

Smart, Green and Integrated Transport – 2019

Part of HORIZON 2020

Borough Briefing

November 2018

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1. Horizon 2020: The 2018-2020 work programme

[Horizon 2020](#) is the EU's Funding Framework for Research and Innovation. It is part of the EU's drive to create growth and new jobs in Europe. It covers many policy fields addressing major concerns shared by all Europeans such as climate change, developing sustainable transport and mobility, making renewable energy more affordable and coping with the challenge of an ageing population. Calls for proposals are published every two years and are based on 3 overarching priorities: [excellent science](#), [industrial leadership](#) and [societal challenges](#).

Part of societal challenges, the transport challenge has been allocated a budget of €6,339 million for the period of 2014-2020. The programme aims to boost the competitiveness of the European transport industries and achieve a European transport system that is resource-efficient, climate-and-environmentally friendly, safe and seamless for the benefit of all citizens, the economy and society. Activities are addressed in the 2018-2020 Work Programme by three calls for proposals:

- Mobility for Growth
- Digitising and Transforming European Industry and Services: Automated Road Transport and Building a Low-Carbon
- Climate Resilient Future: Green Vehicles

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2. 2019 timescale for bidding

Two stage process:

- Opening date of the calls: 05 September 2018
- Deadline for submissions
 - 16 January 2019: first stage submission
 - 12 September 2019: second stage submission

One stage process:

- Planned opening date of the calls: 04 December 2018
- Deadline for submissions: 25 April 2019

3. Current and forthcoming calls - overview

| CALL | TYPE OF ACTION | BUDGET | TIMESCALE |
|--|--|----------------|---|
| Mobility for Growth | | | |
| LC-MG-1-9-2019 Upgrading transport infrastructure in order to monitor noise and emissions | Research and Innovation 100% Funded | €4-7 million | |
| LC-MG-1-10-2019 Logistics solutions that deal with requirements of 'on demand economy' and for shared-connected and low-emission logistics operations | Research and Innovation 100% Funded | €2-4 million | Opened 05 September 2018 First stage deadline: 16 January 2019 Second stage deadline: 12 September 2019 |
| MG-2-7-2019 Safety in an evolving road mobility environment | Research and Innovation 100% Funded | €4-8 million | |
| MG-2-8-2019 Innovative applications of drones for ensuring safety in transport | Research and Innovation 100% Funded | €3-5 million | |
| MG-4-5-2019 An inclusive digitally interconnected transport system meeting citizens' needs | Research and Innovation 100% Funded | €1-3 million | Opening 04 December 2018 Deadline: 25 April 2019 |
| MG-4-6-2019 Supporting Joint Actions on sustainable urban accessibility and connectivity | ERA-NET Co-fund 33% maximum Funded | €4-5 million | |
| Digitising and Transforming European Industry and Services: Automated Road Transport | | | |
| DT-ART-03-2019 Human centred design for the new driver role in highly automated vehicles | Research and Innovation 100% Funded | €4-8 million | Opening 04 December 2018 Deadline: 25 April 2019 |
| DT-ART-04-2019 Developing and testing shared, connected and cooperative automated vehicles fleets in urban areas for the mobility of all | Innovation action 70% Funded | €15-30 million | |
| Building a Low Carbon, Climate Resilient Future: Green Vehicles | | | |
| LC-GV-03-2019 User-centric charging infrastructure | Innovation action 70% Funded | €8-15 million | Opening 04 December 2018 Deadline: 25 April 2019 |

4. Current and forthcoming calls - detailed

Upgrading transport infrastructure in order to monitor noise and emissions

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|--|---|--|--|
| Call for proposal | Mobility for growth | | |
| Focus area | Building a low-carbon, climate resilient future: low-carbon and sustainable transport | | |
| Reference | LC-MG-1-9-2019 | Bidding timescale | Opened 05 September 2018 Deadline: 16 January 2019 2nd stage deadline: 12 September 2019 |
| Type of action | Research and Innovation | Financing rate | 100% Expected budget €4-7 million |
| Aim | Noise and emissions from transport affect seriously people's health and environmental ecosystems, requiring the implementation of mitigation measures to achieve a higher reduction in all transport modes. | | |
| Scope | <ul style="list-style-type: none"> - Automate detection of vehicles transgressing noise and emissions limits - Automate live information of transgressors (via I2V systems) - Automate access prevention to low-carbon zones for transgressors - Automate tolling systems based on individual level of emissions - Develop new materials to mitigate noise and emissions | | |
| Expected impact | <ul style="list-style-type: none"> - Development of measures to reduce effects of noise and emissions - Increased monitoring and detection of unacceptable levels of noise and emissions - Identification of transgressing vehicles - Limit access to sensitive zones - Development of tools to better calculate externalities and appropriately modify charging methods - 30% reduction in emissions in targeted zones - 20% reduction in noise in targeted zones | | |
| Current partner search requests | 25 | Cross-cutting priorities | International collaboration (US DOT) |
| Alignment with GLA priorities | Transport Sustainable Infrastructure Design | T4 Assessing and mitigating transport impacts T7 Freight and servicing SI1 Improving air quality SI6 Digital connectivity infrastructure D13 Noise | |

