



ANNEX 1: 1st Cut-off-related topics and requirements

EIT Urban Mobility - Mobility for more liveable urban spaces

EIT Urban Mobility

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eiturbanmobility.eu

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History of changes¹

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¹ Any update of the Annex will be published on the EIT UM website and will be visible in the history of changes.

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General information – 1st Cut-off Topics

Key dates	Launch: 14 December 2023 Submission deadline: 22 February 2024 (17:00 CET) Eligibility and admissibility check: end February 2024 Quality evaluation and pre-selection: March 2024 Conditions clearing and selection of proposals: April 2024 Tentative start of projects: May 2024
EIT funding	Up to 2,500,000 Euros

1. TOPIC 1: Hydrogen Technology: Bridging the Transition Gap

1.1. Introduction

Bridging the hydrogen (H₂) transition gap is a topic in full alignment with the European Commission's priority to promote the uptake of renewable and low-carbon hydrogen to help decarbonise the EU in a cost-effective way and reduce its dependence on imported fossil fuels².

Urban mobility accounts for 40% of all CO₂ emissions of road transport and up to 70% of other pollutants from road transport³. Freight transport is also a major contributor to greenhouse gas (GHG) emissions and air pollution, accounting for 6% of total GHG emissions and 30% of transport CO₂ emissions in Europe⁴. Poor air quality and exposure to harmful air emissions caused 412,000 premature deaths in Europe in 2016, according to a EU report released in 2019⁵. Energy within the area of urban mobility is thus a major topic for sustainable development and innovation.

Hydrogen, as a clean energy carrier, has emerged as a promising solution to address global challenges related to carbon emissions and energy sustainability. However, despite this, only 10% of hydrogen projects reach the stage of final investment decision⁶. This is due to a set of programmatic challenges that hydrogen projects are facing in the short term - the so-called hydrogen transitional period:

- The cost competitiveness of green hydrogen
- The lack of hydrogen infrastructure
- The absence of standards and regulations
- The need for enhanced performance

The EIT UM Targeted Programme aims to address market gaps through innovation projects. Hydrogen, and especially green hydrogen production and use, play a strategic role in the recent EU adopted regulations

² EU Hydrogen Strategy and REPowerEU plan.

³ 2 European Commission, Mobility and Transport, 2019:

https://ec.europa.eu/transport/themes/urban/urban_mobility_en

⁴ ALICE-ETP, 2019. Roadmap towards Zero Emissions Logistics 2050,

⁵ European Environmental Agency, 'Air Quality in Europe – 2019 Report', EEA Report No 10/2019, <https://www.eea.europa.eu/publications/air-quality-in-europe-2019>, (accessed 11 September 2020).

⁶ Hydrogen Council: Hydrogen Insight report 2023

i.e., REDIII⁷ the hydrogen delegated acts⁸. For this reason, supporting hydrogen technology adoption in this transitional phase, is a priority for EIT Urban Mobility.

1.2. Relevance

Within this topic, EIT UM aims to support projects that overcome market failures that focus on the following four challenge areas.

Challenge Area 1: Improving Performance and Viability of Zero-Emission Hydrogen Vehicles

Zero-emission vehicles are integral to reducing greenhouse gas emissions and curbing air pollution^{9 10}. However, the widespread adoption of hydrogen-powered vehicles faces challenges related to efficiency, range, and high costs of technology. In some cases, early-stage hydrogen technologies can drive high operational costs (OPEX) that can make the choice to switch from traditional fossil fuel technology to hydrogen unfeasible¹¹. Innovative technologies are needed to enhance the performance and viability of hydrogen-based transportation (FCEV, hybrid electric/hydrogen, hydrogen internal combustion engine (ICE)), to make it a compelling choice for consumers.

Challenge Area 2: Facilitating Early Diffusion of Hydrogen Infrastructures for Mobility

The deployment of hydrogen infrastructure, including refuelling stations and distribution networks, remains a bottleneck in the adoption of hydrogen-based transportation. Recent EU regulations such as the AFIR Regulation¹² that provides specific deployment targets to be met in 2025 and 2030, demonstrate the urgency to diffuse such infrastructure networks within Europe in the medium term. Innovative technologies should focus on streamlining the development and expansion of hydrogen infrastructures to support hydrogen transport uptake. This includes, but is not limited to, easy-to-transport and deploy Hydrogen Refuelling Stations (HRS).

Challenge Area 3: Overcoming Regulatory Hurdles to Speed Up the Product Deployment

⁷ Renewable Energy Directive adopted by the EU Council the 9th of October 2023

⁸ Delegated Act (EU) 2023/1184 on a methodology for renewable fuels of non-biological origin & Delegated Act (EU) 2023/1185 a minimum threshold for GHG emissions savings of recycled carbon fuels

⁹ EU 2030 Agenda for Sustainable Development goals 7, 9 11 and 13

¹⁰ EU fit for 55.

¹¹ A comparative total cost of ownership analysis of heavy duty on-road and off-road vehicles powered by hydrogen, electricity, and diesel. C. Rout, Hu Li, V. Dupont, Z. Wadud. 9 December 2022

¹² Deployment of alternative fuels infrastructures (AFIR) adopted by European Parliament and Council. 25 July 2023

The lack of standardised regulations and policies surrounding hydrogen technologies can hinder their market acceptance. The European Clean Hydrogen Alliance has identified the need for a robust and harmonised standardisation framework¹³.

In this context, obtaining a certificate/homologation or permission to deploy products in the public realm, usually requires significant time. Applicants who choose to address Challenge Area 3, are encouraged to devise strategies and solutions that help overcome regulatory obstacles to facilitate a smoother transition to hydrogen.

