

H2020 projects resulting from MG/ART Calls 2015-2016

ADAS & Safety & end user acceptance (MG-3.6-2015 / ART-04-2016)

- User requirements, expectations, concerns
- Next generation ADAS
- Innovative HMI
- Increased reliability, trustworthiness in complex, mixed traffic
- Cooperative interaction with other road users in mixed traffic

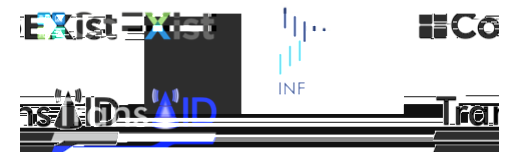
Road infrastructure to support automation (ART-05-2016)

- Traffic modelling methods
- Hybrid infrastructure – design, upgrade, adaptation
- Safety performance criteria
- Guidance for road authorities

Traffic management solutions for AD (MG-3.6-2015)

- New solutions for smooth integration of automated vehicles into traffic systems

Projects



H2020 projects resulting from ART Calls 2016-2017

Large Scale Pilots (ART-02-2016)

- Test and evaluate AD functions at SAE Level 3 and 4 (for parking, urban driving, motorways)

ICT infrastructure for automated road transport (ART-01-2017)

- Design, implement and test ICT infrastructure for higher levels of automation (up to level 4)

Multi-Brand platooning in real traffic conditions (ART-03-2017)

- Testing multi-brand platooning on European roads across national borders

Urban road transport automation (ART-07-2017)

- Full scale demonstrations of fleets of autonomous mini-buses in low to medium demand areas

Projects



H2020 projects resulting from ART Calls 2018

Testing, validation and certification procedures (ART-01-2018)

- Comprehensive testing, validation and certification procedures for highly automated functions for different use cases in various traffic scenarios including cross-border

Impact assessment (ART-02-2018/RIA)

- Assessment of short, medium and long term impacts, benefits and costs of different scenarios for CCAD systems

Support for networking activities (ART-02-2018/CSA)

- Explore ways to strengthen cooperation amongst European and international stakeholders
- Forum for European and international stakeholders of road automation

Projects



H2020 projects resulting from MG Calls 2018 (MG-3.3-2018)

Driver behaviour and acceptance of connected, cooperative and automated transport

- Assess public acceptance for higher levels of connectivity and automation
 - Analyze driver behaviour under different scenarios/use cases
 - Estimate the effects of driver-vehicle interaction on transport safety
 - Address the ethical and legal issues associated with driver and/or vehicle decision making process
- **PAsCAL**
 - **DriveToTheFuture**
 - **SUaaVE**
 - **Trustonomy**

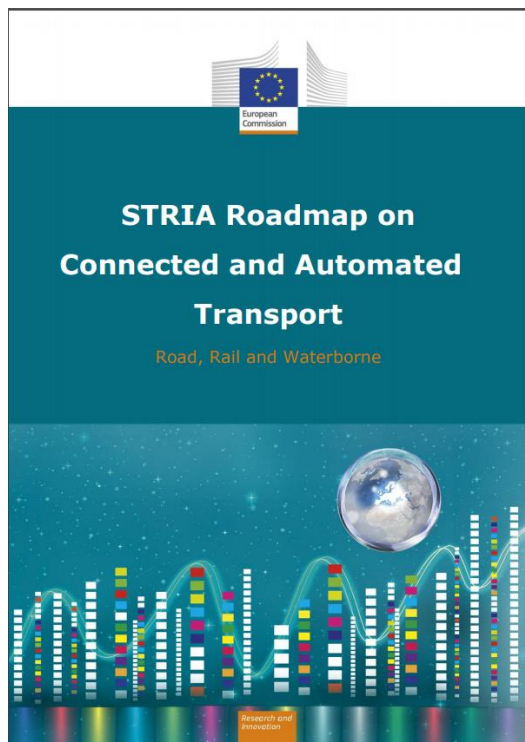
H2020 topics 2019 2020 (MG/ART calls)