Logistics solutions that deal with requirements of ‘on demand economy’ and for shared-connected and low-emission logistics operations

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|--|--|--|--|
| Call for proposal | Mobility for growth | | |
| Focus area | Building a low-carbon, climate resilient future: low-carbon and sustainable transport | | |
| Reference | LC-MG-1-10-2019 | Bidding timescale | Opened 05 September 2018 Deadline: 16 January 2019 2 nd stage deadline: 12 September 2019 |
| Type of action | Research and Innovation | Financing rate | 100% Expected budget €2-4 million |
| Aim | Facing the demand for new logistics solution coming from the on-demand economy, and addressing the issues posed by competing private and public interests while incorporating sustainable logistics operations. | | |
| Scope | <ul style="list-style-type: none"> - Develop value cases for integrate systems of logistics/ freight operations - Address (and plan for) the integration of low-emission, and possibly connected (automated) delivery vehicles in urban logistics | | |
| Expected impact | <ul style="list-style-type: none"> - Develop an understanding cost-effective strategies, measures and tools to achieve zero emission city logistics in major European urban centres by 2030 - Deliver tested and demonstrated solutions for better cooperation between suppliers, shippers and local policy makers - Deliver inputs for the preparation of sustainable urban logistic plans and other types of planning | | |
| Current partner search requests | 22 | Cross-cutting priorities | International collaboration Socio-economic science and humanities |
| Alignment with GLA priorities | Transport Economy | T4 Assessing and mitigating transport impacts E8 Sector growth opportunities and clusters | T7 Freight and servicing |

Safety in an evolving road mobility environment

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|--|--|------------------------------------|--|
| Call for proposal | Mobility for growth | | |
| Focus area | Safe, integrated and resilient transport systems | | |
| Reference | MG-2-7-2019 | Bidding timescale | Opened 05 September 2018 Deadline: 16 January 2019 2 nd stage deadline: 12 September 2019 |
| Type of action | Research and Innovation | Financing rate | 100% Expected budget €4-8 million |
| Aim | With an increased level of automation, the road mobility environment is evolving quickly. Vulnerable road users may in the future also refer to non-connected ones, as well as passengers of automated vehicles. New systems are thus needed to improve global safety. | | |
| Scope | <ul style="list-style-type: none"> - Define updated road safety characteristics and properties - Address "automotive digital divides" (vulnerable users) - Build various scenarios (severe weather conditions, poor road conditions, etc.) and update ways to assess accident risks - Reduce road traffic casualties by at least 10% (compared with 2016 figures) <p>One or more additional requirements:</p> <ul style="list-style-type: none"> - Develop tools and models which simulate how traffic scenarios will change with the introduction of new vehicles and technologies - Design protection systems for future collision scenarios - Develop infrastructure and on-vehicle safety solutions as well as education and training schemes to increase global awareness | | |
| Expected impact | <ul style="list-style-type: none"> - 10% reduction in injuries and fatalities in road accidents - Contribution to EU's Transport White Paper goals and UN's SDG - Creation of innovative protection systems for passengers of automated vehicles - Contribution to industry competitiveness - Creation of harmonised methods for the assessment of safety solutions based on current and future mobility scenarios - Increased user awareness regarding road safety | | |
| Current partner search requests | 20 | Cross-cutting priorities | Blue Growth International cooperation Socio-economic science and humanities Gender |
| Alignment with GLA priorities | Transport | T2 Healthy Streets | T4 Assessing and mitigating transport impacts |

