ECG Business Intelligence

Understanding Horizon Europe

EU Funding Calls for Proposals Relevant to Vehicle Logistics, 2022 Deadlines

ECG Business Intelligence

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Contents

01

Horizon Europe Overview

Disclaimer: All examples used are for illustrative purposes only and do not represent official Horizon Europe views

Horizon Europe – Overview

- Horizon Europe is the EU's funding programme for research and innovation, which includes transport and logistics
- Timeframe: 2021-2027
- Budget €95.5 billion
- Aims to:
  - Tackle climate change
  - Achieve the UN's Sustainable Development Goals
  - Boost EU's competitiveness and economic growth
- Horizon Europe's 3 Pillars
  - Pillar 1: Excellent Science
  - **Pillar 2: Global Challenges & European Competitiveness**
  - Pillar 3: Innovative Europe
- Partnerships open to public and private partners, such as industry, universities, research organisations, bodies with a public service mission at local, regional, national or international level, and civil society organisations, including foundations and NGOs
- Funding applications made via proposals following 'Open Calls'

HORIZON EUROPE BUDGET

Horizon Europe programme structure		Total in € million
EXCELLENT SCIENCE *of which*		25 011
The European Research Council (ERC)	16 004	
Marie Skłodowska-Curie Actions (MSCA)	6 602	
Research infrastructures	2 406	
GLOBAL CHALLENGES AND EUROPEAN INDUSTRIAL COMPETITIVENESS *of which*		53 516
Health	8 246	
Culture, creativity and inclusive society	2 280	
Civil Security for Society	1 596	
Digital, Industry and Space	15 349	
Climate, Energy and Mobility	15 123	
Food, Bioeconomy, Natural Resources, Agriculture and Environment	8 952	
Non-nuclear direct actions of the Joint Research Centre (JRC)	1 970	
INNOVATIVE EUROPE *of which*		13 597
European Innovation Council (EIC)	10 105	
European innovation ecosystems	527	
European Institute of Innovation and Technology (EIT)	2 965	
WIDENING PARTICIPATION & STRENGTHENING THE EUROPEAN RESEARCH AREA *of which*		3 393
Widening participation and spreading excellence	2 955	
Reforming and enhancing the European R&I System	438	
TOTAL HORIZON EUROPE		95 517

Horizon Europe: 5 Steps to get funding

1. **Find an opportunity**: Look for 'Funding or Tender Opportunities' by clicking on Horizon Europe Funding & Tenders (europa.eu)
2. **Find partner(s)** :To find 'partners', once you have chosen your topic under Funding & Tenders
   a. Use the 'partner search' section on the page
   b. For more help: Manage your Partner Search Profile (europa.eu)
3. **Create an account**: Register for an EU Login account Create an account (europa.eu)
4. **Register your organisation**
   a. Register your organisation to get a 9-digit Participation Identification Code (PIC)
   b. Use your EU login (Step 3) to then create your organisation login
   c. Use this link to register your organisation EU Login (europa.eu)
5. **Submit your proposal**
   a. Select the Topic you want to submit a proposal for
   b. Go to 'Submission Service' section
   c. If the status is 'Open' you can submit your Proposal

Process Overview:

Call (Example: Clean & Competitive Solutions for All Transport Modes)

Code (Example: HORIZON-CL5-2022-D5-01)	Total Budget per Call (Example: €253,000,000)

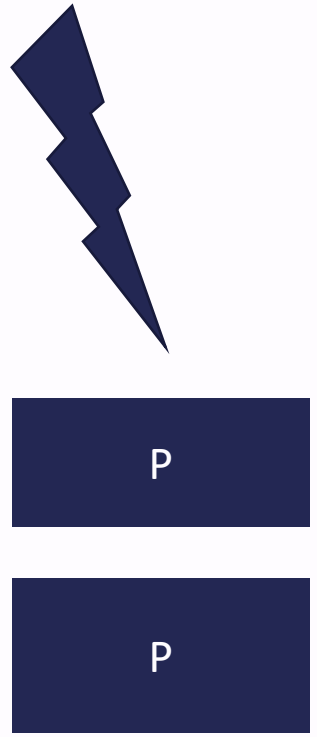
Topics (Example: Exploiting renewable energy for shipping, in particular the potential of wind energy)

Action Type (Example RIA) Code per Topic (HORIZON-CL5-2022-D5-01-03)	Budget per Topic (Example: €18,000,000)

Projects

Expected Nos of Projects (Example: 2)	Expected Budget per Project (Example: €9,000,000)

ECG Members Focus on relevant Call For Proposals (CfP)



Horizon Europe: Main 'Types of Actions'

Research and Innovation Action (RIA)

- Consortium of at least three different legal entities from three different eligible countries (all UK legal entities are classed as eligible). One consortium member must be from an EU Member State.
- Low Technology Readiness Level (TRL, see next slide).
- Participants receive 100% of eligible direct costs plus 25% for indirect costs.

Innovation Action (IA)

- Consortium of at least three different legal entities from three different eligible countries. One must be from a Member State.
- Typically high(er) TRL compared to RIA.
- Not-for-profit participants receive 100% of eligible direct costs plus 25% for indirect costs.
- For-profit participants receive 70% (60% if co-programmed) of eligible direct costs plus 25% for indirect costs.

