TÜBİTAK

HORIZON 2020

The new EU Framework Programme for Research and Innovation

Filiz Hayırlı, TUBITAK
April 18th, 2014, Bilkent University, Ankara

Outline

HORIZON 2020 & its components

Europe in a Changing World: Inclusive, Innovative and Reflective Societies (Challenge 6)

Science with and for Society

EU Research Framework Programmes

HORIZON 2020 is the new research and innovation programme of the EU.

FP6

2002-2006
(4 years)
17,5 Billion Euro

FP7

2007-2013
(7 years)
53,2 Billion Euro

H2020

2014-2020
(7 years)
71 Billion Euro

What's new in Horizon 2020?

- A single programme bringing together three separate programmes/initiatives*

- Coupling research to innovation – from research to retail, all forms of innovation

- Focus on societal challenges facing EU society, e.g. health, clean energy and transport

- Simplified access, for all companies, universities, institutes in all EU countries and beyond

*The 7th Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)

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Three priorities

Horizon 2020:
2014-2020

Total Budget:
71 Billion €

Excellent science

Industrial leadership

Societal challenges

Horizon 2020: Aims

Excellent Science

- World class science
- Develop, attract &retain research talent
- Access to best infrastructures

Industrial Leadership

- Startegic investments in key technologies
- Attract more private investment in research and innovation
- More innovative SMEs

Societal Challenges

- Innovation for concerns of society / EU policy objectives
- Breakthrough solutions through multidisciplinary collaborations to be tested, demonstrated and scaled-up

HORIZON 2020
THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

✓Science with and for Society

✓Widening Participation

✓European Institute of Innovation and Technology

✓Joint Research Center

HORIZON 2020: Excellent Science

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Excellent Science (2014-2020)
Total Budget: 24.441 Million Eur

	Million €, 2014-2020
European Research Council (ERC) Frontier research by the best individual teams	13 095
Future and Emerging Technologies Collaborative research to open new fields of innovation	2 696
Marie Skłodowska-Curie actions (MSCA) Opportunities for training and career development	6 162
Research infrastructures (including e-infrastructure) Ensuring access to world-class facilities	2 488

HORIZON 2020: Industrial Leadership

**Indıstrial Leadership (2014-2020)
Total Budget: 17.015 Million Eur**

Million €, 2014-2020

Leadership in enabling and industrial technologies (LEITs) (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)	**13 557**
Access to risk finance Leveraging private finance and venture capital for research and innovation	**2 842**
Innovation in SMEs Fostering all forms of innovation in all types of SMEs	**616** + complemented by expected 20% of budget of societal challenges + LEITs and *'Access to risk finance'* with strong SME focus

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HORIZON 2020: Societal Challenges

