



## **Deliverable 6.2**

### Preliminary Exploitation plan



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## Executive Summary

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The SINFONICA project works to develop functional, efficient, and innovative strategies, methods, and tools to engage transport and mobility stakeholders to collect, understand and structure in a manageable and exploitable way their needs, desires, and concerns related to Cooperative, Connected and Automated Mobility (CCAM). It aims to facilitate the shift toward innovative, smart mobility concepts in an inclusive and equitable way.

The project's exploitation strategy is developed within Task 6.3, creating an exploitation and implementation process, of which this is the first output.

Below, we summarise the exploitation strategy from the partner's point of view:

- **Local and regional public authorities (TfWM, e-Trikala, N-Brabant, FHH):** CCAM products and services to develop within their regions. Sharing key findings with peer regions, national government bodies, transport operators, the public and private sectors in the UK, Greece, Germany and the Netherlands.
- **Industry and business actor (RELAB):** Gather insights from the point of view of users' needs and challenges in the mobility domain to strengthen their knowledge and position in this market. Test and validate engagement methods that will contribute to enhancing the capability of designing user-centred integrated services and utilising the functionalities towards the development of new web tools.
- **Transport Operators (ARRIVA):** SINFONICA will help Arriva to make public transport accessible to everyone. It will ensure better decision-making, better provision of their services and sustainable implementation.
- **Universities and research institutes (ICOOR, UNIMORE, POLITO, ICCS, IRTSX, TUD, ISINNOVA):** The SINFONICA findings will allow research institutes to provide their research results to other cities, provinces, regions and authorities. Universities and research institutes' exploitation targets are in the following areas: production of research results, dissemination of knowledge and pursuing the possibility of a spin-off company exploiting established experience in transport and mobility and management of data, offered as a service to companies. At a scientific level, the Universities and Research Institutes will acquire in-depth knowledge with respect to social inclusion in digital transport systems and especially CCAM as well as enhance their visibility through collaborating with strategic industrial players of the consortium thus adding an application-oriented direction in its activities.
- **Associations (ERTICO):** ERTICO and ITS national associations will help ensure the dissemination and use of project results across all relevant stakeholders, increasing awareness and use of the SINFONICA outputs. The knowledge gained within SINFONICA will increase knowledge among actors across different sectors (including the CCAM Partnership) on how CCAM can be used to improve mobility for all citizens and how this can be measured and evaluated.



A wide range of tools and channels will be used to resonate the project and its results so that communication will be widespread. All communications will be targeted and linked to the dissemination plan to maximise the impact of SINFONICA. The engagement of target actors will be implemented through the:

- **Project website** - [www.sinfonica.eu](http://www.sinfonica.eu), as well as partner websites such as [erticonetwork.com](http://erticonetwork.com)
- **Blog & social media** – [Linkedin.com/company/sinfonica-project](https://www.linkedin.com/company/sinfonica-project)
- **Events, workshops and webinars**
- **Promotional materials**
- **Knowledge Map tool**
- **Participation in relevant international conferences, fairs and events**
- **Groups of Interest**
- **Press network and publications**

This plan is a preliminary document which will inform a final exploitation plan at the end of the project. The aim of the plan is to confirm the ambitions for the project and describe the partner activities towards exploitation of the results of the project so that 1) changes in exploitation can be monitored and accounted for, 2) adequate resources are committed to exploitation and 3) so that exploitation can be monitored by the stakeholders.

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## Acronyms

Acronym	Description
CAV	Connected and Automated Vehicles
CCAM	Cooperative, Connected and Automated Mobility
Dx.x	Deliverable
EC	European Commission
Gol	Group of Interest
ITS	Intelligent Transport Systems
KPI	Key Performance Indicator
Mx	Month x in SINFONICA (M1 is September 2022; M36 is August 2025)
SEN	Sensitive Deliverable (restricted)
T	Task (in SINFONICA project)
VRU	Vulnerable Road User
WP	Work Package (in SINFONICA project)

PROJECT PARTNERS' ACRONYMS	PARTNER FULL NAME
ARRIVA	Arriva Personenvervoer Nederland Bv
ERTICO	European Road Transport Telematics Implementation Coordination Organisation – ITS Europe
E-Trikala	Anaptyxiaki Etaireia Dimou Trikkaion Anaptyxiaki Anonymi Etaireia Ota
FHH	Freie und Hansestadt Hamburg
ICCS	Institute of Communication and Computer Systems
ICOOR	Consorzio Interuniversitario per l'Ottimizzazione e la Ricerca Operativa
IRTSX	Institut de Recherche Technologique System X
ISINNOVA	Istituto di Studi per l'Integrazione dei Sistemi (I.S.I.S) – Società cooperativa
N-Brabant	Noord-Brabant Provincie
POLITO	Politecnico di Torino
RELAB	RE:Lab S.R.L.
TfWM	West Midlands Combined Authority (Transport for West Midlands)
TUD	Technische Universität Dresden
UNIMORE	Università degli studi di Modena e Reggio Emilia

