and evaluation requires a more subtle differentiation of goals and a more refined definition of the actions within each priority.

There is a need for comparative analysis of policies and practices across the Union to identify good practice and the conditions to which such practice is appropriate. There is a considerable diversity of conditions in member states that will limit the adoption of identical practices and mechanisms, but there is still considerable scope to identify the best practice appropriate to different conditions. Such research will provide valuable support for the facility for policy advice that the Commission proposes to establish to help countries with their national reform programmes. Such research should take into account the progress being made under the auspices of Science Europe. Research is needed to support the implementation of the Innovation Union. There is a very wide variation across countries in the extent of support for innovation and the mechanisms used to deliver it. A stock-taking of practice and an assessment of performance is an essential prerequisite to any interventions at a Community level. This is equally applicable to social innovation as to conventional technical innovation.

The League of European Research Universities argued most strongly that innovation requires skills and competences at a high level and therefore it is vital that education and training should function adequately in the production of skills relevant for European economies; including the creation of an adequate average skill level that is well distributed, vocational education and training, and work-related training and life-long learning. Research is needed in the field of educational sciences in order to devise education and training systems that effectively create a clear focus on innovation, economic growth, and full participation of individuals in society.

New approaches to mathematical, digital and science literacy education need to be developed to foster curiosity, creativity and problem solving in the population at large, but catering adequately for gifted students. Life-long learning is an economic and social necessity in innovative societies; research should support the development of educational arrangements that enhance skills, attitudes

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[64] ERA Fabric Map, Second Edition

and identities of all ages. New approaches to curricula, learning environments and teacher professional development are urgently needed. Traditional literacy skills should not be forgotten; many school students do have the skills necessary to understand the texts they read. As scientific insights into problems in basic language and problems in comprehension skills have advanced, it is time to stimulate programmes that integrate such insights into a coherent approach to advance societal participation of all individuals.

Discussion within the conference associated with the Vilnius Declaration also drew attention to the over-riding need for interdisciplinary approaches and within this the need for research to develop common and valid evaluation criteria for interdisciplinarity; "box-ticking" exercise are insufficient[65]. The conference drew attention also to the need for more interdisciplinary education favouring a solution through postdoctoral work within disciplines outside the individual's thematic area.

Improving access to the results of research

The ALLEA position paper argues that the further development of tools for analysis and access to the products of research (publications and the underlying data) are essential; such tools are increasingly sophisticated and many have been developed by researchers from Europe, some in actions supported by the European Commission. Further, there should be comprehensive mapping of research expertise, for example through decentralised but compatible comprehensive research information systems.

ALLEA also propose work to address the unresolved challenge in the assessment of research results in the European humanities and social sciences posed by the many national languages used and to the different formats employed. Existing bibliometric databases are dominated by English and a few other languages, and do not cover scholarly monographs and collections of essays, which represent much of the most innovative and accomplished work. Horizon 2020 should fund better access to scientific production across all linguistic communities and should facilitate the development of quality-based bibliometric tools. There is a need to develop more appropriate indicators in many fields.

ALLEA formulated several specific recommendations for developing an information infrastructure building on what has already been achieved and taking into account the many medium- and small-scale national research infrastructures that need to be networked at a European level. Recommendations included: the cataloguing of journals, monographs and other publications; searchable database of contents, with multilingual input and output; ensuring standards and meta-data for digitised records and tools for analysing objects within texts, pictures, tones and multi-modal media; open and, as far as possible, free access to published outputs and controlled access to primary data; enduring support for the conservation of data and the migration of data to different platforms; incentives for participation and maintaining comparability of information within longitudinal research; incentives for national data collection to ensure high levels of country participation; mapping of research expertise across Europe and in other regions.

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[65] Horizons for Social Sciences and Humanities, September 23–24, 2013, Mykolas Romeris University, Vilnius, Lithuania.

Strengthening the EU13

ALLEA noted also the importance of reinforcing integration of research activities and researchers within the ERA. In particular, they expressed concern at the continuing sharp divergence between the EU15 and EU13 in the number of awards made and at the very few projects coordinated by researchers from within the EU13. Specific measures to enhance integration across the ERA and develop and harness the research potential in the EU13 countries are needed. Many of the countries concerned were at the forefront of science and technology in the late nineteenth and early twentieth centuries and this competence needs to be rekindled. Seed-funding for less well-resourced countries would enable them to support small-scale network-building meetings, to facilitate the development of contacts and experience.

New forms of innovation (6.2.2)

The importance of the social sciences in fostering effective innovation was recognised in the Vilnius Declaration which notes that "innovation is a matter of change in organisations and institutions as well as technologies. It is driven not only by technological advances, but also by societal expectations, values and demands. Making use of the wide range of knowledge, capabilities, skills and experiences readily available in SSH will enable innovation to become embedded in society and is necessary to realise the policy aims predefined in the Societal Challenges".

Business efficiency and new business models

The position paper of the League of European Research Universities argues that the digital revolution is transforming creative economies globally and that great opportunity exists to enhance Europe's creative economy by maximising the move to the digital domain in ways that increase business efficiency by creating new business models, while understanding the impact on the creative practitioner, consumer and society as a whole. Research should support the development of creative content and cultural activities which are key drivers both in digital innovation and the take up of new technologies, for example to exploit Europe's uniquely rich and diverse historic and cultural heritage and potential. (This issue is discussed more fully in a later section). The digital revolution is also providing societies new opportunities for internet-based social networks across international borders, bringing together social knowledge for greater social inclusion and new forms of participation. Research questions that were previously unmanageable can be addressed and shared with the public. Research should support a citizen-centric, integrated and IT-supported approach combining social protection, access to health and cultural participation, in general and for certain especially vulnerable groups in particular. This must be complemented by research to strengthen resistance against increased vulnerabilities through the use of social media, especially for children and young people. To be effective, research must address a broad range of media and overcome compartmentalisation between forms of media. A systematic, comparative and historically informed understanding of the interplay between different forms of mediation across the private and (semi-) public spheres is a prerequisite for evidence-based formulation of educational, cultural and social policies. Such research requires a combination of contemporary and historical perspectives so that emerging trends can be mapped at the same time as they are related to longer-term trends and path-dependencies.

Citizens as co-designers of social innovations

An agenda for future research on innovation in the social science was delivered by the INNOSERV Social Platform funded under FP7[66]. The seven research themes identified by INNOSERV are: user-centred services and approaches, organizational and institutional development, framing social services in relation to innovation, the governance of social service innovation, the influence of national, regional and local contexts, new technologies, and methods to measure outcomes, quality and challenges.

User-centred services and approaches emphasise the active involvement of users in the provision of services and in innovation. Such a change in practice implies a shift in the functions of professionals and volunteers. The new forms of interaction may stimulate conflict between the interest of professionals to preserve autonomy and their expert role and the wishes and needs of users. Much research has been conducted on the interaction between professionals and users, but little work has been directed to the potentially beneficial or harmful effects from the stimulation and diffusion of social service innovation. New identities will emerge with implications for professionals and no-professionals and their working conditions. A deep understanding is missing of the conditions for successful interaction between actors, and the related management and governance questions.