Coordination and Support Action (CSA)

- For coordinating and supporting activities such as working groups, networking, regulation review, communications, organising EU conferences, etc.
- Does not need collaborative approach but frequently does. At least one group must come a Member State.
- All participants receive 100% of eligible direct costs plus 25% for indirect costs.

What is the TRL Scale?

Technology Readiness Level (TRL) scale was originally defined by NASA in the 1990s as a means for measuring or indicating the maturity of a given technology. The TRL spans over nine levels as follows:

- TRL 1 – Basic principles observed
- TRL 2 – Technology concept formulated
- TRL 3 – Experimental proof of concept
- TRL 4 – Technology validated in lab
- TRL 5 – Technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 – Technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 – System prototype demonstration in operational environment
- TRL 8 – System complete and qualified
- TRL 9 – Actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies)

Successful Horizon Europe proposal:

7 key points that need to be addressed

- Open Science: cooperative work, systematic sharing of knowledge.
- Pathway towards impact, including showing tangible and expected outcomes.
- Plans to maximise impact, including having dissemination plans.
- Follow the Do Not make Significant Harm (DNSH) principle:
    - Project must not affect i) climate change mitigation ii) sustainable use & protection of water and marine resources iii) transition to circular economy.
- Requires trustworthy artificial intelligence: due diligence required of AI-based systems and technologies funded by Horizon Europe.
- Key Impact Pathways (KIP): projects must be impact-oriented, showing scientific, social, environmental impacts.
- Should consider gender dimension in research and innovation (R&I) content. Example: is it reasonable to use only a male body prototype when developing car safety systems/restraints/impact?

02

Destination 5 - 01

Call: Clean & Competitive Solutions for all Transport modes

Code: HORIZON-CL5-2022-D5-01

Total Budget: €253,000,000

Disclaimer: All examples used are for illustrative purposes only and do not represent official Horizon Europe views

Topic: Destination 5	Title : Clean & Competitive Solutions for all Transport modes	TRL
ID: HORIZON-CL5-2022-D5-01-01,	Exploiting electrical energy storage systems and better optimising large battery electric power within fully battery electric and hybrid ships (ZEWT Partnership)	TRL 7-8
ID: HORIZON-CL5-2022-D5-01-02,	Innovative energy storage systems on-board vessels (ZEWT Partnership)	TRL 5
ID: HORIZON-CL5-2022-D5-01-03,	Exploiting renewable energy for shipping, in particular focusing on the potential of wind energy (ZEWT Partnership)	TRL 5
ID: HORIZON-CL5-2022-D5-01-04,	Transformation of the existing fleet towards greener operations through retrofitting (ZEWT Partnership)	TRL 7-8
ID: HORIZON-CL5-2022-D5-01-05,	Seamless safe logistics through an autonomous waterborne freight feeder loop service	TRL 5
ID: HORIZON-CL5-2022-D5-01-06	Computational tools for shipbuilding	TRL 7-8
ID: HORIZON-CL5-2022-D5-01-07	Prevent smog episodes in Europe: Air quality impact of engine-emitted volatile, semi volatile and secondary particles	TRL 5
ID: HORIZON-CL5-2022-D5-01-08	Modular multi-powertrain zero-emission systems for HDV (BEV and FCEV) for efficient and economic operation (2ZERO)	TRL 7-8
ID: HORIZON-CL5-2022-D5-01-09,	Nextgen EV components: High efficiency and low cost electric motors for circularity and low use of rare resources (2ZERO)	TRL 5-7
ID: HORIZON-CL5-2022-D5-01-10,	New generation of full electric urban and peri-urban Bus Rapid Transit systems to strengthen climate-friendly mass transport (2ZERO)	TRL 7-8
ID: HORIZON-CL5-2022-D5-01-11,	Stimulating Road Transport research and innovation dissemination and implementation in Europe and around the World	TRL 4-6*

Topic D5	Budget per Proposal	Topic Budget 2022	Expected Nos Projects	Opening date	Deadline
HORIZON-CL5-2022-D5-01-01	≈ €8,000,000	€16,000,000	2	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-02	≈ €5,000,000	€15,000,000	3	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-03	≈ €9,000,000	€18,000,000	2	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-04	≈ €5,000,000	€25,000,000	5	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-05	≈ €15,000,000	€15,000,000	1	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-06	≈ €7,000,000	€7,000,000	1	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-07	≈ €2,300,000	€7,000,000	3	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-08	≈ €19,300,000	€58,000,000	3	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-09	≈ €5,000,000	€20,000,000	4	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-10	≈ €25,000,000	€25,000,000	1	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-11	≈ €2,000,000	€2,000,000	1	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-12	≈ €4,000,000	€20,000,000	5	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-13	≈ €4,000,000	€20,000,000	5	02 December 2021	26 April 2022
HORIZON-CL5-2022-D5-01-14	≈ €1,600,000	€5,000,000	3	02 December 2021	26 April 2022

TOPIC ID: HORIZON-CL5-2022-D5-01-03, Exploiting renewable energy for shipping, in particular the potential of wind energy (ZEWT Partnership)