Innovative applications of drones for ensuring safety in transport

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|--|--|---|--|
| Call for proposal | Mobility for growth | | |
| Focus area | Safe, integrated and resilient transport systems | | |
| Reference | MG-2-8-2019 | Bidding timescale | Opened 05 September 2018 Deadline: 16 January 2019 2 nd stage deadline: 12 September 2019 |
| Type of action | Research and Innovation | Financing rate | 100% Expected budget €3-5 million |
| Aim | The drone market being the fastest growing in aerospace and enabling a plurality of new services (safety, security, environment monitoring, ...), there is an opportunity for the EU and local authorities to be on the forefront of drone use in safe and efficient manners. | | |
| Scope | <ul style="list-style-type: none"> - Develop and test technologies for the application of drones to increase their safety, security and public acceptance - Explore innovative technology and sustainable business models for pilot drone services | | |
| Expected impact | <ul style="list-style-type: none"> - Contribute to increase safety and security of the overall civil transport system - Contribute to enhance safe and seamless mobility of cargo and passengers - Contribute to economic growth by unleashing new markets, new industries and new high-added value jobs - Ensuring appropriate legal frameworks, advancing safety systems certification and setting standards - Building knowledge and acceptance of drones within society | | |
| Current partner search requests | 22 | Cross-cutting priorities | / |
| Alignment with GLA priorities | Transport Sustainable Infrastructure Economy | T2 Healthy Streets T7 Freight and servicing SI6 Digital connectivity infrastructure E8 Sector growth opportunities and clusters | |

An inclusive digitally interconnected transport system meeting citizen’s needs

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|--|--|--|---|
| Call for proposal | Mobility for growth | | |
| Focus area | Accounting for the people | | |
| Reference | MG-4-5-2019 | Bidding timescale | Opened 05 September 2018 Deadline: 16 January 2019 2 nd stage deadline: 12 September 2019 |
| Type of action | Research and Innovation | Financing rate | 100% Expected budget €1-3 million |
| Aim | Benefiting from digital technology requires specific skills, willingness and ability to assume a new role as an active participant of the digital travel ecosystem. The main challenge is therefore to ensure that all members of society can benefit from digitisation. To achieve this, it is necessary to better understand the needs and attitudes of various users. | | |
| Scope | <p>Several or all requirements:</p> <ul style="list-style-type: none"> - Identify what skills users need to use digitally based mobility solutions - Identify needs and attitudes of all types of transport users (vulnerable ones in particular) - Identify obstacles to the appropriation of digital solutions and potential nudges - Investigate user requirements in the case of an interruption of transport - Investigate gender related differences in the adoption of innovative mobility solutions - Identify strategies to avoid digital exclusion - Analyse national particularities and patterns in the adoption of new mobility solutions - Provide policy recommendations and practical applications for designing inclusive and safe digital transport systems | | |
| Expected impact | <ul style="list-style-type: none"> - Provide information for policy-makers to design regulatory frameworks as well as social and educational strategies - Lower exclusion from digital transport systems - Provide information to design better and fitted digital transport solutions | | |
| Current partner search requests | 30 | Cross-cutting priorities | Open Innovation Socio-economic science and humanities Gender Responsible Research and Innovation (RRI) |
| Alignment with GLA priorities | Transport Sustainable Infrastructure Economy | T1 Strategic approach to transport SI6 Digital connectivity infrastructure E8 Sector growth opportunities and clusters | T3 Transport capacity, connectivity and safeguarding |

Supporting joint actions on sustainable urban accessibility and connectivity

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| Call for proposal | Mobility for growth | | |
| Focus area | Accounting for the people | | |
| Reference | MG-4-6-2019 | Bidding timescale | Opening: 04 December 2018 Deadline: 25 April 2019 |
| Type of action | ERA-NET-Cofund | Financing rate | 33% max. |
| Expected budget | €4-5 million | | |
| Aim | Despite the high transport network densities in urban areas, there are still accessibility and connectivity challenges, sometimes specifically for various socio-economic groups. The aim of this Cofund is to address the potential impact and possibilities for deployment of new mobility services and initiatives by analysing behavioural responses and estimating effects on the various aspects of sustainability. | | |
| Scope | <p>One or more requirements:</p> <ul style="list-style-type: none"> - Understand the main reasons and drivers behind mobility behaviours - Identify potential solutions to increase accessibility and connectivity for disadvantaged groups - Identify potential variables supporting a shift towards more sustainable modes and alternatives for personal mobility - Look at the possible contribution of improving accessibility and connectivity to socio-economic development in dense urban areas - Assess the most effective strategies for improving connectivity, intermodality and systems integration - Assess how innovative mobility concepts and services developments could benefit or affect specific groups in urban areas | | |
| Expected impact | <ul style="list-style-type: none"> - Creation of effective synergies across European research in sustainable urban accessibility - Increase the evidence-base for urban mobility policies - Contribution to attaining the EU Transport Policy Objectives - Contribution to strengthening the EU transport sector - Creation of ready-to-use instruments, approaches and tools (SUMPs, SULPs) - Influence national strategies and lead to greater European alignment | | |
| Current partner search requests | 15 | Cross-cutting priorities | Socio-economic science and humanities International cooperation ERA-NET RRI |
| Alignment with GLA priorities | Transport | T1 Strategic approach to transport T3 Transport capacity, connectivity and safeguarding T4 Assessing and mitigating transport impacts | |
| | Sustainable transport | SI6 Digital connectivity infrastructure | |
| | Economy | E8 Sector growth opportunities and clusters | |