## 1 Introduction

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### 1.1 SINFONICA overview

SINFONICA is an EU-funded Horizon Europe project which works to develop functional, efficient, and innovative strategies, methods, and tools to engage transport and mobility stakeholders to collect, understand and structure in a manageable and exploitable way their needs, desires, and concerns related to Cooperative, Connected and Automated Mobility (CCAM). These stakeholders comprise users, providers, and others such as citizens (including vulnerable groups), transport operators, public administrations, service providers, researchers, vehicle manufacturers and technology suppliers. SINFONICA will co-create decision support tools for designers and decision makers to enhance the CCAM seamless and sustainable deployment, to be inclusive and equitable for all citizens.

SINFONICA aims to facilitate the shift toward innovative, smart mobility concepts in an inclusive and equitable way.

The project will contribute towards creating functional, efficient, and innovative strategies, methods, and tools to engage CCAM users, providers, and other stakeholders (i.e., citizens, including vulnerable user groups, transport operators, public administrations, service providers, researchers, vehicle, and technology suppliers) to collect, understand and structure in a manageable and exploitable way their needs, desires, and concerns related to CCAM.

SINFONICA will use this knowledge to co-create final decision support tools for designers and decision makers with the scope to enhance its seamless and sustainable deployment, to be inclusive and equitable for all citizens. SINFONICA will provide methodologies, practical tools, recommendations, and guidelines to support not only companies in designing innovative products and services, but also authorities and policy makers in defining the political strategies to introduce CCAM technologies in our lives.

### 1.2 Purpose of this document

The purpose of this document is to understand each of the partners goals and ambitions and record them prior to the core project activities. By creating this document partners will engage with why they are part of this project, understand the activities and methodology and how they can utilise the information to further their respective agenda's.

As partners are at different parts of their journeys with connected & automated mobility, the plan can also record learning from different partners, their practices and technical knowledge in the sector and how they can be applied to their respective strategies.



### 1.3 Intended Audience

This deliverable is intended primarily as a tool for the SINFONICA partners and the project management to further develop and refine exploitation plans for individual partners and the consortium as a whole, which will become the basis of D6.5 – Final Exploitation Strategy – in the final month of the project (M36: August 2025). It also allows European Commission Services to monitor exploitation proposals and intentions at this early stage of the project. As a public document, it is available for any other interested party.

### 1.4 Structure of the document

Chapter 2 identifies and summarises the roles and responsibilities of each partner and their technical approach to the project.

Chapter 3 focuses on the innovative aspects of the project, what they are and how they can be utilised by the partners. It also identifies potential innovations that may be included over the duration of the project and how to further develop areas of innovation.

Chapter 4 explores opportunities for each partner and investigates what can be done to exploit the work carried out, how to get further exposure and how to build up a profile for the project. It also explores any commercial opportunities of Intellectual property aspects that could be included.

Chapter 5 investigates the wider impact of the results from the project and how it impacts stakeholders and the wider public.

Chapter 6 summarises and concludes the document.

## 2 Partners roles and technical approaches

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The following is a summary of the key roles in SINFONICA for each partner.

### 2.1 ICOOR

The role of ICOOR is to support the implementation of the activities of the GOIs and the partners involved in the implementation of WP3, especially as regards the collection and analysis of data coming from the monitoring and evaluation of the effectiveness of engagement strategies. ICOOR has a long experience in developing cooperative and innovative solutions for what regards the collection of data aimed at defining and monitoring the users' needs and expectations about the innovative mobility solutions developed within CCAM.

Together with the partners involved in WP3, ICOOR will have an active role in the evaluation of the effectiveness of the engagement strategies developed in WP1 and WP2, with the aim of implementing the participatory approach of the four Groups of Interest (GOIs). To do this, ICOOR's approach will regard the support of the four GOIs in the monitoring activity of the users' groups, monitoring the progress in the three rounds of engagement and collecting the data for each group of interest, thus proposing improvements to the evaluation framework which will be defined together with the partners involved in the implementation of WP3.

