

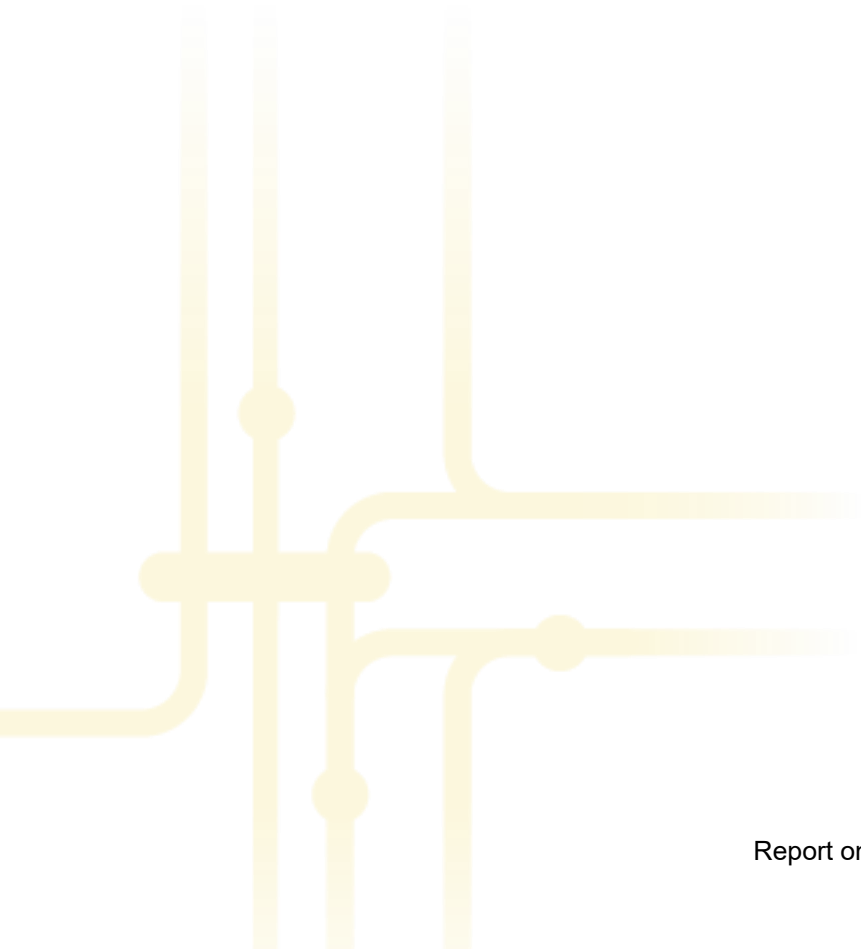


Project milestone MS33

Report on stakeholder-specific benefits and incentives



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Project executive summary

The establishment of a common European mobility data space (EMDS) aims to accelerate the digital and green transformation of the European mobility and transport sector. The deployEMDS project contributes to the further development of the EMDS as announced in the European Strategy for Data and the Sustainable and Smart Mobility Strategy. It builds on PrepDSpace4Mobility, a Coordination and Support Action funded under the Digital Europe Programme and is the first deployment action foreseen under the EMDS initiative.

The deployEMDS project advances EU policy priorities by developing a technical infrastructure for an operational data space in the mobility sector. It aligns with the European Data Strategy's goal to facilitate data access, pooling, and sharing. The project supports the European Green Deal's aim to accelerate sustainable and smart mobility, thereby contributing to a reduction in transport emissions. Additionally, it aligns with the Sustainable and Smart Mobility Strategy, ITS Directive, and the NAPCORE project. The diverse consortium of partners implements 16 use cases across nine European cities and regions, aiming to create and deploy an operational data space with a common technical infrastructure. The project aims to make data available in machine-readable format, while facilitating innovative services and applications and contributing to the development of a European mobility data sharing ecosystem.

For further information please visit:



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Milestone executive summary

Key words

Multistakeholder analysis; EMDS; benefits; incentives

Executive summary

This report presents a multi-stakeholder analysis of the anticipated benefits and incentives of a future common European Mobility Data Space (EMDS), developed as part of the deployEMDS project. It explores how diverse stakeholder groups perceive the benefits, incentives, risks, and costs associated with participation in such a data-sharing framework.

The analysis draws on stakeholder interviews and workshop discussions, involving participants from both within and beyond the project consortium. The report synthesises key insights across stakeholder groups and identifies common themes. The results will contribute to the development of value propositions and outlines suggestions for further research.



List of abbreviations and acronyms

Acronym	Meaning
DOI	Digital Object Identifiers
DSSC	Data Spaces Support Centre
EC	European Commission
EDIC M&L	European Digital Infrastructure Consortium for Mobility & Logistics
EMDS	Common European mobility data space
EU	European Union
GA	Grant Agreement
GDPR	General Data Protection Regulation
ISG	Innovation and Scaling Group
ITS	Intelligent Transport System
NAP	National Access Point
NAPCORE	National Access Point Coordination Organisation for Europe
NDA	Non-disclosure agreement
OEM	Original Equipment Manufacturer
PTA	Public Transport Authority
ROI	Return on Investment
WP	Work Package



1 Introduction

1.1 Background and context of the benefits and incentives analysis

The deployEMDS project has worked with more than 45 partners since 2023, gaining substantial experience and insight in the development of urban mobility data spaces and carrying out visionary work on conceptualising aspects of the future common European mobility data space (EMDS). Building on this experience, the benefits and incentives analysis further refines the understanding of the potential value of data sharing within a future EMDS.

Through engagement with a diverse range of stakeholders both internal and external to the project, including public authorities, digital service providers, research organisations and private organisations in the field of mobility, challenges in mobility data sharing are outlined and the potential benefits of EMDS from multiple perspectives are assessed. Costs and risks of participating in a future EMDS are highlighted and incentives for joining the EMDS are outlined.

As a future EMDS is not yet fully conceptualised, for the sake of the benefits and incentives analysis, related to the EU communication “Creation of a common European mobility data space”¹, only the overarching capabilities of the EMDS were used as basis for discussion, rather than exact technical or operational functionalities. The analysis assumes that the EMDS will:

- Operate as a federation of local data ecosystems, allowing for interoperability to exchange data across Europe
- Ensure interoperability through standardised formats and protocols for data sharing
- Guarantee data sovereignty and strengthen trust, enabling data providers to retain control and authority over their data
- Provide accessibility by ensuring discoverability of mobility data through a metadata catalogue, including conditions for data sharing
- Be open to participation by any eligible entity or organisation
- Require onboarding and connector installation costs
- Enable valorisation (increase value through data sharing) and/or monetisation (generating revenue from data sharing)
- Facilitate contractual agreements for data sharing

At the same time, no assumptions about the EMDS were made regarding:

- The exact costs of participation
- The specific mechanisms of federation and the detailed governance structure
- The precise technical requirements and services to be provided
- The support services that will be provided through the EMDS directly

This analysis provides a multi-stakeholder perspective on the distribution of benefits, risks, and costs related to a future EMDS. These are compared to the aspired functionalities of a future EMDS, according to

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2023%3A751%3AFIN>



the communication on the EMDS. The findings are used to draw overarching conclusions, an outlook on next steps and suggestions for further research.

1.2 Intended use and audience

The benefits and incentives analysis is a public document published on the deployEMDS website. It is intended to inform various stakeholders about the challenges in international mobility data sharing, the potential benefits of a future EMDS as well as risks and costs to consider. Specifically, the results are aimed to inform:

- The European Commission (EC) on the set-up of a future EMDS
- Policy makers at the local and European level
- Data space developers at the local and European level
- Private sector representatives

1.3 Structure of milestone and links within deployEMDS

The “report on stakeholder-specific benefits and incentives” (short: “benefits and incentives analysis” or “the analysis”) is an analysis developed as part of deployEMDS work package 3 “Governance”. It is a milestone that informs deliverable “D3.4 Multi-level governance framework with business mechanisms” and feeds into the “D5.4 Project's final report”.

The insights gathered from the analysis will inform value proposition statements for the EMDS and recommendations on how the EMDS can best meet user needs while ensuring sustainable, long-term engagement. Overall, the findings contribute to guidance on participation in, and the long-term viability of a future EMDS.

The analysis is structured to

- Outline stakeholder perspectives on a future EMDS
- Draw overarching findings and conclusions from the findings
- Provide an outlook on future developments and suggestions for further research.



2 Approach

2.1 Outline of the benefits and incentives analysis approach

The objective of the benefits and incentives analysis is to gain insight into key stakeholder groups' perception of benefits, incentives, risks and costs associated with participating in a future EMDS.