Human centred design for the new driver role in highly automated vehicles

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|--|---|--|---|
| Call for proposal | Digitising and transforming European industry and services: automated road transport | | |
| Focus area | / | | |
| Reference | DT-ART-03-2019 | Bidding timescale | Opening: 04 December 2018 Deadline: 25 April 2019 |
| Type of action | Research and Innovation | Financing rate | 100% |
| Expected budget | €4-8 million | | |
| Aim | In highly automated driving conditions the role of the driver will change dramatically since driver intervention is not required during defined use cases. Solutions need to be developed and they have to ensure both a safe transfer between use cases with different automation levels and that drivers always have a very clear understanding about the degree of automation enabled in each situation. | | |
| Scope | <ul style="list-style-type: none"> - Research to characterise driver roles in transition between automation levels and development of comprehensive models for driver behaviours considering different profiles - Effectiveness assessment methods, especially for safety aspects, based on these models - Develop easily understood solutions making it clear to the driver what is the operational capability (authority) of the automated mode or modes currently enabled, as well as ensuring safe and reliable function (re-)allocation and corresponding driver/operator readiness - Demonstration of concept functionality in real world situations with various use cases and driving environments where automated systems receive and give back control from/to the driver | | |
| Expected impact | <ul style="list-style-type: none"> - Innovative solutions, concepts and algorithms for safe automated driving - Reduction of incidents by developing systems to inform drivers/operators of risky situation to switch to lower automation levels - Achieving European Transport White Paper's "Vision Zero" by preventing road accidents caused by human error and SDG 3 | | |
| Current partner search requests | 15 | Cross-cutting priorities | Socio-economic science and humanities International cooperation (US DOT, Japan etc.) |
| Alignment with GLA priorities | Transport Sustainable infrastructure Economy | T2 Healthy Streets SI6 Digital connectivity infrastructure E8 Sector growth opportunities and clusters | T4 Assessing and mitigating transport impacts |

Developing and testing shared, connected and cooperative automated vehicles fleets in urban areas for the mobility of all

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|--|---|--|--|
| Call for proposal | Digitising and transforming European industry and services: automated road transport | | |
| Focus area | / | | |
| Reference | DT-ART-04-2019 | Bidding timescale | Opening: 04 December 2018 Deadline: 25 April 2019 |
| Type of action | Innovation Action | Financing rate | 70% |
| | | Expected budget | €15-30 million |
| Aim | To accelerate the uptake of high quality and user-oriented mobility services, based automated vehicles, there is a need for demonstrating these services in real life conditions to test their performance, safety and viability, and to prove that they are attractive for and accepted by users. | | |
| Scope | <ul style="list-style-type: none"> - Analyse emerging business models and technologies currently complementing existing public transportation systems - Design innovative shared, connected, cooperative and automated vehicle concepts and the associated new business models addressing user needs, for mobility of all people and/or delivery of goods - Test the robustness, reliability and safety of shared highly automated electrified vehicle fleets focusing on the interaction with other road users - Use connectivity technology to allow for communication between vehicles, infrastructure and road users - Develop solutions for the next generation of cooperative services - Identify the needs of vulnerable road users - Develop ways to secure data collection, enhance the use of big data transport for implementing smart and safe mobility solutions, innovative traveller services and traffic management - Fulfil all security requirements to protect the vehicles from threats (manipulations of the information enabling automated driving etc.) - Assess and demonstrate benefits of the pilot implementation based on holistic modelling solutions | | |
| Expected impact | <ul style="list-style-type: none"> - Test the impact of automated vehicles fleets on mobility, sustainability, efficiency (urban freight traffic) and safety - Reduce car use in cities - Improve market opportunities for SME's by developing cross-sector business models, and increase public private collaboration - Support the accelerated deployment of electrified vehicles and integrated strategies for a smart and multi-modal mobility system | | |
| Current partner search requests | 28 | Cross-cutting priorities | Socio-economic science and humanities Clean Energy International cooperation |
| Alignment with GLA priorities | Transport Sustainable infrastructure Economy | T1 Strategic approach to transport SI6 Digital connectivity infrastructure E8 Sector growth opportunities and clusters | T2 Healthy Streets T4 Assessing and mitigating transport impacts |