BUDGET: €18,000,000 in total, 2 projects expected

Action: RIA
TRL: 5

Call: **Clean and competitive solutions for all transport modes**

- Planned opening date: **02 December 2021**. Deadline: **26 April 2022**, **17:00 CET**.
- Enable the medium-term adoption of automated wind technologies for long-distance maritime transport.
- Projects should address both retrofitting existing ships and new purpose-built designs.
- Prove the large-scale viability of power generation and propulsion assistance systems for shipping using renewable energies such as wind and solar.
- System designs (including modular/drop-in) to reduce costs and increase confidence in refitting existing vessels across several types of ships and different forms of renewable energy.
- Should include power management architectures and energy efficiency solutions (including wind-assisted and wind-based propulsion) for purpose-built new ships with 'wind-ready' designs. Demonstrate efficiency gains of at least 15% for power generation or at least 25% for propulsion purposes.
- Summary and analysis of pertinent regulatory issues and how to address them.
- Documentation of skills requirements and incentives for crew, different ship types and renewables adopted.

*ZEWT: Zero Emission Waterborne Transport

Example: Renewable energy for shipping, focus on wind energy

The Oceanbird: Sweden's Wallenius Marine AB builds wind powered automobile carrier

- Wallenius and Alfa Laval combine strengths to build Oceanbird
  - Cargo vessel is 200-metres long, 40-metres wide.
  - Wingsails 80-metres tall, ability to lower sails when strong winds, passing under bridges.
  - Ability to cross the Atlantic in 12 days, cut CO_2 emissions by 90%.
  - Auxiliary engine to get in and out of harbours.
  - Capacity to carry 7,000 cars.
  - Start of service expected 2024.
  - Concept developed by Wallenius, KTH Royal Institute of Technology Stockholm and SSPA.
  - Funded partly by Swedish Transport Administration.
  - Research project under wPCC – Wind Powered Car Carrier.

www.theoceanbird.com

Example: Renewable energy for shipping, focus on wind energy

Neoliner: Groupe Renault and Neoline create a new wind-based maritime transport solution

- Project aims to help to reduce Renault's logistics carbon footprint by 25% between 2010-2022.
- 3-year partnership between Renault and startup Neoline to develop marine transport service powered by wind.
- Transatlantic pilot with 2 wind-powered cargo ships.
- 136-metres long, 24.2 metres wide, 11 knots in sailing speed.
- Cargo capacity:
  - 280 TEU, 478 cars
  - Cargo access: up to 9.8-metre height
- Main propulsion: 4,200 sq.m of sails.
- Auxiliary Propulsion: Diesel-electric 4,000 kW.
- First service expected in 2023, second in 2024.

neoline.eu

ID: HORIZON-CL5-2022-D5-01-04, Transformation of the existing fleet towards greener operations through retrofitting (ZEWT* Partnership)

Action: IA
TRL: 7-8

BUDGET: €25,000,000 total, 5 projects expected

Call: **Clean and competitive solutions for all transport modes**

- Planned opening date: **02 December 2021**. Deadline: **26 April 2022**, **17:00 CET**.
- Accelerate climate neutrality of waterborne transport through retrofit modifications to existing fleet.
- Establish new business models, industry standards, regulatory approvals, best practice guidance, and easy-to-customise strategies for retrofitting – which will reduce the commercial risk of deployment.
- Activities are expected to achieve TRL 7-8 by the end of the project.
- Retrofit solutions to reduce GHG emissions that are ready to deploy. The target is to achieve a GHG emissions reduction of at least 35% compared to the original design.
- Retrofit solutions which significantly reduce GHG emissions through partial or full electrification. Indicative examples are battery ICE hybridisation for the main propulsion system and auxiliary power, electric network reconfiguration, electrical power management.

* ZEWT: Zero Emission Waterborne Transport

Example Green technologies to retrofit across fleets

Green Ship of the Future (GSF), joint Dutch Maritime Cluster

Retrofit Changes made under GSF:

1 Engines: Selective Catalytic Reduction systems to marine engines, reduce NO_X by 80%.

2 Fuel: Liquid Natural Gas cuts CO_2 by 25%, NO_X by 35%, SO_X by 100% (when moving from diesel)

3 Waste Heat: Waste Heat Recovery Utilisation Systems saves 20% of ship's total annual fuel consumption

4 Scrubber Systems: Scrubber System to reduce particulate matter by 80%, SOX by 98%.

5 Exhaust Gas Recirculation: Exhaust Gas Recirculation System reduces NO_X by 80%

6 Trim Optimisation: Programming matrix to optimise trim sees fuel reduction in 80% of voyages.

7 Cooling Systems: Installing variable speed pump with self-tuning control algorithms saves 731 tonnes CO_2.

8 Operations: Attune machinery to maximise energy savings using operational tools.

9 Turbochargers: Use of turbochargers reduces fuel consumption.

10 Biocide-free Paint: Using biocide free paint with hydrogen coating reduces pollutants and CO_2 emissions.

Project partners

WÄRTSILÄ · THE DANISH MARITIME FUND · HAFNIA Member of BW Group · DFDS · MAERSK TANKERS · ALFA LAVAL · BOS · C.C.JENSEN · Clorius CONTROLS · DANISH ENERGY CONSULTING · DEIF · DESMI · DNV·GL · GREENSTEAM · HEMPEL · KONGSBERG · MAN Energy Solutions · NORSEPOWER · OPTIMUM VOYAGE · orcan · Royston