The analysis is primarily based on interview insights from engaged stakeholders. These one-hour stakeholder interviews included interviewees from public authorities, data service providers, researchers and private organisations (see Section 4.1 for further details). The deployEMDS consortium partners (45 partners) as well as over 30 additional stakeholders were directly contacted to participate in the interviews. The interview guideline was developed based on assumptions from a deployEMDS project workshop conducted in Stockholm on 23 October 2024 (Annex 1). In the interview guideline, the definition of benefits and incentives along with examples was outlined. The interview guideline was shared with respondents in advance, together with a recommendation to reflect upon the content before the interview. Guided by these questions and examples, the interviews were conducted in an open manner and respondents were encouraged to introduce new perspectives or suggest modifications. In most cases, two interviewers and one respondent were present, although occasionally two respondents with complementary competencies (e.g. technical and business) attended. The interviews aimed to identify the most significant challenges and/or benefits as perceived by the respondents. Respondents were therefore asked to prioritise different aspects according to their level of concern: High/ transformative, medium, or low/ insignificant. The results were then summarised per stakeholder group forming the basis for the following chapters.

Complementing the series of interviews, a survey based on the same questionnaire was completed by some deployEMDS consortium members. The survey was distributed prior to the interview series, to provide an initial indication of the aspects likely to be most relevant in the interviews. For the purposes of the analysis, the survey responses complement the interview findings, especially where certain questions were not (fully) addressed during interviews.

In conjunction with deployEMDS' Innovation and Scaling Group (ISG) activities (see Section 4.1), a webinar was held in cooperation with the Data Spaces Support Centre (DSSC). The webinar served as a checkpoint to communicate a common understanding of diverse stakeholder views derived from the interviews until then, to discuss the benefits and incentives most important to ISG members, and to provide a more in-depth exploration of the potential risks and costs of a future EMDS (Annex 2).

In parallel, deployEMDS has conducted a series of policy labs (see Section 4.2) addressing topics relevant to the benefits and incentives analysis.

Lastly, the boostEDIC Mobility and Logistics (M&L) project started in January 2026. National representatives were interviewed to provide their perspective for a future EMDS. A separate set of questions (Annex 3) was shared prior to the interviews, focusing on the vision for the EMDS as part of a European Digital Infrastructure Consortium (EDIC) and its potential.

These inputs, together with informal brainstorming within the deployEMDS project, form the basis for the analysis's findings. As such, it needs to be highlighted that the analysis does not constitute a scientifically rigorous assessment, but rather a stakeholder-informed analysis reflecting the views of those willing to contribute to this review.



2.2 Limitations

In interpreting the results of this study, a number of limitations should be considered.

Limitations by design:

- As the topic of a future EMDS is complex and time was limited, only individuals with prior understanding of data spaces and knowledge of the EMDS were contacted, skewing the selected population. The data does not capture perspectives of stakeholders completely new to the topic.
- There is no set definition of a future EMDS nor the exact functionalities it will include. The interviews were therefore structured broadly to elicit a wide variety of responses. Due to time constraints, assumptions on a future EMDS were only shared during some interviews, in line with the assumptions outlined above, in a conversational manner and only when applicable to the topic being discussed.
- Resources only allowed for a maximum of 25 interviews across all stakeholder groups (23 interviews ultimately conducted). While insufficient for an in-depth analysis, the approach was sufficient for meaningful insight into critical priorities and needs.
- For the purpose of this study, the timing of the interviews with national representatives from the boostEDIC M&L was not optimal. The boostEDIC M&L started in January 2026, with the benefits and incentives analysis interviews conducted shortly thereafter in late-February 2026. As a result, interview responses reflect national representatives' perspectives at that point in time, with the detailed framing of the boostEDIC M&L still under development. Their participation provides feedback to boostEDIC M&L as part of this overall analysis, informing the view on the potential future of the EMDS as part of the EDIC M&L.
- Questions relating to risks and costs were initially deemed out of scope for this study (to be addressed in later project activities), but later included. These questions were therefore not covered consistently across all interviews.

Limitations in conducting the study:

- Attracting the attention of stakeholders proved difficult, especially those external to the project were not readily willing to participate in the interviews. This was most apparent among private sector mobility service providers. Similarly, no ISG member volunteered to participate in the interviews. This can be interpreted as a finding, suggesting limited interest at this stage in the EMDS.
- In consortium-internal interviews, responses sometimes focused more on current project developments than on a future EMDS. In the analysis, only responses pertaining to a future EMDS were considered. Other than that, the responses on a future EMDS from consortium-internal stakeholders did not differ significantly from those of external stakeholders (e.g. consortium-internal participants did not show a significantly more positive or negative outlook on a future EMDS than external stakeholders).
- Stakeholders were difficult to categorise, as many organisations fulfil multiple functions and the interviewees sometimes adopted a specific rather than an organisational perspective. Nevertheless, responses could broadly be grouped into 'public service', 'for profit' and 'research' categories.
- Questions relating to services in a future EMDS proved difficult, as they were not always discernible from perceived potential benefits. While some insights were obtained, this specific question was often neglected to focus on other topics.
- The question regarding relevant data types was formulated too broadly, and the categories provided in the guidelines did not sufficiently support detailed answers. While Europe-wide comparable data types were frequently mentioned as both a key benefit and a major incentive, a more precise identification of such data types lie beyond the scope of this analysis.



3 Findings per stakeholder group

In the following sections, the distribution of stakeholders involved in the analysis is outlined, and key definitions are provided. Findings are summarised for each stakeholder group. The results should be interpreted in light of the limitations described above.

3.1 Distribution of stakeholders engaged

Stakeholder interviews

A total of 23 interviews were conducted, of which 12 were interviews with consortium-internal stakeholders. The interviewees were categorised into five groups: 1) Public authorities, mostly local municipality representatives working in public transportation; 2) Digital service providers, comprising various types of 'data space' or 'data sharing' actors, mostly involved in a subset of public or semi-public services; 3) Private service providers, covering various companies offering services in mobility; 4) Research organisations, including public and private institutes conducting research on mobility; and 5) National representatives in the boostEDIC M&L. The national representatives received an alternative interview guideline, focusing on a future EMDS from EU member states' perspective and on their vision for how it should be structured to deliver value.

Table 1: Stakeholder group overview

Stakeholder groups	Total	Consortium	External
Public Authorities	7	5	2
Digital service providers	6	3	3
Private service providers	4	2	2
Researchers	4	2	2
boostEDIC national rep	2		2
Total	23	12	11

In total, more than 75 stakeholders were contacted to participate in the interviews.

deployEMDS consortium survey

The survey was circulated to all deployEMDS beneficiaries involved in the use cases. A total of 16 responses were collected, including public authorities (6), digital service providers (3), researchers (5) and other (2). Some consortium members, who were interviewed also responded to the survey. The survey responses however were only used to guide interview questions as well as complement interview responses, where in the interviews no or insufficient answers were provided, thereby avoiding any double counting of stakeholders' views.

The authors gratefully acknowledge all interviewees for their time and for sharing insights that have significantly contributed to the depth and quality of this report.

3.2 Definitions

The following definitions are used in this analysis:

DSSC definitions:



For the purpose of this analysis, the definitions provided by the DSSC² are used. Specifically:

- Data consumer - A consumer of data or service.
- Data holder – An entity holding but not providing data for sharing.
- Data provider - A provider of data or service.
- Data space services - Functionalities for implementing data space capabilities, offered to participants of data spaces.

Challenges:

The term “challenges” refers to current obstacles in sharing mobility data. During the interviews, these were further differentiated into business, technical, and legal challenges to enable interviewees to consider multiple perspectives and to support analysis across stakeholder groups.

The question was phrased as: “What challenges related to data sharing in mobility do you and your organisation experience?”

Benefits:

The term “benefits” describes potential long-term advantages that interviewees anticipate or expect from participating in a future EMDS. This assumes a fully operational EMDS with relevant datasets available and active participation from both public and private actors.

The question was phrased as: “Which types of EMDS benefits are most relevant for your organisation?”

Incentives:

“Incentives” refer to short-term or one-time measures designed to encourage stakeholders to join a future EMDS at a specific point in time.

The question was phrased as: “What kinds of incentives would most encourage your organisation to share mobility-relevant data?”

Costs and risks:

This category was added later to the interview questions, and no examples were provided prior to the interview. Interviewees were asked to outline any hindrances or barriers that might prevent them from joining a future EMDS. The responses and discussions often led to reflections on the conditions that would need to be in place for participation.

3.3 Public authorities

Participation from public authorities mainly included representatives from cities, municipalities, and public transport authorities (PTAs) responsible for mobility planning in cities and urban areas. Additionally, a national-level perspective (not related to the boostEDIC M&L project, which is outlined in a separate chapter), was included to complement the views of public authorities.

