



**TURKEYⁱⁿ
HORIZON 2020**
COOPERATION AND INNOVATION COOPERATIVENESS

TURKEY IN HORIZON 2020
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H2020 General Training

Societal Challenges





SOCIETAL CHALLENGES



H2020 reflects the policy priorities of the Europe 2020 strategy and addresses major concerns shared by citizens in Europe and elsewhere.

A challenge-based approach will bring together resources and knowledge across different fields, technologies and disciplines, including social sciences and the humanities.

This will cover activities from **research to market** with a new focus on **innovation-related activities**, such as piloting, demonstration, test-beds, and support for public procurement and market uptake.





SOCIETAL CHALLENGES

- SC1: Health, demographic change and wellbeing
- SC2: Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and the Bioeconomy;
- SC3: Secure, clean and efficient energy
- SC4: Smart, green and integrated transport
- SC5: Climate action, environment, resource efficiency and raw materials
- SC6: Europe in a changing world - Innovative, inclusive and reflective societies
- SC7: Secure societies - Protecting freedom and security of Europe and its citizens



Health, Demographic Change and Wellbeing Personalised Medicine

Personalising Health and Care: "Personalised Medicine"

- 1.1 Understanding health, well-being and disease
- 1.2. Preventing disease
- 1.3 Treating and managing diseases
- 1.4 Active ageing and self-management of health
- 1.5 Methods and data
- 1.6 Health care provision and integrated care



Food security, sustainable agriculture ...

Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy

- Sustainable Food Security – Resilient and resource-efficient value chains
- Blue Growth - Demonstrating an ocean of opportunities
- Rural Renaissance - Fostering innovation and business opportunities
- Bio-based innovation for sustainable goods and services - Supporting the development of a European Bioeconomy



Secure, clean and efficient energy

Call - Energy Efficiency Call 2016-2017

1. Heating and cooling
2. Engaging consumers towards sustainable energy
3. Buildings
4. Industry, services and products
5. Innovative financing for energy efficiency investments

Call - COMPETITIVE LOW-CARBON ENERGY

1. Towards an integrated EU energy system
2. Renewable energy technologies
3. Enabling the decarbonisation of the use of fossil fuels during the transition to a low-carbon economy
4. Social, economic and human aspects of the energy system
5. Supporting the development of a European research area in the field of energy



Smart, Green and Integrated Transport

Three main topic areas:

Call - 2016-2017 Mobility for Growth

Call - 2016-2017 Automated Road Transport

Call - 2016-2017 Green Vehicles



Smart, Green and Integrated Transport

Mobility for Growth

1. **Aviation:** reduction of energy consumption; reduction of noise
2. **Waterborne:** Energy efficiency and emission control, new lightweight materials, new transport concepts
3. **Safety:** aviation, road and waterborne; infrastructure; behavioural aspects for safer transport
4. **Urban:** sustainability of urban traffic; smart electric mobility in cities; neighbourhood-level transport innovations
5. **Logistics:** logistic clusters; innovative ICT solutions; green transport
6. **Intelligent Transport Systems:** 'mobility as a service'; cooperative ITS; new business models
7. **Infrastructure:** Resilience to extreme events; optimisation of infrastructure; port of the future
8. **Socio-economic and behavioural research** and forward looking activities for policy making



Smart, Green and Integrated Transport

Automated Road Transport

- ICT infrastructure to enable the transition towards road transport automation,
- Automation pilots for passenger cars,
- Multi-Brand platooning in real traffic conditions,
- Safety and end-user acceptance aspects of road automation in the transition period,
- Road infrastructure to support the transition to automation and the coexistence of conventional and automated vehicles on the same network



Climate action, environment, resource efficiency and raw materials

- **Climate services**
- **Towards a low-carbon Europe**
- **Nature-based solutions for territorial resilience**
- **Water**
- **Raw materials**

“Critical Raw Materials” are of relatively high supply risk and of economic importance for the EU. They include:

Antimony, Beryllium, Borates, Chromium, Cobalt, Coking coal, Fluorspar, Gallium, Germanium, Indium, Magnesite, Magnesium, Natural Graphite, Niobium, PGMs, Phosphate Rock, REEs (Heavy) & REEs (Light), Silicon Metal, Tungsten.



Climate action, environment, resource efficiency and raw materials

Research and innovation will cover the following broad lines of activities:

- Climate Action - Informed decisions for a climate-resilient low-carbon society
- Cultural Heritage - Engaging a new cultural heritage agenda for economic growth
- Earth Observations - Crucial info on climate, energy, natural hazards and other societal challenge
- Nature-Based Solutions - Providing viable solutions of natural ecosystems
- Systemic Eco-Innovation - Generating and sharing economic and environmental benefits



Europe in a changing world – inclusive, innovative and reflective Societies

The European Union is currently faced with manifold challenges within and beyond its borders.

Internally, growing inequality undermines its potential to create prosperity and provide stability. Six million people lost their job during the crisis, more than 120 million people are at risk of poverty and fourteen million youth (15-29 years) are not in education, employment or training.

Externally, the Union's neighbourhood has become an area of high risk with an increasing number of open conflicts challenging Europe's security: Ukraine, the Middle East, and Africa.



Europe in a changing world – inclusive, innovative and reflective Societies

Key future research and innovation actions:

- New ideas, strategies and governance structures for overcoming the crisis in Europe
- The young generation in an innovative, inclusive and sustainable Europe
- Reflective societies: transmission of European cultural heritage, uses of the past, 3D modelling for accessing EU cultural assets.
- Europe as a global actor: focusing research and innovation cooperation with third countries, new geopolitical order in the Mediterranean, EU eastern partnership and other third countries.
- New forms of innovation in the public sector, open government, business model innovation, social innovation community, ICT for learning and inclusion.



Europe in a changing world – inclusive, innovative and reflective Societies

Call Topics:

- CO-CREATION FOR GROWTH AND INCLUSION
- REVERSING INEQUALITIES AND PROMOTING FAIRNESS
- ENGAGING TOGETHER GLOBALLY
- UNDERSTANDING EUROPE - PROMOTING THE EUROPEAN PUBLIC AND CULTURAL SPACE



Secure Societies



The primary aims of the Secure Societies Challenge are:

- to enhance the resilience of our society against natural and man-made disasters
- develop novel solutions for the protection of critical infrastructure
- to fight crime and terrorism;
- to improve border security;
- support the Union's external security policies including through conflict prevention and peace building;
- provide enhanced cyber-security, ranging from secure information sharing to new assurance models.