Retrofitting to reduce CO_2 emission – *a case study of three different vessels*

GREEN SHIP OF THE FUTURE
www.greenship.org

greenship.org

ID: HORIZON-CL5-2022-D5-01-05: Seamless safe logistics through an autonomous waterborne freight feeder loop service
BUDGET: €15,000,000 total, 1 project expected

Action: RIA
TRL: 5

Call: **Clean and competitive solutions for all transport modes (HORIZON-CL5-2022-D5-01)**

- Planned opening date **02 December 2021**. Deadline **26 April 2022**, **17:00 CET**.
- Develop an autonomous waterborne freight feeder loop service for inland or maritime freight transport (understood to include ro-ro services).
- An integrated, automated service with preference for zero GHG and pollutants, and safer navigation.
- Move more freight by water with high levels of safety (fully autonomous navigation for manoeuvring, situational awareness, collision avoidance, failsafe operations), reduce environmental impact and contribute to climate neutrality, increasing operational resilience and decongesting land transport.
- Improve European competitive advantage with connected and autonomous shipping, while broadening expertise across several Member States and associated countries.
- Cooperate closely with the Horizon 2020 project MOSES, which is already addressing aspects of robotic cargo handling and autonomous vessel manoeuvring and docking.

Project MOSES

Automated vessels & supply chain optimisation for short sea shipping

- H2020-MG-2019 – Moving Freight by Water, Sustainable Infrastructure & Innovative Vessels, July 2020-June 2023.
- Vessel design and software tools to improve logistics processes
- 17 Partners from 7 EU countries.
- Aim to reduce time to berth for port hubs, stimulate use of short sea shipping (SSS) to ports with limited infrastructure:
  - Innovative hybrid electric feeder including robotic handling system for SSS-*MOSES feeder*
  - Autonomous vessel manoeuvring and docking – *MOSES AutoDock*
  - Digital collaboration and matchmaking platform – *MOSES platform*

EU Acknowledgement

MOSES project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 861678.

moses-h2020.eu

Example of autonomous waterborne freight feeder
Yara Birkeland: Electric, autonomous container ship

Partners: Yara & Kongsberg

- Built by: Vard Brattvag.
- Operated by Massterly – JV Kongsberg & Wilhelmsen
- NOK 133.5 mil allocated by Norwegian govt agency
- Cargo: 120 TEU, Deadweight: 3,200 mt.
- Propulsion System: Electric.
- Battery pack: 7-9 MWh.
- Vessel reduces NO_X and CO_2 emissions by reducing diesel –powered truck transport by 40,000 journeys per annum.
- Maiden voyage 19 November 2021 in Oslo fljord, begins 2-year tests

yara.com

Source: Yara

03

Destination 6 – 01

Call: Safe, Resilient, Transport & Smart Mobility services for passengers & goods

Code: HORIZON-CL5-2022-D6-01

Total Budget: €122,000,000

Disclaimer: All examples used are for illustrative purposes only and do not represent official Horizon Europe views

Topic D6-01	Title: Safe, Resilient, Transport & Smart Mobility services for passengers & goods	TRL
ID: HORIZON-CL5-2022-D6-01-01,	European demonstrators for integrated shared automated mobility solutions for people and goods (CCAM Partnership)	TRL 7
HORIZON-CL5-2022-D6-01-02	Reliable occupant protection technologies and HMI solutions to ensure the safety of highly automated vehicles (CCAM Partnership)	TRL 5
HORIZON-CL5-2022-D6-01-03	Human behavioural model to assess the performance of CCAM solutions compared to human driven vehicles (CCAM Partnership)	TRL 4
ID: HORIZON-CL5-2022-D6-01-04,	Integrate CCAM services in fleet and traffic management systems (CCAM Partnership)	TRL 6-7
ID: HORIZON-CL5-2022-D6-01-05,	Artificial Intelligence (AI): Explainable and trustworthy concepts, techniques and models for CCAM (CCAM Partnership)	TRL 5
HORIZON-CL5-2022-D6-01-06	Predictive safety assessment framework and safer urban environment for vulnerable road users	TRL 5-6
HORIZON-CL5-2022-D6-01-07	More resilient aircraft and increased survivability	TRL 6
HORIZON-CL5-2022-D6-01-08	Safer navigation and tackling containership fires	TRL 7

Topic D6-01	Budget per Proposal	Topic Budget 2022	Expected Nos Projects	Opening date	Deadline
HORIZON-CL5-2022-D6-01-01	≈ €25,000,000	€50,000,000	2	14 October 2021	12 January 2022
HORIZON-CL5-2022-D6-01-02	≈ €8,000,000	€8,000,000	1	14 October 2021	12 January 2022
HORIZON-CL5-2022-D6-01-03	≈ €8,000,000	€8,000,000	1	14 October 2021	12 January 2022
HORIZON-CL5-2022-D6-01-04	≈ €5,000,000	€10,000,000	2	14 October 2021	12 January 2022
HORIZON-CL5-2022-D6-01-05	≈ €6,000,000	€12,000,000	2	14 October 2021	12 January 2022
HORIZON-CL5-2022-D6-01-06	≈ €3,2500,000	€13,000,000	3	14 October 2021	12 January 2022
HORIZON-CL5-2022-D6-01-07	≈ €9,000,000	€9,000,000	1	14 October 2021	12 January 2022
HORIZON-CL5-2022-D6-01-08	≈ €12,000,000	€12,000,000	2	14 October 2021	12 January 2022