- LC-MG-1-10-2019: Logistics solutions that deal with requirements of the 'on demand economy' and for shared-connected and low-emission logistics operations
- LC-MG-1-11-2019: Structuring R&I towards zero emission waterborne transport
- MG-2-9-2019: InCo Flagship on Integrated multimodal, low-emission freight transport systems and logistics
- **MG-2-13-2020: Coordination and support for an integrated freight transport and logistics system**
- DT-ART-03-2019: Human centred design for the new driver role in highly automated vehicles
- DT-ART-04-2019: Developing and testing shared, connected and cooperative automated vehicle fleets in urban areas for the mobility of all
- **DT-ART-05-2020: Efficient and safe connected and automated heavy-duty vehicles in real logistics operations**
- **DT-ART-06-2020: Large-scale, cross-border demonstration of connected and highly automated driving functions for passenger cars**

Roadmap on R&I for Connected and Automated Transport (STRIA)

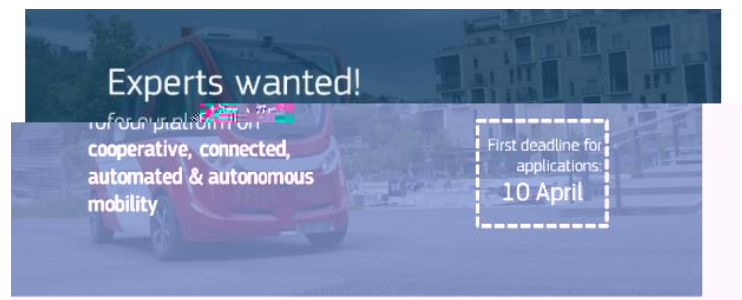


Brussels, 31.5.2017
SWD(2017) 223 final



COMMISSION STAFF WORKING DOCUMENT

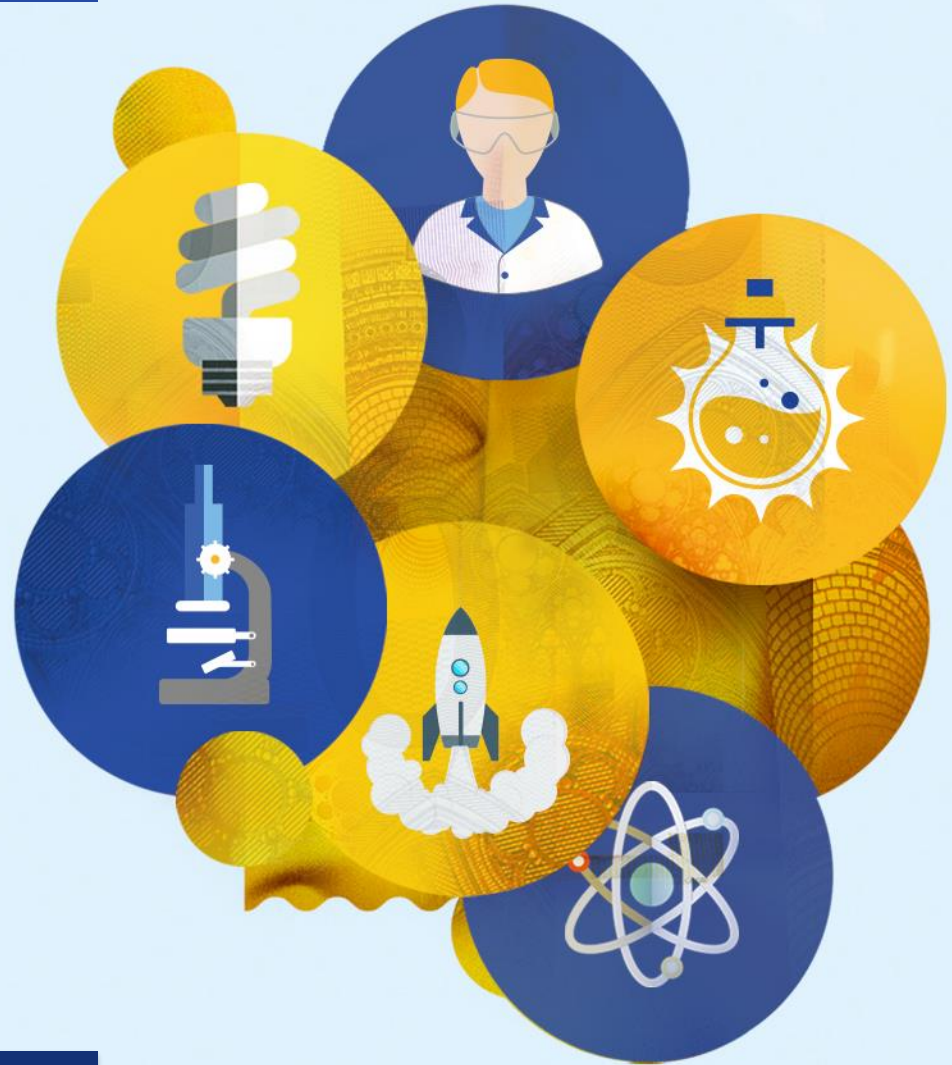
**Towards clean, competitive and connected mobility: the contribution of Transport
Research and Innovation to the Mobility package**