### 2.2 UNIMORE

The role of UNIMORE is to coordinate and support the various phases of project implementation, especially regarding the definition and implementation of interest groups and the construction of an engagement methodology suited to SINFONICA's objectives. UNIMORE has a long experience in coordinating the different actors involved in the SINFONICA framework, cooperating with the stakeholders and with the project partners in the implementation of the CCAM solutions developed within SINFONICA.

Furthermore, as one of the academic partners of SINFONICA, UNIMORE has strong skills in the research of innovative methodologies to assess the stakeholders' needs, in the conduction of empirical research in the social sciences and the application of these methodologies in the CCAM field. In this sense, UNIMORE provides high-quality scientific research and articles based on the results of its studies implemented during the different phases of the SINFONICA project.

In line with WP1 objectives, UNIMORE will operate the improvement of the knowledge for the categorisation of the GOIs and the definition of the different categories of future users, with specific attention on the most vulnerable groups. The technical approach will regard the analysis of the existing literature on citizens' participation in order to adopt a categorisation of the users considering both socio-economic characteristics, such as the age range and, considering public transport, the travel frequency of the users. Furthermore, UNIMORE will provide the necessary knowledge to implement the Research Questions (RQs) to assess the effectiveness of the engagement strategies adopted in WP2 and in the data collection phase foreseen by WP3. To do this, UNIMORE will cooperate with the other four GOIs and the other partners involved in WP1 on the definition of the Research Areas which will work as a base to formulate the engagement

strategies and the data collection methodologies that to capture the mobility needs of citizens, the users' expectations, and the factors that might influence the future use of CCAM as part of people's mobility.

Finally, UNIMORE will have an active role in WP1 activities as leader of T1.4, defining the representatives that will have to be involved in the Gols and discussing the research areas and questions that will have to be faced.

### 2.3 ERTICO

ERTICO's main roles are leading the work package on Strategies, methodologies and recommendations for an inclusive equitable and accessible future CCAM (WP5), and to promote and disseminate the findings of the SINFONICA project (WP6). As the ITS association for Europe, ERTICO is skilled in partnership development, marketing, communications and dissemination, having undertaken this role in many European funded projects.

ERTICO's approach will be focused on developing and communicating recommendations and guidance, and maximising the opportunities for dissemination and capacity building with peer organisations outside the consortium. This will include identifying appropriate networking and conference events and distributing project outputs through social and conventional media channels.

ERTICO also contributes to the framework-setting tasks in WP1 and is the project's Quality Manager.

### 2.4 ICCS

ICCS will apply its great experience in academic research. Specifically, it has participated in ITS and CCAM research projects, as Project Coordinator, Technical Manager or Data Manager, demonstrating excellence and high-quality results. ICCS has also participated in the design and development of innovative tools and applications in the field of ITS providing expertise and managerial skills.

Extensive literature and projects review will be carried out in order to create a CCAM vocabulary, identify stakeholders needs and requirements for CCAM solutions and understand of the gap of CCAM solutions deployment. A taxonomy capturing stakeholders needs, expectations, requirements and their interrelationships will be structured.

ICCS is also responsible for data analysis, enrichment and systematisation which will be realised firstly by the data cleaning process of normalising and standardising the data and afterwards by analysing, enriching and systematising all data and information collected throughout the project aiming to organise and enhance the available information and generate explicit and manageable knowledge.

As WP4 leader, ICCS will ensure smooth collaboration between partners by organising regular meetings and the timely and high-quality delivery of tasks. Moreover, it will exploit all the collected and generated information to develop a knowledge map via the exploitation of ontologies. It will also specify and design all the components of the innovative tool SINFONICA Knowledge Map Explorer as well as its interfaces and interactions between them resulting in the architecture specifications.

As Ethics and Data Management Manager, ICCS will develop the first version of the Data Management Plan ensuring that all activities and processes of the project are aligned with GDPR and ethics.

## 2.5 IRTSX

IRT SystemX performs service simulations in order to generate technical KPIs on the CCAM solutions that are explored and proposed by the Groups of Interest. IRT SystemX has a long track record in research around transport simulation and modelling and is currently active in more than five national and European projects on the subject.

IRT SystemX will perform detailed simulations of CCAM services. They will be adapted to the specific use cases discussed by the Groups of Interest. To do so, a generic benchmarking platform for CCAM solutions will be developed based on agent-based simulation methodology. This means that the individual travellers and vehicles (shuttles, taxis, etc) can be modelled, simulated, and analysed in detail. Especially the individualised representation of the demand (as individual persons and requests) allows for modelling individual needs for specific user groups. By making use of the simulation platform, the goal is then to test existing control algorithms for CCAM services (dispatching) to assess their impact on different user groups, with a specific focus on investigating whether existing algorithms are discriminatory to users with special needs. In total, IRT SystemX's contributions will revolve around advancing existing open-source tools for demand generation of territories by adding new attribute types; developing an open-source CCAM benchmarking platform, and testing CCAM dispatching algorithms on that platform in terms of discriminatory effects and advancing these algorithms to mitigate potential issues.