² <https://toolbox.dssc.eu/?pane=glossary&glossary=alphabetical-list-of-all-defined-terms-in-blueprint-v3-0#KeyConceptsofDataSpaces-2.4Rulebooksanddataspacegovernanceframeworks>



In total, seven interviews were conducted, including five with consortium members and two with external stakeholders. The findings are further complemented by six responses from consortium members in the survey.

Challenges

Business challenges

Most data sharing challenges for public authorities, especially in cities and municipalities, concerned the lack of, or incomplete, digital strategies. This is reflected in a lack of awareness of data needs, technical expertise and institutional readiness. While there is a general awareness that data is necessary for mobility planning, public authorities often lack the expertise and strategy to obtain and make use of the data.

Additionally, public authorities outlined challenges related to lack of data exchange between public authorities, leading to duplication of efforts in terms of acquiring, storing and analysing data. This was reflected on by respondents from the municipality as well as the national level.

The challenge to acquire private data was specifically mentioned. Data sourcing concerned, for instance, gaining access to data from private transport organisations, telecom companies or telematics data from citizens' vehicles. These are often bought in anonymised form from third party providers. One respondent highlighted that, with current data sharing practices, public authorities may get locked in with one data service provider for analytics with limited visibility on underlying data quality. Additionally, a respondent from a PTA noted the lack of available data which has led to the termination of interesting research projects in the past.

Competition was not mentioned as a challenge, likely because public data is open and public authorities are not in a competitive setting. Likewise, the cities and municipalities interviewed did not feel a need to exchange data across borders.

Technical challenges

Among the most important technical challenges mentioned by public authorities were issues of technical interoperability. There were issues both with external sources and systems as well as with older systems currently in use.

Poor data quality was not specifically mentioned as a challenge from a technical point of view. An explanation is that, for this question, most public authority respondents assumed a data provider/disseminator role, rather than a consumer role.

Legal challenges

Public authorities noted that legal uncertainty especially regarding the General Data Protection Regulation (GDPR) conformity and the lack of standard legal contract templates and guidelines is amongst the most important challenges to mobility data sharing.

Legal frameworks (particularly GDPR) were described as a major hurdle to easy data sharing in that data sharing is rather avoided instead of risking legal incompliance. However, public authorities, as data providers, did not disclose any notable challenges with GDPR for open data.

Benefits

Among the respondents from public authorities with a data consumer perspective, the benefit of the EMDS in terms of forming a central conduit as a two-sided market for data providers and consumers was seen as crucial. Here, the inclusion of private data sources was viewed as the key benefit. Open data was frequently thought to be part of other preexisting initiatives (i.e. National Access Points [NAPs]) and not a main benefit



of the EMDS. Additionally, the hope was expressed that the EMDS would enable some form of quality assurance with increased transparency on data sources and producers.

The respondents described significantly different strategic objectives for data which results in varying data needs. Some outlined that the organisational strategy to draw on raw data to create a malleable resource from which to build insights inhouse. Others sought to acquire higher level and pre-analysed data or services directly.

Respondents largely agreed that making data acquisition easier was welcome. A loose harmonisation approach with process suggestions, templates, and helpful pointers was envisioned rather than a strict formal process.

Several respondents saw little use and/or realism in the EMDS directly assisting in monetising data, pointing to other bilateral forms of business processes instead. Most crucially, being public entities, respondents did not consider themselves as provider of private data or that public authority data could have value. Quality measurements and assurances were thought to be very difficult to do via the EMDS. In the same vein, while harmonisation of both regulative and technical dimensions were thought to be important, respondent pointed out that strict standardisation was probably an untenable path for the EMDS.

Incentives

Public authority respondents highlighted that the EMDS would need to attract a significant amount of data providers to become a well-functioning two-sided data market capable of catering to a multitude of needs and interests.

It was pointed out that not only raw data would be an essential incentive to join the EMDS, but also the existence of tangible use cases. One participant outlined the need for strong storytelling and specific use cases with high potential and stable incentives to convince people and organisations to join. The EMDS was seen by some respondents as a potential driver to facilitate data driven policy making.

It was also noted that the EMDS would need to attract bigger organisations that have necessary resources to pay onboarding costs and fees, since smaller organisations would not be able to cover onboarding costs. However, if smaller organisations were excluded from the EMDS, it could lead to an even further gap and significant disadvantage.

Most respondents answered the questions as the provider of open data and the consumer of private data. Hence, the cost benefits were not seen as critical to their engagement in the EMDS. In the provider of open data perspective, respondents did not view credentials management and verification as significant to their incentives to join the EMDS.

Data types and data space services

Regarding services, the EMDS was not specifically mentioned as being necessary to manage formal contracting or financial transactions. Additionally, formats and standards were not seen as a critical part of the EMDS, since these are largely already available, managed in specific expert committees. While quality of data was seen as a problem among the authorities with a focus on data acquisition and use, these respondents found it difficult to envision how the EMDS could meaningfully help alleviate data quality challenges.

Data anonymisation was noted as a service that would make the EMDS more interesting. Additionally, it was mentioned that the EMDS could include a service for community building, in which experiences and best practices are shared between users. As highlighted by one respondent, data analysis services are indeed valuable, but they must not necessarily be part of the EMDS.



From the consortium internal survey, all data types suggested were marked as important. Specifically stressed were the importance of real time data, granular historic data and road pricing data. It was likewise mentioned that many data types are already defined as part of the NAPs and that a future EMDS would need to include and complement existing NAP structure.

Risks and costs for joining a future EMDS

Among authorities, there was little direct concern for risks or costs regarding the EMDS. For many, the EMDS was seen as an extension or continuation of what is already done through NAPs and the NAPCORE project. Some voiced concern that they did not perceive a clear division between the EMDS and NAP-related initiatives, with potential duplication of cost and effort as a result. In other words, maintaining existing data exchange formats in parallel to contributing to the EMDS until it reaches critical maturity and removes the need for other mechanisms. It was noted that the gains of a future EMDS need to be perceived as long term.

It was noted that public authorities require political approval for investment in a data space solution. Hence public authorities most often depend on proven benefits and use cases. Beyond the proven benefits, large decisions tend to depend on the election cycles. This complexity slows down innovative, large-scale investments, e.g. in data space solutions.

Additionally, one respondent specifically mentioned that the operational and organisational risks of a shift towards the EMDS requires expertise which would need to be established in public authorities.

One participant highlighted that limiting a future EMDS to mobility, without an easy option to connect to other data spaces, may limit innovation by reinforcing data silos and preventing value adding use cases.

There was also concern that EMDS might not be able to attract the critical mass of private data holders thought to be the main advantage of the initiative.

Table 2: Summary of Public Authority respondents' statements

Most significant business challenges	Least significant business challenges
Often low digital literacy and lack of in-house expertise, especially in small cities	Cross-border issues
Cities can be unsure what data to request or how to buy relevant data	Competition concerns
Fragmented data management and duplication of effort (e.g. same purchases of similar data in different departments)	
Institutional readiness is weak, especially in small cities	
Most significant technical challenges	Least significant technical challenge
Low interoperability between standards and systems, even between organisations in the same city	Poor data quality
Proprietary and legacy IT	



Systems cannot easily talk to each other	
Most significant legal challenges	Least significant legal challenge
Fragmented regulation, complex compliance, limited EU guidance	N/A
Legal uncertainty fuels risk aversion	
Lack of legal standard templates for data sharing	
Most significant benefits	Least significant benefits
Cities and regions want better access to private actor data through EMDS	Monetising data seen as unlikely for public authorities
EMDS seen as a way to discover interesting datasets and partners	Data formats and standards are not necessarily seen as critical part of EMDS
Better findability of quality-assured data and existing data ecosystems	Formal standardised quality assurance schemes seen as difficult to implement as part of EMDS
Access to data is considered a necessity. Some interviewees require direct access to raw data with own analysis, while others prefer pre-analysed insights	Focus ought to be harmonisation, not strict standardisation (both technical and legal)
Most significant incentives	Least significant incentive
EMDS to make data management and procurement more efficient	Cost benefits often viewed as insignificant
Strategic incentive to facilitate data driven public innovation	Ensuring organisational credentials and verification
Real, tangible use cases available	

Key takeaways

- Public authority representatives broadly confirmed that, once fully functional and widely adopted, the EMDS would largely address their most pressing data-sharing challenges, including overview of available data and sources in a clear and transparent manner.
- All public authorities see themselves primarily as providers of (open) data, with none identifying as providers of private or sensitive data. Their role as data consumers varies depending on the maturity of their digital strategies.
- Ensuring broad public sector participation will require greater awareness and enhanced skills to fully leverage EMDS capabilities.
- Key incentives include clear use cases demonstrating cost savings and improved policymaking.