HORIZON-CL5-2022-D6-01-01, European demonstrators for integrated shared automated mobility solutions for people and goods (CCAM Partnership*)

Action: IA
TRL: 7

BUDGET: €50,000,000 total, 2 projects expected

Call: **Safe, Resilient Transport and Smart Mobility services for passengers and goods**

(HORIZON-CL5-2022-D6-01) *Call aims to make Europe the first digitally enabled circular, climate-neutral and sustainable economy through the transformation of its mobility, energy, construction and production systems*

Planned opening date **14 October 2021**, Deadline **12 January 2022**, **17:00 CET**.

- Demonstration of inclusive, user-oriented and well-integrated shared CCAM systems for goods in real traffic conditions, which contribute to reduced carbon footprint and harmful emissions; reduced congestion, more reliable, predictive travel times and more efficient transport operations.
- Novel mobility services enable seamless integration with existing services, higher levels of automation support, transport productivity and efficiency (e.g. transport of goods at lower speeds to save energy, operational efficiency at logistics hubs and in hub-to-hub corridors or last mile operations).
- Implement set of European demonstrators of smart, shared mobility and logistics use cases in real traffic conditions with realistic operational domains, balancing environmental complexity, risk, speed, economic viability with market potential (i.e. with scalable business and operating models).

* Connected, Cooperative and Automated Mobility (CCAM),
CCAM - European Partnership on Connected, Cooperative and Automated Mobility

Example: Automated mobility solutions

CUbE – Continental Urban mobility Experience.

- CUbE is a development platform for the wide range of Continental technologies needed for the operation of driverless mobility systems in future.
- "With the help of robot delivery, Continental's vision for seamless mobility can extend right to your doorstep," said Ralph Lauxmann, Head of Systems & Technology, Chassis & Safety division, Continental.
- CUbE can carry one or multiple delivery robots and deploy them to handle the last yards of the goods and parcel delivery logistics chain.

continental.com/en/press/fairs-events/techshow-2019/cube

HORIZON-CL5-2022-D6-01-04, Integrate CCAM services in fleet and traffic management systems (CCAM Partnership*)

BUDGET: €10,000,000 total, 2 projects expected

Action: IA
TRL: 6-7

Call: **Safe, Resilient Transport and Smart Mobility services for passengers and goods (HORIZON-CL5-2022-D6-01)**

Planned opening date **14 October 2021**, Deadline **12 January 2022**, **17:00 CET**.

- Develop and demonstrate concepts of fleet management to achieve a desirable integration of CCAM vehicles in the mobility system.
- Actions should address both the transport of people and goods with automated fleets and individual vehicles integrated in the entire traffic management system.
- Address technology gaps to foster vehicle integration, communication and better manoeuvre coordination and other shared mobility concepts.
- Involves planning, forecasting and managing fleet and individual vehicles' movements according to specific needs.
- Actions expected to address intermodal interfaces and interoperability between traffic management systems from one geographical location to another

* Connected, Cooperative and Automated Mobility (CCAM),
CCAM - European Partnership on Connected, Cooperative and Automated Mobility

Example: Integrate CCAM services in fleet

Multi-brand truck platooning

Total Cost: €26,064,297, EU Contribution: €19,802,512

Duration: 1/6/2018 - 31/05/2021

- Interoperable platooning
- Safe platooning
- Real-life platooning
- Embedded platooning

(1) Platooning as a support function

- Safety improvement
- Driver assistance
- Traffic fluency by coordinated and harmonised acceleration and deceleration of trucks

(2) Platooning as an autonomous function

- Fuel efficiency
- Logistics operation efficiency

Platooningensemble.eu

HORIZON-CL5-2022-D6-01-08, Safer navigation and tackling containership fires

BUDGET: €12,000,000 total, 2 projects expected

Action: IA
TRL: 7

Call: **Safe, Resilient Transport and Smart Mobility services for passengers and goods**

Planned opening date **14 October 2021**, Deadline **12 January 2022**, **17:00 CET**.

- Integrates digital solutions in overall vessel architecture and in traffic control systems to help prevent accidents. Establishes a link to developing automated and autonomous shipping solutions.
- Introduces automated systems to reduce errors in particular on vessels operating in sensitive areas where navigational accidents and incidents would have a particular negative impact (coastal zones, marine-protected areas).
- Establishes systematic understanding of the causes of navigational accidents to help prevent them, including vessel collisions and groundings, damage to vessels from debris (in particular lost containers), and harm to marine mammals.
- Applicants will address one of the following two aspects:
  - Navigational accidents: assess the causes, consequences and probability of navigational accidents, develop solutions, and propose solutions to track and recover lost containers.
  - Containership fires: analysis of containership fires' factors (including malicious and erroneous cargo declarations), accident management methodologies, and pertinent regulatory issues. Special attention should be given to fires within cargo areas.