Challenge Area 4: Reducing the Cost of Hydrogen Technology Adoption

The high upfront costs associated with hydrogen technology adoption can deter potential users and investors¹⁴. Financial mechanisms already exist to encourage green hydrogen production¹⁵. Still, innovation in relation to the manufacture, storage, and transportation of hydrogen, which remain significant cost barriers, will encourage hydrogen technology adoption.

The topic falls within the scope of strategic objectives SO3, SO4 and SO5 of the [EIT Urban Mobility Strategic Agenda \(SA\) 2021-2027](#). Thus, EIT Urban Mobility encourages the development and deployment of solutions that can accelerate market opportunities for early hydrogen-based technology adoption.

1.3. Tasks, requirements and outcomes

EIT Urban Mobility will award up to **two projects aimed at developing solutions that facilitate the hydrogen transition, aligning with one of the four designated challenge areas**.

Tasks

It is expected that specific tasks are carried out as part of this project. The workplan section in the application form should therefore include the following tasks at a relevant point in the process:

- State-of-the-art and market analysis
- Development of a product and financial plan
- Compliance check against current regulations
- The certification, homologation, or any other necessary permits for conducting the test or demonstration (KONHE31 or KSN02) and for market launch (EITHE02.4) must be obtained.
- NB: Please see section 3.2 of the Call Manual for other tasks that are mandatory for all topics.

¹³ Roadmap on hydrogen standardisation. Clean Hydrogen Alliance. March 2023.

¹⁴ Hydrogen Council: Hydrogen Insight report 2023

¹⁵ EU Hydrogen Bank

- To develop a new product/service/solution or significantly improve an existing product/service/solution, reaching full market readiness by the end of the project (Technology Readiness Level 8/9).
- To conduct a demonstration of the product/service/solution according with the requirements of KSN02 or KONHE31 alternatively.

Requirements

Projects with the following characteristics will be positively evaluated:

- Consortia that include at least one company registered in an [EU RIS country](#), especially Ukraine.
- Proposals that include the homologation/certification. **NB: in same cases homologation or certification are mandatory to perform in the public realm. In that case, the provision of such documentation is considered as a mandatory requisite.**
- Proposals that address at least 1 specific “top priority” topic among the following:
 - TP1: Transportable and easy to deploy Hydrogen Refuelling Stations (HRS).
 - TP2: Technologies for retrofitting existing fossil fuel vehicles to H2
 - TP3: Technologies to increase the efficiency of the fuel cell manufacturing process.
 - TP4: Technologies to reduce the cost of hydrogen transportation
- Offer of equity shares in existing start-ups or start-ups created because of the project implementation as part of EIT Urban Mobility return on investment.

Outcomes

To expedite the early adoption of hydrogen technologies into the market, EIT Urban Mobility is seeking projects that develop and commercialise innovative technologies capable of tackling at least one of the following critical challenges facing the hydrogen sector:

- **Challenge Area 1:** Improving Performance and Viability of Zero-Emission Hydrogen Vehicles
- **Challenge Area 2:** Facilitating Early Diffusion of Hydrogen Infrastructures for Mobility
- **Challenge Area 3:** Overcoming Regulatory Hurdles to Speed Up the Product Deployment
- **Challenge Area 4:** Reducing the Cost of Hydrogen Technology Adoption

The proposal shall also include the development of a business model and financial plan to demonstrate the broad applicability of the solution in the short term (see section 1.4 for details).

1.4. Topic- related eligibility requirements

Mandatory KPIs	KPI code	KPI title	Minimum
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			target value
	EITHE02.4	Marketed Innovations with a sales revenue of at least 10 000 EUR	1
	KONHE31	Tested Engineering Innovation	1
Minimum co-funding rate	33%		
Consortium	<ul style="list-style-type: none"> At least two (2) partners from two (2) different EU countries or Third countries associated to Horizon Europe. The consortium must consist of no more than four (4) partners 		
List of additional mandatory documents and/or requirements	A Letter of Intent from the entity/company/operator in charge of the demonstration if it is not part of the consortium.		

1.5. Additional topic-related information

Optional KPIs	EITHE04.4	Start-ups created of/for Innovation with financial transactions of at least 10 000 EUR
	KSN02	Demos/ pilots/ living labs actively involving citizens
	KSN01	# Innovation pilot scaling
	EITHE01.1	# Intellectual property rights
	KONHE03.2	# City engagements in projects
	EITHE02.2-EITRIS	EIT RIS Marketed Innovations
	EITHE04.2-EITRIS	Start-ups created of/for innovation
EIT funding/ Topic	Up to 1 million euros (2 projects are expected to be funded)	
Consortium	<p>The proposal will be positively evaluated if the consortium has the following characteristics:</p> <ul style="list-style-type: none"> Involvement of partners from RIS countries will be positively evaluated. <p>Entities representing the KTI are eligible for applying to this call. Furthermore, entities from industry should be included in the proposal.</p>	
Project duration	12-18 months (more than 12 months only if homologation is included as part of project)	
Strategic fit topic-specific evaluation question	To what extent will the project facilitate the adoption of hydrogen technology in the (urban) mobility sector?	5 points
Info Session	Date: 20 December 2023 at 12:00 CET.	

Registration Link

2. TOPIC 2: Employee Commute Analytics & CSRD reporting

2.1 Introduction

This topic is related to promoting and enabling the uptake of the new European Corporate Sustainability Reporting Directive¹⁶ (CSRD) regulations, coming into force in January 2024. Specifically, it focuses on streamlining the process of tracking and reporting on greenhouse gas emissions (GHG) from employee commutes, which form part of the new directive obligations.

The CSRD updates and replaces the existing Non-Financial Reporting Directive (NFRD) and Accounting Directive. The CSRD is a set of regulations put forward at EU level which will require companies of over 500 employees to report on their sustainability impact. These requirements will be extended in the future, culminating in regulations for companies with at least 50 employees coming into force in 2027-2028¹⁷.

