Horizon 2020: Towards the 2018, 2019, 2020 Transport Work Programme

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Post EU Referendum (1)

From [Jo Johnson](#), Minister of State for Universities and Science:

"The referendum result has no immediate effect on those applying to or participating in Horizon 2020. UK researchers and businesses can continue to apply to the programme in the usual way. The future of UK access to European research and innovation funding will be a matter for future discussions. Government is determined to ensure that the UK continues to play a leading role in European and international research and innovation"

From [European Commission](#):

"The Statement of 29 June of the Heads of State or Government of 27 Member States, as well as the Presidents of the European Council and the European Commission, confirms that until the UK leaves the EU, EU law continues to apply to and within the UK, both when it comes to rights and obligations. This includes the eligibility of UK legal entities to participate and receive funding in Horizon 2020 actions"

Post EU Referendum (2)

From [European Commission](#), instructions to evaluators:

"Until the UK leaves the EU, EU law continues to apply to and within the UK, both when it comes to rights and obligations. This includes the eligibility of UK legal entities to participate and receive funding in Horizon 2020 actions. Experts should not evaluate proposals with UK participants any differently than before."

From [HM Government](#):

"the Treasury will underwrite funding for approved Horizon 2020 projects **applied for** before the UK leaves the European Union"

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INTRODUCTION

What is Horizon 2020?

- The biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years (2014 to 2020)
- The goal is to ensure Europe
  - produces world-class science,
  - removes barriers to innovation
  - makes it easier for the public and private sectors to work together in delivering innovation.
- Emphasis on excellent science, industrial leadership and tackling societal challenges

The Three Pillars of Horizon 2020

Excellent Science

- European Research Council ERC)
- Future and Emerging Technologies (FET)
- Marie-Skłodowska-Curie Actions
- Research Infrastructures

Industrial Leadership

- Leadership in Enabling and Industrial Technologies (LEIT)
  - Information and Communications Technologies (ICT)
  - Nanotechnologies
  - Advanced Materials
  - Biotechnology
  - Advanced Manufacturing and Processing
  - Space
- Access to risk finance
- Innovation in SMEs

Societal Challenges

- Health, demographic change and wellbeing
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, environment, resource efficiency and raw materials
- Europe in a changing world - inclusive, innovative and reflective societies
- Secure societies - protecting freedom and security of Europe and its citizens

What is a National Contact Point (NCP)?

- Team of Government funded, UK based individuals (many, but not all, are part of Innovate UK)

- Free help, support, advice and guidance to any UK organisation considering participating in Horizon 2020

- One specifically for Transport: Louise Mothersole louise.mothersole@innovateuk.gov.uk

- Full list with contact details of all UK NCPs

- Register to receive regular updates from one or more of the UK NCP Team

OPPORTUNITIES IN SMART, GREEN AND INTEGRATED TRANSPORT

Smart, green and integrated transport: structure of programme

- Collaborative Work Programme:
  - [Mobility for Growth](#)
  - [Autonomous Road Transport](#)
  - [European Green Vehicle Initiative](#) A collaborative Public Private Partnership (cPPP) with an [Association](#) whose members have a strong voice in the content of the Work Programme (consider joining if you are working in this area)
- [SME Instrument](#) The subject of a separate presentation as is open to SMEs only
- Joint Undertakings:
  - [Clean Sky 2](#)
  - [SESAR2020](#)
  - [Shift2Rail](#)

Joint Undertakings are Public Private Partnerships between the European Commission and members of industry from the relevant sector. They are legal entities in their own right and manage the research programme in their sector. They have open calls for proposals that follow the same general rules as Horizon 2020.