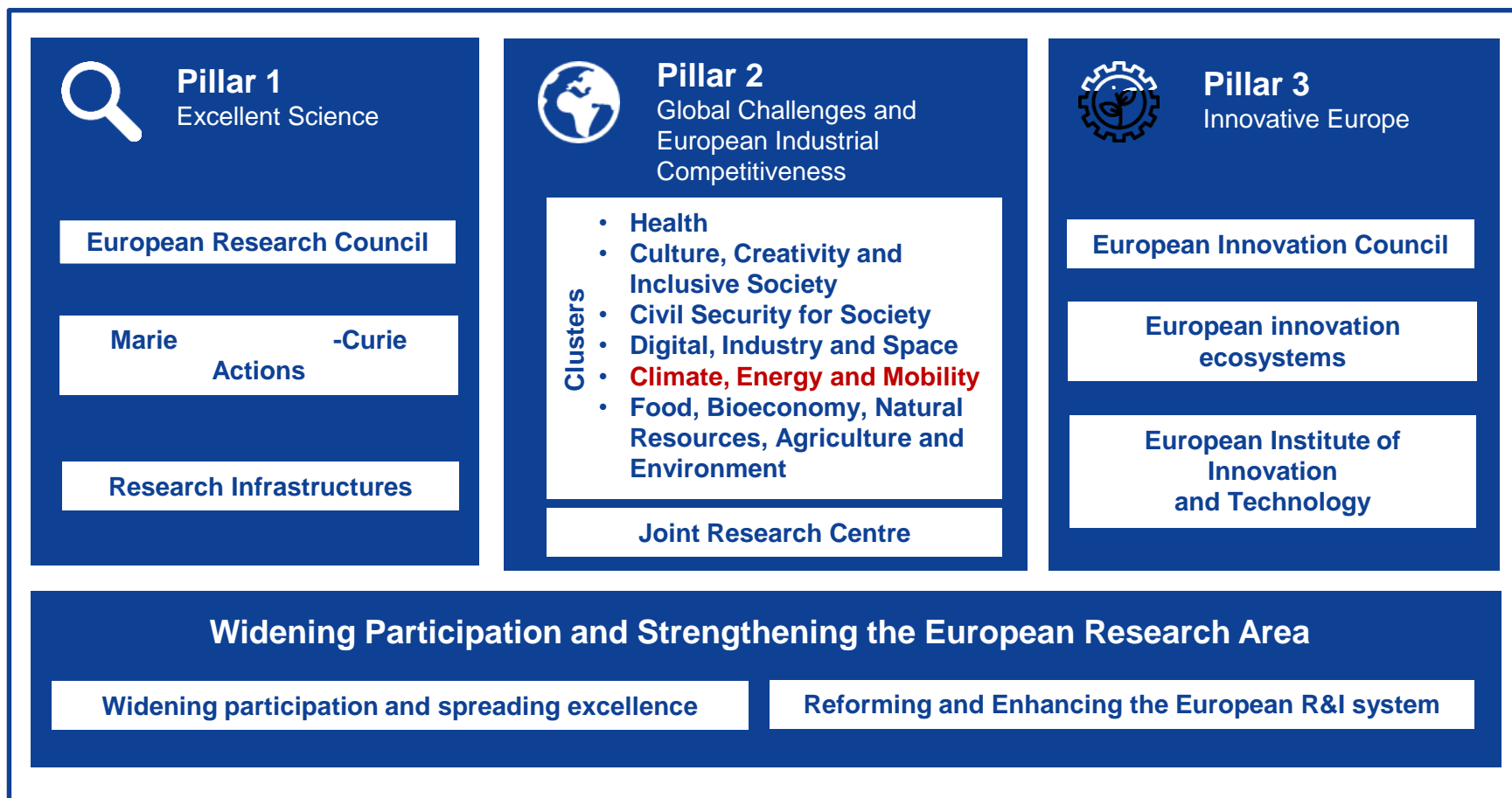
Horizon Europe

THE NEXT EU RESEARCH & INNOVATION
INVESTMENT PROGRAMME (2021 – 2027)

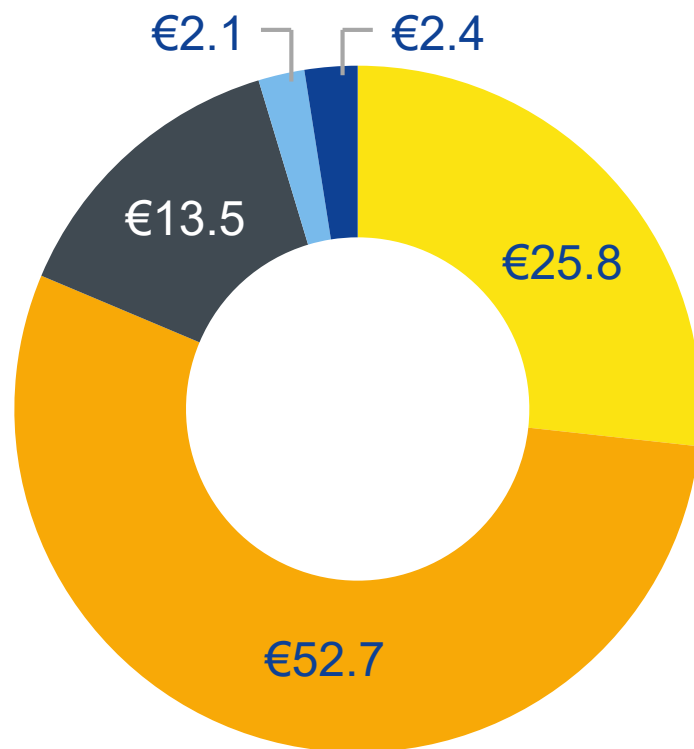
#HorizonEU



Horizon Europe: Preliminary structure



Commission proposal for b billion* (2021-2027)



In current prices

- Excellent Science
- Global Challenges & European Ind. Comp.
- Innovative Europe
- Widening Part. & ERA
- Euratom

* This envelope includes EUR 3.5 billion allocated under the InvestEU Fund.