EIT Urban Mobility is therefore seeking an innovative solution that supports the market of CSRD compliant travel reporting. We are specifically looking to support a consortium in the development and commercialisation of a product that will respond to the new CSRD regulations by enabling cheaper and higher quality data collection and analytics on employees' commuting and travel behaviours.

¹⁶ EUR-Lex - 32022L2464 - EN - EUR-Lex (europa.eu)

¹⁷ Corporate sustainability reporting - European Commission (europa.eu)

2.2 Relevance

For businesses that will be required to report under the CSRD from 2024, their first report will need to be filed in 2025, demonstrating the urgency of this topic. Under the CSRD, companies will need to produce a report covering a range of sustainability topics, including both descriptions of how the undertaking's activities currently affect sustainability matters, and plans for time-bound targets¹⁸. Therefore, accurate tracking capabilities are needed to quantify sustainability impact and set meaningful emission reduction targets for the future.

This call topic focuses specifically on the reporting of scope 3 GHG emissions that occur as a result of activities associated with an organisation but are from sources not owned or directly controlled by them. These include emissions from the supply chain, customer use of products, and business travel. Reporting on scope 3 emissions has previously not been mandatory due to the difficulty of companies to accurately quantify them.

A key aspect of scope 3 emissions is those related to employee commuting and business travel behaviour. Commuting behaviour can have a significant impact on the level of emissions released on a company level. It is also a source of emissions over which companies can have a level of direct control – for instance, implementing incentive schemes can be a good way of encouraging more sustainable travel, while increasing flexibility with regards to working from home can reduce the emissions from commuting. However, without an accurate picture and understanding of the situation at their organisation, concrete reporting and action plans, like those mandated by the CSRD, are difficult to prepare.

Today, there exists no advanced tool to track these scope 3 emissions on employees' commuting behaviour. To date, the simplest and most frequently employed solution has been to use a combination of cost-reporting data from employees and simple travel surveys to gain a general understanding of commuter travel, helped with general modelling methods from other sources (such as car ownership in the area). These methods require considerable analysis, often by consultants, to collect and process the numbers, which is costly and time-consuming. Additionally, the data tends to be inaccurate, and most often cannot be used to help companies set meaningful measures and targets to reduce emissions, which are requirements under the new regulations.

This call topic is a direct response to urgent issues arising from policy and regulations, which is one of the goals of the Targeted Projects Programme. To address the urgent market need of CSRD reporting in 2025, the development and commercialisation of the solution needs to be finalised within the timeline for the reporting requirements. Supporting the development of an advanced CSRD reporting solution supports and enables company specific emission decarbonisation actions and behavioural change. How large amounts of data can be collected, analysed, and presented in a trustworthy and reliable way to customers to support business metrics and comply with sustainability auditing is a central topic of interest for EIT Urban Mobility.

¹⁸ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022L2464>

This call topic is specifically focused on SO5 (Promote effective policies and behavioural change) of the EIT Urban Mobility Strategic Agenda 2021-2027 and supports EITUM's ambition to be responsive and act as an agent for change within the European regulatory framework¹⁹.

2.3 Tasks, Requirements and Outcomes

EIT Urban Mobility is seeking a consortium that can develop and commercialise a product that will support companies to respond to the new CSRD regulations by enabling cheaper and higher-quality data collection and analytics on employees' commuting and business travel behaviours.

Tasks

Proposals addressing this topic should include following types of activities:

- Analysis of the GDPR compliance of the tool. All aspects of the tool that have the potential to impact GDPR should be analysed to ensure compliance.
- Feedback sessions/focus groups with all end users (both employees and the company) during the demonstration phase, so their perspective can be considered.
- Mock CSRD reporting. The end client must use the developed solution to track and report their scope 3 emissions as they would in the real reporting, based on the data collected during the demonstration.
- NB: These topic-specific activities are additional to the mandatory activities outlined in section 3.2 of the Call Manual:
 - To develop a new product/service/solution or significantly improve an existing product/service/solution, reaching full market readiness by the end of the project (Technology Readiness Level 8/9).
 - To conduct a demonstration of the product/service/solution according with the requirements of KSN02 or KONHE31 alternatively.

Requirements

The objective is to develop or significantly improve a solution, which should be an off-the-shelf SaaS solution that can support companies to track commuters' travel behaviour and travel-related CO2 emissions in a GDPR-compliant and user-friendly manner. Data engineering solutions built to enable transferability of the collected data to larger CSRD data collection platforms should be considered.

¹⁹ https://www.eiturbanmobility.eu/wp-content/uploads/2021/04/210329_SA_EIT-UM-branded_Final-published.pdf

The solution needs to be demonstrated with a relevant end-client, who is part of the project consortium. A proven customer validation of the product concept is expected from the end client. Thus, the end client must be:

- a. affected by the new CSRD and reporting requirements, as well as
- b. be involved in the product definition, development and testing phases of the solution.

Additionally, a strong existing track record of the commercial partner working with company travel and sustainability reporting, working with developing systems managing large volumes of GIS and mobility data, building AI-models in applications in the mobility sector and enabling real-time analytics is required. A solid understanding of data engineering, data science, system integration and application within the mobility sector is required. Ensuring GDPR compliance across the entire product is mandatory.

Outcomes

A strong commercialisation potential and scalability to a European market is expected. Additionally, future upscaling of the product innovation to a wider reporting scope is positively considered. Corporates will be able to use the synthesised data on employees' commutes for CSRD reporting, with considerable cost savings in comparison to today's available solutions.