Example: Safer navigation (and tackling containership fires)

AEGIS: Advanced, Efficient and Green Intermodal Systems

A project where autonomous ships meet automated ports.

AEGIS aims to have a number of positive impacts the shift in freight transport from road to water and rail transport, as well as safety and efficiency.

- Reduction of accidents and injuries in the waterborne sector.
- Enhance the performance of the the Connecting Europe Facility network and the Trans-European Network for Transport (CEF TEN-T).
- Substantially increase the amount of freight fed from intercontinental European ports using waterborne transport.
- Modernise and increase the reliability and competitiveness of intra-European waterborne transport.
- Increase the quantity of freight moved by inland waterways or short-sea shipping.
- Strengthen the European maritime industry.
- Decongest road and/or city infrastructure.
- Reduce CO_2 and air-pollutant emissions of intra-European freight transport.

Case A	Case B	Case C
Case A: North Sea Container Line, coop with Port of Trondheim. Small cargo shuttles used for last mile distribution to rural and urban destinations.	Case B: Led by DFDS and will link RORO short sea services to inland waterways.	Case C: Led by Port of Aalborg in coop with Port of Vordingborg to examine how existing ports can use automation to transfer cargo from trucks to ship.

EU funding

The project has received funding from the European Union's Horizon 2020 research innovation program under Grant Agreement N°859992.

aegis.autonomous-ship.org

04

Destination 6 – 02

Call: Safe, Resilient, Transport & Smart Mobility services for passengers & goods
Code: HORIZON-CL5-2022-D6-01
Total Budget: €91,000,000

Disclaimer: All examples used are for illustrative purposes only and do not represent official Horizon Europe views

Topic D6-02	Title: Safe, Resilient, Transport & Smart Mobility services for passengers & goods	TRL
ID: HORIZON-CL5-2022-D6-02-01,	Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality	TRL 6-7
ID: HORIZON-CL5-2022-D6-02-02,	Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight	N/A
ID: HORIZON-CL5-2022-D6-02-03,	Smart enforcement for resilient, sustainable and more efficient transport operations	N/A
ID: HORIZON-CL5-2022-D6-02-04,	Accelerating the deployment of new and shared mobility services for the next decade	TRL 7-8
ID: HORIZON-CL5-2022-D6-02-05,	Advanced multimodal network and traffic management for seamless door-to-door mobility of passengers and freight transport	TRL 5-6
ID: HORIZON-CL5-2022-D6-02-06,	Smart and efficient ways to construct, maintain and decommission with zero emissions from transport infrastructure	TRL 7
ID: HORIZON-CL5-2022-D6-02-07,	New concepts and approaches for resilient and green freight transport and logistics networks against disruptive events (including pandemics)	N/A

Topic: D6-02	Budget per Proposal	Topic Budget 2022	Expected Nos Projects	Opening date	Deadline
HORIZON-CL5-2022-D6-02-01	≈ €7,500,000	€15,000,000	2	28 April 2022	06 September 2022
HORIZON-CL5-2022-D6-02-02	≈ €7,500,000	€15,000,000	2	28 April 2022	06 September 2022
HORIZON-CL5-2022-D6-02-03	≈ €4,000,000	€8,000,000	2	28 April 2022	06 September 2022
HORIZON-CL5-2022-D6-02-04	≈ €10,000,000	€20,000,000	2	28 April 2022	06 September 2022
HORIZON-CL5-2022-D6-02-05	≈ €5,000,000	€15,000,000	3	28 April 2022	06 September 2022
HORIZON-CL5-2022-D6-02-06	≈ €5,000,000	€10,000,000	2	28 April 2022	06 September 2022
HORIZON-CL5-2022-D6-02-07	≈ €4,000,000	€8,000,000	2	28 April 2022	06 September 2022

ID: HORIZON-CL5-2022-D6-02-01, Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality
BUDGET: EUR 15,000,000 total, 2 projects expected

Action: IA
TRL: 6-7

Call: **Safe, Resilient Transport and Smart Mobility services for passengers and goods**

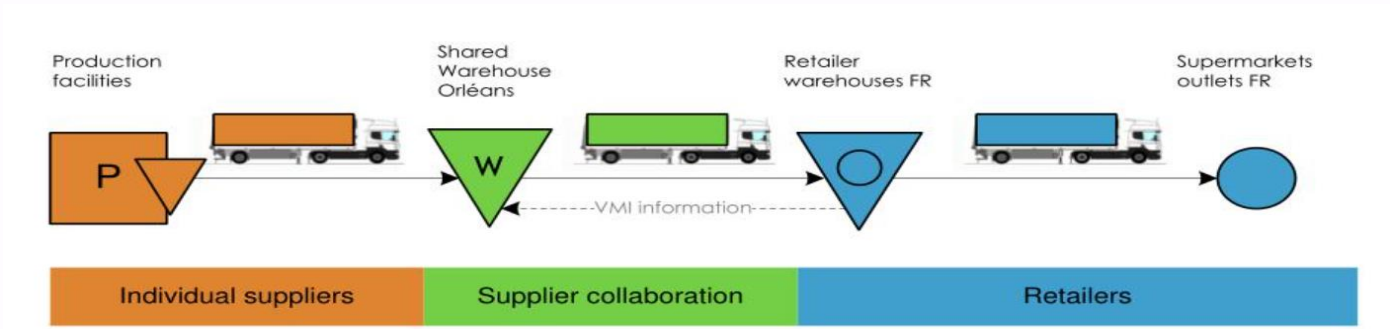
Planned opening date **28 April 2022,** Deadline **06 September 2022**, **17:00 CET**.