User-centric charging infrastructure

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|--|---|---|--------------------------|--|---------------|
| Call for proposal | Building a low carbon, climate resilient future: green vehicles | | | | |
| Focus area | / | | | | |
| Reference | LC-GV-03-2019 | | Bidding timescale | Opening: 04 December 2018 Deadline: 25 April 2019 | |
| Type of action | Innovation action | Financing rate | 70% | Expected budget | €8-15 million |
| Aim | To develop the market share of electric vehicles (EV), there is a need to provide efficient and reliable charging infrastructure that would allow for drivers to have a good mobility experience. Improving the conditions for a broad market acceptance in the electrification of transport is also necessary. | | | | |
| Scope | <ul style="list-style-type: none"> - Analyse and identify user concerns regarding current charging options to provide strategies to reduce them - Develop attractive and convenient charging infrastructure considering user preferences - Develop a transparent, flexible and interconnected payment systems for maximum availability of the charging infrastructure - Design a user survey about parking habits and expectations - Improve the currently deployed or planned superfast charging systems according to the previous survey - Develop scalable charging infrastructure, cheap low power DC-Charging for highly efficient connection to different energy systems and low power DC-charging for LEV's in combination with theft-proof parking for two-wheelers - Analyse the market models, regulatory and harmonization recommendations to foster the deployment of EV charging infrastructure - Develop planning methods to optimize the location of charging sites <p><i>Proposals will have to demonstrate the final solutions and their interoperability.</i></p> | | | | |
| Expected impact | <ul style="list-style-type: none"> - Higher user acceptance - Foster investors to invest in charging infrastructure - Determine legal gaps which slow down infrastructure expansion and propose solutions - Improve interoperability of vehicle-to-charger, charger-to-infrastructure communication and grid integration of high-power chargers - Establishment of standardized charging solutions and payment systems for LEVs for price reduction and higher market acceptance | | | | |
| Current partner search requests | 20 | Cross-cutting priorities | | Clean Energy Socio-economic science and humanities Contractual Public-Private Partnerships EGVI | |
| Alignment with GLA priorities | Sustainable infrastructure | SI6 Digital connectivity infrastructure | Economy | E8 Sector growth opportunities and clusters | |

5. Additional information on Horizon 2020 funding

Funding and co-financing

Each call has an approximate budget foreseen by the EC (section 5.0) which ranges from €1 million to €15 million. Horizon 2020 offers a funding rate of 100% on all costs for Research and Innovation projects and Coordination and Support projects or 70% for Innovation projects. In both cases an additional flat rate of 25% is added to cover overheads. This means that partners in some cases will not have to contribute match funding. You can find the full funding guide [here](#).

Types of actions

1. **Research and Innovation Actions:** EU funding rate: 100% of costs, with additional 25% applied to cover partner overheads

Projects should focus on establishing new knowledge or explore the feasibility of a new/ improved technology, product, process, service or solution. For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale demonstrations or pilot activities aiming to show technical feasibility.

These projects are about developing new approaches to common challenges in different cities, and testing them. Academic institutions might lead on the research and innovation, whereas Boroughs/ TfL would be given demonstration roles to do the piloting.

2. **Innovation Actions:** EU funding rate: 70% of costs, with additional 25% applied to cover partner overheads

Projects should focus on producing plans, arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

Innovation actions are a lot more “hands on” with less emphasis on research and more on developing, delivery, testing and piloting innovative policies, approaches, and technologies in the field of sustainable urban mobility.

3. **Coordination and Support Actions:** EU funding rate: 100% of costs, with additional 25% applied to cover partner overheads

Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of networking and coordination between programmes in different countries.

This type of action is primarily designed to share information and develop policy and infrastructure design.

Whilst pure research is not normally a priority for Boroughs, the demonstration and pilot component actions will be of interest, as will the results and testing of the research.