2.4 Topic- related eligibility requirements

Mandatory KPIs	KPI code	KPI title	Minimum target value
	EITHE02.4	Marketed Innovations with a sales revenue of at least 10 000 EUR	1
	KSN02	Demos/ pilots/ living labs actively involving citizens	1
Minimum co-funding rate	33%		
Consortium	<ul style="list-style-type: none"> • At least two (2) partners from two (2) different EU countries or Third countries associated to Horizon Europe. • The consortium must consist of no more than four (4) partners. 		
List of additional mandatory documents and/or requirements	N/A		

2.5 Additional topic-related information

Optional KPIs	EITHE04.4	Start-ups created of/for Innovation with financial transactions of at least 10 000 EUR
	KONHE20	# Designed/Tested Innovations
	EITHE01.1	# Intellectual property rights
	KSN01	# Innovation pilot scaling
	KONHE03.2	# City engagements in projects
	EITHE02.2-EITRIS	EIT RIS Marketed Innovations
	EITHE04.2-EITRIS	Start-ups created of/for innovation
EIT funding/ Topic	Up to 250,000 euros (1 project is expected to be funded)	
Consortium	<p>The proposal will be positively evaluated if the consortium has the following characteristics:</p> <ul style="list-style-type: none"> • Relevant demonstration partner – a company affected by the CSRD must be part of the consortium and the solution must be tested with them. • A commercial partner with a strong track-record of a) working with company sustainability reporting, b) managing large volumes of GIS and mobility data and c) enabling real-time analytics, is required. • A partner with experience in data engineering, GDPR-compliant data processing and building AI models for applications in the mobility sector is required. <p>Entities representing the KTI are eligible for applying to this call. Furthermore, entities from industry should be included in the proposal.</p>	
Project duration	12 months	
Strategic fit topic-specific evaluation question	To what extent does the proposed solution have the potential to simplify Scope 3 CSRD Reporting for client companies?	5 points
Info Session	<p>Date: 20 December 2023 at 11:00 CET. Registration Link</p>	

3. TOPIC 3: City buses & GSR2 compliance

3.1 Introduction

Under the new Vehicle General Safety Regulation (hereinafter GSR2²⁰), which came into effect in July 2022, every truck and bus that is registered in Europe by vehicle manufacturers from July 2024 onwards must include specific automatic driver assistance safety features. The GSR2 will mandate a number of new features that must be included on all new city buses such as the detection of pedestrians and cyclists, rearview camera perspectives, advanced alerts for driver distraction, and Intelligent Speed Assistance (ISA) mechanisms.

This call topic centres on the development and marketisation of a comprehensive Advanced Driver Assistance System (ADAS) for city buses. This system will incorporate all mandatory features, aiding bus manufacturers—particularly smaller and mid-sized ones from RIS countries with limited internal resources—in complying with new regulations without jeopardising their competitive edge. The project timeline for this call topic aligns with the launch date of the new GSR2 requirements, providing applicants with an opportune timeframe to commercialise their solutions.

3.2 Relevance

EIT Urban Mobility is committed to supporting the EU's aims to move towards a 'zero deaths' goal on the roads by 2050 ("Vision Zero"²¹). In 2021, European Commission data revealed that approximately 20,000 people lost their lives in road accidents in the EU, with pedestrians, cyclists, and moped riders comprising more than 32% of the fatalities. Studies indicate that human error contributed to about 95% of these accidents.

To enhance road safety, the EU has implemented the new GSR2 that mandates ADAS be incorporated into vehicles. It also establishes the legal framework for approving automated and fully driverless vehicles in the EU. These safety measures are expected to save over 25,000 lives and prevent at least 140,000 serious injuries by 2038. The legislation applies to new vehicle types from today and will be extended to cover all new vehicles starting from 7 July 2024, with further expansion to include different types of road vehicles

²⁰ eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R2144

²¹ Next steps towards 'Vision Zero' - Publications Office of the EU ([european-council.europa.eu](https://european-council.europa.eu/media/en/press-room/pages/press-room.aspx))

until 2029, such as city buses. Additional features, such as event data recorders, will become mandatory in the future²².

City buses provide a vital transit service in most European cities; however, they can also pose a danger to citizens. In 2019 alone, there were 521 fatalities resulting from crashes involving buses or coaches in the EU²³. Of these, 79% were vulnerable road users, namely pedestrians, cyclists, or the bus occupants themselves²⁴. The GSR2 aims to reduce these numbers, by mandating systems capable of detecting pedestrians or cyclists, and advanced driver distraction alerts. With majority of crashes occurring due to human error, adding AI-driven ADAS features to buses will contribute to the Vision Zero goal.

Implementing ADAS in new city buses is a vital step towards achieving safe urban streets across the European Union. However, there will be a large fleet of existing buses and vehicles that will lack many of the mandated features until they are replaced. With city buses tending to have an average lifespan of 12 years, it is likely that the impacts of the regulation will not be felt until well into the 2030s. Therefore, third-party ADAS systems that can be integrated into new buses or retrofitted into existing ones will become a necessity in the sector.

This call topic is specifically focused on SO5 (Promote effective policies and behavioural change) of the EIT Urban Mobility Strategic Agenda 2021-2027 and supports EITUM's ambition to be responsive and act as an agent for change within the European regulatory framework²⁵.

3.3 Tasks, Requirements and Outcomes

Tasks

Proposals addressing this topic should include the following tasks:

- Technology integration and demonstration in close collaboration with a bus manufacturer.
- Stress scenario testing – at least part of the testing should be done on a testing track with the use of dummies to simulate stress conditions. At least 100 hours of driving data should be recorded.
- Preparation of the bus manufacturer for homologation after project completion.
- Preparation of a realistic scale-up plan.
- Third party certification of the technology to prepare for homologation with OEMs.
- NB: These topic-specific activities are additional to the mandatory activities outlined in section 3.2 of the Call Manual:

²² p8_Scrutiny_GSR_EN.pdf (europa.eu)

²³ https://road-safety.transport.ec.europa.eu/system/files/2022-03/FF_buses_hgv_20220209.pdf

²⁴ Ibid.