## 2.6 ISINNOVA

ISINNOVA has an extensive experience in stakeholders' engagement and consultation, workshops facilitation, monitoring of follow-up actions and more in general in the set-up of interactive processes with key stakeholders, at all stages of the project, deriving recommendations for future policies.

In the context of SINFONICA, these skills will feed the long-term policy recommendations aimed at public authorities (national and regional/local/city levels), including the European Commission and other funders of research.

ISINNOVA will define methodologies to steer the local participatory processes ensuring a common approach for data collection across the groups of interest. Practical guidelines will be devised to support the groups of interest in the implementation of the qualitative methods for data collection, mostly based on community-based research and participatory processes (focus groups, interviews and workshops). The expected results in terms of type of information gathered will lead to an extensive list of requirements according to the needs and expectations of all users' groups and relevant stakeholders under investigation.

## 2.7 TfWM

As TfWM is one of the four research regions, it provides a valuable understanding of how the West Midlands public view future mobility services, to enable strategy development in this area. The academic partners on the project will work with TfWM's internal Human Intelligence Team to develop a methodology. TfWM can also share knowledge and best practice with the other partner cities/regions from their previous schemes involving Connected and Autonomous Vehicles.

TfWM has strong links with local and national industries and understand their needs. A particular focus for engagement is how to move from small-scale pilots to sustainable commercial models.

TfWM's role on the project will also be responsible for coordinating technical exploitation and dissemination project. This provides an opportunity to raise the profile of the West Midlands throughout Europe and worldwide.

TfWM's approach will be the collection of data from the specified Gols such as the public, transport operators and vulnerable users. The data collection methodology will be primarily defined by the academic partners and TfWM will carry out the research, with the ability to comment on and review the proposed methodology and advise on the implications of the research findings within the West Midlands context.

TfWM's other role on the project is the involvement in the exploitation of the project. This includes leading and feeding into the exploitation plan, holding meetings with interested stakeholders and attending conferences/proposing papers.

## 2.8 FHH

The City of Hamburg is one of the four pilot cities/regions in which the needs, opinions and concerns regarding CCAM will be assessed using the previously developed methods.

In Germany's second-largest city, public transport is used by a large variety of people. Likewise, many stakeholders of CCAM are involved in different ITS projects in Hamburg. Thus, Hamburg offers many opportunities to capture user needs and stakeholder requirements regarding CCAM. The City of Hamburg can also share knowledge and experiences from previous and ongoing CCAM projects as well as participation processes.

As project participants, the Senate Chancellery of the City of Hamburg and the Agency of Roads, Bridges and Waters can contribute to the public administration's perspective on the methods and strategies developed for participation.

The approach of the City of Hamburg is to collect data from the specified stakeholders such as vulnerable user groups, mobility service providers and other groups of people involved in mobility. The data collection methodology will be determined primarily by the project's academic partners. The City of Hamburg project partners will comment on the proposed methodology and subsequently, collect the data themselves or assist in the collection of data by other project partners.

In addition, the City of Hamburg's experience in terms of citizens' and stakeholders' participation will be brought to bear.

## 2.9 POLITO

POLITO has relevant experience in lean project management. As innovation manager, POLITO will assist in the strategies developed for the engagement of all potential stakeholders and the management of the creation of the survey.

POLITO will employ a tailor-made lean methodology inspired by the GUEST methodology, effective in multi-actor projects and capable of accelerating the involvement of groups with heterogeneous backgrounds and knowledge of innovation processes. With this tool, POLITO will be able to control and guide the entire SINFONICA process by providing a solid structure that keeps the entire project compact and a conceptual and a practical tool for the various stakeholders to communicate their vision, difficulties, and opportunities.

## 2.10 TUD

As one of the academic partners in SINFONICA, TUD has relevant skills in survey design, traffic psychology, and empirical social research. TUD has strong skills in conducting EU and national projects attempting to address user needs and experiences with new mobility solutions like automated vehicles, micro-mobility, and connected vehicles. From a scientific perspective, high-quality articles in international journals are provided by the Chair of Traffic and Transport Psychology of TUD.

As a work package leader, TUD are skilled in project management and team leading to guarantee good quality work for all partners in WP 1.