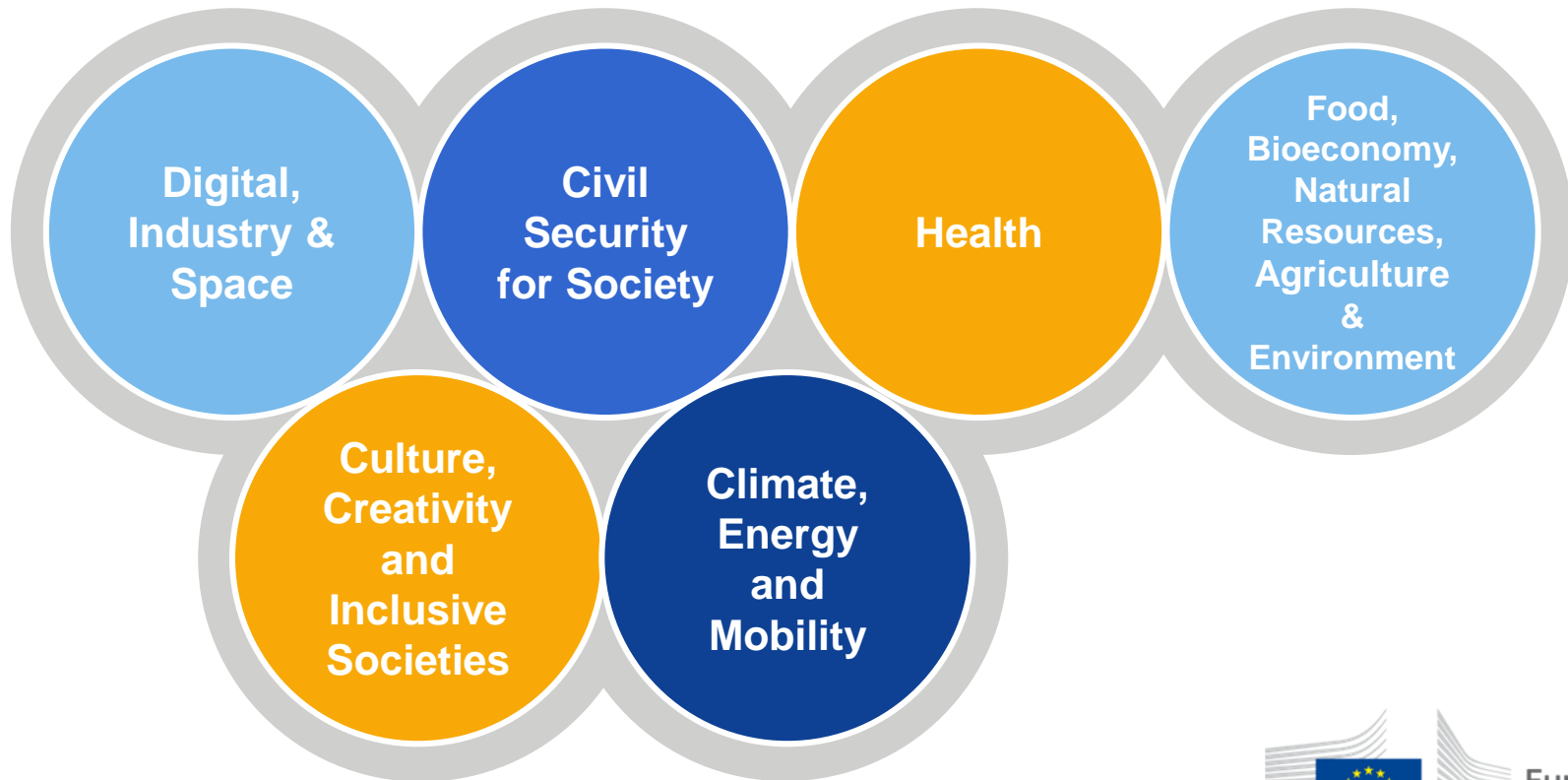
Horizon Europe Pillar 2

Pillar 2 - Clusters

Global Challenges & European Industrial

Competitiveness: boosting key technologies and solutions underpinning EU policies & Sustainable Development Goals

Commission proposal for budget: billion



Clusters in 'Global Challenges and Industrial

Clusters	Areas of intervention	
Health	<ul style="list-style-type: none"> • Health throughout the life course • Non-communicable and rare diseases • Tools, technologies and digital solutions for health and care, including personalised medicine 	<ul style="list-style-type: none"> • Environmental and social health determinants • Infectious diseases, including poverty-related and neglected disease • Health care systems
Culture, creativity and inclusive society	<ul style="list-style-type: none"> • Democracy and Governance • Social and economic transformations 	<ul style="list-style-type: none"> • Culture, cultural heritage and creativity
Civil security for society	<ul style="list-style-type: none"> • Disaster-resilient societies • Protection and Security 	<ul style="list-style-type: none"> • Cybersecurity
Digital, Industry and space	<ul style="list-style-type: none"> • Manufacturing technologies • Advanced materials • Next generation internet • Circular industries • Space, including Earth Observation • Emerging enabling technologies 	<ul style="list-style-type: none"> • Key digital technologies, including quantum technologies • Artificial Intelligence and robotics • Advanced computing and Big Data • Low-carbon and clean industry • Emerging enabling technologies
Climate, Energy and Mobility	<ul style="list-style-type: none"> • Climate science and solutions • Energy systems and grids • Communities and cities • Industrial competitiveness in transport • Smart mobility 	<ul style="list-style-type: none"> • Energy supply • Buildings and industrial facilities in energy transition • Clean, safe and accessible transport and mobility • Energy storage
Food, bioeconomy, natural resources, agriculture and environment	<ul style="list-style-type: none"> • Environmental observation • Agriculture, forestry and rural areas • Circular systems • Food systems 	<ul style="list-style-type: none"> • Biodiversity and natural resources • Seas, oceans and inland waters • Bio-based innovation systems in the EU Bioeconomy