Innovation is already helping European public services, business and citizens adapt to the challenges of our globalized world and a few examples follow. One case study from Science Europe records successful work by the PROUD project to engage citizens as co-designers of innovative solutions to local problems[67]. Co-design methodology engages users in the design process and this helps increase their acceptance of the product. The overall intent is that design should be a driver for innovation, economic growth and sustainable development. Overall, the project found that the designers, businesses and public authorities involved in the pilot actions no longer chose standard solutions but, when presented with alternatives, preferred working in a more user-oriented way. A second case study from Science Europe illustrates the potential for innovative techniques in medical consultations. The interdisciplinary involving linguists, neurologists, psychologists and sociologists successfully demonstrated significant improvements in the diagnosis of seizures using a method derived from 'Conversation Analysis' – an approach to social interaction that embraces both verbal and non-verbal conduct. This deeper understanding of patients' narratives was shown to be a powerful and cost-effective instrument to reduce diagnostic errors and to improve the quality of patient care[68].

Social innovation is an important special case of innovation that simultaneously meets social needs and creates new social relationships or collaborations. The EU funded under FP7 two social innovation incubator projects. Social innovations are often developed locally and there is a challenge to scale-up and replicate their success. BENISI is project that aims to identify 300 of the most promising initiatives with a view to help their transfer and adoption in other places in Europe[69]. The ultimate goal is to enhance economic growth and create new and meaningful jobs for young people. Examples of the many local initiatives of many types with many different aims that participate in the incubator are the Dortmund Climate Action Programme 2020 of the city council

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[66] Promoting Innovation in Social Services : An Agenda For Future Research And Development.
[67] PROUD - People Researchers Organisations Using Design for innovation and co-creation.
[68] Using linguistic methodologies to improve diagnoses in patients with seizures.
[69] BENISI: Scaling Social Innovation.

that encourages citizens to contribute their experience and to get involved in developing local solutions to climate change[70] and WEEE in Prison, which is an Italian programme to promote the social and working integration of disadvantaged people found guilty of criminal charges and people returning from prison[71]. The Transnational Network for Social Innovation Incubation – TRANSITION – is a similar FP7 project with the same objective to identify a pool of 300 social innovations that might be scaled-up, with additionally the intent to create Transnational Start-up Laboratories to take social innovations from to international implementation within the time scale of the project[72].

Helping organisations adapt to innovation

Organisations and institutions will be obliged to adapt to manage innovation. At the micro level, managerial and organisational changes might include new forms of human and financial resource mobilisation for the realisation of innovation and the capacity to take risks and carry out new ideas. The surrounding institutional and other frameworks will need to adjust the operational conditions for organisations to stimulate innovation. Traditional hierarchical management may hinder innovation; better results may be fostered by looser arrangements, but at the expense possibly of continuity. There may also be more than one agent of change; professions in coalition with users may be a significant force. Extensive research is needed to clarify options and the conditions for them to work.

Policy and social discourses will affect the perception and legitimisation of social service innovation. Research is needed into the workings of broader institutional relations and how these define the identification of social and political needs, the specification of problems and key principles of solutions to the provision of service; it should address also the actors and decision-making processes determining how services should be designed and the potential effect these actors and processes have over the stimulation or prevention of innovation.

The provision of social services is a part of a complex system with several levels of governance, further complicated by new forms of provider organisations and new forms of governmental intervention. The result is that social services may be provided by the state, the market, civil society or by hybrid organisations formed by cooperation between different parties. It will be important to determine the effectiveness of various forms of delivery and especially of hybrid forms and the definition of new methodologies to evaluate the effectiveness merits research. A complementary area for research is the relationship between innovation and other political goals; for example, it is unclear whether the market processes and competition that are being introduced into service provision are a barrier or a stimulus to innovation. Similarly, it would be useful to research the impact of the present prolonged economic and financial crisis on innovation both with respect to government priorities and society at large. This research can facilitate the development of guidelines for standard setting and monitoring, along with policies for innovation.

Some regions have competitive advantages in innovation as a consequence of their access to one or more of knowledge, networks of cooperating organisations, skilled workforce and finance. Cities are possibly more innovative than rural areas in general, but rural areas face different challenges and may also exhibit different forms of innovation. Culture can also affect the direction and pace of

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[70] Dortmund Climate Action Programme 2020.
[71] WEEE in Prison.
[72] Transnational Network for Social Innovation Incubation.

innovation; it is important that innovation is coherent with prevailing cultural norms. Significant cultural differences can exist within a single country according to income, location and ethnic origin. Research should be conducted on how different local cultures and perceptions influence the emergence and adoption of innovations in social services.

New technologies are important to practitioners as the basis of new kinds of services. Research is needed on the impact of new technologies on organisations, professionals and users and the way in which these actors interact. Specific topics include providing access to new services, the possibilities of remote and assistive technologies and the manner in which the social service process incorporates new technologies. These aspects of adoption will affect not only the communication of innovative practices and the connection between individuals as users to service providers, but also the nature some of the delivered services.

The INNOSERV project identified quality improvement and sustainability as two critical elements of innovation, but the measurement of effects and outcomes of specific innovations is complex because the impacts will normally vary across different groups in society. Moreover, to assess the full value of innovation in social science simple economic criteria are inadequate as they will fail to capture many relevant factors such as quality of life, improvement of the social environment, access to economic and social opportunities, job satisfaction and freedom of choice. To conceptualise and make operational these impacts is difficult and merits research.

Sustained digital growth

The Digital Agenda for Europe[73] is a key strand of the Commission's strategy to establish the conditions for sustained digital growth in Europe. In a review of the progress over the first two years[74] the Commission drew two key lessons. The first was that online engagement requires careful design; the policy context and goals should be clear from the outset, and each event should have clear leadership; the language is particularly important, as it needs to reach out and include non EU specialists. The second was that the role of online engagement in the policy-making process still needs to be clarified, building on the experience to date. A more forward-looking document from the Commission, published at the same time as the review of the past draws attention both to the huge expectations of ICT and to the relatively poor position of Europe[75]. ICT will drive productive growth and employment conversely productivity growth requires investment in ICT and the empowerment of people to create and share their ideas, giving rise to new content, entrepreneurs and markets. Media are converging and forcing traditional value chains to change. The internet is going mobile, spurring development of new sectors and applications. Given the benefits, there is cause for concern over the pace of change in Europe: investment in high speed internet is too slow; there are delays in allocation of mobile spectrum; the Digital Single Market remains fragmented. That these conclusions are still valid is borne out by some of the contributions from stakeholders discussed later.

Recognising that innovation is crucial for growth, the Commission has refocused the Digital Agenda in a manner that affects relevant future research and in which social science is implicated to a considerable extent. Priorities are: speeding up public sector innovation enabled through the

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[73] A Digital Agenda for Europe, COM/2010/0245, 26/08/2010
[74] Digital Agenda for Europe - a good start and stakeholder feedback, SWD(2012) 446, Brussels, 18.12.2012
[75] The Digital Agenda for Europe - Driving European growth digitally, COM(2012) 784, 18.12.2012

deployment of interoperable ICT and a better exchange and use of information; establishing a coherent framework and conditions for cloud computing services in Europe; creating a favourable environment for transforming traditional business, and spurring innovative web-based ventures; improving digital literacy and skills; strengthening industrial competitiveness based on funding key enabling technologies.