The technical approach of TUDs' activities will be the detailed and structured literature research on user needs, mobility needs and mobility patterns of SINFONICA's vulnerable groups. For this concern, psychological theories and models are described and updated with the latest results on the acceptance of CCAM. Combined with a theoretical framework, the approach is the basis for the ongoing data collection strategies in SINFONICA.

A further approach is used for providing guidelines on user surveys. TUD will cover aspects of data privacy, overall survey design, methods of quota sampling, survey strategies, and the questionnaire drafts themselves for the internal report. For this, a structured exchange with the four Gols is planned as well as ongoing support in activities of data collection.

As work package leader of WP 1, TUD organises biweekly meetings of all partners being involved in this work package, presents the results to the Steering Committee meetings and takes care of the timely submission of deliverables and reports.

## 2.11 N-Brabant

The Province of Noord-Brabant is one of the four Gols and a Public Transport Authority. The Province was asked by Arriva to join them in SINFONICA because of its experience in managing European projects and its numerous projects on the development of CCAM. The Province's main contribution starts in September 2023 towards understanding expectations, concerns and desires towards CCAM. As a group of interest, the Province is contributing to researching the needs and requirements of the (end) users. Noord Brabant will question the focus groups in multiple ways to collect data starting. Its team consists of strategic mobility advisors, CCAM Experts, Public Transport

policy advisors, behavioural experts and experts on monitoring and evaluation. The Province works with Stichting ZET for their experience and knowledge of the social perspective on inclusive mobility. They involve citizens in mobility issues by social design methods to make sure solutions fit their needs and abilities.

The approach of the Province of Noord-Brabant is to understand the needs of all citizens in the region. Noord-Brabant wants to make CCAM available for all, with a special focus on CCAM in public transport (therefore working closely together with Arriva). Noord-Brabant will do this by questioning the (potentially vulnerable) groups with the methods that are supplied by the other partners. Noord-Brabant contributes to the development of the methods by sharing the province experience and requirements. The data collected will be shared in order to benefit the outcome of the whole SINFONICA project.

In pursuing the regional strategy, public purpose comes first, and the Province is solving problems that matter to people, making use of the opportunities of new technology. And while the Province is co-creating promising technology, it needs to make sure it is a solution meant for everyone.

#### 2.12 E-Trikala

E-Trikala is one of the four Groups of interest, representing the Municipality of Trikala. Trikala is one of the 100 cities that have been selected by the European Commission to participate in the EU Mission for 100 climate-neutral and to showcase its systemic transportation by 2030 in the domains of energy, transportation and urban planning. By creating infrastructure and by providing services, e-Trikala continuously aims to the development of Information and Communication Technology (ICT) based applications, oriented to the improvement of all citizens' everyday life, in a medium-sized city, simplifying public transactions, reducing telecommunication costs and delivering new services related to the local way of life.

Moreover, these ICT applications offer new ways and methods that enable citizens to participate in policy-making, while in parallel establishing Local Government and Public Authorities as guarantors of local society's everyday proper, digital and distanced operations. To achieve the above objectives, the company is actively involved in national and EU co-funded projects, with the ultimate goal of providing innovative ICT solutions for all citizens, posing an important helper for local authorities and other stakeholders in the region. It also participates in European projects of various categories (FP7, CIP-PSP-ICT, CIP-THEMATIC NETWORK, AAL, INTERREG IVC, Erasmus +, HORIZON2020).

The approach of Trikala is to collect qualitative and quantitative data from multiple stakeholders and differentiated user groups. E-Trikala will actively contribute to the project's methodology based on the co-creation and living lab experience that it has from past mobility projects. e-Trikala will manage the Gols through co-creation labs representatives of the population groups. This will result in efficient multi-layered governance of various stakeholders and citizens. These representatives will participate in all co-creation processes to identify and tackle potential inequalities in surveys and demonstrations.



### 2.13 ARRIVA

Arriva is one of the leading European public transport companies, being operational in thirteen countries. Arriva Netherlands is the biggest public transport company in the Dutch market, and has now been responsible for public transport in the East-Brabant area for more than 15 years. Accordingly, Arriva is experienced in designing inclusive and efficient timetables and routes. Arriva always works to push innovation in the sector and have good relationships with the local governments.

Arriva's approach will be focused on combining the qualitative data gathered by getting to know (vulnerable) groups with the experience Arriva has as a leader in public transport. Arriva will provide relevant data and input on trade-offs regarding costs, accessibility, etc.

### 2.14 RELAB

RELAB is a leading player in the development of Human-Machine Interfaces. The company has many years of experience in participating in EU-funded research projects, where it applies its expertise in the fields of ergonomics, human factors, UX/UI development and cognitive science.