Two or more logistics providers or shippers should develop and demonstrate a systemic framework for connecting and pooling demand of various cargo owners to develop a system of shared logistics networks. Proposals should address all the following points and subpoints:

- Develop and demonstrate a robust and transparent collaborative framework with guiding principles to ensure operational connectivity of logistics networks (e.g. services, shared resources and assets, information and financial flows, etc.)
- Through the pilot cases and demonstrators:
  - Identify and demonstrate potential gains of these logistics networks compared to independent logistics networks in terms of emissions and energy consumption reduction and potential business models. Identify the main barriers and opportunities to achieve a system of logistics networks, propose solutions and pilot them.
  - Address governance aspects (e.g. how to organise and expand the logistic network with other logistics networks willing to join or how to legally engage with users of these shared logistics networks services and capabilities) and propose actions to accelerate organic and jointly acceptable growth of these logistics networks.
  - Identify innovative business models that address revenue sharing.

Example: Logistics network collaboration; safe resilient and smart mobility

- CO3: Collaboration Concepts for Co-Modality
- Maximizing loads, improving vehicle utilisation, increase collaboration
- Shared warehouses, collaborative deliveries
- Shapley Concept: fairly distribute gains and costs in coalition to achieve payoff- Horizontal Collaboration
- Case Study: automotive plastics and steel shipments collaborative supply chain
  - The objective: to improve the efficiency, effectiveness and sustainability of logistics networks through orchestrated horizontal collaboration or “Carpooling for Cargo”



http://www.co3-project.eu

ID: HORIZON-CL5-2022-D6-02-02: Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight

BUDGET: €15,000,000 total, 2 projects expected

Action: IA

Call: **Safe, Resilient Transport and Smart Mobility services for passengers and goods**

Planned opening date **28 April 2022**, Deadline **06 September 2022**, **17:00 CET**.

- Upscaling of innovative, best practice and replicable data-driven logistics solutions and planning.
- Optimal mix distribution of land uses both in city centres and peripheries.
  - Optimise the potential mix of strategically positioned land, owned by public authorities (i.e. unused railway tracks and marshalling yards, real estate, parking) or by logistics service providers in urban areas, for developing a comprehensive policy strategy integrating transport, logistics and land use, increasing impact of new modes, cargo bicycles, light electric freight vehicles and vehicles using alternative fuels.
- Understand the impact of long-haul deliveries and e-commerce on the city as 'just in time' deliveries are producing longer and more trips with more and emptier vehicles, leading to more congestion, air and noise pollution, GHG emissions and road risk in urban areas.
- Demonstrate qualitative and quantitative information of solutions implemented, including effectiveness of the proposed measures in achieving local policy objectives and the possible barriers to their broad take up, and recommendations on how to overcome them.

Example: Urban logistics and anticipating urban freight generation

AMSTERDAM

Size: **29 Km²** Population: **799,450**

Demonstrations:

- **Electric logistics in parcel services TNT - Amsterdam & Rotterdam**
- **Testing electric trucks in beverage distribution - Amsterdam & Rotterdam**

LISBON

Size: **100 Km²** Population: **530,847**

Demonstrations:

- **Electric logistics in an historical urban centre: parking meter cash collection and maintenance services - Lisbon**
- **Electric logistics in an historical urban centre: postal services - Lisbon**

MILAN

Size: **181.8 Km²** Population: **1,251,000**

Demonstrations:

- **Electric Vehicles and consolidation in the pharmaceutical supply chain - Milan**

LONDON

Size: **1,572 Km²** Population: **8,539,000**

Demonstrations:

- **Expansion of successful consolidation centre to new end-user types: Bond Street - London**
- **Expansion of successful consolidation centre to new end-user types: Regent Street - London**
- **Expansion of successful consolidation centre to new end-user types: University College London**
- **Overcome grid restrictions to electric vehicles charging and roll-out plan for larger fleets Electric logistics - London**

MADRID

Size: **605.8 Km²** Population: **3,141,991**

Demonstrations:

- **Electric logistics from an urban consolidation centre: Calidad Pascual - Madrid**
- **Electric logistics from an urban consolidation centre: SEUR & TNT - Madrid**

OSLO

Size: **454 Km²** Population: **618,683**

Demonstrations:

- **Electric vehicles performance in low temperature operations - Oslo**

frevue.eu/activities/cities

ID: HORIZON-CL5-2022-D6-02-05, Advanced multimodal network and traffic management for seamless door-to-door mobility of passengers and freight transport

BUDGET: €15,000,000 total, 3 projects expected

Action: RIA
TRL: 5-6

Call: Safe, Resilient Transport and Smart Mobility services for passengers and goods

Planned opening date **28 April 2022**, Deadline **06 September 2022**, **17:00 CET**.