Horizon Europe Mission and Partnerships



R&I Missions

R&I Missions

Relating EU's research and innovation better to society and citizens' needs; with strong visibility and impact

A mission is a portfolio of actions across disciplines intended to achieve a **bold and inspirational and measurable goal** within a set timeframe, with **impact** for society and policy making as well as relevance for a significant part of the European population and wide range of European citizens.

Horizon Europe defines mission characteristics and elements of governance, and 5 missions areas.

Specific missions will be programmed within the Global Challenges and European Industrial Competitiveness pillar (drawing on inputs from other pillars)

Adaptation to climate change, including societal transformation



Mission areas

**Healthy
oceans,
seas,
coastal
and inland
waters**



Cancer



**Climate-neutral
and smart cities**



**Soil health
and food**





New approach to European Partnerships

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- **Simple architecture and toolbox**
- **Coherent life-cycle approach**
- **Strategic orientation**

Co-programmed

Based on Memoranda of Understanding / contractual arrangements; implemented independently by the partners and by Horizon Europe

Co-funded

Based on a joint programme agreed and implemented by partners; commitment of partners for financial and in-kind contributions

Institutionalised

Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe

Cluster 5

Areas for future Partnerships

- Transforming Europe's rail system;
- Integrated Air Traffic Management;
- Clean Aviation;
- Clean Hydrogen;
- Built environment and construction;
- Towards zero-emission road transport (2ZERO);
- Mobility and Safety for Automated Road Transport (MOSART);
- Batteries: towards a competitive European industrial value chain;
- Clean Energy Transition.