The domain of election is automotive and transport in general, but skills cover a range of transversal sectors, such as the development of innovative technological solutions in healthcare or the preservation and valorisation of cultural heritage.

RELAB will contribute to the implementation of SINFONICA through a technical approach based on its expertise and competencies.

It will develop the most appropriate engagement strategies for each Group of Interest, analysing the specific characteristics of the categories of users and stakeholders involved in the co-creation activities. The objective is to stimulate and foster user participation in order to collect a consistent and homogeneous data set that can be at the same time compared between the different Gols.

RELAB will also be responsible for the development of the tool named 'Knowledge Map Explorer', starting from the architecture and specifications defined by the WP4 leader.

As the leader of WP6, RELAB will supervise the communication and dissemination activities of SINFONICA and support the WP task leaders in carrying out the activities.





CCAM and social innovation are also relevant to ERTICO's other three focus areas, which are Urban mobility, Clean & eco-mobility, and Transport & logistics.

Beyond the ERTICO network, an extensive network of cities interviewed as part of the City Moonshot initiative will be involved— over 200 to date with a target of 300. SINFONICA outputs will be shared with those cities.

The key innovations in which ERTICO will be involved are the recommendations, guidance and capacity building, which will be aimed at public authorities, operators, industry and other projects, specifically including large-scale demonstration projects.

### 3.4 ICCS

The SINFONICA Knowledge Map Explorer will constitute an innovative tool exploiting semantics and rule-based reasoning. It will be the first attempt to develop a decision-making support tool for CCAM stakeholders capturing the social aspects of CCAM towards equitable, inclusive and accessible CCAM solutions.

### 3.5 IRTSX

The current research literature on CCAM service management does rarely consider heterogeneous requests with individual requirements. While these aspects have been covered in Operations Research, but only on small sample use cases, the simulation platform developed for SINFONICA will look at these aspects from a close-to-real-time perspective, i.e., looking at heuristic approaches that could be applied for large-scale use cases.

### 3.6 ISINNOVA

The participatory methods envisaged in the project are enriched by the application of a newly released Co-creation Toolkit from the Liv-in project. The Toolkit was developed to answer the question about how to make innovation accountable for Responsible Research and Innovation (RRI).

### 3.7 TfWM

CAV technology is still in its early stages, and although a large amount of technical testing has been carried out, there is still the question of how it integrates into the wider transport Eco-System. TfWM will be utilising the SINFONICA project outputs to evaluate and understand how new untested CAV are perceived by sections of the public. This early innovation will guide how TfWM utilises CAV for public transportation in the future.

### 3.8 FHH

Many CCAM projects are already underway in Hamburg. The focus here is mostly on the technical aspects and feasibility studies. Hamburg will utilise the SINFONICA project to gain better insights into the wishes, needs and concerns of citizens concerning CCAM and consider the project outcomes in ongoing and future public transport projects as well as the further development of the city's mobility strategy.

### 3.9 POLITO

POLITO has customised the GUEST methodology for the adoption in SINFONICA.

This new GUEST-SI (GUEST for Social Innovation) mainly relies on its application to social innovation contexts, in which the correct definition of the potential end-user segments, as well as the definition of their needs and requirements, and of the strategies to engage them, are very important tasks to ensure the final objectives of the project.

### 3.10 TUD

Some of the psychological theories and findings that TUD will apply for data collection strategies are well-established. However, transferring the results to CCAM is a new and innovative aspect. So far, much research focused on single aspects of acceptance, trust, and user experience with autonomous cars or shuttles. Perceiving the connected and automated mobility as a whole system from a user's perspective is new and shall be established within SINFONICA.

### 3.11 N-Brabant

SINFONICA makes it possible for the Province to research both the combined social and technological aspects of CCAM. Human factors in CCAM developments are often overlooked. SINFONICA addresses the expectations, concerns and desires from all citizens, including vulnerable groups. Noord Brabant is eager to understand future CCAM solutions and requirements but is also focusing on CCAM, digitisation and automation that we see already today and tomorrow on our public roads and in our public transport system.

### 3.12 ARRIVA

Arriva has been looking at autonomous transport for the last few years and has various of these autonomous vehicles driving at different locations in the Netherlands. However, the CCAM approach is taking the next step in this domain, and the company is eager to learn from the insights of this research.

### 3.13 RELAB

The engagement strategies developed by RELAB within SINFONICA will be specifically dedicated to the involvement of users and stakeholders of the CCAM domain, with a particular focus on Vulnerable Road Users (VRUs). RELAB will apply expertise in human factors, ergonomic and cognitive psychology to develop innovative methodologies tailored for the CCAM domain.

