THE EU RESEARCH & INNOVATION PROGRAMME
2021 – 2027

Horizon Europe Cluster 5 Info Day
3 February 2022
CLUSTER 5 Climate, Energy & Mobility

INFO DAY 2022 - 3 February 2022

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THE EU RESEARCH & INNOVATION PROGRAMME 2021 - 2027
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CLUSTER 5  Climate, Energy, Mobility

Parallel sessions – 15:30 – 16:45

Destination 4  Highly energy-efficient and climate neutral EU building stock
Follow the streaming link: https://europa.eu/!UmC7FF

Destination 3  Global leadership in renewable energy
Follow the streaming link: https://europa.eu/!UmC7FF

Destination 6  Multimodal and sustainable transport systems for passengers and goods
Follow the streaming link: https://europa.eu/!UmC7FF
CLUSTER 5  Climate, Energy, Mobility

Virtual INFO DAY 2022 – 3 February 2022

Destination 6
Multimodal and sustainable transport systems for passengers and goods

15:30 – 16:45
LOGISTICS NETWORKS INTEGRATION AND HARMONISATION THROUGH OPERATIONAL CONNECTIVITY TO OPTIMISE FREIGHT FLOWS AND DRIVE LOGISTICS TO CLIMATE NEUTRALITY

HORIZON CL5-2022-D6-02-01

Paola CHIARINI
Policy Officer
HORIZON-CL5-2022-D6-02-01

Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality

Scope

Two or more logistics providers or shippers’ logistics networks should develop and demonstrate a systemic framework for connecting effectively their independent logistics networks (at least partially). Activities are expected to achieve TRL 6-7 by the end of the project. Proposals to address ALL points:

- Develop and demonstrate a collaborative framework with guiding principles to ensure operational connectivity of independent closed logistics networks under the lead of logistics providers and addressing governance and potential anti-competition law issues.

- Through the pilot cases and demonstrators, identify and demonstrate potential gains, main barriers and opportunities, innovative business models and governance aspects, assess existing regulation or the need for new regulation.

- Identify and assess the main drivers and barriers towards horizontal collaboration in terms of organisational cultures and frameworks of the logistics service providers and the transport operators. Propose solutions.
Horizon-CL5-2022-D6-02-01

Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality

Expected outcome

Project results are expected to contribute to all of the following expected outcomes:

● Freight transport and logistics companies, including small and medium-sized enterprises, evolve to operate seamlessly engaging with nodes, partners and customers in an effective way, thus achieving a better utilisation of the assets and other resources in the freight transport and logistics chain within Europe.

● Energy and emissions reduction potentials higher than 20%, based on the operative gains without needing to renew the assets, are demonstrated by the shared logistics networks (collaborative logistics).
HORIZON-CL5-2022-D6-02-01

Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality

Type of action: Innovation Actions

EU contribution: between EUR 7.00 and 8.00 million per project

Deadline: 06 September 2022 17:00:00 Brussels time
Urban Logistics and Planning: Anticipating Urban Freight Generation and Demand Including Digitalisation of Urban Freight

Paola CHIARINI
Policy Officer

Horizon Europe Info Days 2021

2021 – 2027
Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight

Scope

- **Planning:**
  - Evaluate the deployment of dynamic space re-allocation for the integration of urban freight at local level and the impacts of how urban space is being used as well as the optimal mix of space distribution and of land uses.
  
  - Analyse the potential of strategically positioned urban (or peri-urban) spaces to develop and implement a pilot demonstration, to reduce the impact of freight transport and logistics on the urban fabric.
  
  - Involving real estate companies, logistics service providers, together with cities, develop sustainable business models for open and clean hubs/consolidation spaces in cities.
Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight

Scope

- Digitalisation:
  - Understanding barriers and opportunities as well as developing local capacity related to data collection within the urban and peri-urban transport system, to encourage data sharing.
  - Checking potential benefits of the data applications to support the optimisation of sustainable mobility plans (SUMPs) and sustainable logistics plans (SULPs).
  - Thorough (qualitative and quantitative) evaluation of implemented local solutions’ results, their effectiveness in achieving local policy objectives, barriers to and recommendations for their broad uptake. Propose mechanisms to draw lessons common to other topic-funded projects and the CIVITAS Initiative.
  - Proposals may include preparatory, take up and replication actions, research activities, as well as tools to support local planning and policy making.
  - Collaboration with CIVITAS and contribution of SSH expertise is expected.
Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight

Expected outcome

Project results are expected to contribute to all of the following expected outcomes:

- **Take up and upscaling** of innovative, best practice and replicable data-driven logistics solutions and planning in the involved living labs (at least 3 demonstrator cities and 3 follower cities - at least 1 of the living labs and follower cities to be located in areas experiencing rapid economic and social change).