- A clear distinction between EMDS and National Access Points (NAPs) is needed to avoid duplication of efforts, with the EMDS needing to include the data available on NAPs and complement with private data to add value.
- While costs are considered a moderate concern, securing public support for the necessary investment is seen as a greater challenge. Interoperability of existing systems would require less resources than training on new tools.

3.4 Digital service providers

Digital service providers include organisations that provides services on digital data sharing. These may be in the form of platforms through which data is exchanged or data space actors. These organisations are often private or semi- private companies that act as a subset of public organisations. Interviewees to this analysis all work with mobility data while the organisations may also extend to other areas.

Overall, six interviews were held with three consortium members and three external stakeholders. The interview answers were complemented with responses from the consortium internal survey, especially, where the interviews did not or only provided insufficient insights.

Challenges

Business challenges

The most common challenge for data service providers concerns the perceived lack of awareness about data sharing, predominately among data providers. One interviewee highlighted the lack of incentives, especially among private data providers, to share their data in general and especially through a data space. While lack of expertise was also mentioned, it was perceived that this is a consequence from the lack of awareness. It was felt that if data providers were more aware of data space solutions, the expertise could be found externally. Lack of streamlined processes for sharing data was mentioned to varying degrees by the respondents. Competition concerns were voiced too, due to the data sought being primarily of a private, non-open nature and that data holders were reluctant to share their data through a data space for this reason. Return on Investment (ROI) concerns were mentioned, but with an equal distribution of those very concerned and those dismissive of the problem. Many of the respondents were managing mainly open data sets on behalf of public or semi-public entities and thus not primarily concerned about private data.

One respondent noted that data holders often lack clarity about why they should share their data. While data sharing is frequently discussed as a buzzword, organisations with valuable datasets often do not perceive sufficient benefits or incentives to make their data available. This issue is closely tied to the absence of an assigned value for data. In this context, the argument that data sharing is too expensive was described as more of an excuse, as the actual costs are rarely specified or transparently communicated.

Technical challenges

Respondents' assessments of technical challenges ranged from trivial to severe. Poor data discoverability was the only challenge consistently characterised as severe. Those who identified proprietary systems as an issue were specifically referring to "capillary" systems close to the data source, such as automotive Original Equipment Manufacturer (OEM) systems. Additionally, one respondent noted that not only data itself, but also relevant data use cases, are difficult to identify. From the consortium internal survey, poor data quality and quality assessment were seen as the most significant technical challenges for their operations.

None of the respondents said that their organisations were affected negatively of the quickly evolving technical developments, indicating that they had a clear view of technological possibilities and complexities and how to overcome them, as can be expected from their role in the market.



Legal challenges

The most critical legal challenge seen was issues with privacy and trade secrets preventing access to e.g. on ticketing data. Two respondents saw the lack of standardised legal templates for data sharing as a severe challenge. Although fragmented regulation across jurisdictions was mentioned by one respondent, it was dismissed as a non-existent or trivial challenge by two.

Benefits

Among the potential benefits of the EMDS discussed with respondents, the most significant was its perceived ability to facilitate the discovery of data and data sources across Europe. This was highlighted by nearly all data service providers as a potentially transformative advantage. Standardising data quality measurements was also mentioned as a potential benefit. However, similar to the perspective of public authorities, some respondents expressed scepticism regarding how the EMDS could concretely contribute to improvements in this area. While respondents primarily managed open public data, many still felt that credentials and verifications would be a welcome part of the EMDS.

Interviewees also emphasised the future potential of the EMDS as a standardised interface enabling direct connections between data providers and consumers. One respondent compared 'data catalogues' to early websites, with metadata catalogues functioning similarly to search engines such as Google, serving as a discovery layer. In this comparison, the respondent continued to outline that unlike centralised platforms, federated data spaces could then offer openness without central dominance. In this context, participation would be driven by a compelling value proposition capable of creating a "fear of missing out."

Complementing this perspective, another respondent highlighted that peer-to-peer data exchange is perceived as more convenient than relying on intermediaries, with the added potential to bypass unnecessary legal and administrative layers.

Respondents did think that the existence of the EMDS would help promote data sharing in general and seeing data as a strategic asset by more actors across Europe.

In contrast, clarifying governance and ensuring regulatory compliance was not considered a relevant benefit associated with the EMDS. Partly due to the respondents' perception that these are already sufficiently managed. The valorisation of data was seen as an indirect effect of the EMDS growing the market and making options visible and tangible but not involving transparent pricing mechanisms or direct monetisation through the EMDS itself.

Incentives

When asked about what would make their organisations want to join EMDS, strategic incentives of the opportunity to scale their services were the most mentioned. One respondent highlighted the need for tangible use cases that outline the benefits, working as an incentive for others to join.

However, overall, few data service providers had strong views about incentives. This is most likely due to an inherent bias in terms of the population interviewed, with many financed, closely related and/or owned by public transport companies to disseminate subsets of open data.

Regulatory compliance was not considered a strong incentive for joining the EMDS, with one respondent dismissing this altogether.

Data types and data space services

The suggested data types were largely all considered important. Reflecting the nature of the deployEMDS consortium, data types associated with personal mobility in general and public transportation in particular



were most frequently mentioned. Freight data, and particularly road network-related data and regulation data (e.g. speed limits, parking spaces, etc.) were the least frequently mentioned as important.

Additionally, two respondents highlighted the need for high quality, frequently updated or real time data.

From the consortium survey, value-creation services³ were noted as most important.

Risks and costs for joining a future EMDS

Digital service providers, having operated in this field for a long time, have identified various potential risks and costs for a future EMDS.

A loss of control over their services and operations was mentioned by several respondents as a perceived risk with the developing EMDS. Respondents outlined that the EMDS could potentially assume some of their current functions. However, given the governance structure and ownership models of the data service providers involved, this was not necessarily viewed as negative. Rather, it was seen as a possible shift in their role within a future data sharing framework.

From a practical perspective, two aspects were raised. First, the perceived cost for joining a future EMDS was highlighted. One respondent estimated the cost to integrate to the EMDS, based on NAP integration costs, at roughly 1 person-month. Second, in a federated data space, the governance is the most relevant aspect, especially related to identity management. In a European structure, it is particularly difficult to establish who governs identity management.

Concerning the planning and development of a future EMDS, concerns were raised about the role of EU funding in shaping data spaces. One respondent argued that funding requirements could lead to infrastructure driven more by reporting obligations and compliance (“box-ticking”) than by actual user needs. Two respondents compared the EMDS to other spaces, e.g. Github, and wondered what additional benefits would realistically come from joining the EMDS. Related to the benefits, one respondent cautioned that a strictly domain-based approach may limit innovation by reinforcing data silos. Instead, they suggested a technology-driven approach where solutions are applied across domains, where appropriate. Parallel efforts to develop the interlinking layer were seen as a risk, as they may further complicate a coherent vision for a future EMDS.

Another concern was that the EMDS is often perceived as a static initiative, whereas it should instead be understood as an evolving data sharing framework. One respondent noted that surveys tend to overlook the temporal dimension of ecosystem development and business model emergence. At this early stage of data space development, competition between initiatives was viewed as both normal and beneficial.

Finally, a lack of awareness and understanding was identified as a significant risk. Data spaces are inherently complex and require strong communication and storytelling to convey their value. As one respondent noted, innovation is difficult to articulate in advance—much like trying to describe a car before it has been invented.

Table 3: Summary of Digital Service Provider respondents' statements

Most significant business challenges	Least significant business challenge
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³ <https://toolbox.dssc.eu/?pane=glossary&glossary=alphabetical-list-of-all-defined-terms-in-blueprint-v3-0#KeyConceptsofDataSpaces-2.4Rulebooksanddataspacegovernanceframeworks>



Lack of awareness among data providers	Return on investment (ROI) concerns
Lack of expertise among data providers	
Lack of streamlined processes for sharing data	
Competition concerns	
Most significant technical challenges	Least significant technical challenge
Poor data discoverability	Quickly evolving field creating uncertainty
Proprietary, incompatible systems	
Data sets fragmented	
Poor data quality and/or quality assessment	
Most significant legal challenges	Least significant legal challenge
Privacy, trade secrets, sovereignty	Fragmented regulation across jurisdictions
Lack of standard legal templates	
Most significant benefits	Least significant benefits
Facilitating the discovery of data and data sources across Europe	Clarifying governance (including e.g. compliance with GDPR)
Promoting common data formats	EMDS providing a means to price and pay for data
Standardising data access and exchange	
Ensuring organisational credentials and verification	
Standardising data quality measurements	
Controlling access to your data	
Promoting data sharing practices and data as a strategic asset	
Most significant incentives	Least significant incentive
Strategic enabler of growth	Regulatory compliance
Reputational boon for the 'brand'	
Cost efficiency of streamlined data integration	



Key takeaways

- Digital service providers indicated that the anticipated functionalities of a future EMDS would address many of their current data-sharing challenges. Many are already involved in deployEMDS or expressed clear interest in participating in a future EMDS.
- For this group, the EMDS can be seen a way of 'doing business', offering opportunities to reduce operating costs and scale services across Europe. Key examples include the use of standardised connectors and the EMDS' promotion of standardised data formats. As a result, additional incentives are seen as largely unnecessary.
- The perceived risks of participation are moderate, as many providers have already invested in relevant capabilities or could benefit from public funding if data spaces become a policy priority. However, concerns remain about whether EMDS can effectively engage key data holders and ensure sufficient data sharing.