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Societal Challenges (2014-2020)
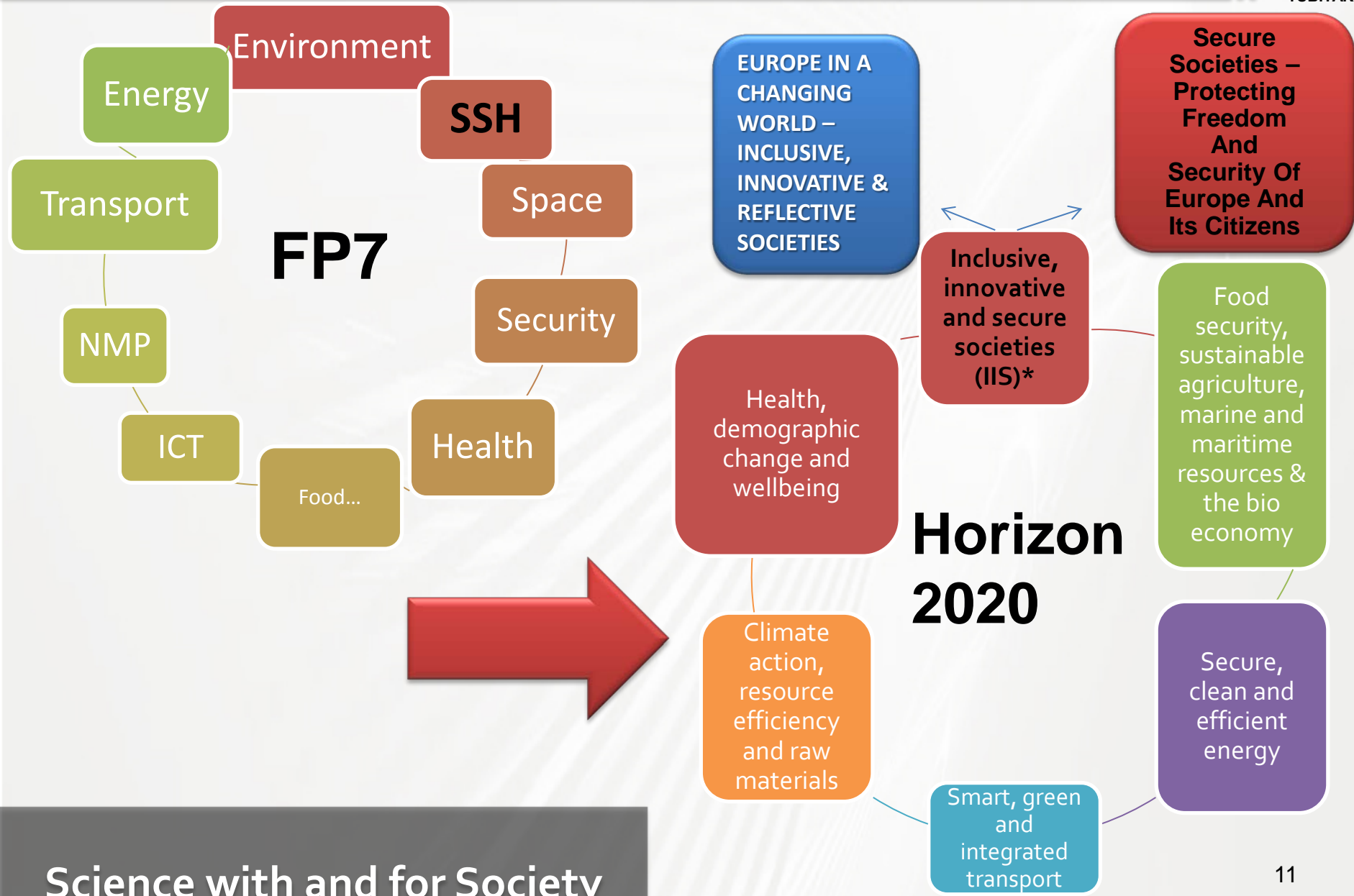## Total Budget: 29.678 Million Eur

	Million €, 2014-2020
Health, demographic change and wellbeing	**7 472**
Food security, sustainable agriculture, marine and maritime research & the Bioeconomy	**3 851**
Secure, clean and efficient energy *	**5 931**
Smart, green and integrated transport	**6 339**
Climate action, resource efficiency and raw materials	**3 081**
Inclusive and reflective societies	**1 309**
Secure societies	**1 695**
Science with and for society	*462*
Spreading excellence and widening participation	*816*

Social Sciences and Humanities in HORIZON 2020

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Environment

Energy

SSH

Transport

Space

FP7

NMP

Security

ICT

Food...