²⁵ https://www.eiturbanmobility.eu/wp-content/uploads/2021/04/210329_SA_EIT-UM-branded_Finalpublished.pdf

- To develop a new product/service/solution or significantly improve an existing product/service/solution, reaching full market readiness by the end of the project (Technology Readiness Level 8/9).
- To conduct a demonstration of the product/service/solution according with the requirements of KSN02 or KONHE31 alternatively.

Requirements

The project requirements encompass a comprehensive set of objectives aimed at developing an Advanced Driver Assistance System (ADAS) tailored for city buses:

- **GSR2 Compliance:** The ADAS solution must incorporate all features mandated by GSR2 for city buses, achieving a Technology Readiness Level (TRL) of 9 by the project's conclusion.
- **Integration and Retrofitting:** The ADAS solution should be easily integrated or retrofitted into existing bus models lacking certain functionalities.
- **Additional Safety Features:** Consideration should be given to systems incorporating extra safety features. These may include features expected in future GSR2 requirements post-2024 or those deemed crucial by bus manufacturers, even if not currently regulated.
- **Pilot Phase Demonstration:** During the pilot phase, the solution must undergo a demonstration with a relevant end-client within the project consortium. The end-client, a bus manufacturer from a Regional Innovation Scheme (RIS) country affected by GSR2 regulations, is expected to provide customer validation of the product.
- **Certification:** The certification process of an Advanced Driver Assistance Systems (ADAS) for a city bus, as per the General Safety Regulation II (GSR2) of the EU, must be carried out by an external company with a reputable standing within the EU. This ensures that the process adheres to the stringent safety and regulatory standards set forth by the GSR2.
- **Scale-up plan:** The scale-up process is a strategic approach taken by a company to increase its production capacity to meet growing demand. It involves the expansion of production capabilities while maintaining efficiency and product quality. A credible and measurable scale-up plan is crucial, outlining clear steps for increasing production, setting realistic timelines, and identifying necessary resources. It's essential for the company to demonstrate adaptability and preparedness to manage the challenges that come with scaling up.

Outcomes

The ADAS system empowers manufacturers, particularly SMEs from RIS countries, to address challenges posed by their limited internal resources for hardware and software development to ensure GSR2 compliance. The solution significantly provides an additional layer of safety by reducing the potential dangers resulting from human error, consequently contributing to safer streets across European cities.

3.4 Topic- related eligibility requirements

Mandatory KPIs	KPI code	KPI title	Minimum target value
	KONHE31	Tested Engineering Innovation	1
	EITHE02.2EITRIS	EIT RIS Marketed Innovations	1
Co-funding	20% for RIS countries (this project is funded through the RIS scheme that requires lower co-funding rates), for other countries the co-funding rate of 33% applies.		
Consortium	<ul style="list-style-type: none"> • The consortium must consist of no more than two (2) partners from two (2) different EU countries, or Third countries associated to Horizon Europe. • The consortium must be made up of one commercial partner and one bus manufacturer as technology integrator and demonstration partner. • The consortium must consist of organisations from RIS-eligible countries²⁶. 		
List of additional mandatory documents and/or requirements	<ul style="list-style-type: none"> • Tangible evidence of former commercial relationships with and interest in the forthcoming Advanced Driver Assistance System (ADAS) solution. This may include purchase orders, letters of intent, invoices, and similar documentation. 		

3.5 Additional topic-related information

²⁶ A list of RIS-eligible countries can be found here: [The EIT Regional Innovation Scheme \(RIS\): Closing the Innovation Divide in Europe | EIT \(europa.eu\)](#)

Optional KPIs	EITHE04.4	Start-ups created of/for Innovation with financial transactions of at least 10 000 EUR
	KONHE20	# Designed/Tested Innovations
	EITHE01.1	# Intellectual property rights
	KSN01	# Innovation pilot scaling
	KONHE03.2	# City engagements in projects
	EITHE04.2-EITRIS	Start-ups created of/for innovation
EIT funding/ Topic	Up to €300.000 (1 project is expected to be funded) This topic will be funded through the RIS scheme.	
Consortium	<p>The proposal will be positively evaluated if the consortium has the following characteristics:</p> <ul style="list-style-type: none"> • The demonstration partner should be a small or mid-sized bus manufacturer that operates in an EU country affected by the GSR2. • The commercial partner must demonstrate a verifiable history of engaging in commercial activities with OEMs/bus manufacturers and provide tangible evidence of commercial interest in the forthcoming ADAS solution. This may include purchase orders, letters of intent, invoices, and similar documentation. <p>Entities representing the KTI are eligible for applying to this call. Furthermore, entities from industry should be included in the proposal.</p>	
Project duration	12 months	
Strategic fit topic-specific evaluation question	How effectively does the solution assist bus manufacturers, especially smaller and mid-sized entities, in achieving timely compliance with EU Regulation GSR2 for city buses by incorporating the mandatory features?	5 points
Info Session	Date: 20 December 2023 at 15:00 CET. Registration link	

4. TOPIC 4: Integrating On-Demand Services for Inclusive and Accessible Public Transport

4.1 Introduction

EIT Urban Mobility (EIT UM) plays a crucial role in promoting sustainable urban mobility and reducing greenhouse gas (GHG) emissions by encouraging the transition from private vehicles to shared and public transportation. Specifically, via this targeted topic, EIT UM seeks to fund a Demand Responsive Transport (DRT) project that addresses the increasing need of cities in Regional Innovation Scheme (RIS) countries¹ for flexible, shared, and sustainable mobility between suburban and urban areas that currently lack adequate connectivity and accessibility. This need is driven by the ongoing trend of urban migration, particularly prevalent in Eastern European countries.