3.5 Private service providers

In total, four interviews were conducted with private service provider representatives, of which two are part of the deployEMDS consortium. The participants represent a diverse range of stakeholders:

- **Transport service operator:** Delivers transport and mobility services directly to end users, such as ride-hailing, car-sharing, or logistics solutions. Relies on mobility data (e.g. demand patterns, traffic conditions, user behaviour) to optimise operations, pricing, and service availability. Primarily acts as a data consumer in a competitive market of similar service providers.
- **Mobility data provider:** Collects, aggregates, and provides mobility-related data, that may include for example traffic flows, vehicle movements, and infrastructure usage. Data is currently openly accessible, with the long-term goal to monetise it.
- **Mobility analytics provider:** Transforms raw mobility data into value-added services such as analytics, forecasting, and simulation models. Delivers actionable insights that support operational and strategic decisions.
- **Mobility and transport consultancy:** Provides advisory services tailored to the mobility sector, including strategy, technology assessment, and market analysis. Combines industry expertise with data-driven insights and thus holds a support function to their clients in strategic planning.

Given this diversity, the responses need to be reviewed on an individual basis, while the summary highlights commonalities observed across all or most of the four respondents.

No consortium-internal responses as part of the survey were provided for this stakeholder group.

Challenges

Table 4: Private sector providers business challenges

Stakeholder	Business challenges
Transport service operator	Due to data access fragmentation, transport services do not provide optimal services to customers. The main challenge is visibility of other types of service operators' data to improve users' over all experience (even if this means collaborating with competitors).
Mobility data provider	Monetising on data provision is the biggest difficulty. Currently, other organisations monetise on data provided without paying for this service.



From a sharing perspective, the abundance of data spaces and platforms is a challenge due to recurring connector costs.

Mobility analytics provider	Service quality depends on the quality of data received from data sources. This is a high dependency, and resources are spent on cleaning, anonymising and standardising data before usage. Private data is difficult to access.
Mobility and transport consultancy	Limited awareness among public and private clients restricts understanding of the benefits and opportunities of mobility data sharing. Access to valuable private and non-open public data is constrained by weak incentives, cost concerns, and unclear value propositions. This results in fragmented data ecosystems and missed opportunities for data-driven decision-making.

The common business challenges specifically related to private sector organisations identified in these interviews can be summarised as a lack of private data access, the format in which data is received, and transparency regarding data quality. All these factors lead to higher costs for ensuring quality and make it challenging to deploy accurate services.

The abundance of data sharing platforms further diverts resources as all require a connection and duplicate efforts.

For the mobility data provider, a key challenge is the current inability or difficulty to effectively monetise data assets. This aligns with broader stakeholder feedback indicating a lack of incentives for data sharing. As a result, data provision is often perceived as an additional cost rather than a value-generating activity.

Table 5: Private sector providers technical challenges

Stakeholder	Technical challenges
Transport service operator	None noted
Mobility data provider	Multiple data sharing platforms that are not interoperable.
Mobility analytics provider	Lack of data transparency.
Mobility and transport consultancy	None noted

Overall, respondents did not perceive data sharing as a primarily technical challenge. Where technical issues do arise, they are linked to the many, non-interoperable data-sharing platforms. To a lesser extent, challenges also stem from unclear or poorly defined data sources and that these are not always visible in data sharing platforms.



Table 6: Private sector providers legal challenges

Stakeholder	Legal challenges
Transport service operator	Governance challenges including legal frameworks and rules for participation, risk of sharing sensitive data and limit access to specific data.
Mobility data provider	Legal standards related to monetising data access and enforcing agreements.
Mobility analytics provider	Strict privacy regulations, including GDPR, limit access to and use of mobility data. Additional barriers stem from private companies' concerns over trade secrets and their reluctance to share data in the same environment as competitors.
Mobility and transport consultancy	None noted

Interviewees acknowledged data privacy regulations, including GDPR, as a challenge to mobility data sharing. The mobility analytics provider outlined one specific example of legal challenges related to mobile operator cell data. Such data cannot be transferred out of the mobile operator and their system due to GDPR and trade secret concerns. The current workaround is to perform necessary work inside of mobile operator digital infrastructure. However, the EMDS was not perceived as a possible solution (in the near future or even ever), as mobile operators are strict not to connect to any external actor.

Benefits

Table 7: Private sector providers benefits

Stakeholder	Benefits
Transport service operator	Access to data under common governance frameworks enhances operational efficiency and coordination. Visibility of data and services, including transparent pricing, increases market reach and discoverability. This creates opportunities to deliver more integrated and higher-quality mobility services across Europe.
Mobility data provider	One point of access to provide data which is accessible across Europe simplifies operations. This creates opportunities to monetise the collected data as well as the scaling to the rest of Europe.
Mobility analytics provider	Facilitation of cross-European discovery of data and data sources. Use of legal templates that are valid and a standard basis across Europe.
Mobility and transport consultancy	Harmonised, interoperable metadata approach across Europe, which would be highly beneficial to build mobility use cases. A future EMDS as a toolbox, including a repository of best practices from which additional use cases can be developed.



Overall, all private sector participants described a significant potential benefit for their organisations if a future EMDS can sustainably offer the functions of a federated data space. All described the potential to reduce their current operational cost and the future opportunity to scale their businesses internationally.

The idea of a European marketplace for harmonised data that is safely and readily available for further service development, and which enables the monetisation of data, was seen as beneficial to all private organisation interviewed.

Incentives

Incentives were perceived similarly across all respondents. Strategic opportunities for growth were most important for all interviewees, as they seek to expand their businesses to more European countries. The EMDS was viewed as helpful in achieving this. All described that there could be a sufficient cost benefit incentive, as well as a reputational boon, associated with joining the EMDS.

In developing services, there is a strategic incentive in joining a future EMDS as an early adopter. The aim is to learn from the outset and contribute to shaping a future EMDS in order to build services around it. Clearer visibility from the EU on next steps would be a further incentive to engage.

One respondent stressed that covering onboarding and connector costs for data providers and small companies as a strong incentive. The cost was estimated from experience at up to 10,000 Euros.

Regulatory compliance was considered a long- term benefit, but not an incentive for joining.

Data types and data space services

Across respondents, dynamic mobility data was the most prioritised data type. The mobility analytics provider especially mentioned public transport data as critical for their services. The transport service operator was interested in road network data, particularly electric vehicle charging point data, as well as regulation data (i.e. parking space data).

The data related services sought by the mobility analytics provider mirrored the benefits mentioned, namely enforcing data standards and a digital search catalogue. Interestingly, not only for data sources, but also for their product, i.e. analyses based on that data. The same respondent also highlighted the potential impact of a services, including digitalised market with credential verification, liability models, pricing models and subscription or purchase mechanisms.

Risks and costs for joining a future EMDS

Respondents held varying views on the cost of joining a future EMDS. The organisations involved in the deployEMDS project saw little risk and cost in joining a future EMDS.

A data provider, external to the project, was wary of the risk of onboarding a data sharing framework with low maturity, as it could ultimately not develop to be the central European marketplace for data sharing. The onboarding cost was estimated as a rather substantial investment for small businesses, especially considering they may have already onboarded to multiple platforms.

It was stressed that EMDS should be a neutral trust and transaction enabler, rather than a competing service provider. One of the respondents cautioned about EMDS providing value-creation services, as this could be a negative incentive to join and share data out of fear that the EMDS becomes a competitor in services.

Overall, given that the EMDS becomes *the* marketplace for data, all stakeholder perceived it as a net gain in favour of joining the EMDS.



As a diverse group of private service providers was interviewed, the summary is a high-level summary of the answers that all or most respondents mentioned.

