

## Report – Workshop on the common European mobility data space

European Commission, CONNECT E4 (IoT) and MOVE B4 (Sustainable & Intelligent Transport)  
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*Presentations from the European Commission and participants, as well as additional information on the workshop are available at <https://digital-strategy.ec.europa.eu/en/events/workshop-common-european-mobility-data-space>*

### Introduction

Unlocking the potential of mobility and transport data is essential to transition faster towards more sustainable and smarter system for transporting people and goods. Building a common European data space for mobility will enable better access to transport and mobility data, making use of existing and future data initiatives.

The first call for proposals of the **Digital Europe Programme** (DIGITAL) opened on 17 November 2021 and includes a preparatory, **Coordination and Support Action** (CSA), for the **common European mobility data space** (EMDS)<sup>2</sup>. The aim is to map and identify gaps and overlaps of existing initiatives as well as to identify common building blocks.

DIGITAL will also support an open-source cloud-to-edge middleware infrastructure benefitting all data spaces, and a Data Spaces Support Centre that will help to ensure the interoperability between data spaces by developing and supporting the alignment with the European Data Spaces Technical Framework. A strong collaboration between the EMDS and the Data Spaces Support Centre is required.

On 2 December 2021, an **information workshop**, organised by the European Commission provided details for a preparatory action under the DIGITAL program with focus on the EMDS.

The workshop presented the existing key initiatives and allowed sharing views on opportunities and challenges for building the common European mobility data space. The goal was not only to prepare and discuss the CSA, but also to listen to the existing initiatives and promote their cooperation.

This report provides an overview of key findings of the workshop.

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<sup>1</sup> <https://www.opendei.eu/about/>. This project has received funding from the European Horizon 2020 Programme for research, technological development and demonstration under grant agreement n° 857065

<sup>2</sup> for more information, consult the [funding & tenders \(europa.eu\)](https://digital-strategy.ec.europa.eu/en/funding-tenders). Call ID: DIGITAL-2021-CLOUD-AI-01-PREP-DS-MOB.

# 1. The European Commission's vision for the common European mobility data space

## 1.1. Relevant strategies and policies

The **European strategy for data** (2020) aims at creating a **single market for data** that will ensure Europe's global competitiveness and data sovereignty. It announced the establishment of EU-wide common, interoperable data spaces in strategic economic sectors and domains of public interest, including a **common European mobility data space**. The EMDS will facilitate access, pooling and sharing of data from existing and future transport and mobility databases thereby ensuring that more data becomes available for use in the economy and society, while providing better control to companies and individuals who generate the data.

The **Sustainable and Smart Mobility Strategy** sets out the vision for EU transport policy in the coming decades. The overall goal of is **to help accelerate the digital transformation of the European transport sector, strengthening its performance**. As stated in the Smart and Sustainable Mobility Strategy, digitalisation and enhanced use of data in all modes of transport, for both passengers and logistics, are essential enablers for this transformation.

Several existing and upcoming transport initiatives (some of which are regulated), in the remit of DG MOVE and DG GROW (for vehicle data), are organising the sharing of transport data for both passengers and freight in the domains of B2B, B2G, G2B and G2G. These initiatives are already structuring this common European mobility data space.

## 1.2. Objectives and role of the common European mobility data space

The overall goal of the common European mobility data space is to **accelerate the digital transformation of the European transport sector** and to **fully reap the benefits of data for the sector and for society at large**. The European mobility data space includes all relevant stakeholders and facilitates the access to and (re)use of mobility data.

Such a data space is **not built on a single platform**, but on the interaction and exchange of multiple platforms and ecosystems. The basic requirement is interoperability. The European Commission will therefore support the development of an architecture and common design principles, building blocks and tools to **support the convergence of governance and infrastructure**.

The mobility data space is built on two main pillars:

- European initiatives, data ecosystems, platforms and marketplaces driven by member states or private actors facilitating data exchange;
- the existing and emerging EU frameworks which determine the sharing and (re)use of data.