- **Optimal mix distribution of land uses** both in city centres and peripheries to reach the most sustainable mobility patterns according to the available and future transport supply and demand.

- **Optimise** the potential mix of strategically positioned land (public or private), to develop a comprehensive policy strategy integrating transport, logistics and land use, including roll-out of new sustainable modes. Better understand the impact of increasing transport and logistics patterns.
Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight

**Expected outcome**

- Improved *local authority capacity* in the managing and collection of *data*, estimation and measurements of the impacts achieved by new measures and if a regulation is needed to ensure this happening.

- **Valorisation** of data and information gathered from urban freight to better understand the impact of long-haul deliveries and e-commerce on the city.

- *Optimize shared transport facilities* for goods through smart solutions.

- Demonstrate and deploy *economically viable and sustainable solutions* driven by relevant technologies. Demonstrate the convenience of consolidation.

- New or upgraded *sustainable urban logistics plan* (with main stakeholders and addressing a minimum set of measures).
Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight

Type of action: Innovation Actions

EU contribution: between EUR 7.00 and 8.00 million per project

Deadline: 06 September 2022 17:00:00 Brussels time

Eligibility condition: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
SMART ENFORCEMENT FOR RESILIENT, SUSTAINABLE AND MORE EFFICIENT TRANSPORT OPERATIONS

Paola CHIARINI
Policy Officer
Scope

- **Innovative solutions** for allowing the authorities to **access directly and in real time** all relevant information required under the different pieces of legislation in “one click”

- Bring together **stakeholders** at various level, to ensure a truly integrated approach.

- To achieve a **comprehensive ecosystem** for smart transport enforcement, **technical solutions** should (a) account for ongoing work (e.g. DTLF) and build on existing databases / platforms to provide seamless access and exchange of information under the “only once principle”; (b) develop existing and/or new concepts and systems to incorporate areas not yet covered; (c) allow for future integration with relevant information exchange systems.

- Provide assessment and recommendations on the **business case** for operators and authorities.

- Consider the business case and conditions for **reusing** administrative information, where relevant.

- **Social innovation** is recommended.
Expected outcome

- An innovative, efficient, consistent and resilient **enforcement system** thanks to the **direct contactless access** to **real-time digitized information** on vehicle, driver and cargo by competent authorities.

- A more **competitive and fairer transport internal market** thanks to the realisation of “compliance by design” and “compliance by default” principles.

- **Optimisation** of the use of human and economic resources and increased productivity for both, public control authorities and transport operators.

- Improved transport workers **social conditions** and increased attractiveness of the sector

- **Accelerated deployment** of e-government services.

- Decreased number of transport **accidents**, incidents and fatalities.

- Accelerated deployment of innovative connected, cooperative and automated mobility (**CCAM**) technologies and systems to improve road safety and reduce environmental impacts.
HORIZON-CL5-2022-D6-02-03

Smart enforcement for resilient, sustainable and more efficient transport operations

Type of action: Research and Innovation Actions

EU contribution: EUR 4.00 million per project

Deadline: 06 September 2022 17:00:00 Brussels time

Eligibility condition: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
ACCELERATING THE DEPLOYMENT OF NEW AND SHARED MOBILITY SERVICES FOR THE NEXT DECADE

HORIZON-CL5-2022-D6-02-04

Paola CHIARINI
Policy Officer
HORIZON-CL5-2022-D6-02-04

Accelerating the deployment of new and shared mobility services for the next decade

Scope

- Activities are expected to achieve TRL 7-8 by the end of the project.

- New and shared mobility services in at least 3 living labs/project in packages of urban mobility and planning measures and new technological solutions, combining “push” and “pull” measures.
  - at least 3 demonstrator cities and 3 follower cities - at least 1 of the living labs and follower cities to be located in areas experiencing rapid economic and social change.

- Develop and pilot test at least 3 different business models scenarios based on collaboration platforms or public-private partnerships/project to assess the feasibility and sustainability of new mobility services and solutions.

- Explore and deploy new solutions for newly designed or existing transport infrastructure to accommodate new and shared mobility services (e.g. micro mobility, car-pooling or car sharing).