New forms of ICT-enabled innovation

The Commission organised a public consultation on ICT-driven public sector innovation in March 2013 and followed this up with an orientation paper and an expert workshop in Brussels in January 2013[76]. The report of the workshop indicated that a radical shift was occurring in the perception of public goods. Historically, the public sector was considered to be the main if not the only creator of 'public goods´, but the ICT-driven vision implies that government should create a platform for collaboration as an open environment with clear frameworks, guidelines, resources and supports which invites all legitimate actors to collaborate in producing public value through new and improved processes, products, services and methods of delivery in the public sector. To achieve this aim will require open governance through open structures, open organisations and open processes. Barriers to cooperation caused by different administrations, levels and locations, through sharing infrastructures, processes, data, assets, resources, content and tools must be removed. Significant obstacles technically, politically, legally, organisationally and in working cultures must be overcome. In changing and adapting the roles of government in this way, there are also real concerns that such changes will result in new types of risk. There may be a loss of central control and blurred accountability. Service standards may be more difficult to set and to monitor. There may be problems with privacy and the misuse of data and content and there is a danger of excluding those without the necessary skills. Government, as the only institution legitimised by democratic accountability, is best placed to address these risks and will need to retain basic roles including setting overall quality standards, providing mechanisms for resource sharing, and determining legal frameworks. Government decision making will need to be supported by extensive research that explores possibilities and modalities of deployment and above all generates reliable evidence for policy.

To achieve an open and collaborative governance framework, encompassing structures, organisations and processes must be based on the principle of open by default. Research should focus on the use of ICT to: develop frameworks and models which both link across the public sector and to appropriate actors outside government; increase the efficiency and effectiveness of the public sector through sharing and pooling public assets; create whole-of-government models and frameworks which are user-centric; support the necessary changes in law, organisations and human behaviour.

Research to support the creation of a broad platform for public value creation should focus on the use of ICT: to support collaboration of government with companies, SMEs, CSOs, communities, groups and individuals, as well as with hackers, designers and artists, to maximise the potential for innovation; ensure that government resources are complemented by those of other actors, through fora, blogs, consultation, advice, guidelines, brokerage, good practices, arbitration, workshops and

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[76] Results of the Public consultation on directions for ICT-driven public sector innovation at European Union level Research and innovation in Horizon 2020, Expert workshop report, 11 February 2013.

other events; suggest guidelines, incentives and resources for broad collaboration and co-creation; ensure sustainable and balanced public value through quality standards and a fully inclusive and long term approach which reduces risk.

Research to promote open services and new service approaches should focus on the use of ICT to: maximise the efficiency of statutorily determined services by reducing administrative burdens; open up service design and deployment to co-creation with users and other actors; support the development of 'everyday', 'smart-city', local, and location-driven services, using mobile devices and web-based services; develop interoperable digital repositories for public services.

ICT is already used widely to involve people in political decisions and public policy making, but it is possible to go further to increase transparency and accountability and improve governance processes. Research should focus on the use of ICT to: enable widespread collaboration in service strategy development and design decisions; open up the organisational structures and work processes of the public sector for wider involvement and inputs; extend participation in managing public assets; improve community building, dispute and conflict resolution, planning and land use decisions

New forms of ICT-enabled innovation, including social innovation, can be supported by the public sector. Supporting research should: enable public sector support for small-scale and bottom-up societal experimentation; facilitate the development of tools and resources for bottom-up and social innovation; undertake open policy experimentation in support of evidence-based policy development and deployment using scientific tools.

A particular venture where social science input is especially needed is the development of Collective Awareness Platforms for Sustainability and Social Innovation (CAPS); these are ICT systems combining open online social media, distributed knowledge creation and data from real environments in order to create awareness of problems and possible solutions requesting collective efforts, enabling new forms of social innovation. Several such networks have been funded under FP7, including work on corporate social responsibility; raising collective awareness about environmental challenges; experimenting new collective forms of creativity and collaboration; new tools for direct democracy, participation, new economic models; collectively removing barriers to inclusion[77]. This requires research on understanding new collective models for value creation beyond monetisation and understanding motivations and incentives for online collaboration. A conference on future modalities and possibilities for CAPS was held in July 2013, but the papers and conclusions were not available at the time of the compilation of this review.

Reaping the rewards of eGovernment
The Malmö Ministerial Declaration on eGovernment[78] commits EU Member States to 'reduce the administrative burden for citizens and businesses', partly through the adoption of eGovernment and by redesigning administrative processes to make them more efficient. The eGovernment Action Plan 2011-2015[79] provided for a Study on eGovernment and the Reduction of Administrative Burden[80]

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[77] Collective Awareness Platforms for Sustainability and Social Innovation.
[78] Malmö Ministerial Declaration on eGovernment, 18 November, 2009.
[79] The European eGovernment Action Plan (2011-15).
[80] Final Report: Study on eGovernment and the Reduction of Administrative Burden.

and on the 10 April 2014, the European Commission DG CONNECT organised a conference[81] to discuss the conclusions and recommendations of the study and the next steps for the implementation of the 'once only' principle at European and national levels. 'Once-only' refers to the principle that citizens and businesses supply certain standard information only once, because public administration offices take action to internally share this data. It is estimated that, more than 70% of EU countries have undertaken initiatives to put into practice the "once only" principle and that implementation across the EU could save 5 billion euro per year by 2017. The conference was mainly aimed at furthering implementation and not directly at research, but some topics for research can be inferred. The workshop concluded that several Member States are actively implementing the once-only principle with significant cost savings, but that practice varies widely and needs to be made more compatible to enhance the dissemination of best practices; there is still no common approach to the measurement of costs and benefits[82]. More generally, better measures of performance are required throughout the exercise to determine whether implemented measures are working well, how practice compares to others, whether the impacts achieved are what was expected and how policies can be adapted to ensure that they achieve the desired impacts[83].

Some potential issues for research were identified in the final discussion session. There is a need to create a European reporting system, especially for business that would render communication between businesses in different countries easier. In most countries there is a gap between eGovernment services availability and the effective users' take-up; the personalization of services is required to increase effective everyday use and this is clearly an area where social science research could be helpful. There is a gap between rhetoric and practice in the need for collaboration between agencies: exchanges are not as full as they could be; the information may not be exactly what agencies require and may not be what users need. There is a need for research to determine what information exchange best serves the needs of businesses and citizens. Better focused studies on comparative studies across Europe concerning the real progress in reducing administrative burden could help identify appropriate legal frameworks and effective strategies, including measures of the simplicity for businesses to provide data.

Further insight into the research needs to deliver efficient, open and citizen-centred public services was provided by the high level eGovernment Conference organised by the Lithuanian Presidency. This conference examined the status of eGovernment in Europe and proposed a roadmap for its viable future policy, governance, management and implementation; it observed that new forms of collaborative and participatory governance for joined-up administrations are capable of adopting whole-of-society approaches to create public value and to deliver integrated services. The paradigm has changed: from government as provider to government as enabler and convener. Governments need tools to leverage ICT and data resources to connect actors to generate integrated solutions. Common standards and policy instruments are required to facilitate cross-border cooperation. There is a need for reliable evidence that show impact to guide choices and corrective actions and

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[81] eGovernment and Reduction of Administrative Burden: Applying the 'Once only' principle, Brussels, 10 April 2014.
[82] Study on eGovernment and the reduction of Administrative Burden, Claudio Gallo.
[83] Managing administrative burden reduction and better performance through the use of ICT – towards better measures, Adam Mollerup.

new "digital" policies, strategies and choices to enable an open, participatory and ubiquitous public sector[84].