## 1.3. The support to the common European mobility data space under DIGITAL

Step 1: Preparatory action - which is the **CSA** (Call 1)

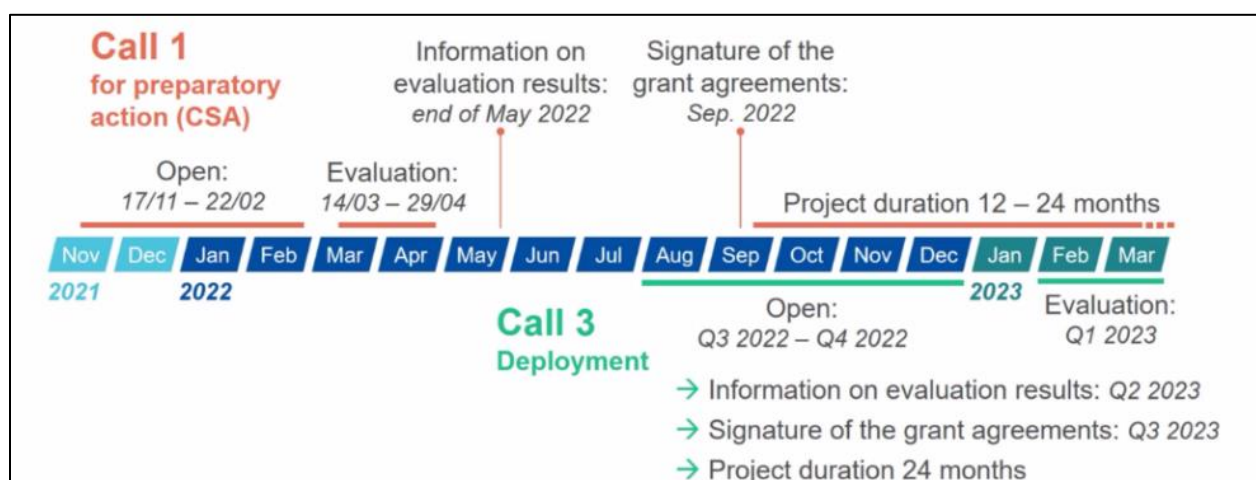
Step 2: Deployment projects (Call 3)

The first step is a **preparatory action**<sup>3</sup> taking the form of coordination and to make an **inventory** of existing data platforms and marketplaces, including a catalogue of transport data ecosystems. The CSA will identify **gaps and overlaps** of data currently covered by existing initiatives. It will explore different **options for sharing and managing data exchange** across data initiatives in the mobility sector (including ideas on how to motivate participants to provide data) and will propose recommendations for **common building blocks**. Finally, it should address ways to integrate the mobility data space and data ecosystems in the emerging European data and cloud services infrastructure

The awarded consortium will work **in liaison with the Data Spaces Support Center** and the **Alliance for Industrial Data, Cloud and Edge** – to ensure the alignment with the design of the European data spaces in other sectors (common tools may include architecture considerations, common standards, interoperability protocols, data governance models).

The preparatory action will be **followed by a deployment action**, to be announced in the third call of DIGITAL. Figure 1 below outlines the timeline. While the results of the CSA may not be available at the time the third call is announced, the results should feed into the implementation of the deployment action.

Figure 1: Calls for the common European mobility data space under the Digital Europe Programme



## 2. Opportunities and challenges for the common European mobility data spaces

### 2.1. Key benefits of sharing mobility data

Sharing mobility data has numerous benefits for the society and economy. It helps **make passenger and freight transport more sustainable**, for example by facilitating greener multimodal mobility or improved monitoring and planning by cities. Exchanging data can **make mobility safer**, for instance by using car sensor data to alert other vehicles of dangers. It enables **improvements in operations** (e.g. more efficient reporting to authorities or better access to

<sup>3</sup> The terms of reference for the coordination and support action is the text of the call available on the funding and tenders portal.

information by businesses) and **new business opportunities**, such as smart parking applications. Pooling and sharing mobility and transport data will accelerate the development of smart technologies like autonomous driving or Internet of Things. Using electric vehicle charging data to optimise renewable energy consumption and production is one promising application that shows the benefits of **sharing data across sectors**.

## 2.2. Key challenges to address

The access to and sharing of mobility data remain below their potential. The mobility and transport ecosystem is particularly complex, with a **large legacy of initiatives** with their own governance, architectures and platforms. While different building blocks may fulfill similar functions, **agreeing on a federated architecture and common standards** is needed to implement a true data space. Dealing with data protection, liability issues or intellectual property rights creates legal challenges.

From a **technical** perspective, interoperability is a key challenge for a mobility data space as well as **ensuring data sovereignty and trustworthiness**.

From an economic perspective, convincing organisations that are **often competing** to exchange some of their data on a voluntary basis requires **business models** and clear benefits for each involved party. Considering the technicality of the subject and the frequent **lack of related skills** in companies or administrations, clear communication on the benefits and practical steps to take is required to attract participants. Another challenge is ensuring the economic **sustainability of intermediaries** enabling data sharing.