Horizon Europe

Impact, flexibility, co-design

Strategic plan gives direction to the work programme



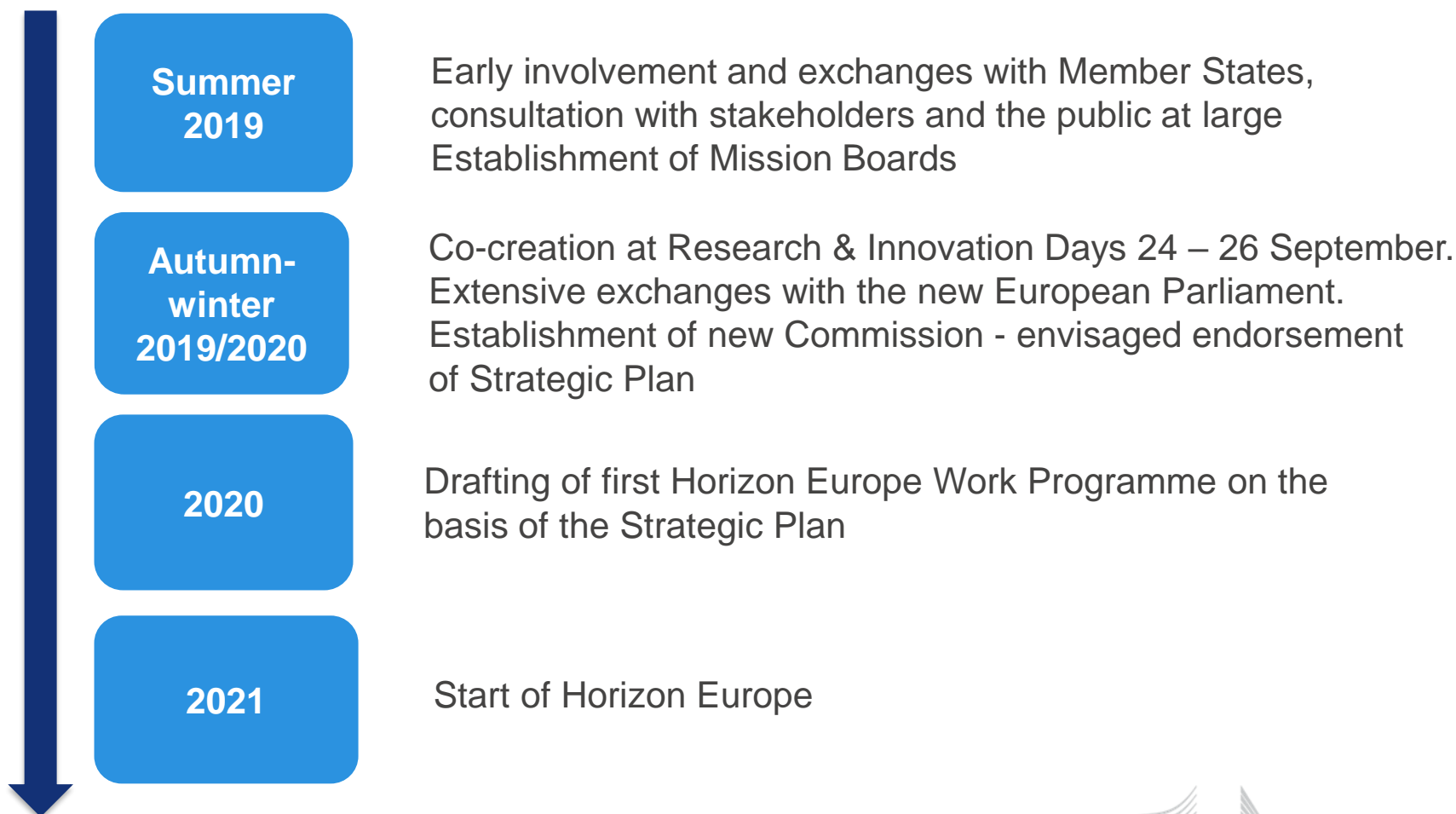
Main Features

Early involvement and extensive exchanges with Member States

Extensive exchanges with the European Parliament

Consultations with stakeholders and public at large

Steps towards the first Horizon Europe work programme



Home > News > Have your say on future objectives for EU-funded research and innovation

NEWS | 28 June 2019 | Brussels, Belgium | Research and Innovation

Have your say on future objectives for EU-funded research and innovation

ANNEX 5 - HORIZON EUROPE CLUSTER 5 CLIMATE, ENERGY AND MOBILITY

https://ec.europa.eu/info/news/have-your-say-future-objectives-eu-funded-research-and-innovation-2019-jun-28_en

Key R&I Orientations

- **Develop low-carbon and competitive transport solutions across all modes**
- **Develop seamless, smart, safe, accessible and inclusive mobility systems**
 - **Make automated and connected road transport safe and competitive**
 - **Develop efficient and innovative transport infrastructure**
 - **Develop the future transport network and integrated traffic management**
 - **Enable multimodal freight logistics and passenger mobility services**



Research and innovation days, 24-26 September 2019

- Bringing together policy-makers, researchers, innovators, civil society representatives and other interested stakeholders
- Three days to debate, solve and innovate – to help shape the future of research and innovation policy

Key elements of Horizon Europe to be discussed :

- The Strategic Plan
- Missions
- Partnerships



- **Policy Conference**
24→ 26 September
- **Innovative Europe Hub**
24→ 26 September
- **Science is Wonderful! Exhibition**
25→ 26 September

Sessions related to Cluster 5 “Climate, Energy and Mobility”, including:

- Session on “**Connected Automated Mobility**” (24 September)
- Session on “**Smart Electric Mobility**” (24 September)
- A Plenary Session on “**Clean Europe Making carbon-neutrality a reality**” (25 September)
- Session on “**Horizon Europe Mission on Cities**” (25 September)
- Session on “**Future Generations of Batteries**” (25 September)

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<https://www.facebook.com/cmoedas/>



Horizon Europe dedicated website

<http://ec.europa.eu/horizon-europe>

European Innovation Council

<http://ec.europa.eu/research/eic>

EU budget for the future

http://ec.europa.eu/budget/mff/index_en.cfm