- Improved multimodal transport, facilitating door-to-door mobility for passengers and freight.
- Effective and resilient network-wide data exchange for dynamic and responsive multimodal network.
- Tested and validated systems for resolution of network bottlenecks, substantially increasing safety, security, resilience and overall performance of the entire transport network.
- Innovative tools and services for optimising mobility flows of passengers and freight in cities significantly reducing emissions (CO_2, SOx, NOx, particles, noise).
- New governance arrangements for multimodal transport network and traffic management in view of further regulatory and policy actions.
- High-market adoption and transferability of innovations to different ecosystems.
- Reduced external costs (e.g. congestion, traffic jams, emissions, air and noise pollution, road collisions) of urban, regional and long-distance freight transport.
- 50% reduction in serious injuries and fatalities in road crashes by 2030.

Example: ORCHESTRA Consortium

- 16 partner organisations to orchestrate traffic management across all modes
  - Multi-modal Traffic Management Ecosystem (MTME)
- Intersection of transport domains: road, railway, sea or air
- Innovation of Polymorphic Multimodal Architecture (PMA)
- Real Life Pilot projects: Norway and Italy

Project Information

ORCHESTRA

Grant agreement ID: 953618

Start date
1 May 2021

End date
30 April 2024

Funded under
H2020-EU.3.4.

Overall budget
€ 5 167 361,88

EU contribution
€ 4 998 798,75

Coordinated by
ITS NORGE-NORSK FORENING FOR MULTIMODALE INTELLIGENTE TRANSPORT SYSTEMER OG TJENESTER - ITS NORWAY

Norway

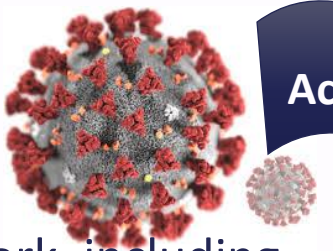
European Commission

https://cordis.europa.eu/project/id/953618

ITS Norway | deepblue consulting & research | Cerema | HERØYA INDUSTRIPARK
enav | IKEM | ROSAS | IOTA FOUNDATION
Information Sharing Company | SINTEF | TU Delft | APPLIED AUTONOMY
Statens vegvesen Norwegian Public Roads Administration | TechnoSky | CERTX | SEA Milan Airports
TECHNOLOGY

ID: HORIZON-CL5-2022-D6-02-07: New concepts and approaches for resilient and green freight transport and logistics networks against disruptive events (including pandemics)

BUDGET: €8,000,000 total, 2 projects expected.



Action: RIA

Call: **Safe, Resilient Transport and Smart Mobility services for passengers and goods**

Planned opening date **28 April 2022**, Deadline **06 September 2022, 17:00 CET**.

- Develop a more adaptive multimodal European freight transport and logistics network, including international connections, that reacts quickly to disruptions, minimises damage and shortens recovery time while significantly reducing emissions.
- Help to adopt cost-efficient business models and services towards resilient and zero-emission logistics.
- Evaluate the resilience of strategic logistics networks and their related data and IT systems and propose management systems.
- Develop and demonstrate how synchro-modal approaches (i.e. shipment split and merge, dynamic synchronisation of multimodal schedules, realignment in case of disruptions) provide resilience and sustainability by design to the freight transport and logistics networks in which these services operate.
- Develop business intelligence capabilities, such as intermodal freight corridor performance and resilient measurement and assessment.
- Explore potential synergies with projects funded under the Cluster 3 Civil Security for Society topic ‘Ensured infrastructure resilience in case of Pandemics’.

05

Top Tips on EU Transport Funding

Tom Antonissen, EU Affairs Adviser
EUreSupport

EU Funding – More of Tom's tips & tricks

Understand the calls for proposals, conditions and objectives before you apply

- Start looking at Calls for Proposals (CfP) with your project idea in mind, or at least with a good overview of your company's assets and (research) objectives – anything linked to 'digital' and 'green' preferred!
- Read carefully the titles of such CfP from the published EU Work Programme to see if they match your interest, make a shortlist and then look into the actual call texts (usually 2-3 pages per call topic).
- Make sure your project idea fits (almost) perfectly within the call text – your evaluation depends on it!
- Within the call text, check first the 'Specific conditions', in particular 'Expected EU contribution per project' (for the overall budget) and 'Type of Action' (for the funding rate, see next slide), to match your plans.
- Projects of €7m-10m budget usually have around 10 partners in consortium, while projects of €15-20m go up to 20-30 partners and above (it's difficult to get more than €1m/partner).

Tom's tips & tricks

Be mindful of Types of Action – not everything is relevant

- In terms of 'Types of Actions,' don't look at coordination and support actions (CSA) – they are mostly for associations and academics (not companies).
- Look instead at research and innovation action (RIA) or innovation action (IA).
- RIA provides 100% funding of costs while an IA only 60-70% (in both cases, an additional 25% is added to cover overheads).
- Study carefully 'Expected Outcome' and 'Scope', as these conditions for EU funding are non-negotiable!
- If the CfP you are interested in refers to a 'co-programmed European Partnership', assess whether your company would be interested to become a member of the relevant partnership as it could increase your chances (and in any case your network, especially related to the topic you are interested in).

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