## 2.3. Existing mobility data sharing ecosystems and initiatives

There is a wide range of existing data sharing initiatives across Europe involving and surrounding mobility. They are of different nature: public or private, local, national or international. Some address specific use cases, other target the whole sector.

- **Mobility Data Space** (Germany): an open decentralised ecosystem of data providers, data users and platforms allowing sovereign exchange of mobility data and offering a central directory of data resources and services. It is operated by Acatech and funded by the German government.
- **iSHARE** (Netherlands): a uniform set of agreements for identification, authentication and authorisation enabling organisations to easily give each other access to their data. Developed by the Dutch transport and logistics sector, it is expanding in new areas.
- **Smart Otaniemi** (Finland): an innovation environment for smart and sustainable urban solutions. It is developing use cases based on cross-sectoral data sharing between transportation and building/energy platforms.
- **ERTICO** is playing an important role with a number of initiatives: CCAM test data sharing, TN-ITS for map update exchange, Traffic Management (TM2.0) and FENIX network (trust framework for data sovereignty and sharing in transport and logistics services).

Several European initiatives related to mobility and transport data sharing were presented:

- **NAPCORE** is a newly formed organisation to coordinate, harmonise and improve the interoperability between the National Access Points established under the ITS Directive all over Europe.
- **Digital Transport and Logistics Forum (DTLF)**: a Commission's expert group focusing, in its subgroup 2 (Corridor Freight Information Systems), on a common framework to create an interoperable federated environment for data sharing in the freight transport and logistics sector, covering all types of public and private stakeholders, in the multimodal perspective.
- **EU Base Register of Railway Infrastructure**, developed by the EU Agency for Railways (ERA), is open data on rail infrastructure and technical characteristics of vehicle types. The organisation is moving from siloed to connected data, notably by working on semantic interoperability and making in part use of DTLF building blocks.

## 2.4. Opportunities for the common European mobility data space

The existence of numerous initiatives related to mobility data sharing across Europe is an opportunity for the development of the common European mobility data space as it can build on their achievements. However, it also means there is a **complex patchwork of architectures, technical standards and governance models**. One size will not fit all, as each domain has its own requirements and legacy, but work is needed to enable synergies and facilitate the life of participants and end users.

**Efforts are ongoing** to promote interoperability across initiatives. Some of them are cross-sectoral, like [OpenDEI](#), which has proposed [design principles](#) and building blocks for data spaces. The International Data Spaces Association (IDSA) is providing and continuing to develop a reference architecture model and open-source components for data spaces. Several initiatives (e.g. German Mobility Data Space, iSHARE, Smart Otaniemi, Fenix project -also based on the DTLF framework-, Catena-X) are making use of this IDS architecture. It was mentioned during the workshop that a Data Space Business Alliance was recently formed between key associations working to accelerate the development of the data economy (BDVA, GAIA-X, FIWARE and IDSA). Other initiatives follow a sector-targeted approach. These include the [DTLF](#) in logistics, developing a set of technical specifications and building blocks (plug & play, data semantics, architecture and governance) and implementation guidelines for a trusted environment for corridor data exchange (DTLF Schema), or the ITS framework for road transport and passenger multimodality.

The European Commission, through its different instruments, can help bring together the right stakeholders from across Europe and **foster convergence** by encouraging agreements and building trust. Legislation can also contribute to **provide a common framework**, for example on data space governance via the Data Governance Act.

## Conclusion

**Many initiatives** with different data sharing approaches were shown during the workshop, some of which are mobility related, some with a broader focus. The discussion about use cases and business models showed the **potential for the European economy** and how facilitating mobility

data sharing can **support greener, more efficient and safer mobility**. The key challenge to allow initiatives to scale up and achieve these impacts is **interoperability** within and between sectors, and across borders. Efforts are ongoing to address this challenge, which will benefit from European support.

The CSA will have the task to take stock of existing data sharing initiatives, platforms and ecosystems that are relevant for the mobility sector. It will deliver an analysis regarding gaps and overlaps of data and identify potential common building blocks. That will feed into the Commission preparatory work establishing the mobility data space. The guiding question is how to come up with a European mobility data space that orchestrates diversity rather than creating a single central portal or platform. The information workshop held jointly by DG CONNECT and DG MOVE set the scene for a Europe-wide cooperation between all member states and companies to reach the goals of a joint data space for mobility and beyond.

**Disclaimer: Views expressed in this report do not necessarily represent the views of individual participants. Neither do they represent the view of the European Commission.**