EIT UM aims to support the development of transport services in growing RIS cities by facilitating the development, demonstration, and deployment of innovative DRT technologies for suburban areas. This initiative empowers public transport authorities and operators to collaborate with small innovators, encouraging flexible, scalable, and inclusive transportation solutions to connect often low-income suburbs with urban areas through demand-responsive mobility. EIT UM aims to fund projects in RIS countries²⁷ where such DRT services are not yet tested or deployed. Currently most DRT services are working independently of the general public transport system. The objective is therefore to integrate DRT solutions into the public transport system, making it more accessible and promoting sustainable practices.

4.2 Relevance

Between 2010 and 2020, urban areas within Europe witnessed a growth trend of +4.5/1000 inhabitants per year, resulting in the expansion of suburban areas. Migration to cities is particularly common in Eastern Europe, where 14% of the population still lives in rural regions compared to 2% in the north-western EU countries²⁸. The surge in population and density within cities presents a significant challenge to urban

²⁷ A list of RIS-eligible countries can be found here: [The EIT Regional Innovation Scheme \(RIS\): Closing the Innovation Divide in Europe | EIT \(europa.eu\)](#)

²⁸ [Exploring regional demographic trends | Data | European Structural and Investment Funds \(europa.eu\)](#)

development with RIS cities often facing more pronounced challenges stemming from factors such as limited public resources, aging vehicle fleets primarily comprised of low-cost and high polluting vehicles, a strong car ownership culture, extensive urbanisation, lacking or outdated infrastructure, and poor inter-regional connectivity. In addition to this, existing public transportation services often fail to meet the actual needs of citizens, leading to inefficient and underutilised services in these areas. Consequently, residents turn to personal vehicles, contributing to increased traffic congestion and air pollution.

Digitalisation and other technological advancements have paved the way for the provision of more flexible, inclusive, and user-friendly transport options. Research from the International Transport Forum shows that DRT can play a role in accelerating the sustainable mobility transition in rural and peri-urban areas, as long as the service constitutes an acceptable transport mode for most users²⁹. This is a challenge in low-density mobility areas where public transport, if existent at all, can only fulfil a few and specific mobility needs, excluding the elderly and people with disabilities, who cannot access some transportation modes due to a lack of accessibility.

Digitalisation facilitates the implementation of DRT by enhancing consistency, quality, and safety in transport services, tailoring them to personalised needs. It enables the efficient utilisation of resources by collecting and analysing data on traffic patterns and public transportation usage. This data-driven approach not only optimises traffic flow but also reduces congestion and pollution, thereby improving the overall efficiency of the transport system. Moreover, these technologies improve citizens' access to information, making trip planning, ticket purchases, route selection, and mode preferences more convenient.

This Targeted Topic aims to address a combined geographical and technological gap within the EIT UM portfolio, aligning with the objectives of the Targeted Projects Programme. Currently absent in RIS countries, particularly in Eastern Europe, are Demand Responsive Transport (DRT) solutions and cooperation between the private (more specifically SMEs) and public sectors. The topic targets the collaboration between public and private entities in RIS countries, leveraging the strengths of each sector to devise innovative solutions tailored to local challenges arising from urban sprawl. This partnership is key for addressing and solving community-specific issues efficiently.

EIT UM's objective is to fund a project in a RIS country, preferably in an underrepresented country³, where such services have not been implemented before. While DRT is undergoing pilot projects and operational implementation in other European areas, there exists a clear gap in integrating these local on-demand services with the broader public infrastructure. Under this topic, EIT UM seeks to bridge this gap by funding a project focused not only on implementing DRT to connect suburban areas with the city but also on innovating DRT solutions for deep integration with wider public transport services.

This call topic is specifically focused on SO3 (Deploy and scale green, safe, and inclusive mobility solutions for people and goods) of the EIT Urban Mobility Strategic Agenda 2021-2027 and supports EITUM's

²⁹ Innovations for Better Rural Mobility (itf-oecd.org)

ambition to boost the innovation in urban mobility within those countries and regions classified as emerging or moderate innovators according to the European Innovation Scoreboard.

4.3 Tasks, Requirements and Outcomes

Tasks

The project is expected to conduct the following tasks:

- **Solution development:** Create or enhance a Software as a Service (SaaS) solution that empowers transport operators and authorities (PTOs and PTAs) to establish new and flexible routes aligned with user mobility needs. Ensure the solution is user-friendly, locally adapted, and achieves TRL9 by the end of the project.
- **City Analysis:** Conduct a comprehensive data analysis to identify routes and patterns, develop a digital twin for service simulation, and formulate a roadmap for service implementation. This includes determining the optimal launch conditions for the pilot, specifying the area covered, required number of buses, modes of transport, and target user groups.
- **Demonstration:** Showcase the solution in at least one city (RIS) for a minimum of 6 months. Engage city authorities and users for feedback and validation, focusing on cities experiencing rapid suburban population growth without previous DRT implementation.
- **Integration with Public Transport:** As a component of the pilot, initiate the integration of the on-demand service with the broader public transport network.
- **Scale-up planning:** Gradually expand the pilot by increasing the number of buses and extending coverage based on the pilot's success. Within the project, collaborate with the city to develop a viable expansion plan for future large-scale deployment.

Requirements

The project must meet the following objectives:

- Tackle the challenge posed by cities with rapidly expanding suburbs to reduce the environmental impact of commuting.
- Promote innovation related to shared and on-demand transport models and solutions.
- Address the inclusion of socio-economic groups/neighbourhoods underserved by current mobility services.
- Encourage private-public collaboration between Public Transport Operators/Authorities (PTOs and PTAs) and small innovators to address local problems in an agile, scalable, and flexible manner.