E-government has especial significance for completing the common market. European citizens have the right to live and work in any member state, but without cross-border e-Government services this right is in practice incomplete; alignment across national boundaries, as well as within them, is important to permit movement of people and conduct of business without digital barriers. Interoperability helps to develop synergies among institutions, to share data services and solutions and to optimize and simplify across ministerial boundaries. There are legal, political, organisational and technical barriers to interoperability. To achieve interoperability requires a coordinated approach across government: setting up effective governance structures; breaking down organisational silos and aligning business processes and related data exchange across different public administration bodies. The goal is interoperability and sustainability over time and across Europe; a framework for the governance of interoperability activities across administrative levels[85]. Research is needed to support these processes.

Research is desirable to engage users more effectively in improving the offer of online public services and in developing policy. This can be achieved through different technologies, including mobiles and social media. Such engagement strengthens policy and promotes participation, openness acceptance and inclusion. Services can be provided and accessed through multiple channels; services and infrastructures may be in clouds, but with provision for physical access for those not willing or not able to through ICT devices. Policy can be de-risked through on-line simulations and the analysis of large data-sets employing the facilities constructed for administrative purposes that permits also interrogation of key stakeholders and the deployment of open data combined with stakeholder inputs. Such use of ICT can enable a new culture of openness and transparency and foster greater trust through transparency, openness and participation; it is a rich seam for research[86]. These recommendations from the High-Level Conference are strongly coherent with those arising out of the consultation on ICT-driven public sector innovation discussed earlier.

Moving to mGovernment

As a part of its effort to elicit the views of stakeholders on longer-term trends the Commission organised a workshop 'Mobile by default - Leveraging Mobile Technology to Extend eGovernment's Reach and Scope' in May 2014 in Brussels with the aim to take stock of practice, to discuss means to promote mobile government and to determine priorities for action[87]. There are substantial differences between eGovernment and mGovernment. In the former case existing services are updated to permit mobile access using existing system architecture; in the latter case applications are designed for mobiles and cloud computing and can be linked to location. A transition to mGovernment creates more extensive opportunities for innovation as developers can build applications using government open data and in some respects mGovernment is less exclusive than eGovernment because the penetration of mobile devices is higher than the internet. Several participants to the workshop noted that the challenges to mGovernment are not principally

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[84] Effective ICT Governance to Deliver Public Value, Barbara-Chiara Ubaldi.
[85] Modernisation of public administrations: obstacles (and keys of success?), Margarida Abecasis.
[86] Research contributions for future e-government and e-participation, Maria A. Wimmer.
[87] Mobile by default? – Leveraging Mobile Technology to Extend eGovernment's Reach and Scope, 21 May 2014, Brussels.

technical, but are matters of law, policy and organisation[88] and as such as susceptible to social science research. Governments must develop strategies and policies for implementation; many initiatives have already been made and a comparative study of the successes and conditions for success is needed. The key to success is that users should perceive value and there is scope here also for research in how users assess different practices. The EU should aim to define guidelines for public administrations on how to implement m-Government initiatives and should assist them in setting objectives and defining a strategy; it should propose a framework for standardisation and interoperability for mGovernment in Europe, stimulate the exchange of good practices and show steps to overcome existing restrictions and provide guidelines[89]. Citizens and consumers demand convenience, security, and privacy protecting digital identities. Ubiquitous, secure and trustworthy authentication and identification services are a key enabler for the success of the digital economy. Research is needed to support a definition of a common IT security standard for mobile government in Europe.

Using the innovative potential of all generations (6.2.3)

The ageing population might be thought likely to diminish the level and accumulation of human capital in Europe and consequently to constrain smart, sustainable and inclusive growth. Indeed, the reports of the Working Group on Ageing Population and Sustainability of the Economic Policy Committee[90] suggest that likely trends in participation rates and productivity will not support adequate economic growth; a better use of available human resources requires older workers' economic activity to be promoted. In 2011 the Commission launched the "European Innovation Partnership on Active and Healthy Ageing" to stimulate innovative products and services that respond to the needs of older people and make ageing compatible with growth[91]. Despite existing labour supply constraints as well as concerns for the sustainability of pension-funds and incompatibilities between work and family, there is still little awareness among employers and trade unions of the urgent need for reforms.

The analysis in this section of the state of research and future research needs draws heavily on a review made by independent experts, at the request of the Commission, of eight research projects on the social implications of an ageing population that were funded under FP7[92]. The research evidence suggests that the full potential of the elderly remains unused, especially in some member states. This failure restricts economic growth and lowers the well-being of older people, who generally report a greater satisfaction with their lives when they are socially and culturally active. A reduced participation of older workers affects economic output not only directly, but also indirectly by reducing the possibilities for training younger workers; a large majority of employers rely upon mentoring of young staff by more experienced people. Unpaid work by older generations is

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[88] Mobile Government: the One Starting Point for mGovernment Initiatives – The User, Kevin Brown.
[89] M-Government: Secure the return-on-invest for tax payer´s money, Alexander Schmid.
[90] Working Group on Ageing Population and Sustainability.
[91] European Innovation Partnership on Active and Healthy Ageing.
[92] Population ageing in Europe: facts, implications, policies. To be published by the European Commission, DG RTD in 2014. Covers: ASPA- Activating Senior Potential in Ageing Europe; DEMHOW - Demographic change and housing wealth; LEPAS - Long-Run Economic Perspectives of an Ageing Society; MAGGIE - Major ageing and gender issues in Europe; MULTILINKS - How demographic changes shape intergenerational solidarity, well-being and social integration: A multilinks framework; SHARELIFE - Employment and health at 50+: A life history approach to European welfare state interventions; SPReW - Generational approach to the social patterns of relation to work; RECWOWE - Reconciling Work and Welfare in Europe.

increasing, especially for care and volunteering; such engagement improves quality of life of and reduces the risk of social exclusion and inactivity.

An integrated perspective on ageing and relevant policies

A Eurobarometer survey on Active Ageing, found that the lack of part-time retirement possibilities and exclusion from training at the workplace were two of the most frequently indicated reasons for retirement decisions among Europeans[93]. This finding is supported by the review of research projects that found a significant preference among older workers for alternatives to full time employment. Progress depends on joint action by the state and by employers; the state has to be an important actor because many policy tools are beyond the scope of employers. Employers are reluctant to act directly by investing in training for older workers, postponing retirement or hiring older staff. Empirical findings suggest that increasing mandatory retirement age will likely have only limited results if not combined with changing employers' policies towards older workers.

The life course approach offers an integrated perspective on ageing and relevant policies. Policies need to be more flexible in reconciling activities and life-stages: combining work and family life is not only important for the middle-aged, but also concerns older people when they stay longer in paid work; education and training is no longer exclusive to the young, but a lifelong activity. Higher education tends to be positively associated with a higher preferred retirement age. This means that social and economic policies should extend beyond the usual boundaries. Policies towards older workers vary greatly across the Union and comparative research is needed on the policies in place, the extent of their success and the factors influencing success. Such research can support more homogeneous policy, implementation and practice across European regions, particularly in the Mediterranean region, in the post-communist countries and for populations characterised by low qualification levels and low incomes.