Table 8: Summary of private service providers respondents' statements

Most significant business challenges	Least significant challenges
Lack of private data access	N/A
Format in which data is received	
Transparency in data quality	
Multiple data sharing platforms access costs	
Competitors get access to sensitive data	
Lack of awareness	
Most significant technical challenges	Least significant challenge
Lack of data transparency	Data sharing not perceived as a technical challenge
	Lack of expertise
Most significant legal challenges	Least significant challenge
Privacy regulations, including GDPR	N/A
Most significant benefits	Least significant benefit
Facilitated overview and access to data, especially private data through federated environment leading to reduced operational costs	N/A
Scale business internationally	
Monetisation of data	
Most significant incentives	Least significant incentive
Strategic opportunities for business growth	Regulatory compliance
Strategic to join EMDS early in the development phase to shape the environment and to provide services based on experience	
Financial incentive in covering onboarding and connector costs	



Key takeaways

- From a business perspective, all respondents confirmed that a fully operational and widely used EMDS would deliver clear benefits, including reduced operating costs, improved scalability, and greater visibility of new market opportunities, across Europe.
- At the same time, interviewees highlighted risks and costs associated with participation. In particular, smaller organisations may lack the resources to invest in new solutions, facing both connector costs and the burden of running parallel systems during the transition, representing a significant commitment.
- Incentivising EMDS by e.g. covering or subsidising connector costs was identified as key to support participation especially for small and medium sized organisations.
- For service providers, early adoption could offer a strategic advantage investing to shape the EMDS development in order to later monetise on their expertise.
- However, some scepticism remains about whether EMDS can evolve into a truly user-friendly and effective mobility data marketplace.

3.6 Research organisations

This stakeholder group covers research organisations and university representatives focused on mobility as well as data spaces in the area of mobility.

Overall, four interviews were held, two with research organisations working on the development of data spaces as part of deployEMDS and two with researchers from universities one working in interdisciplinary data sharing and one who worked on mobility patterns.

Answers are complemented by five consortium internal survey respondents.

Challenges

Business challenges

Respondents described that research requires access to large amounts of high-quality data, but obtaining suitable datasets can be challenging. Access to private data is often restricted, while ensuring data quality and consistency is difficult. Data itself has limited value unless it exists in large volumes and follows consistent methodologies that allow meaningful comparison. Across Europe, data accessibility varies significantly. For example, Germany tends to enforce stricter rules, while the Netherlands are more permissive. Although data can be purchased, it is often unsuitable for research due to restrictive contracts or “black box” preparation processes where methods are not transparent. In contrast, open and statistical data are generally easier to access and pose fewer challenges for researchers.

Generally, competition is not considered a challenge for research organisations. There is also no significant incentive to act as a data provider.

Technical challenges

From a technical perspective, the issues are less pronounced. In principle, it is already possible to acquire the necessary information; however, the process is often inconvenient and inefficient.

From a research perspective for developing data spaces, it is considered that data space infrastructure solves a lot of technical challenges.

Legal challenges



Legal challenges were identified as the most common barrier to data sharing. These challenges affect research organisations both as data providers, who must define appropriate conditions for data use, and data consumers, who need legal expertise to get access to data that adds value to their research. Sharing data typically requires strict usage agreements, including non-disclosure agreements (NDAs). While these agreements allow researchers to access and view datasets, they often restrict citing or publishing results based on the data, which can ultimately make the datasets unsuitable for academic publication.

Benefits

For research organisations a benefit would be transparent data sharing through data spaces that improve data discoverability and standardised templates and interfaces. Data platforms that manage metadata and operate with standardised licenses is not a new concept, but it is challenging to implement effectively at scale. Their real value lies in making more data operational, accessible, and regularly updated.

For data providers, clear use cases are essential to justify participation, particularly when considering pricing models for datasets such as those used for AI training. Demonstrating how contributing data can create value or generate revenue is therefore important.

Common data formats are relevant but are not necessarily something the EMDS can fully solve. In some domains, such as Intelligent Transport Systems (ITS), the data required by regulation is already available as open data and may not need to be distributed through data spaces.

Ultimately, the value of data spaces depends on broad participation, as data sharing only becomes beneficial if many actors contribute. Data providers also require strong support structures, including knowledgeable partners in data governance and access to legal advice.

Incentives

One respondent outlined that an incentive would be ‘bootstrapping’ of relevant datasets, explaining that if a small number of highly valuable datasets are made available in a standardised format that would attract broad interest. This could attract users and thus additional data contributions to the EMDS. These key datasets could potentially be priced, creating a focal point around which a broader data ecosystem develops.

For research organisations, participation in a future EMDS could bring reputational benefits and increased visibility. Publishing datasets with Digital Object Identifiers (DOIs) allow researchers to link data to academic publications, making the data citable and easier to locate. Integration with publishers and institutional data repositories, such as those managed by universities, can further strengthen this visibility. In this sense, data sharing can function as a form of academic publicity, supporting recognition and dissemination of research outputs.

The cost efficiency of participating in a data space depends strongly on its business model. Key questions include the cost of joining, the resources required for integration, and how the value of contributed data is assessed. Some actors may see potential benefits in easier integration and access to precisely the datasets needed for research, while others question whether the costs and effort involved are justified.

Regulatory compliance was discussed as a potential motivation for data sharing. If frameworks such as the EMDS simplify compliance with emerging regulations, organisations may be more willing to participate. However, the practical ease of compliance largely depends on the availability of supportive tools, services, and user-friendly infrastructures within the data space.

In contrast, especially for public universities, it was argued that there is little to gain from providing data. Without clear incentives, whether financial, operational, or reputational, organisations may see no reason to contribute their datasets. This perception can significantly limit participation and the overall effectiveness of data-sharing initiatives.



Data types and data space services

An added value of a future EMDS was the suggestion to establish as gravitational effect. If a small number of highly valuable datasets in a standardised format are made available across Europe that could attract broad interest and could draw users and additional data contributions to the platform. These key datasets could potentially be priced, creating a focal point around which a broader data ecosystem develops.

Risks and costs for joining a future EMDS

Research organisations that research and develop data spaces naturally perceive the value of data spaces and have already invested in the development. It needs to be part of future research how much data space set-up and upkeep costs exactly.

Public universities and research institutes perceive limited direct benefits from contributing data to data spaces. Without clear incentives, data sharing can appear as an additional administrative burden rather than a strategic opportunity. Existing research infrastructures do not always align with data space requirements. Institutions may need to adapt systems or implement new tools to meet technical and interoperability standards, creating financial and operational costs. Additionally, preparing data for sharing requires effort, including documentation, metadata creation, and compliance with governance requirements.

The growing number of (domain-specific) data spaces creates uncertainty about where and how to participate. Fragmentation can increase coordination efforts for research organisations, while the broader federated ecosystem is still evolving. In Europe, policy and regulatory frameworks strongly shape the development of data spaces, which may not be directly informed by the realities of research organisations and the added value for research in bureaucratic organisations. For research organisations, this may lead to participation motivated by compliance requirements rather than genuine incentives for collaboration or innovation and thus only providing bare minimum than actively using and contributing to the ecosystem.

Table 9: Summary of Research organisation respondents' statements

Most significant business challenges	Least significant challenges
Lack of awareness of data and options for stakeholders	Competition concerns for data providers
Fragmented data management	Financial ROI concern
Lack of expertise of potential data providers and users	
Cross border data availability in similar formats for research	
Most significant technical challenges	Least significant challenge
Data sets fragmented	Poor data quality and/or quality assessment
Poor data discoverability	
Low interoperability (standards)	
Most significant legal challenges	Least significant challenge



Fragmented regulation across jurisdictions	N/A
Privacy/Trade secrets/Sovereignty	
Lack of legal standard templates for data sharing	
Most significant benefits	Least significant benefit
Facilitating search for data and data sources across Europe	N/A
Standardising data access and exchange	
Promoting data sharing practices and data as strategic asset	
Ensuring organisational credentials and verification	
Most significant incentives	Least significant incentive
Financial (cost benefit in data access)	Regulatory Compliance
Strategic (e.g. as a means to expand data for research)	
Reputational (visibility, branding as experts in data spaces)	

Key takeaways

- All participants confirmed that a fully functioning EMDS would positively benefit their work.
- Key benefit would be standardised legal frameworks to access private data, reducing the need for complex bilateral agreements.
- Key incentives to join would include access to high-volume, high-quality data from across Europe, as well as use cases to display the benefit.
- Research organisations have limited incentives to share their own data, as monetisation is often difficult; visibility on alternative drivers such as cost efficiency and reputational benefits would need to be strengthened.
- While costs are a consideration, greater concern was expressed about the risk of increased bureaucracy and inefficient processes in using the EMDS, rather than meaningful improvements.