Moreover, the chosen commercial partner must demonstrate a robust track record in collaborating with cities to plan and design Software as a Service (SaaS) solutions for mobility. This should encompass expertise in developing optimisation algorithms for route planning, real-time monitoring, and thorough

analysis of vehicle data. The partner should excel in processing the data model of the area and transportation, simulating demand, capacities, fleet requirements, and proposing effective solutions.

Furthermore, the selected partner must possess hands-on experience in successfully launching pilot operations. The solution must be capable of optimising routes, thereby reducing fuel consumption, and enhancing the efficiency of the existing vehicle fleet.

Outcomes

The EIT UM expects a scalable and flexible solution with strong commercialisation potential that can compete in a global market. The goal is to create a solution that can be replicated in other European cities, irrespective of the number of users. City planners will leverage mobility data to dynamically adjust services, introducing new stops and lines to address increasing transportation demand in specific areas. This solution will eliminate unnecessary stops, providing a level of flexibility that translates into more efficient fleet management. This not only saves costs for the city but also contributes to a reduction in GHG emissions.

4.4 Topic- related eligibility requirements

Mandatory KPIs	KPI code	KPI title	Minimum target value
	EITHE02.4	Marketed Innovations	1
	KONHE03.2	City engagement in project	1
	KSN02	Demos/pilots/living labs actively involving citizens	1
Minimum co-funding rate	33%		
Consortium	<ul style="list-style-type: none"> At least two (2) partners from two (2) different EU countries or Third countries associated to Horizon Europe. A maximum of (3) partners. At least one (1) PTO or PTA from a RIS city as a relevant demonstration partner. 		
List of additional mandatory documents and/or requirements	N/A		

4.5 Additional topic-related information

Optional KPIs	KSN01	# Innovation pilot scaling
	KONHE31	Tested Engineering Innovation
	EITHE04.4	Start-ups created of/for Innovation with financial transactions of at least 10 000 EUR
	EITHE01.1	# Intellectual property rights
	KONHE20	# Designed/tested innovations
	EITHE02.2-EITRIS	EIT RIS Marketed Innovations
	EITHE04.2-EITRIS	Start-ups created of/for innovation
EIT funding/ Topic	Up to 250,000 euros (1 project is expected to be funded)	
Consortium	<p>The proposal will be positively evaluated if the consortium has the following characteristics:</p> <ul style="list-style-type: none"> • The demonstrating partner is a Public Transport Operator (PTO) or Public Transport Authority (PTA) situated in a rapidly expanding city that has not yet implemented such solutions in the country. • The commercial partner has a strong record in planning SaaS mobility solutions, including route optimisation algorithms. They should have hands-on experience in launching pilot operations to reduce fuel consumption and enhance fleet efficiency. <p>Entities representing the KTI are eligible for applying to this call. Furthermore, the proposal should include entities from industry and cities.</p>	
Project duration	12 months	
Strategic fit topic-specific evaluation question	To what extent do both the technology provider and the city possess the capacity, experience, and resources to seamlessly integrate the Demand Responsive Transport (DRT) solution into the general public transport system?	5 points
Info Session	Date: 20 December 2023 at 10:00 CET Registration link	

5. TOPIC 5: Multi-governmental Open Innovation Partnerships for Sustainable Mobility Solutions

5.1 Introduction

Close collaboration between EIT Urban Mobility (EIT UM) and national, regional, and local innovation programs is crucial for efficiently and rapidly addressing niche urban mobility challenges, and consequently contributing to a sustainable transformation. This collaborative approach leverages local insight and expertise, ensuring tailored and effective solutions for the resolution of niche challenges.

Through this topic, EIT UM aims to initiate collaboration with established open innovation mobility programmes with their own dedicated resources and proven track record. The objective is to empower small innovators through these programmes by facilitating the local development of solutions addressing niche urban mobility challenges and their demonstration in a real-life urban setting. The overarching goal is to accelerate market innovation for SMEs capable of addressing urban mobility challenges, entailing the implementation of new solutions or substantial enhancements to existing ones through real-environment city pilots, ensuring rapid deployment.

5.2 Relevance

EU Member States, as communicated through their National Contact Points (NCP) for Horizon Europe, express a need for closer alignment between European and national initiatives. EIT UM, therefore, aims to establish effective collaboration channels with established national, regional, and city open innovation programmes that target support for small innovators with innovative sustainable urban mobility solutions. EIT UM therefore, aims to establish effective collaboration channels with established national, regional, and city open innovation programmes that support SMEs with innovative sustainable urban mobility solutions.

Open innovation initiatives at different governance levels serve the dual purpose of piloting inventive solutions for local urban mobility challenges and fostering local innovators in product development and marketisation. EIT UM, in alignment with its Strategic Agenda, prioritises collaboration with these well-defined, locally focused open innovation ecosystems. Such collaborations present mutual benefits for all stakeholders. Developing open innovation close to its intended location of deployment, providers, and

users, enhances outcomes, increases scalability and the likelihood of implementation. Additionally, EIT UM can facilitate the expansion of these programs, ensuring a broader and more impactful international reach.

Member State and EU mobility programmes have duplication on objectives, operational tasks, and market development. On objectives, both EU and national programmes drive modal shift, reduce GHG emissions, adopt technology to build more sustainable cities. In terms of operational tasks, common open innovation task needs assessments, solution scouting, proposal evaluation, project selection and monitoring. On market development, both EU and national programmes develop mentoring, skills, as well as scaling-up and go-to-market actions. Given these commonalities, coordination would facilitate mutual improvement.