Some areas require special attention for their linkage to other policies. Demand for the female labour force is likely to increase and if policy does not support a good life-work balance then this may affect fertility and reinforce tendencies towards population ageing. Similar recommendations were made in the section on open and creative societies. A second policy linkage that requires special attention is the link to migration policy. Migration may help circumvent the consequences of population ageing, but migrant workers might be argued to depress the wages of low-skilled nationals and reduce productivity. Research tends to suggests that migration does not universally increase the wage gap, nor necessarily lower average productivity. Migration may be therefore a valuable tool for supporting pension system sustainability, but more research is needed to explore how migration impacts on capital accumulation and the pension system.

Strategies to develop cognitive skills

Multi-disciplinary research is needed to improve understanding of how and why the performance of individuals decreases as they grow older. It is necessary to distinguish the contributions from deteriorating cognitive skills, poorer health and lowered motivation and the factors that govern these processes. Such research is a prerequisite for evidence-based policies to promote economic participation of older people. Research shows that the deterioration of cognitive abilities can be delayed through education in youth, parental influence during childhood, living in a stimulating environment and by occupational and leisure activities in older age. Consequently, there is a need

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[93] Eurobarometer survey on Active Ageing.

for strategies to develop cognitive skills through all stages of life. In order to sustain or increase the future productivity potential of workers, investments must be made in the first stage of life even before the period of schooling, because cognitive skills play a dominant role in pupils' educational achievements.

Promoting cooperation with third countries (6.2.4)

A multi-polar world of research and innovation

The scope of cooperation with third countries has increased steadily through successive framework programmes. Nevertheless, the interim evaluation of FP7 found that critical mass was lacking and recommended a stronger and more focused cooperation according to a clearly defined strategy. International cooperation under the Horizon 2020 programme will be conducted within a clear strategy recognising that although Europe is a world leader in research and innovation, the world is changing fast, emerging countries are strengthen their capabilities rapidly and the European response must be modified accordingly[94]. A multipolar system is developing in which countries such as Brazil, China, India and South-Korea exert increasing influence and this must influence the manner in which the Union pursues its cooperation policy. As more research and innovation is performed in third countries, the Union will need to access this knowledge and to ensure it is an attractive location for carrying out research and innovation and be successful in the global competition for talent, while at the same time ensuring the protection of its intellectual property. The Union also has a clear interest in developing the research and innovation capacity in neighbouring countries to support economic and social development and to strengthen the Neighbourhood policy. Responses to global challenges will require international cooperation and this can be assured better on the basis of dialogues with international partners that include research into causes and remedies.

Collaboration across the globe, differentiated by need

Areas of engagement with third countries will be identified in systematically on the basis of transparent criteria. Three country groupings are envisaged: the EFTA countries, EU enlargement countries and countries covered by the European Neighbourhood policy, where the focus will be on fostering integration into – or alignment with – the European Research Area; industrialised countries and emerging economies, where the main objective will be to increase the Union's competitiveness, to tackle global challenges through common innovative solutions, and to develop enabling technologies by accessing new sources of knowledge; developing countries, where the emphasis will be on complementing the Union's external policies and instruments by building partnerships. Multi-annual roadmaps for cooperation with key partner countries and regions will be prepared, differentiated by country groupings.

The European Economic and Social Committee representing EU stakeholders (employers, trade unions and civil society) was broadly favourable to the proposed strategy, pointing out that the emphasis on retaining IPR reinforced once more the need for a European Patent and arguing that The main criterion for EU-subsidised cooperation outside the EU should be that European organisations and that the main focus must be on supporting the European Research Area[95]. The Committee of the Regions also endorsed the strategy in general, but noted that local and regional

[94] Enhancing and focusing EU international cooperation in research and innovation: A strategic approach, COM(2012) 497, 14/9/2012.
[95] Opinion of the EESC on the COM(2012) 497, 16 January 2013.

authorities have a key role to play in the European Research Area (ERA). Regions and cities are important stakeholders in international cooperation as well as in coordinating research and innovation activities[96]. Their policies have a significant impact in developing research infrastructures and establishing innovative environments (universities, technology centres, business incubators, science parks and venture capital-friendly milieus) able to attract scientists and innovators and to create the substantive and operational conditions for robust growth of intellectual capital. They argued as did the EESC that international cooperation must always have an added value for the EU.

For Africa, the Senior officials of the European Commission, the African Union Commission and Research and Innovation Ministries in the European Union and Africa met in Brussels in November 2013 to discuss prospects for cooperation in Science, Technology and Innovation (STI). The conclusions annexed to the communique[97] proposed that work should prioritise on security of food and nutrition and sustainable agriculture notably in improving the contribution of family farms and smallholders farms to food and nutrition security, eco/sustainable intensification pathways to food security (covering the whole supply chain, including waste) and managing risks associated with water supply and land- and water management issues for sustainable agriculture and food security. It is necessary to enhance technical competence through science education, life-long learning and science awareness and public understanding of science and to retain expertise once created. Institutional capacity-building of research and technology organisations should focus on providing sustainable career paths for researchers. There should also be a focus on enhancing the capacity to use research results for evidence-based policy-making and implementation. In terms of research infrastructures, the focus should be on developing new infrastructures, acquiring instrumentation and facilitating cooperation between existing infrastructures as such increasing the stock of R&D facilities. The strengthening of innovation and specifically entrepreneurial capacities, especially of small and medium enterprises as well as framework conditions is important.

A case study from Science Europe has shown how some forms of protection for intellectual property rights can disadvantage poor countries and institutions. The agreement on Trade-Related aspects of Intellectual Property Rights (IPR) sets worldwide minimum standards for the protection of intellectual property rights, including patents, copyright, and breeders' rights. Although intended to stimulate innovation, this agreement can often have the reverse impact. For example, registering a certain genome sequence in genetically modified crops can block further research into that crop or hinder applications by poor countries and institutions. The project entitled Blocked Innovations? Intellectual Property and Global Justice aims to find out how IPR can be implemented in a way that will minimise such drawbacks; the study combines ethical, philosophical and social research, with the co-operation of life scientist[98]. The findings suggest that some of the various novel alternatives to protect IPR may be less prone to misuse and can promote agricultural innovation for poor countries. Possibilities are: common knowledge pools with free sharing of knowledge among participating inventors, open source price systems where inventors are paid a fee and no further royalties and humanitarian licenses where inventors protect in advance the possibility to share their technology.

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[96] Draft Opinion of the Committee of the Regions: Enhancing and Focusing EU International Cooperation in Research and Innovation.
[97] EU-Africa High Level Policy Dialogue (HLPD) on Science, Technology and Innovation, The Way Forward, November 2013.
[98] Blocked innovations? Intellectual Property and Global Justice, Michiel Korthals.