4 Additional findings

4.1 ISG webinar

In order to complement the collected data with more external and private sector perspectives, a two-hour Innovation and Scaling Group (ISG) webinar on the benefits and incentives analysis was held on 23 February 2026 (Annex 2). “The ISG was established under deployEMDS to foster collaboration between project stakeholders and external large companies, SMEs, startups, and academia. The ISG is a matchmaking platform whose objective is to develop further innovative use cases for mobility data sharing with European cities and to broaden the spectrum of users of the emerging EMDS components.” (ISG Charter⁴)

A total of 22 participants, comprising 10 ISG members, 2 DSSC representatives, and 10 interested and contributing consortium members participated. The webinar focussed on establishing a joint understanding on the stakeholder perspectives on the benefits, discussing ISG perspectives as well as the perceived risk and cost on joining a potential future EMDS.

Benefits and incentives specific feedback

Benefits

During the presentation on the stakeholder group benefits and incentives, one member of the ISG recognised the value of standards, cautioned however against adopting an overly rigid or doctrinal approach to data standardisation. Rather than imposing strict standards on services and processes, the benefit of a future EMDS should be about harmonising data exchange. There was concern that a highly prescriptive framework could become bureaucratic and ultimately create barriers rather than facilitate data sharing.

Incentive

In this context, the incentive of simplifying initial onboarding and avoiding an excessive focus on perfect data quality or comprehensive standards before data is actually used was stressed. Importance was given to ‘bootstrapping’, which would involve identifying and prioritising a small number of high-value datasets that deliver clear benefits for both data providers and users, thereby creating early momentum and practical learning opportunities. As part of this approach, basic information on data quality could initially be provided at the metadata level for example regarding the data sets’ purpose, scope, and usage conditions. More detailed specifications and quality requirements could then be developed later if demand and practical use cases justify further refinement.

More broadly, it was discussed that regulation alone is not a strong incentive and will not be sufficient to enable effective data sharing. The example of GDPR data portability was cited as a missed opportunity, largely because the framework lacked incentives and viable business models to support its practical implementation. Participants therefore emphasised that incentives across the entire value chain will be essential to ensure that regulatory frameworks function effectively in practice.

⁴ <https://deployemds.eu/wp-content/uploads/2024/05/deployEMDS-ISG-Charter-Membership.pdf>



Cost and Risk workshop discussion

The second part of the webinar was an interactive workshop with the Data Space Support Centre. Here, participants were invited to discuss various risks and costs concerning joining a future EMDS. (see Annex 2 for result).

A key overarching issue identified was the need to demonstrate clear value for data providers. Participants stressed that data providers will only join a data sharing framework if they are convinced that it offers greater benefits than managing and exploiting the data themselves. This value can only be leveraged with strong governance rules, which participants recognised as one of the most challenging parts of a future EMDS.

Governance and the future EDIC M&L structure emerged as one of the central concerns in the discussion. Participants highlighted potential risks related to governance arrangements, including questions of trust, voting rights, and the balance of influence between public and private actors. The importance of democratic governance and a shared mindset among participants was stressed.

Participants further highlighted the uncertainty and perceived risks associated with data spaces still emerging, noting that there are still few mature and sustainable examples from which organisations can learn. As a result, companies are often asked to take a “leap of faith” without extensive historical precedents.

Despite these risks, participants mentioned that European data sovereignty is becoming increasingly important in the current geopolitical environment. Strengthening Europe’s ability to control and manage its own data infrastructure was seen as a strategic motivation for developing data spaces.

4.2 Policy Lab findings

The project has held a series of policy lab workshops addressing topics relevant to the benefits and incentives analysis. Policy labs respond to growing societal complexity by using agile, inclusive, and user-centred ways of working with policy and regulation. They bring together relevant stakeholders to collaboratively explore policy-related challenges. In the context of deployEMDS, there are four policy lab groups, each consisting of a quarter of the project consortium. The groups are mixed, comprising different types of consortium participants to ensure diverse perspectives in the discussions. No external actors participate in the labs.

In this project’s policy labs, the discussions range from local use cases to a broader European perspective linked to the emerging EMDS, with one thematic track focusing on understanding actors’ unwillingness to share data of public interest and the types of support or incentives that could strengthen their willingness to do so. The aim is to understand what prevents actors from sharing such data, and what types of support or incentives could strengthen their willingness to do so. Insights emerging from the work include:

- Trust is a critical prerequisite – trust in institutions to handle data responsibly, in legal frameworks that safeguard rights, and in technical systems that ensure traceability and control.
- The concept of ‘data of public interest’ remains insufficiently defined. Examples such as data for road safety, air quality, and traffic flow are mentioned, but there is no shared understanding of what qualifies as ‘valuable to society’.
- This ambiguity makes it difficult for data holders to determine what should be shared, under what conditions, and with whom. Inclusive, multi-stakeholder processes are therefore essential.



5 Conclusion

5.1 Multi- stakeholder benefits and incentives in the EMDS

In the previous chapters, a detailed overview was provided of data-sharing challenges, as well as the perceived benefits, risks, and costs associated with a future EMDS, differentiated by stakeholder group. These findings were complemented by insights from an ISG webinar and deployEMDS policy lab workshops, ensuring a broader multi-stakeholder perspective.

A key question is how these identified needs align with the planned EMDS. Therefore, findings so far, including stakeholder data sharing challenges and perceived benefits of the EMDS are summarised under “Mobility data sharing: Needs and benefits” (Column 1). These are compared to the official EU communication on the EMDS (Column 6) to assess the extent to which the current EMDS outlook responds to stakeholder needs and meets anticipated benefits.

Overall, the comparison suggests that EMDS is well aligned with key stakeholder needs. The most mentioned data sharing challenge and perceived benefit of a future EMDS is the access to private data. Related to this challenges are legal frameworks for data use, including monetisation, GDPR compliance, data sovereignty, and improved data discoverability. These are largely addressed in the communication of the EMDS. Similarly, issues related to data quality, transparency of data sources, and standardisation are highlighted as rooms for improvement in data sharing. These are also largely addressed in the description of the EMDS, while full data standardisation is not foreseen.

The for-profit representatives as well as researchers specifically were interested in the international ambition of the EMDS, including access to high value data and enable international scaling of services. These are notably among the key objectives of the EMDS.

All stakeholders highlighted the need for incentives for data holders to share data. Additionally, public authorities and digital service providers highlighted the need for increased awareness and training on data space literacy, to fully leverage EMDS. These two aspects are currently not explicitly covered in the communication. These may however be included in other EU initiatives not reviewed as part of this analysis.

All stakeholders expressed willingness to participate in a fully operational EMDS. Additional incentives that would prompt early engagement include:

- Use cases with tangible cost-benefit outcomes,
- Support to cover onboarding costs,
- Strategic or reputational advantages for early adopters.



Table 10: EMDS needs and benefits comparison

Mobility data sharing: Needs and benefits	Public authorities	Digital service providers	Private Service providers	Researchers	Objectives and assumptions of a future EMDS according to official communication
Access to private data	X	X	X	X	Objective: "Facilitate data access, sharing and reuse"
Legal and license templates	X	X	X	X	Data Act: "Non-binding model contractual terms for ... data access, sharing and use will help ... to draft contracts ..."
Standardising data quality	X	X	X	X	Objective: "Help users discover available data sources, by providing tools so that the user can also understand the quality of data..."
Standardised interface		X	X	X	Standards: "...issuing non-binding recommendations to foster standardisation convergence and enable the interoperability of data sources and ecosystems that facilitate the exchange of data based on a federated framework."
Incentive for data sharing		X	X	X	
Increased awareness and skills	X	X			
Increase transparency and optimise process in data sharing	X		X		Objective: "Optimise data-collection and reduce administrative burden"
Interoperability between data sharing systems	X		X		Objective: "Enable technical, organisational, semantic and legal interoperability"
Transparency on data source	X			X	Objective: "Help users discover available data sources"
Valorisation of data			X	X	Building block: "Data sovereignty ... allows individuals and organisations to self-determine how, when and at what price others may use their data..."



Scale service offers across Europe			X	X	Objective: "Identify crucial data and increase their availability to support essential and value-added services..."
Data sovereignty		X			Building blocks: Data sovereignty, governance, business and legal dimensions
International use cases				X	Relevance and demand for a EMDS : "Value-added use cases and their benefits"
Data discoverability		X			Objective: "Help users discover available data sources"



5.2 Overarching findings

Across all participants, several common perspectives emerged regarding the potential role and added value of the EMDS.

A great vision

There is broad consensus that a future EMDS, once established and widely adopted, could act as a key enabler for expanding innovative, data-driven services across Europe, integrating both private and public data sources.

Some respondents stated explicitly that even if the EMDS does not fully meet all expectations at this stage, it represents a necessary step toward strengthening European data sovereignty, with the possibility that actors from beyond Europe could potentially benefit from EMDS as well.