Health

EUROPE IN A CHANGING WORLD – INCLUSIVE, INNOVATIVE & REFLECTIVE SOCIETIES

Secure Societies – Protecting Freedom And Security Of Europe And Its Citizens

Inclusive, innovative and secure societies (IIS)*

Health, demographic change and wellbeing

Food security, sustainable agriculture, marine and maritime resources & the bio economy

Horizon 2020

Climate action, resource efficiency and raw materials

Secure, clean and efficient energy

Smart, green and integrated transport

Science with and for Society

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Integrated Approach: Mainstreaming social sciences and humanities in all areas of Horizon 2020

Example: analysing socio-economic aspects of transport, prospective studies and technology foresight

Example: developing robust indicators to assess the transition towards a green economy

Example: understanding the determinants of health and optimising the effectiveness of healthcare systems

Horizon 2020

"Inclusive, Innovative and Reflective Societies" &

"Science with and for Society"

Smart and sustainable development
Social transformation
Social innovation and creativity
Role of Europe as a global actor
Integrating science and society etc.

Inclusion of social sciences and humanities in bottom-up programmes

European Research Council (ERC)
Marie Skoldowska Curie Actions (MSCA)
Research Infrastructures

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HORIZON 2020

Europe in a Changing World: Inclusive, Innovative and Reflective Societies

2014 – 2015 Calls

Theoretical and empirical work

AIMS
Scientific base for EU policies

– **Gaining a greater understanding of the societal changes in Europe** and of their impact on social cohesion; and **develop social, economic and political inclusion and positive intercultural dynamics in the EU**

– **Fostering development of innovative societies and policies in Europe** through engagement of citizens, civil society organizations, enterprises and users in research and innovation

– **Contributing to an understanding of Europe's intellectual basis**, its history and many European and non-European influences

Inclusive, Innovative and Reflective Societies

2014-15 Calls

- Overcoming the Crisis: new ideas, strategies and governance structures for Europe – H2020-EURO-2014/2015

- Young Generation in an Innovative, Inclusive and Sustainable Europe - H2020-YOUNG-2014/2015

- Reflective Societies – Cultural heritage and European identities - H2020-REFLECTIVE-2014/2015

- Europe as a Global Actor – H2020-INT-2014/2015

- New Forms of Innovation - H2020-INSO-2014/2015

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Focus on socio-economic and behavioural research on:

- **the reform of the EU economic governance structure to better secure financial and economic stability** (focusing on the 'Blueprint for a deep and genuine Economic and Monetary Union');

- **the social, political, legal and cultural consequences of the crisis**, such as higher unemployment, the widening of social disparities, rising Euroscepticism and distrust in politics, and the consequent national and EU-level responses;

- **understanding the evolution of the crisis**: long-term structural problems and short-term crisis impact (including short run vs. long run crisis resolution strategies);

- **the impacts of broader global trends on the EU's economy and governance** (e.g. climate change, migration, promotion of human rights, etc)

- EURO-1-2014: **Resilient and sustainable economic and monetary union in Europe (10 million Eur – R&I Action)**

- EURO-2-2014: **The European growth agenda (10 million Eur – R&I Action)**

- EURO-3-2014: **European societies after the crisis (7,5 million Eur – R&I Action)**

- EURO-4-2014: **Political challenges for Europe (7,5 million Eur – R&I Action)**

- EURO-5-2015: **ERA-NET on Smart Urban Futures (5 million Eur – ERA-NET Cofund)**

- EURO-6-2015: **Meeting new societal needs by using emerging technologies in the public sector (12 million Eur – R&I Action / CSA)**

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- Overall Call Budget: 52 million €

  – For 2014: 35 million €

  – For 2015: 17 million €

- Publication date: 11/12/2013

- Deadlines:

  – EURO-1-2014: **03/06/2014**

  – EURO-2-2014**: 03/06/2014**

  – EURO-3-2014: **03/06/2014**

  – EURO-4-2014: **03/06/2014**

  – EURO-5-2015: **07/01/2015**

  – EURO-6-2015: **21/04/2015**

The YOUNG Call focuses on :

- the **situation of young people in Europe, their capabilities, prospects and needs** by exploring from the economic, social and individual perspective in order to **ensure their full participation in an innovative, inclusive and sustainable Europe**

- providing a **comprehensive picture of the current young generation** to help meet the challenges ahead and **fulfil the goals of major European policy initiatives**, such as "Youth on the Move", the Youth Employment Package and the Youth Guarantee,