Some of the recommendations for research made by the Social platform SocialPolis are relevant to international cooperation. The large and complex cities of the South have significant areas of deprivation and lack social cohesion. The scale of the problems sets immense intellectual and policy challenges. Research should identify factors that inhibit social cohesion, promote exclusion and provoke fractures and divides. These problems have important repercussions for both Southern and Northern countries, given that they generate migration and insecurity at the local and global scale. It is also important to know more about urban social experiments in Southern cities that respond to persistent and new problems and could contribute to social integration. Comparative research and analysis, between countries in the South, and between South and North, will help develop mutual learning about urbanisation processes and contribute to new coordinated solutions to urbanisation challenges. It is important also to know more about how the transformations underway in emerging economies like China, Brazil and India affect the productive structure and the labour markets, especially for vulnerable groups, such as young people, women, ethnic and religious minorities, indigenous peoples, the elderly and migrants. The informal economy may provide opportunities but also reinforces traditional norms and furthers vulnerability. Vulnerable groups face problems of housing tenure, access to social services and employment and rights to safe and fair policing. Poverty and inequalities and the lack of trust in political and social institutions have provoked a climate of increasing violence that has major effects on social and physical segregation. The increasing social and ethnic diversity provoked by international migrations between countries of the South or by interregional migrations is a cause for new forms of segregation and social divides, from which new forms of integration and networking emerge at a transnational scale.

Reflective societies - Cultural heritage and European identity (6.3)

The Vilnius Declaration strongly endorsed research concerning the reflective capacity of society noting that it was a critical element in sustaining democracy. It especially recommended innovative participatory approaches, empowering European citizens in diverse arenas, be it through participation as consumers in the marketplace, as producers of culture, as agents in endangered environments, and/or as voters in European democracies.

In December 2012, the European Foresight Platform (EFP) organized a stakeholder workshop to discuss the trends and drivers of change that may affect thinking about cultural heritage in the future and the topics for research that follow[99]. A second large exercise in consultation about future research priorities in the field of cultural heritage was undertaken by the Joint Programming Initiative on Cultural Heritage and Global Change. In June 2014 it published a Strategic Research Agenda (SRA) as a foundation for new research on tangible, intangible and digital cultural heritage[100]. The SRA identifies four research priorities:

- Developing a reflective society
- Connecting people with heritage
- Creating knowledge
- Safeguarding our cultural heritage resource

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[99] EFP Workshop 'Future of Cultural Heritage; Future of Cultural Heritage - Impact of external developments, 18 December 2012 Conference report.
[100] JPI Cultural Heritage and Global Change : Strategic Research Agenda

European heritage: Memory, Identity (6.3.1)

The ALLEA position paper was very supportive of this research area. The paper noted that a central challenge facing Europe over the next decades is to create an environment in which European, national and ethnic identities can coexist and be mutually enriching. This requires an enhanced awareness of the historical context of current social and cultural changes, the critical role of language, communications and technologies, and an understanding of conflict, past policy failure and future policy needs as essential preconditions of more effective future policies.

Valorising cultural heritage in a diverse society

The EFP study notes that there are radical changes in society that will impact the creation, dissemination and use of cultural heritage. People are living longer, but staying active and this may increase interest in the cultural heritage and visits to sites, but the elderly today may have different preferences from the elderly of the future and this may shift perceptions of priorities in the sector. Migration within and towards Europe has a demographic impact, because migrants are often younger and have higher birth rates, but will also affect perceptions of what is important in heritage. Migrants will have different ideas and perceptions that will oblige redefinition of what constitutes heritage; there will also be a new need to communicate European culture in a multi-cultural society. Urbanisation can be inimical to the preservation of cultural heritage, because of infrastructure congestion, pollution, vandalism and urban sprawl. Towns going through bad times may find it difficult to preserve valuable sites. Urbanisation also influences the nature of heritage through the creation of new styles of urban culture and urban art forms. The trend towards individuality, reinforced by secularism and the internet, has wide ramifications for personal values that will affect what constitutes cultural heritage for any individual, but will also influence the best ways of presenting that heritage. Individualism places a new emphasis on personal freedom, self-expression and quality of life, which will demand greater opportunity for personal interpretation and interaction with cultural ideas and artefacts. The nature and extent of knowledge in society is changing; knowledge tends to be increasingly superficial and volatile and self-taught and in turn this will affect the most effective ways of reaching and involving people. There is a need for social science research better to understand how to prioritise activities best to safeguard the European inheritance in a way that will best support reflection on the processes that contribute to past, present and future forms of identity so vital to the construction of a united Europe.

Similar ideas permeate the SRA; among the priorities of this agenda are the need: to improve knowledge of how the use of all forms of cultural heritage contribute to identity at personal, local, national, European, and global levels; to understand why we care about cultural value and heritage; to increase our understanding of the significance and the values that various kinds of cultural heritage hold for individuals and communities.

Valorising cultural heritage through digital technology

Technological advance will permanently influence the way cultural heritage is preserved, managed, disseminated, used and created. The Europeana initiative, which aggregates European cultural content, facilitates knowledge transfer and engages people through new ways of participation in

their cultural heritage[101], is a good example of a large open and trusted cultural heritage platform. The deep penetration of ICT in society revolutionises the possibility to access and disseminate information on cultural matters. Virtual tours can amplify the experience of a visit; virtual museums can attract new and remote audiences. Collections can be made widely and easily available. New methods for analysing unstructured data and new imaging techniques such as pattern recognition tools greatly extend the possibilities of research. There is the possibility to create an "e-infrastructure" to store, process and provide access to cultural data, which could also be the basis for new business models in the sector. The responsibilities for digitising material and funding the operation would need to be established. Embedded in these developments is transfer of choice to the consumer; from a democratic and participatory standpoint this has some merit, but it implicitly hands responsibility for defining priorities to groups whose knowledge may be superficial. Spreading cultural heritage through the internet makes it possible for mass-customization and creative use of cultural imagery, but will require also the resolution of access, editing rights, copy rights and some ethical matters. There are many contradictions in this trend for example it permits easier access for a broad public to cultural collections, but maybe introduces a dubious criterion of popularity to assess cultural importance. These issues merit a new public discourse about the value of cultural heritage nowadays and in the future backed by evidence from research.

Services form a steadily growing part of the world economy and linked to the rise in individualism and the technical possibilities create a demand for personalised services. This is evident in the media where content is often downloaded for free or through a subscription. This may affect also the culture sector. In the current economic crisis, the preoccupation of politicians is on reducing government expenditure; culture is an easy target for cuts and governments seek to pass responsibility to cultural institutions to explore and use other ways of funding, including crowd funding, public private partnerships and the commercial exploitation of collections. Such public funding as is available will be to institutions that can show their added value to the cultural landscape. There is scope for social and socio-economic research on new business models, new artistic careers, valorisation of cultural heritage for social and territorial cohesion and quality of life, valorisation of cultural heritage for tourism and creation of new jobs, and identity creation in the digital age.

The SRA reflects similar priorities. It recognises the power of digital technologies to connect communities with their heritage and recommends research into the implications for the broader tourism and transport industry; it recognises the need to clarify ambiguities over ownership of digital forms of cultural heritage and the related matters of copyright the protection of intellectual property rights in a digital world.

Creating new knowledge and engaging with heritage
This is a research priority of the SRA; the goal is to deepen understanding of the context in which cultural heritage exists and is formed, and to develop innovative approaches, applications and tools that will create added value for society from cultural heritage. Specifically the SRA proposes data mining, integration of cultural heritage information from different sources, together with better characterisation, cataloguing and improved accessibility for reference collections. On the basis of

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[101] Europeana: think culture.

this improved data infrastructure it proposes research to explore how processes can be exploited to generate new knowledge around cultural heritage.