- The new services should enable the idea of a social optimum in mobility, be tested and provide low and zero emission solutions for car-dependent suburban, peri-urban and rural areas.
HORIZON-CL5-2022-D6-02-04

Accelerating the deployment of new and shared mobility services for the next decade

Scope

- Test new and shared mobility services in mobility management (such as for companies, schools, attractions). Possible expected approaches: innovative; marketing, communication, and co-creation of solutions; cooperative approaches with employers or with housing developers.

- Explore how the adaptation of transport infrastructure promotes the use of shared, micro- and active-mobility (increased safety, reduced congestion).

- Assess results and impacts by using a wide range of quantitative indicators and comparing with the situation before the implementation of the proposed solutions. Consider potential adverse impacts.

- Public space redesign actions should not come at the cost of removing or deterioration of parks, trees or green recreational areas in the selected partner cities.

- Demonstrate contribution to the implementation of the cities’ Sustainable Urban Mobility Plans, and truly innovative approach for local context. Collaborate with the CIVITAS initiative.

- Ensure an appropriate geographical balance across Europe through twinning activities and other means to maximise impact without leaving anyone behind, and demonstrate commitment of cooperation through planned activities.
Expected outcome

By developing and pilot testing at least three different business models scenarios based on collaboration platforms or public-private partnerships/project, each of them contributing to:

- Congestion and air pollution reduction, reduced road risk, social inclusion, accessibility in each city (living lab). Solutions need to demonstrate that traffic congestion is not increased.

- E.g. 25% increased share of new and shared mobility services (NMS) in the modal distribution.

- Integration of new and shared mobility services with public transport.

- (Re-)Designing transport infrastructure or upgrading/reusing existing elements to accommodate new mobility modes, patterns and behaviours (safety levels, climate resilience).

- Developing results based policies and recommendations to increase the understanding and take-up of new mobility services by local/regional authorities and public and private mobility service providers.

- Dissemination and outreach, within the project and with the wider urban mobility and transport community.
HORIZON-CL5-2022-D6-02-04

Accelerating the deployment of new and shared mobility services for the next decade

Type of action: Innovation Actions

EU contribution: between EUR 8.00 and 10.00 million per project

Deadline: 06 September 2022 17:00:00 Brussels time

Eligibility condition: If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
CLUSTER 5

CLIMATE

MOBILITY

ENERGY

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INFO DAYS 2021

ADVANCED MULTIMODAL NETWORK AND TRAFFIC MANAGEMENT FOR SEAMLESS DOOR-TO-DOOR MOBILITY OF PASSENGERS AND FREIGHT TRANSPORT

HORIZON-CL5-2022-D6-02-05

Dimitrios VARTIS

Policy Officer

2021 – 2027
HORIZON-CL5-2022-D6-02-05

Advanced multimodal network and traffic management for seamless door-to-door mobility of passengers and freight transport

Scope

Activities to achieve TRL 5-6 by end of the project. Actions should address at least 6 aspects:

1. Development and validation of multimodal transport network and traffic management systems.
2. Collection, analysis and use of network-wide data, data management and monitoring systems.
3. New methods and tools for monitoring of mobility demand, for passenger and freight flows.
4. Simulations for system-wide optimisation of demand/capacity balancing for multimodal mobility.
5. Development and testing network and traffic management visualisation and decision-making tools.
6. Demonstrating interoperability and interfaces of network and traffic management systems.
7. Early pilots of limited scale, in defined environments, such as in the context of urban mobility.
8. Conceiving, developing and preparing new multimodal network and traffic management services.
Expected outcome

Project results expected to contribute to at least 4 of the following outcomes:

1. **Improved capabilities** in multimodal transport network and traffic management.

2. Effective and resilient **network-wide data exchange** and new integrated data management systems.

3. Tested and validated systems for **prediction and resolution of network bottlenecks**, increasing **safety, security, resilience and overall performance** of the entire transport network.

4. Innovative tools and services for **optimising mobility flows in cities** and other environments, cutting **congestion, journey times, traffic jams and emissions**.

5. **New governance arrangements** for multimodal transport network and traffic management.