HOW THE WORK PROGRAMME IS SHAPED

Initially, inputs sought from multiple sources:

- Transport Advisory Group (TAG)
- European Technology Platform (ETP)
  - ACARE Advisory Council on Aviation Research in Europe
  - ERTRAC European Road Transport Research Advisory Council
  - ERRAC European Rail Research Advisory Council
  - WATERBORNE ETP
  - ALICE Alliance for Logistic Innovation and Collaboration in Europe
- Member States and Associated Countries
  - Horizon 2020 Transport Programme Committee

Transport Scoping Paper 2018-2020

Produced by the EC, the Scoping Paper takes into account:

1. the Horizon 2020 Specific Programme, as the reference for defining the content of the Work Programmes;

2. the main EU policy priorities;

3. the analysis of the coverage of the previous Work Programmes;

4. the consultation with the Transport Advisory Group and the broader group of stakeholders

Transport Scoping Paper output

Four Strategic Orientations were identified:

- Towards an integrated, sustainable and robust transport system;

- Technologies transforming the transport system;

- Global leadership, competitiveness, business models and markets;

- Accounting for the people: demand, needs and behaviours; inclusion and access.

Full Transport Scoping Paper [available](#)

Horizon 2020 Focus Areas

In parallel, aligning entire Horizon 2020 to EU's agenda and priorities:

- Building a low-carbon, climate resilient future
- Digitising and transforming European industry and services
- Connecting economic and environmental gains – the Circular Economy
- Boosting the effectiveness of the Security Union

Horizon 2020 Focus Areas

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Identified as being relevant to Transport

Initial, outline, draft, etc Work Programme

- Mobility for Growth
  - Low Carbon and sustainable transport
  - Safe, integrated and resilient transport systems
  - Global leadership and competitiveness
  - Accounting for the people
- Autonomous Road Transport
- Green Vehicles

These bottom two address the two relevant H2020 Focus Areas

Low Carbon and Sustainable Transport

- Aviation (1-2 topics)
  - Advancements in aerodynamics in order to decrease the noise and the environmental impact of aviation
  - Energy harvesting aircraft technologies
- Waterborne (1-2 topics)
  - Aspects of next generation propulsion systems
  - Retrofitting clean shipping technology to existing vessels
- Urban mobility/logistics/infrastructure/ITS (3-4 topics)
  - Clean and connected transport/mobility for the final 25km
  - Clean and connected/automated buses; vehicles and infrastructure/operations
  - Logistic solutions for 'on demand' economy
  - Mobility in 'Megaregions'
- Social Sciences and Humanities (1 topic)
  - Cooperation and synergies with International Transport Forum of OECD
- Reduction of transport impact on air quality (1 topic)
  - Complimentary, wider approach for roads and other modes

Safe, Integrated and Resilient Transport Systems

- Waterborne (1 topic)
  - Optimization of vessels for multi-modal transport
- Safety (4-5 topics)
  - Safety in evolving road and mobility environment
  - Human factors in transport safety
  - Innovative applications of drones for safety in transport
  - Reducing safety costs in aviation and rail
  - Marine Accident Response
- Logistics/infrastructure/ITS (2-3 topics)
  - Integration of inland waterways in the transport and logistics system
  - Integrated multimodal freight transport system
  - Towards full automated infrastructure construction and maintenance

Global Leadership and Competitiveness

- Aviation (4-5 topics)
  - Multi-disciplinary design tools for a new aircraft and engine design paradigm
  - Digitally disruptive avionics
  - Innovative manufacturing, assembly and maintenance concepts, tools, technologies and processes for new aircrafts
  - Aircraft systems integration for non-fossil fuel based propulsion
  - Safer and green aviation in a Smaller world
- Waterborne (2 topics)
  - The autonomous ship
  - Improved production processes in ship building
- Intelligent transport systems (1 topic)
  - Next generation C-ITS messages for automated vehicles
- Social Sciences and Humanities (1 topic)
  - New regulatory frameworks to enable effective deployment of emerging technologies and business models

Accounting for the People

- User needs and mobility dynamics (3 topics)
  - The new roles of users in the digitally interconnected transport system
  - Demographic change and women's participation in transport
  - New forms of mobility and spatial planning
- Updating the knowledge tool-box (3-4 topics)
  - Elaborating advanced methods and tools in support of transport/mobility researchers, planners and policy makers
  - Digitisation of the transport system: data sharing and analytics
  - Building Open Science platforms and codes of conduct in transport research
- Support for transport related events (2 topics)
  - E.g. Aerodays, TRA