- **capturing the full diversity of young people in Europe and to addressing gender equality aspects**

- YOUNG-1-2014: **Early job insecurity and labour market exclusion** (R&I Action)

- YOUNG-2-2014: **Youth mobility: opportunities, impacts, policies** (R&I Action)

- YOUNG-3-2015: **Lifelong learning for young adults: better policies for growth and inclusion in Europe** (R&I Action)

- YOUNG-4-2015: **The young as a driver of social change** (R&I Action)

- YOUNG-5-2014: **Societal and political engagement of young people and their perspectives on Europe** (R&I Action / Innovation Action)

- Overall Call Budget: 29,2 million €

  – For 2014: 19 million €

  – For 2015: 10,2 million €

- Publication date: 11/12/2013

- Deadlines:

  – YOUNG-1-2014: **03/06/2014**

  – YOUNG-2-2014**: 03/06/2014**

  – YOUNG-3-2015: **07/01/2015**

  – YOUNG-4-2015: **07/01/2015**

  – YOUNG-5-2014: **03/06/2014**

The REFLECTIVE Call focuses on:

- addressing the key issues of **cultural heritage, identity formation** as well as **intellectual, artistic, creative and historical legacy** of the European Union,

- exploring the **European diversities** and the opportunities they bring,

- enhancing **the understanding of Europe's intellectual and creative basis** and paving the way for the European society to critically reflect upon itself historically, culturally and normatively

- contributing to a **more resilient, innovative and creative European society** pursuing the goal of 'Unity in diversity'

- Fostering the **potential of digital technologies for facilitating the modelling, analysis, understanding and preservation of European cultural heritage**, thus allowing richer interpretations and user experiences, as well as creative re-use

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Call: Reflective Societies: Cultural Heritage and European Identities – H2020-REFLECTIVE-2014/2015

- REFLECTIVE-1-2014: **ERA-NET on Uses of the past**

- REFLECTIVE-2-2015: **Emergence and transmission of European cultural heritage and Europeanisation** (R&I Action)

- REFLECTIVE-3-2015: **European cohesion, regional and urban policies and the perceptions of Europe** (R&I Action)

- REFLECTIVE-4-2015: **Cultural opposition in the former socialist countries** (R&I Action)

- REFLECTIVE-5-2015: **The cultural heritage of war in contemporary Europe** (R&I Action)

- REFLECTIVE-6-2015: **Innovation ecosystems of digital cultural assets** (IA)

- REFLECTIVE-7-2014: **Advanced 3D modeling for accessing and understanding European cultural assets** (R&I Action / CSA)

- REFLECTIVE-8-2015: **Communication and dissemination platform** (CSA)

- REFLECTIVE-9-2014: **Social Platform on Reflective Societies** (CSA)

Call: Reflective Societies: Cultural Heritage and European Identities – H2020-REFLECTIVE-2014/2015

- Overall Call Budget: 49,5 million €

  – For 2014: 23 million €
  – For 2015: 26,5 million €

- Publication date: 11/12/2013

- Deadlines:

  – REFLECTIVE-1-2014: **03/06/2014**

  – REFLECTIVE-2-2015 **: 07/01/2015**

  – REFLECTIVE-3-2015 : **07/01/2015**

  – REFLECTIVE-4-2015 : **07/01/2015**

  – REFLECTIVE-5-2015 : **07/01/2015**

  - REFLECTIVE-6-2015 : **21/04/2015**

  - REFLECTIVE-7-2014: **30/09/2014**

  - REFLECTIVE-8-2015 : **07/01/2015**

  - REFLECTIVE-9-2014 : **03/06/2014**

  - REFLECTIVE-10-2014 : **03/06/2014**

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The INT Call focuses on:

- providing the **analytical tool-kits, conceptual - theoretical underpinnings and empirical insights the EU requires for strengthening its role as a global actor**

- analysing whether the EU may or may not be capable of **advancing in its long-term efforts for a just global order** based on multilateralism and international law

- developing policy-relevant insights that can help the Union to build **capacities that will further enhance and sustain its effectiveness as a global player** in response to key global challenges

Participation of researchers and institutions in the international partner countries and regions addressed by the various topics is strongly encouraged.