6. High **market adoption and transferability of innovations** to different ecosystems.
HORIZON-CL5-2022-D6-02-05

Advanced multimodal network and traffic management for seamless door-to-door mobility of passengers and freight transport

Type of action: Research and Innovation Actions

EU contribution: between EUR 4.00 and 5.00 million per project

Deadline: 06 September 2022 17:00:00 Brussels time
SMART AND EFFICIENT WAYS TO CONSTRUCT, MAINTAIN AND DECOMMISSION WITH ZERO EMISSIONS FROM TRANSPORT INFRASTRUCTURE

Rafal STANECKI
Policy Officer
HORIZON-CL5-2022-D6-02-06

Smart and efficient ways to construct, maintain and decommission with zero emissions from transport infrastructure

Scope

Development of sustainable transport infrastructure, addressing its environmental and economic efficiency dimensions and fostering of green, sustainable and innovative public procurement

- Development of smart techniques for effective construction, maintenance and decommissioning tasks leading to zero emissions from transport infrastructure. Modular, standard and prefabricated solutions need to be considered as well as additive manufacturing techniques. Recycling and reuse of materials should be also incorporated into the automated processes.

- Design and development of solutions for reduction of emissions through more efficient energy management on transport infrastructure operations

- Validation of all the proposed solutions in at least three demonstration pilots at minimum TRL7,
HORIZON-CL5-2022-D6-02-06

Smart and efficient ways to construct, maintain and decommission with zero emissions from transport infrastructure

Expected outcome

Project results are expected to contribute to the following expected outcomes:

● A holistic approach to lowering transport infrastructure environmental impact, which takes into account the whole life cycle of transport infrastructure; carbon-neutral construction, maintenance, operation and decommissioning of the infrastructure.

● Implementation of circular economy principles to reduce emissions and the environmental impact; 100% reutilisation of construction materials within or across transport modes.

● Performance-based design models and manufacturing techniques with the objective to substantially reduce materials consumption in construction and maintenance activities.

● Enhanced modular construction, maintenance and decommissioning interventions able to reduce life cycle cost (LCC) by at least 30%.

● Optimisation of energy use and increased share of renewable energy for infrastructure management operations as a way leading to achieving energy neutrality.

● Novel governance, public procurement and data utilization models to decrease the emissions and carbon footprint of the whole life cycle of transport infrastructure by 20%.
HORIZON-CL5-2022-D6-02-06

Smart and efficient ways to construct, maintain and decommission with zero emissions from transport infrastructure

Type of action: Research and Innovation Actions

EU contribution: EUR 5.00 million per project

Deadline: 06 September 2022 17:00:00 Brussels time
NEW CONCEPTS AND APPROACHES FOR RESILIENT AND GREEN FREIGHT TRANSPORT AND LOGISTICS NETWORKS AGAINST DISRUPTIVE EVENTS (INCLUDING PANDEMICS)

Paola CHIARINI
Policy Officer
New concepts and approaches for resilient and green freight transport and logistics networks against disruptive events (including pandemics)

Scope

- Evaluate the resilience of strategic logistics networks, propose management systems and operations to increase the resilience of the entire transport network. Lessons learnt from the COVID-19 crisis should be considered.

- Develop and demonstrate how synchro-modal approaches provide resilience and sustainability by design.

- Bring together stakeholders at various level, to ensure a truly integrated approach.

- Develop business intelligence capabilities.

- Define cost-efficient and green new business models able to be adopted by the sector in the short-medium term and propose business/regulatory roadmaps and recommendations.

- Social innovation is recommended.

- Establishing synergies with projects funded under the Cluster 3 Civil Security for Society topic ‘Ensured infrastructure resilience in case of Pandemics’ could be envisaged.
New concepts and approaches for resilient and green freight transport and logistics networks against disruptive events (including pandemics)

**Expected outcome**

- An **adaptive multimodal** European freight transport and logistics network, including its international connections, that **reacts quickly and seamlessly** upon disruptions (including pandemics), hence minimising the damage and shortening the recovery time while significantly reducing emissions.

- European freight transport and logistics networks which are **resilient by design**, thanks to better operational interconnectivity of the stakeholders, services provided based on real-time status information, pre-defined alternative routes and synchro-modal approaches, robust data management, secure and resilient digital logistic and network management tools.

- **New cost-efficient business models and services** towards resilient and zero-emission logistics are adopted by the sector in the short-medium term, also supported by appropriate regulatory frameworks and participatory planning processes.
New concepts and approaches for resilient and green freight transport and logistics networks against disruptive events (including pandemics)

**Type of action:** Research and Innovation Actions

**EU contribution:** EUR 4.00 million per project

**Deadline:** 06 September 2022 17:00:00 Brussels time

**Eligibility condition:** If projects use satellite-based earth observation, positioning, navigation and/or related timing data and services, beneficiaries must make use of Copernicus and/or Galileo/EGNOS (other data and services may additionally be used).
Thank you!

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