Green Vehicles (10-12 topics)

- Technologies for 3rd generation electrified vehicles optimized for their infrastructure

- Next generation and realisation of batteries for FEV and PHEVs

- Urban electro-mobility

- User centric charging infrastructure

- Reducing the environmental impact of future light duty road vehicles

- Sustainable long-distance trucks and coaches

- Advanced industrial processes for electrified vehicle application

- Support for defining a common European Research and innovation strategy for the future of Road Transport

Automated Road Transport (7-8 topics)

- Testing, validation and certification procedures for highly automated driving functions under various traffic scenarios based on pilot test data

- Human centred design of Automated Vehicles

- Developing and testing shared, connected and automated vehicles fleets for the mobility of all

- Developing, testing and demonstrating automated long distance freight logistics operations

- Large-scale, cross-border demonstration of highly automated driving functions for passenger cars

- Socio-economic and regulatory aspects of Automated driving Systems

- Cooperation and networking activities in support of road automation

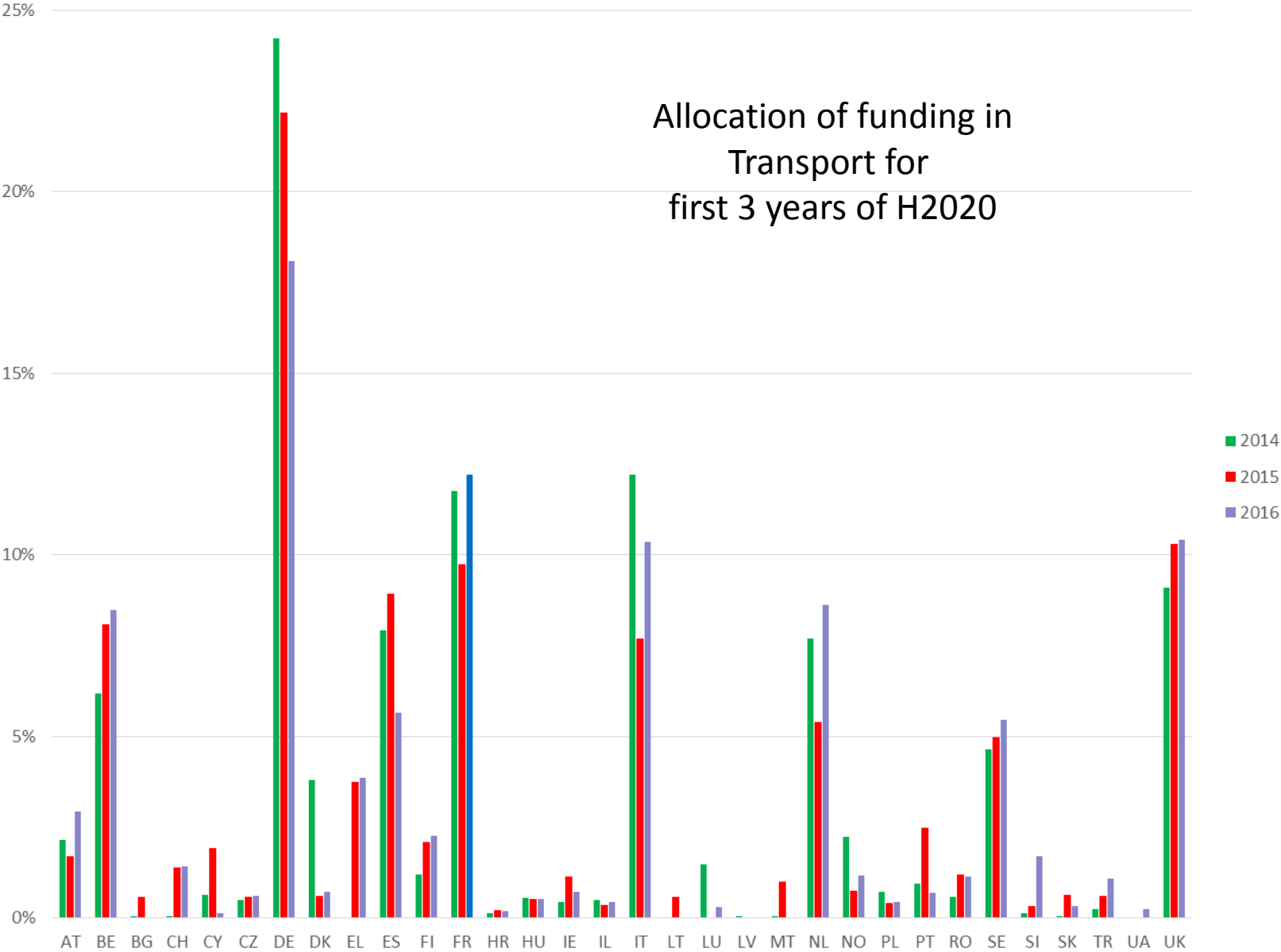# Timetable to Work Programme Publication

