



HORIZON EUROPE

THE EU RESEARCH & INNOVATION PROGRAMME

2021 – 2027

Horizon Europe Cluster 5 Info Day
3 February 2022



EUROPEAN UNION

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



Virtual INFO DAY 2022
3 February 2022

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

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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

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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



2021 – 2027

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



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URBAN LOGISTICS AND PLANNING: ANTICIPATING
URBAN FREIGHT GENERATION AND DEMAND
INCLUDING DIGITALISATION OF URBAN FREIGHT

HORIZON-CL5-2022-D6-02-02

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Policy Officer

2021 – 2027

HORIZON-CL5-2022-D6-02-02

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.

HORIZON-CL5-2022-D6-02-02

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 (SUMP) and sustainable logistics plans (SULP).
- 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.

HORIZON-CL5-2022-D6-02-02

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.

HORIZON-CL5-2022-D6-02-02

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).

HORIZON-CL5-2022-D6-02-02

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).



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SMART ENFORCEMENT FOR RESILIENT,
SUSTAINABLE AND MORE EFFICIENT TRANSPORT
OPERATIONS

HORIZON-CL5-2022-D6-02-03

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Policy Officer



2021 – 2027

HORIZON-CL5-2022-D6-02-03

Smart enforcement for resilient, sustainable and more efficient transport operations



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.

HORIZON-CL5-2022-D6-02-03

Smart enforcement for resilient, sustainable and more efficient transport operations



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).



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ACCELERATING THE DEPLOYMENT OF NEW AND SHARED MOBILITY SERVICES FOR THE NEXT DECADE

HORIZON-CL5-2022-D6-02-04

Paola CHIARINI

Policy Officer

2021 – 2027

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.

HORIZON-CL5-2022-D6-02-04

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



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).



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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**.
9. Develop and test implementable multi-level **governance models**.

HORIZON-CL5-2022-D6-02-05

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



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



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SMART AND EFFICIENT WAYS TO CONSTRUCT,
MAINTAIN AND DECOMMISSION WITH ZERO
EMISSIONS FROM TRANSPORT INFRASTRUCTURE

HORIZON-CL5-2022-D6-02-06

Rafal STANECKI

Policy Officer



2021 – 2027

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

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NEW CONCEPTS AND APPROACHES FOR RESILIENT
AND GREEN FREIGHT TRANSPORT AND LOGISTICS
NETWORKS AGAINST DISRUPTIVE EVENTS
(INCLUDING PANDEMICS)

HORIZON-CL5-2022-D6-02-07

Paola CHIARINI

Policy Officer



2021 – 2027

HORIZON-CL5-2022-D6-02-07

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.

HORIZON-CL5-2022-D6-02-07

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.

HORIZON-CL5-2022-D6-02-07

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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