- INT-1-2014/2015: **Enhancing and focusing research and innovation cooperation with the Union's key international partner countries** (CSA)

- INT-2-2014/2015: **Encouraging the research and innovation cooperation between the Union and selected regional partners** (CSA)

- INT-3-2015: **Europe's contribution to a value-based global order and its contestants** (R&I Action)

- INT-4-2015: **The European Union's contribution to global development: in search of greater policy coherence** (R&I Action)

- INT-5-2015: **Rethinking the European Union crisis response mechanism in light of recent conflicts** (R&I Action)

- INT-6-2015: **Re-invigorating the partnership between the two shores of the Mediterranean** (R&I Action)

- INT-7-2015: **Towards a new geopolitical order in the South and East Mediterranean region** (R&I Action)

- INT-8-2015: **The European Union and the Eastern Partnership** (R&I Action)

- INT-9-2015: **The European Union, Turkey and its wider neighbourhood: challenges and opportunities** (R&I Action)

- INT-10-2015: **The European Union and integration challenges in the Balkans** (R&I Action)

- INT-11-2015: **European cultural and science diplomacy: exploiting the potential of culture and science in the EU's external relations** (R&I Action)

- INT-12-2015: **The cultural, scientific and social dimension of EU-LAC relations** (R&I Action)

- Overall Call Budget: 43,7 million €
    - For 2014: 8,35 million €
    - For 2015: 35,35 million €

- Publication date: 11/12/2013

- Deadlines:

    - INT-1-2014/2015: **29/04/2014** & **20/01/2015**

    - INT-2-2014/2015 : **29/04/2014** & **20/01/2015**

    - INT-3-2015 : **07/01/2015**   - INT-8-2015 : **07/01/2015**

    - INT-4-2015 : **07/01/2015**   - INT-9-2015: **07/01/2015**

    - INT-5-2015 : **07/01/2015**   - INT-10-2015: **07/01/2015**

    - INT-6-2015 : **07/01/2015**   - INT-11-2015: **07/01/2015**

    - INT-7-2015: **07/01/2015**   - INT-12-2015: **07/01/2015**

The INSO Call focuses on new forms of innovation:

- **public sector innovation, social innovation & new business models**:

- **modernisation of public administrations**

- **ICT as an enabler to facilitate innovation process**, increasing connectivity, collaboration and openness

- introduction of **new processes** to transform the **interaction between citizens, businesses and civil servants**

- developing new knowledge on **business models innovation** and business models for SMEs

- **open innovation** and **engagement of citizens** and civil society

- INSO-1-2014/2015: **ICT-enabled open government** (Innovation Actions/CSA)

- INSO-2-2014: **Understanding and supporting business model innovation** (R&I Actions)

- INSO-3-2014: **The economic impact of the Innovation Union** (R&I Actions)

- INSO-4-2015: I**nnovative schemes for open innovation and science 2.0** (CSA / R&I Actions)

- INSO-5-2015: **Social innovation Community** (CSA)

- INSO-6-2014: **Platform for ICT for Learning and Inclusion** (CSA)

- INSO-7-2014: **Towards joint programming under Horizon 2020** (CSA)

- INSO-8-2014: **Synchronised Call initiatives** (CSA)

- INSO-9-2015: **Innovative mobile e-government applications by SMEs** (SME Instrument)

- INSO-10-2015: **SME business model innovation** (SME Instrument)

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- Overall Call Budget: 61,37 million €

  – For 2014: 26,5 million €

  – For 2015: 34,87 million €

- Publication date: 11/12/2013

- Deadlines:

  – INSO-1-2014/2015: **29/04/2014 & 21/04/2015**

  – INSO-2-2014 **: 29/04/2014**

  – INSO-3-2014 : **29/04/2014**

  – INSO-4-2015 : **31/03/2015**

  – INSO-5-2015 : **31/03/2015**

  - INSO-6-2014 : **29/04/2014**

  - INSO-7-2014 : **29/04/2014**

  - INSO-8-2014 : **29/04/2014**

  - INSO-9-2015: several

  - INSO-10-2015: several

EURO-1-2014: Resilient & sustainable economic and monetary union in Europe

Scope:

1. Effective mechanisms of fiscal policy coordination in the EU → should explore the problem of fiscal sustainability in the EU & potential models of fiscal union

2. Fair and sustainable taxation → a comparative study of European and non-European taxation systems & potential of further European tax harmonization

3. The impact of macroeconomic and social imbalances on economic stability → analyse the main features of macroeconomic, social and financial imbalances within and between the EU MS

4. The global impacts of the crisis in Europe and the international monetary relations → review the evolution of the global monetary system in the last decades & explore the impacts of the crisis on global power shifts

Expected Result:

• advance theoretical and practical debates on a more resilient and sustainable economic and monetary union in Europe

• develop a comprehensive and coherent vision on how to ensure the long-term sustainability and resilience of the European economic system.

• New concepts, methodologies and tools developed by research will support European decision makers and practitioners in the setting-up and implementation of a reinforced governance architecture in the EU

Sample social sciences project in FP7

ACCEPT PLURALISM: Tolerance, Pluralism and Social Cohesion.

Duration: 3 years, 2010-2013

Budget: 2,6 million Euro , 19 partners (İstanbul Bilgi University from Turkey)

- an in-depth study of tolerance to and acceptance of native minority groups and migrants - concentrated on education and politics in 15 European countries

- developed a theoretical framework for researchers

- the framework was applied to 8 case studies: 4 in School Life; 4 in Politics

- the findings of case studies presented in the project's European Policy Briefs

- published a Handbook on Tolerance and Cultural Diversity in Europe , as a training tool for teachers

- formulated a set of Tolerance Indicators in school life and in politics that can be used for self-monitoring or assessment of the overall "tolerance index" in different countries

- published A Pilot Study using the indicators to showcase how different countries do better or worse along different issues and with regard to different minority groups.

HORIZON 2020

Science with and for Society

2014 – 2015 Calls

- Call for Making science education and careers attractive for young people (SEAC);

- Call for Promoting gender equality in research and innovation (GERI);

- Call for Integrating society in science and innovation (ISSI);

- Call for Developing governance for the advancement of responsible research and innovation (GARRI);

OBJECTIVES

- **Developing scientific citizenship by promoting innovative pedagogies in science education**, **attracting more young people towards science**, with a special emphasis on girls, and addressing the challenges faced by young people, in pursuing careers in science, technology, engineering and innovation;

- **Developing Responsible Research and Innovation in Higher Education Curricula**;

- **Easing the access to scientific careers** by increasing the service level of the EURAXESS Services Network.

TOPICS

- SEAC.1.2014 - Innovative ways to make science education and scientific careers attractive to young people (RIA; CSA)

- SEAC.2.2014 - Responsible Research and Innovation in Higher Education Curricula (CSA)

- SEAC.3.2014 – Trans-national operation of the EURAXESS Service network (CSA)

- SEAC.4.2015 – EURAXESS Outreach activities (CSA)

Deadline: 2 October 2014 & 16 September 2015
Budget: 22,6 Million €

OBJECTIVES

- **Encouraging girls to study science** and female students to further embrace a career in research;

- **Analysing the impact of gender diversity in research** teams on research and innovation outcomes;

- **Developing a common framework to evaluate national initiatives to promote gender equality in research** policy and research organisations;

- **Supporting research organisations to implement gender equality plans**.