A recent meeting of RICHES[102] explored the "decentring of culture and cultural heritage away from institutional structures towards the individual" also using digital technologies. The researchers aim at answering to the following questions: how we understand, collect and make available Europe's cultural heritage? How can cultural heritage institutions renew and remake themselves? How should an increasingly diverse society use cultural heritage? How can the European citizen play a vital co-creative role? How the distinctions between the "making" and the "using" of heritage can be broken down? What are the limitations of new technologies in representing and promoting cultural heritage? How can cultural heritage be better exploited by innovators, skilled makers, curators, artists? In other terms, how can cultural heritage be part of the revival of the new European economy?

Learning from the cultural record about global change

Globalisation of the economy has facilitated access to other cultures. In some respects it has caused a globalisation of culture, in other ways it can reinforce local cultures with new ideas and material. Local territory will remain important for constructing and preserving identity and shared values and the maintenance of local cultural heritage will increasingly become important. It was noted by participants to the EFP workshop that cultural heritage is not only vulnerable to global changes, but it can also provide a source of inspiration to cope with them. The many human-made structures that have survived for centuries offer new ideas for adapting buildings to their natural environment and using local resources. Also, the preservation of historic sites can contribute to a more sustainable mind-set, because it emphasizes the importance of reusing and repairing instead of replacing. Some global changes go back very far in history. Several case studies cited by Science Europe illustrate this point. A study of marine animal populations over geological time shows how understanding of past ocean life and of human interaction with the sea can inform future policies for managing, restoring and conserving marine and coastal ecosystems. Bringing together over a hundred historians, archaeologists, paleoecologists, oceanographers and marine scientists the research findings provided baselines of species abundance and distribution prior to modern fisheries[103]. Such knowledge helps to predict future ocean resilience and impacts policy, regulation, preservation and management. Similar study of long-term human interventions in river management can also be revealing. Rivers are highly dynamic systems that may flood or dry up, silt up or change course. For the people living close to a river, it is important to understand these dynamics in order better to predict, mitigate or adapt to possible consequences. Another of the case studies sought to understand how the river Danube changed over history and what could be learnt from that record[104].

Contemporary European diversity (6.3.2)

Cultural diversity is one of Europe's most valuable assets, but increasing migration-related diversity also poses challenges. There is an apparent contradiction between the positive influence of cultural diversity – that movement of people, goods and ideas can accelerate cultural exchange and

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[102] Renewal, innovation and change: Heritage and European society.
[103] History of marine animal populations.
[104] Environmental history of the Viennese Danube 1500-1890: Understanding dynamics patterns and long-term side-effects of the colonization of rivers'.

contribute to an economically and socially enriched society – and the negative potential – that it can reinforce cultural divides, giving rise to fear, intolerance and conflict. Several projects of FP7 investigated the consequences of cultural diversity in a variety of ways.

Tapping the benefits of cultural diversity

The role of cultural diversity in sustainable European socio-economic policy has been investigated and it appears that cultural diversity is an untapped resource for social development in Europe[105]. With the correct policies, diversity can promote social and economic growth, but it is necessary to move away from the idea of distinct cultural identities, which reinforce feelings of separation through stereotyping and instead to recognise cultural orientations that are constantly in flux and which do not define a person's complete identity. Properly managed diversity fosters innovation and creativity. Poor management of diversity has negative effects, but well-managed diversity enhanced productivity, innovation and decision-making through a broader range of experience and differentiation of tasks across the workforce. 'Cross-cultural' education in the workplace can enhance stereotypes and should be avoided in favour an open accommodation of all cultural groups. There is a need for further research to consolidate these findings and to define more precisely the policies and practices that draw most effectively on the benefits of cultural diversity.

How efficient are the policies of EU member states to integrate migrant groups in schools, the labour market and politics?[106]. According to the research, the disadvantages facing migrant groups contravene basic EU values and undermine efforts towards prosperity and social cohesion; migrants still face widespread discrimination in the labour market and lack political voice. Achieving cultural and religious diversity in European classrooms remains a challenge. There is a lack of consistency in methods for measuring diversity among school children across the EU – some countries use mother tongue, while others base statistics on country of birth. Member States also differ in the ways they accommodate other faiths at school – some allow separate faith schools while in other countries schools are purely secular. In the labour market, migrants and minorities are concentrated in insecure or low-skilled jobs for which they are often overqualified; they generally earn lower wages and have poorer prospects. Only very few countries of the EU have developed a broad anti-discrimination strategy addressing different forms of prejudice. In the politics, research shows a lower level of electoral participation among migrant voters than among nationals. There is a need for further research to identify robust policy instruments to eliminate discrimination in education and the labour market and to improve political participation. Continual monitoring of progress is needed.

The Euro-Festival research project evaluated the impact of arts festivals on society, their relevance to Europe and to the aims of the EU. The researchers found that the inherent openness, interest in diversity and spirit of tolerance that drives art, literature and music festivals makes them ideal platforms to promote the core values of the EU, such as supporting cultural diversity and encouraging transnational integration. But although they may support state goals they must not be state events. An important finding of the research was that arts festivals have emerged bottom-up, and it is this which makes them important as public sphere arenas; they only work if they emerge spontaneously rather than top-down through direct state intervention[107]. The research focused only

[105] Sustainable development in a diverse world
[106] A European approach to multicultural citizenship: Legal, political and educational challenges
[107] European Arts Festivals: Strengthening cultural diversity

on events in a few countries with similar young, educated and middle-class audiences. Further research over a wider selection of would test the extent to which the findings can be generalised.

Other researchers examined the implications for good neighbourhood relations across and within nation states in Europe arising from the strong cultural diversity characterised by many languages and ethnicities, continuously changing as a consequence of globalisation and migration. It focused on three main cases: physical borderlands; neighbourhoods in multicultural provincial regions where borders are 'fluid'; virtual neighbourhoods focusing on networks of persons of the African diaspora in Austria and Germany[108]. The research aimed at understanding the interdependency of physical and mental borders in the creation of good neighbourhoods and the ways in which the concept of 'neighbouring' is experienced by different groups people. It reviewed policies and official/civil society activities for good neighbourhood building and evaluated them through user response and to compare user responses to 'top-down' measures with self-determined, 'bottom-up' activities. Researchers concluded that successful integration policies and social cohesion cannot be achieved without all citizens developing a sense of belonging to the community. Policy should aim to institutionalise equality and cultural recognition as a basis from which trust and a sense of belonging can emerge.

The meaning of state citizenship - in the presence of mass emigration, dual nationality, the rise of nationalism and inter-ethnic conflicts – was also investigated. It is an important question because active citizenship and the organised civil society fulfil a broad range of tasks in the democratic process of decision-making. The work of the EU research group concluded that for people, especially young people, to practise active citizenship, they need to form an identity, develop a set of civic values and develop a sense of belonging to a democratic entity. Policy makers must, therefore, understand the subjective definition of the political entity with which people identify – this could be their immediate locality, their region, the continent of Europe, or the world. Research is needed to convert theoretical insights into clear principles for good practice in strengthening the sense of belonging.