- Work Programme draft matures with to and fro between EC and Transport Programme Committee
- Final draft due June 2017
- Formal EC adoption summer 2017
- Publication September 2017

- Nothing about timing of calls (deadlines, etc), or budgets, known at present

STATISTICS SO FAR

Allocation of funding in Transport for first 3 years of H2020

Probability of Success

- Incredibly variable even with one sub-section of the Work Programme e.g Green Vehicles:
  - GV-5-2014: Electric two-wheelers and heavy duty vehicles 39 proposals submitted, 5 funded i.e. 12.8%
  - GV-7-2014: Future alternative fuel powertrains and components for heavy duty vehicles 1 proposal submitted, 1 funded i.e. 100%
- In 2016:
  - 20 proposals submitted for Green Vehicles
  - 10 Projects successful
  - i.e. 50% success rate
- UK success and participation also variable
  - UK academic sector is THE most successful across whole H2020
  - But, emphasis on industrial competitiveness in Transport mean exploitation path is essential (how are the project outputs going to get into real systems)
  - UK Participation:
    - Aviation sector 17% of funding went to UK in 2015
    - Waterborne sector 21 % of funding went to UK in 2015
    - Automotive sector less than 3% went to UK in 2015

FURTHER HELP AND RESOURCES

Further help and resources

The EC publishes everything you need to know, finding it isn't always easy

- The 'rule book' is the [Annotated Model Grant Agreement](#) that has examples, etc to aid explanation

- All reference documents such as Work Programmes, Annexes, Templates, etc., are [published](#) through the [Participant Portal](#) (this includes a list of [evaluators used to date](#))

- [Standard briefing](#) given to all evaluators can be downloaded

Creating winning collaborations

- [Enterprise Europe Network](#) (EEN) have a contact database of over 28,000 organisations across the EU and are regionally based within the UK

- European Transport National Contact Points have a website ([ETNA2020](#)) to search and also upload your profile

- European Technology Platforms have working groups for different topics that regularly meet to roadmap future R&D requirements

- Trade bodies and other European organisations frequently have similar working groups

- These latter two are the most effective as long as you GET INVOLVED. Don't pay your membership fee to just receive the newsletter. Demonstrate that you are a valuable potential partner to others in the working groups.

Additional sources of help

- Innovate UK has a Brussels office staffed by [Mani](#) and [Dora](#)
  - all UK organisations are welcome to use the meeting rooms for e.g. team meetings with collaborators
  - Mani and Dora happy to help facilitate meetings with Brussels based stakeholders and help UK organisations understand the wider landscape
  - Assuming diaries allow, Dora able to attend e.g. Information Days and report back
- When in doubt ask your [National Contact Point](#)

Any Questions?

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