In liaison with ICCS, RELAB will also contribute to the development of the "Knowledge Map Explorer", with the ambition of creating an instrument capable of providing tailored information and guidelines for the development, implementation and deployment of CCAM solutions quickly and smoothly.

## 4 Partner Opportunities

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For each product, process or service envisaged, partners have identified (where relevant):

- The Market Niche for each Outcome;
- The predicted value and growth in the selected market niche;
- The existing or emerging competitive offerings;
- The means by which IPR will be protected;
- Commercial returns expected, together with the timescale.

### 4.1 ICOOR

**Market Niche:** As a consortium of universities, the goal of ICOOR is to support and disseminate the results of SINFONICA in order to implement its network of partners and increase the ability to support research institutions in their activities.

**Predicted value and growth; Existing or emerging competitive offerings:** No commercial activities are envisaged for ICOOR as a consortium of universities.

**IPR:** No IPR is expected to be created

**Commercial returns expected:** No commercial activities are envisaged for ICOOR as a consortium of universities.

### 4.2 UNIMORE

**Market Niche:** As a university, UNIMORE does not intend to pursue market goals, but to support research activities in line with the objectives of the institution and those expressed in the SINFONICA framework. The outcomes related to this purpose concern the collection of data and information relevant to the pursuit of academic research and the implementation of innovative projects in CCAM.

**Predicted value and growth; Existing or emerging competitive offerings:** No commercial activities are foreseen for UNIMORE as a university.

**IPR:** No IPR is expected to be created.

**Commercial returns expected:** No commercial activities are foreseen for UNIMORE as a university.

### 4.3 ERTICO

**Market Niche:** ERTICO, as a not-for-profit organisation, is not looking to create a specific market niche. However, ERTICO has partners who pay membership fees and we run the ITS European and World Congress. Participation in SINFONICA supports these activities, particularly Cooperative,



Connected, and Automated Mobility which is one of ERTICO's four innovation focus areas. ERTICO has members joining its partnership due to its knowledge and experience in this space.

**Predicted value and growth:** ERTICO will seek to retain and possibly recruit new partners from taking part in the SINFONICA project.

**Existing or emerging competitive offerings:** ERTICO will promote SINFONICA outputs to its network of partners and City Moonshot cities, including the knowledge mapping tool.

**IPR:** No IPR is expected to be created

**Commercial returns expected:** Participation in the SINFONICA project reinforces ERTICO's position as a prominent not-for-profit smart mobility, ITS organisation. It allows ERTICO to retain existing members and recruit new ones.

#### 4.4 ICCS

No commercial activities planned and no IPR is expected to be created.

#### 4.5 IRTSX

No commercial activities planned.

**IPR:** The simulation tools developed by IRT SystemX will be published as open-source or will be based directly on existing open-source software.

#### 4.6 ISINNOVA

No commercial activities planned and no IPR is expected to be created.

#### 4.7 TfWM

**Market Niche:** The market niche for TfWM is, as operator and authority over Public Transport in the West Midlands Region, is to be able to use the outputs of this project to feed into the wider organisational transport strategy. As TfWM focuses more on moving away from private vehicle use there is the potential to use CAV/CCAM for updated Public Transport modes.

**Predicted value and growth; Commercial returns expected:** No commercial activities planned.

**Existing or emerging competitive offerings:** The West Midlands has one of the most comprehensive public transport networks in the UK, however, it is recognised that this network needs to improve. There is still a high volume of private vehicle usage, especially for short journeys. This private vehicle usage is what TfWM would identify as its 'competitor'.

**IPR:** No IPR is expected to be created

#### 4.8 FHH

No commercial activities planned and no IPR is expected to be created.

#### 4.9 POLITO

No commercial activities planned and no IPR is expected to be created.

#### 4.10 TUD

No commercial activities are planned for TUD as a university. The deliverable D1.1 'Mobility needs and requirements of European citizens' will be used by all partners as a basis for ongoing activities.

#### 4.11 N-Brabant

No commercial activities planned and no IPR is expected to be created.

#### 4.12 E-Trikala

No commercial activities planned and no IPR is expected to be created.

#### 4.13 ARRIVA

No commercial activities planned and no IPR is expected to be created.

#### 4.14 RELAB

No commercial activities are planned for RELAB as a company.

**Predicted value and growth:** Participating in SINFONICA, RELAB will increase its skills, knowledge and expertise in the CCAM sector.