Protecting cultural diversity in times of conflict

A very different aspect of cultural diversity addressed the legal and ethical issues arising from the treatment of cultural minorities during conflicts[109]. Accommodating the principle of equal treatment (human rights) and the recognition of cultural diversity (minority rights) is a major challenge for conflict management. A European project analysed minority and human rights during ethnic conflict in the Western Balkans where quite clearly the negative aspects of cultural diversity prevailed. Its aim was to understand which policies of conflict management were successful and to provide insight on how the EU might do better in future cases. The research identified five aspects of ethnic conflict that are policy-relevant: complexity – all ethnic conflicts studied had complex interactions between domestic, regional and international players; individuality – conflicts differ substantially and there is no single recipe for successful management; depth – conflict is often deep-seated in a region's history; durability/persistence – because of the long duration of many conflicts it may be problematic to define phases into 'pre-conflict', 'conflict' and 'post-conflict' for purposes other than research; mediation of conflict – co-ordination and co-operation between relevant actors in human

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[108] Searching for neighbours: Dynamics of physical and mental borders in the new Europe
[109] Human and Minority Rights in the Life-Cycle of Ethnic Conflicts

and minority rights is often deficient. It concluded that, if the EU intends to strengthen its role in conflict management, it needs better co-ordination, more communication with other organisations and a streamlining of policy instruments. Priorities for future research should include: strengthening instruments for negotiation and conflict management; improving external coordination and channels of interaction, monitoring and data collection.

Europe's role in the world (6.3.3)

Understanding and quantifying global changes

Scientific work into global changes (climate, trade, migrations) is advanced, though still in many respects uncertain. Research work by the social sciences community is less well-developed and is increasingly important to help understand the effects on the detailed workings of the very complex global economy and the possible implications particularly for adaptation strategies. The final stakeholder conference of GLOBAL-IQ sheds light on the consequences by sector and location of various future scenarios[110]. Climate change will interact strongly with the evolution of trading patterns. Exchange provides linkages between EU labour markets and global labour supply; upgrading of skills in emerging markets with surplus labour will stimulate migration and an increase in EU competitiveness. On the whole this transfer of people would generate productivity gains globally that outweigh corresponding emission growth, but would put wage pressure on higher income labour markets. Melting of the polar ice would have a big impact on trade because it would change the practical trade routes between Europe and Asia; there would be substantial impacts on Europe to the benefit of Western member States, but negative impacts on Eastern members as trade is diverted. A large share of the China and Japan trades would pass over the polar route, to the serious detriment of the Suez Canal[111] and grim implications for the largest Mediterranean partner. GLOBAL-IQ discussions suggest that the agricultural production sector shows a lot of flexibility and that when one adaptation strategy is constrained then several other adaptation measures can substitute with partial limitations. At the global level trade will be the main driver of adaptation for the sector, but specifically for Europe irrigation and yield increasing technologies are more important. The effect on food prices is not found to have a serious impact on consumers in Europe, although possibly significant on a regional scale[112]. Increasing demand for agricultural products is a significant hazard to natural areas and to global biodiversity, already under great threat. A policy of zero net deforestation, would mainly affect tropical areas; it is estimated that such a policy could be implemented without jeopardising the security of global food supply, but would however favour European producers and discriminate against developing countries, which would make implementation difficult without supplementary policies of redistribution[113]. Such insights must at this stage be tentative, but their potential political importance demonstrates the urgent need for further research into the economic impacts of climate change finely disaggregated by function and locality.

Mapping discourse and narratives about Europe

The position paper from the League of European Research Universities (LERU) argues that media shape perceptions of our communities at all levels and determine the way that we think and talk

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[110] Global-IQ: Impacts Quantification of global changes.
[111] Trade and competitiveness: Europe in the global economy, Joseph Francois.
[112] Feeding the global population, Miodrag Stevanović .
[113] Protecting forests and biodiversity, David Leclere.

about them. Networked communities (often transnational) have immense power for good or ill, sometimes unintended. They may disseminate unassuageable desires or disruptive and violent messages inciting armed conflicts, but they may also be used in innovative or creative ways for conflict resolution, peace-building or the enhancement of social cohesion. A large-scale, innovative and integrated study is needed of the influence of media in and relating to Europe. This means mapping: discourses and narratives about Europe – as a cultural whole and as a political project; it means understanding the channels and pathways through which these discourses proliferate and their impact on processes of European integration and the involvement both of citizens and immigrants' in public debate.

An EU Cosmopolitan society

The Council Decision establishing the Specific Programme implementing Horizon 2020 mentions that EU support should be given to research aimed at enhancing our knowledge of the history, cultures and political-economic systems of other world regions, as well as of the role and influence of trans-national actors. Competence in analysis of transcultural entanglements is a critical asset in the understanding of complex, global interactions and will strengthen the position of Europe in a fast changing world. Europe will profit, socially and economically, from participation in a discourse that draws on worldwide sources of reflection on the meaning and direction of economics, policies, artistic practices and human life in general.

The distinct historical, political, linguistic, social and cultural system in Europe is increasingly confronted with the impact of global changes. 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. It also has to improve its capacities for anticipating and responding to the evolution and impacts of globalisation, and the new priorities and alliances being set by emerging countries.

Research is needed to preserve and strengthen European democracy in a world where democracy seems to be in retreat. Multidisciplinary research by historians, legal scholars, political scientists and philosophers, has much to offer in this respect. Considering Europe's commitment to contribute to a more democratic and peaceful world, research on the increasingly diverse and innovative ways countries emerging from authoritarian rule or armed conflict deal with their violent past and on the role of international actors therein will strengthen Europe's external policy.

Securing the place of Europe in global innovation networks

Innovation is a global activity. The INGINEUS final stakeholder conference[114] highlighted that more than half of the 1215 firms it sampled are in some way incorporated into a global network. The globalization of innovation presents challenges and opportunities for both European and Southern countries in establishing a virtuous cycle that could foster and attract new knowledge from abroad. Brain drain, deskilling and job losses are among the main sources of conflict between country-partners engaged in the offshoring of R&D and innovation activities. Firms and institutions will need to attract knowledge-intensive activities but also be able to access knowledge generated elsewhere. To do so they must be active in building and participating in global innovation networks. There is some concern that off-shoring of R&D may be detrimental to domestic growth and competitiveness. The results from INGINEUS do not support this proposition; off-shore R&D activities by European

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[114] Impact of networks, globalisation, and their interaction with EU Strategies

firms tend to be complementary to those carried on at home and that policies aiming to discourage off-shoring may reduce the competitive standing of EU firms in global markets. EU and national policymakers must not only ensure that their locations is an attractive node in prospective global networks, but also present the ability to identify and absorb technologies. INGINEUS recommends that Europe should not be a 'European research and innovation fortress' but instead must become a true global hub in knowledge-intensive activities. For this to happen there are three challenges that need to be addressed by national and European policy makers: immigration laws are generally not open enough to make Europe an attractive working place; protection of intellectual property across several Member States is expensive as there is no European patent; the current expenditure in R&D is considerably lower in the EU than in the US and Japan (and China in the near future). The topic is important, but more research is needed to clarify what conditions must hold to make this attractive for EU participating firms and what policies can be adopted to attract firms from other countries under terms that are beneficial to Europe. Policies need not be confined to technical and financial conditions: Europe enjoys an extraordinarily diverse wealth of cultural heritage that enhances European citizens' quality of life and more might be made of this in attracting others.