TOPICS

- GERI.1.2014 - Innovative approach to communication encouraging girls to study science (CSA)

- GERI.2.2014 – Impact of gender diversity on Research and Innovation (RIA)

- GERI.3.2015 – Evaluation of Initiatives to promote gender equality in research policy and research organizations (RIA)

- GERI.4.2014-2015 - Support to research organisations to implement gender equality plans (CSA)

Deadline: 2 October 2014 & 16 September 2015
Budget: 18,5 Million €

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OBJECTIVES

- **Developing citizens' interest and capacities for science** and allowing them to **actively participate in various scientific activities** (e.g. exhibitions and science cafés, grass roots "Do It Yourself" (DiY) creative re-use communities, on-line mechanisms for knowledge-based policy advice);

- Fostering the **dissemination of information and good practices** through a Knowledge Sharing Platform (KSP), including networking, monitoring and assessing relevant initiatives;

- Supporting **structural change in the research organisation and higher education institutions** to promote **Responsible Research and Innovation**.

Call for integrating society in science and innovation

TOPICS

- ISSI.1.2014 - Pan-European public outreach: exhibitions and science cafés engaging citizens in science (CSA)

- ISSI.2.2014 - Citizens and multi-actor engagement for scenario building (CSA)

- ISSI.3.2015 - Knowledge sharing platform (CSA)

- ISSI.4.2015 – Online mechanisms for konwledge-based policy advice (RIA)

- ISSI.5.2014 - Supporting structural change in research organisations to promote Responsible Research and Innovation (CSA)

Deadline: 2 October 2014 & 16 September 2015
Budget: 32,3 Million €

OBJECTIVES

- Fostering **Responsible Research and Innovation uptake in current research and innovations systems** (including in industrial context);

- Underpinning activities related to **Text and Data Mining** (TDM), **innovative approach to release and disseminate research results** and measure their impact;

- **Promoting ethics in research**, including research integrity, reducing the risk of ethics dumping of non-ethical practices to non EU countries.

TOPICS

- GARRI.1.2014 - Fostering RRI uptake in current research and innovations systems (RIA)

- GARRI.2.2015 - Responsible Research and Innovation in industrial context (CSA)

- GARRI.3.2014 - Scientific Information in the Digital Age: Text and Data Mining (CSA)

- GARRI.4.2015 - Innovative approach to release and disseminate research results and measure their impact (CSA)

- GARRI.5.2014 - Ethics in Research: Promoting Integrity (CSA)

- GARRI.6.2014 - Reducing the risk of exporting non ethical practices to third countries (CSA)

Deadline: 2 October 2014 & 16 September 2015
Budget: 17,6 Million €

SwafS – Sample Call Details

GERI-2-2014 – Impact of Gender Diversity on Research and Innovation

Challenge: Some studies have explored the impact of gender diversity on innovation in terms of productivity, performance and relevance to society (e.g. number of publications and of patents, market shares).

However gender diversity in teams and organisations has not yet been systematically analysed.

Scope: develop concepts and methodologies for the evaluation of the impacts of gender diversity in research teams and organisations on research quality and productivity

& apply the concepts and methodologies developed to a selected range of sectors using a comparative approach across countries.

Expected result: The research will provide a better understanding of the relationship between gender diversity and Research and Innovation performance.

In the medium term, it shall help develop appropriate conditions for to contribute to research intensity and productivity.

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HULDA, the European Arts and Sciences Sailing Festival
Duration: 2,5 years, 2008-2010
Budget: 800.000 Euro, 14 partners
(Turkish Coordinator + 3 partners from Turkey)

- created an innovative strategy to raise the interest of youth and civil society by bridging art, science and daily life
- conducted engaging workshops for young students in 10 cities and communicated interesting science themes in ingenious ways
- created alternative perspectives to awaken public interest in science, exploiting art as a tool to communicate science in novel ways
- has also established a pan-European network of stakeholders and project beneficiaries linked with schools and other institutions so as to reach students
- provided children and youth with the chance to work with their peers on creative scientific experiments

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Thank you!

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