Through this Targeted Topic, EIT UM can support existing innovation programmes in 3 ways. Firstly, it can ensure mobility innovations and SMEs, irrespective of Member State origin, are scouted and given access to national, regional and city calls. Secondly, in up-scaling solutions, EIT UM is uniquely placed to support national programme winners to expand across Europe. Thirdly, EIT UM can provide support to overcome the complexity associated with funding, state-aid procedures, and procurement which can present a burden on national, regional and city authorities.

This Targeted Topic aims to foster collaboration between European innovation programmes (EIT UM) and national innovation programmes. The partnership between EIT UM and national programs aims to expedite market innovation among SMEs capable of providing targeted solutions for niche urban mobility challenges. The partnership between EIT UM and national programs aims to expedite market innovation among SMEs with targeted solutions for niche urban mobility challenges. The goal of EIT UM is to fund projects that accelerate SMEs, enabling them to effectively tackle the most pressing mobility challenges in cities.

This call topic is aligned with three of the five strategic objectives of the EIT Urban Mobility Strategic Agenda 2021-2027 and supports EITUM's ambition to boost the innovation in urban mobility across Europe: SO1 – Create liveable urban spaces, SO3 – Deploy and scale green, safe, and inclusive mobility solutions for people and goods and SO4 – Accelerate market opportunities.

5.3 Tasks, Requirements and Outcomes

Tasks

Proposals addressing this topic should include following types of activities:

Task 1: Collaboration

- Foster collaboration between EIT UM and the established national/regional/local open innovation programme in sustainable urban mobility.
- Encourage internationalisation and increase impact of the open innovation programme by inviting international SMEs to solve local challenges and/or give local SMEs the opportunity to demonstrate internationally.

Task 2: Solution Development

- Develop solutions addressing niche city challenges in sustainable mobility.
- Ensure the solutions are scalable in the piloting city and replicable to other cities.

Task 3: Solution Demonstration and Validation

- Demonstrate each solution in at least one city for a minimum period of one month, engaging city authorities and final users for feedback.
- Validate the product concept from both the end-users and clients.

Requirements

The government authority leading the project must have an established open innovation programme with a proven track record and dedicated resources. Participating SMEs are required to start the project with a relevant urban mobility solution at a minimum TRL level of 6/7, demonstrating the capacity to deploy their solutions in real-life settings. The solution should reach TRL 8/9 and achieve market readiness before the project concludes. The city/cities chosen for demonstration should have defined a local urban mobility challenge that is deemed a priority.

Selected SMEs are expected to showcase significant product/service innovation throughout the project, emphasising improvements with the involvement of end-users and clients beyond mere deployment to new clients and markets.

Demonstrations of each solution should extend for a minimum of one month in real-life urban settings. During these demonstrations, SMEs are requested to actively engage with an appropriate number of end-users and clients.

The consortium must possess the necessary resources and expertise to effectively coordinate collaboration between city demonstrator(s), coordinate and monitor the three pilots, mentor SMEs/start-ups, and assess the impact of the pilots and resulting solutions.

Outcomes

The project outcomes should include the establishment of innovative partnership models between EIT Urban Mobility and established urban mobility and transport programmes from different governmental levels, and the accelerated demonstration and adoption of novel solutions, services, and products to enhance urban environments and mobility.

5.4 Topic- related eligibility requirements

	KPI code	KPI title	Minimum target value
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Mandatory KPIs	EITHE02.4	Marketed Innovations	2
	KSN02	Demos/pilots/living labs actively involving citizens	3
	KONHE03.2	City engagement in project	1
Co-funding	33%		
Consortium	<ul style="list-style-type: none"> At least four (4) partners from two (2) different EU countries or Third countries associated to Horizon Europe. The consortia must be led by a national, regional or city authority, or an entity with direct links with a national, regional or city authority³⁰, operationally linked to an existing and funded mobility open innovation programme. Include at least three (3) SMEs <p>N.B.: At least one demonstrating city must be involved in the project: either as a consortium partner or through a letter of intent.</p>		
List of additional mandatory documents and/or requirements	<ul style="list-style-type: none"> Letter of intent from demonstrating city(ies), or region(s) that is/are not part of the consortium. Evidence of the established open innovation programme 		

5.5 Additional topic-related information

Optional KPIs	EITHE04.4	Start-ups created of/for Innovation with financial transactions of at least 10 000 EUR
	KONHE20	# Designed/Tested Innovations
	KSN01	# Innovation pilot scaling
	EITHE01.1	# Intellectual property rights
	EITHE02.2-EITRIS	EIT RIS Marketed Innovations
	EITHE04.2-EITRIS	Start-ups created of/for innovation
EIT funding/ Topic	Up to 750.000 euros with a maximum of 250.000 euros per project (3 projects are expected to be funded)	
Consortium	<p>The proposal will be positively evaluated if the consortium has the following characteristics:</p> <ul style="list-style-type: none"> At least 3 SMEs each with mobility solutions at a TRL6/7 	

³⁰ In case of new entities with direct links with a city/municipal government not previously validated in PLAZA as an Affiliated Entity, a declaration from the actual city/municipal government must be uploaded together with the application.

	<ul style="list-style-type: none"> • The solutions match the challenges of the demonstration cities • There is a direct relation between the project and the local innovation programme <p>Entities representing the KTI are eligible for applying to this call. Furthermore, the proposal should include entities from industry and cities.</p>
Project duration	12 months
Strategic fit topic-specific evaluation question	<p>To what extent can the collaboration with the EIT UM increase the impact of the current open innovation programme, including past and present activities, the allocated resources, and its track record?</p> <p style="text-align: right;">5 points</p>
Info Session	<p>Date: 20 December 2023 at 14:00 CET. Registration link</p>