## 5 Potential Impact

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*The following is a summary of the wider benefits from the Project for those outside the consortium.*

SINFONICA sets the ground for understanding all stakeholder's needs and expectations towards CCAM deployment and the gap in CCAM solutions deployment. A comprehensive CCAM Vocabulary will be created in order both to facilitate the understanding and communication between partners and stakeholders and to be used as a reference point for future research. Furthermore, a taxonomy capturing all stakeholder's needs, expectations and requirements will be structured and will be the base for the SINFONICA Knowledge Map.

SINFONICA Knowledge Map will be structured via the exploitation of ontologies and will also act as a reference point for future research. SINFONICA Knowledge Map Explorer will constitute an innovative tool, utilising semantics and rule-based reasoning, to support the decision-making process towards equitable, inclusive and accessible CCAM solutions deployment.

Benefits of the project will be further clarified during the project but the focus of the Gols are to:

- Understand public attitudes to autonomous vehicles
- Identify opportunities to improve existing services or introduce new services using automated and connected vehicles
- Consider how new services can be inclusive, and
- Understand how regions, states and nations can work with businesses and operators in this area.

Benefits beyond the SINFONICA consortium will be expressed in the improvement of the ability to provide knowledge and support to the search for innovative solutions in the field of mobility and transport.

Sharing outputs through the CCAM Partnership, the EU Expert Group on Urban Mobility, the ERTICO Network newsroom site ([erticonetwork.com](http://erticonetwork.com)) and ERTICO's network of almost 120 partner organisations and 300 City Moonshot cities. These channels will be used to share relevant findings and policy/regulation recommendations. Initially, the aim will be to raise awareness of the project as a source of future best-practice. As the project progresses, engagement will focus on the results and specific deliverables (particularly research findings). These dissemination activities will help ensure that future EC-funded projects meet user needs but also facilitate the scale-up and commercialisation of CCAM activities.

The Knowledge base, including a CCAM vocabulary, stakeholder engagement strategies, indicators and recommendations, will capture the social aspects of CCAM. This information will be integrated into SINFONICA Knowledge Map Explorer which will be a decision-making support tool for CCAM solutions deployers.



Dissemination activities, like publications and sharing the project's results through the partners' communication channels, will raise awareness towards equitable, inclusive and accessible CCAM solutions and will pave the way for future research and CCAM deployments.

The SINFONICA partners consider that the project will have the biggest impact if the results can help stakeholders to make CCAM a tool to foster inclusion in our mobility system. Not exclusion, not segregation and not integration, but true inclusion. On top of that, SINFONICA will have the most impact if the results are applicable not only for future CCAM but can be used tomorrow. The partners expect to gain insights into the needs of the users of CCAM in order to make the right decisions for our citizens.



## 6 Conclusions

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Research into human perception of autonomous vehicles has the potential to be very valuable in a variety of ways, including improving the safety and usability of autonomous vehicles, informing public policy decisions about autonomous vehicles and helping to shape public perception and acceptance of these vehicles. However, as with any research project, there is also the potential for exploitation.

In summary of this document, the majority of partners are seeking to engage with the public with a primary focus on those who are vulnerable to exclusion. All partners are willing to work together to understand the best methodologies and interview techniques to achieve this.

The groups of interest's aspirations are to use this information to inform decisions made at a regional level regarding Connected, Cooperative & Automated Mobility, while also sharing best practices and their learning with the other groups of interest.

The educational facilities will be using results from the Gols to build their knowledge in public perception on CCAM. They will disseminate this information to various audiences at continental wide conferences, congresses and events.

Partners who do not fit into the categories above are all keen to utilise the project to further their knowledge in the sector for a variety of reasons. For example, ERTICO will use the learning from the project and promote it amongst their partners who may choose to integrate it into later projects.

As none of the partners have an interest in exploiting the information of knowledge gained for commercial or monetary gain, this project can be considered to be successful if the partners meet the objectives of educating themselves deeper within the field and using that information to further other pursuits be they commercial or otherwise. However, that does not dismiss the potential to exploit promote and expose the project and its findings to a wider audience.

One potential way in which this research could be exploited is through development of targeted advertising or marketing campaigns aimed at promoting the adoption of autonomous vehicles. Such campaigns could use the insights gained from the research to craft persuasive messaging that appeals to people's perceptions and attitudes towards autonomous vehicles, potentially leading them to make decisions that are not in their best interest.

The findings contained within this document are from the early stages of the project, it is expected that over the duration of the work some opportunities may present themselves and other opportunities identified in this document may fall away. The focus of the work packages and the deliverables have been identified and the consortium are satisfied that the objectives set within the project are achievable.

Towards the end of the project the final exploitation plan will be produced which will have a foundation within this document, in that case this document will serve as a guide for what the partners are trying to achieve.





For more information

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