EMDS sustainability outlook

While long-term benefits of a functioning EMDS were acknowledged, there was scepticism about the pathway to achieving sufficient maturity. Access to private data was identified as a key indicator of both maturity and usefulness, yet doubts remain about whether the EMDS can realistically achieve this. Overall, interviewees expressed scepticism regarding the sustainability of a future EMDS, particularly in terms of establishing effective governance, developing a cost-efficient user-friendly infrastructure, and attracting enough participants willing to share high-value datasets.

‘Private’ data focus

Across all stakeholder groups, it was consistently emphasised that a future EMDS would only be valuable if it enables access to desirable private data, supported by appropriate governance mechanisms to ensure secure data sharing, as well as data discoverability, quality, and transparency. The emphasis is placed on the quality and standardisation of data rather than on the sheer volume of non-standardised data. In this context, governance frameworks and incentives to enable data sharing were seen as more critical challenges than the underlying technical infrastructure or interoperability.

Respondents noted that improved data discoverability through EMDS would primarily be relevant for private or restricted data, as open data is already relatively easy to locate through existing National Access Points (NAPs). Consequently, it was noted that NAPs should be integrated into EMDS in a way that complements and builds upon existing infrastructures rather than duplicating them.

Importance of use cases in a developing ecosystem

All respondents emphasised that tangible use cases demonstrating real benefits of using the EMDS will be critical to encourage participation. EMDS should therefore be understood as an evolving ecosystem, where pan European cases, focusing on high value data sets and impactful use cases demonstrate the added value of the EMDS on a case by cases basis. The EMDS could be developed through practical experiences from such specific use cases, rather than by grappling with a complex, holistic and static architecture designed to address all needs from the outset.

Categorisation of stakeholder groups

The research showed that data-sharing challenges and perceived benefits vary significantly not only between stakeholder groups but also at the individual stakeholder level. This diversity makes overarching categorisation and targeted solutions complex. Notably, most stakeholders interviewed here primarily perceived themselves either as digital service providers (enabling data sharing rather than being the actual



source of the shared data) and data consumers, and only secondarily, or not at all, as data providers. This is particularly notable when it comes to sharing private data.

5.3 Outlook and suggestions for further research

EMDS as part of a future EDIC M&L

National representatives engaged in the boostEDIC Mobility and Logistics (M&L) preparatory action were interviewed as part of the benefits and incentives analysis. The boostEDIC M&L initiative serves as a preparatory action for the establishment of the European Digital Infrastructure Consortium for Mobility and Logistics (EDIC M&L). Within this context, the EDIC M&L is perceived as one potential framework through which a future EMDS could be hosted, including the provision of a governance structure. Since the preparatory phase only began in January 2026, discussions are still at an early stage, and no formal decisions have been made. The insights gathered therefore reflect individual perspectives rather than official national positions.

National representatives identified the main challenge for mobility data sharing in Europe as the absence of a coherent, long-term European vision for digitalisation in the mobility and logistics sector. Existing European initiatives are fragmented and often limited to short-term projects, which limits continuity and impact. A permanent governance structure such as EDIC M&L could help preserve results and provide strategic direction.

Interviewees acknowledged the current lack of incentive for data holders to share data. Representatives suggested that initiatives like boostEDIC M&L and a future EMDS could address this by promoting an environment that promotes data sharing for value creation. Positioning EMDS as a central platform, alongside establishing a permanent forum for collaboration between governments, industry, and academia, could further strengthen cooperation and knowledge exchange.

Finally, strong and sustained support from the European Commission (EC) was seen as critical for success. EDIC M&L could play an important role as a governance framework for cross-border use cases, while targeted financial support from the Commission could accelerate adoption and implementation.

Overall, the interviews with the representatives mirrored many of the challenges and benefits that were outlined in the stakeholder interviews including:

- The need for a long-term strategy that creates trust in a sustainable EMDS.
- The importance of a governance framework that builds trust and fosters data sharing.
- The common understanding in Europe for the EMDS as the main data sharing framework for mobility data.
- The role of EC in driving the further development of a future EMDS and use cases.
- The need for active engagement of different stakeholders in the further development of a future EMDS.

Outlook

The results of this analysis are publicly available. The insights gathered from the analysis will inform value proposition statements for a future EMDS and recommendations on how the EMDS can best meet user needs while ensuring sustainable, long-term engagement. Overall, the findings contribute to guidance on participation in, and the long-term viability of, urban mobility data spaces and a future EMDS.

deployEMDS aligns with boostEDIC M&L to assure that findings are well preserved.



Suggestions for further research

This analysis generated a range of valuable insights through stakeholder discussions, many of which could not be explored in full within the scope of this report. Recognising their relevance, the following suggestions highlight areas where the findings could serve as a foundation for further research:

EMDS as a framework evolving over time:

Interviewees view EMDS as developing through different stages of maturity. Stakeholders indicated that once EMDS becomes the main framework for mobility data sharing, they would be willing to participate and pay for its services. This suggests value in analysing how EMDS maturity influences stakeholder engagement, including:

1. Considering risks, costs, and benefits, to analyse at which point stakeholders are most likely to join the EMDS
2. Resulting from 1. review which incentives could accelerate participation
3. Related to 1. and 2. analyse a business model that evolves along EMDS maturity

Identification of high value data sets and use cases:

Almost all stakeholders part of this analysis noted that the availability of even few high-value, standardised datasets and concrete use cases would significantly increase buy-in for a future EMDS. While this analysis provides initial indications, further research is needed to identify key data holders and explore how they can be incentivised to contribute to relevant use cases.

Equal playing field for data sharing:

Although the participation of large organisations with valuable, Europe-wide datasets is a strong driver for broader engagement, there is a risk of reinforcing existing imbalances. Ensuring a level playing field will be essential. Further research should therefore examine the role and added value of small and medium-sized organisations, as well as mechanisms to guarantee their fair participation.



6 Annex

6.1 Annex 1- Benefits and incentives analysis: Stakeholder Interview Guide

See attachments

6.2 Annex 2 – ISG webinar

See attachments

6.3 Annex 3 – boostEDIC M&L national representatives E-Mail

The [deployEMDS](#) project is currently carrying out a **Benefits and Incentives Analysis** informed by **stakeholder interviews**. This constitutes a key activity under the European Commission's initiative to ensure sustainability of the deployEMDS results and to develop recommendations that support the further development of the **common European mobility data space (EMDS)**.

My colleagues, Morgan and Simone (cc'd), are involved, and I suggested you as a valuable contributor who could provide the perspective of a prospective member of the future **EDIC M&L**. I wanted to put you in touch with them so you can connect regarding an interview.

deployEMDS, and ultimately the future EMDS, aim to enable the secure, trusted, and efficient sharing of mobility data across Europe through a federated data space framework. Within this context, the Benefits and Incentives Analysis seeks to deepen the understanding of the value generated through data sharing and to identify practical recommendations to support sustainable participation in urban mobility data spaces and, more broadly, within the EMDS.

Your insights would be highly appreciated in order to gain an informed view on the potential role of the deployEMDS results and the EMDS within the EDIC M&L framework, as well as a national perspective on Europe-wide mobility data sharing through data space frameworks. By sharing your views, you would contribute to shaping recommendations aimed at ensuring that the EMDS effectively addresses user needs and fosters long-term engagement.

As part of this analysis, my colleagues are engaging with a diverse range of stakeholders—including public authorities, data providers, digital service developers, and citizens—to capture benefits and incentives from multiple perspectives.

The results of all interviews will be validated in a dedicated workshop and will form the basis for further exploration of the value proposition and potential business considerations for the sustainable use of deployEMDS outputs, as well as recommendations for the EMDS.



My colleagues would be grateful for your consideration and look forward to the possibility of your contribution.

Interview details:

- Duration: Up to 1 hour
- Format: Online interview
- Purpose: Explore benefits for European mobility data sharing through a federated data space / the future EMDS
- To make scheduling easy, please use the link below to book a time that suits you:

For your convenience, please find the interview questions below. If you have any questions or need further information, please do not hesitate to contact Morgan and Simone.

Thank you for considering this opportunity to contribute to shaping the future of mobility data sharing in Europe.

Interviewee overview and prior knowledge:

1. What is your role in your organization and the EDIC M&L?
2. What is your prior knowledge of the EMDS?
3. How does the EMDS fit or relate to national priorities and strategies? How do these relate to the EDIC?

Challenges that the EMDS could solve:

4. What challenges related to data sharing in mobility do you and your organization experience / Have you been made aware of data sharing challenges in mobility from national stakeholders (public or private)? These challenges may relate to business, technical or legal challenges.

Benefits of EMDS:

5. For which areas do you see potentially the biggest benefit of the common EMDS?
6. What are these benefits?

