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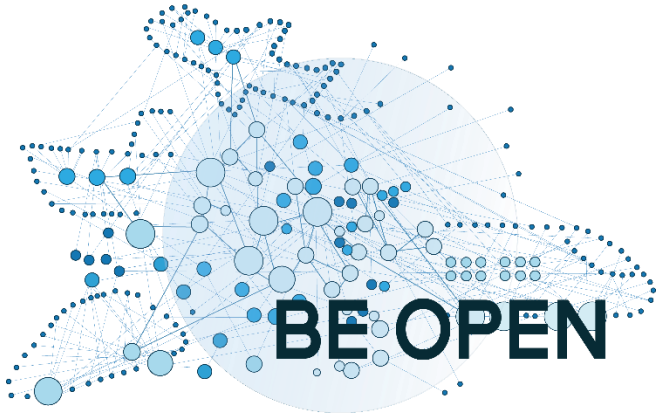

European forum and oBsErvatory for OPEN science in transport

09-th of June

D 1.2 Open Science framework, terminology and instruments

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Introduction

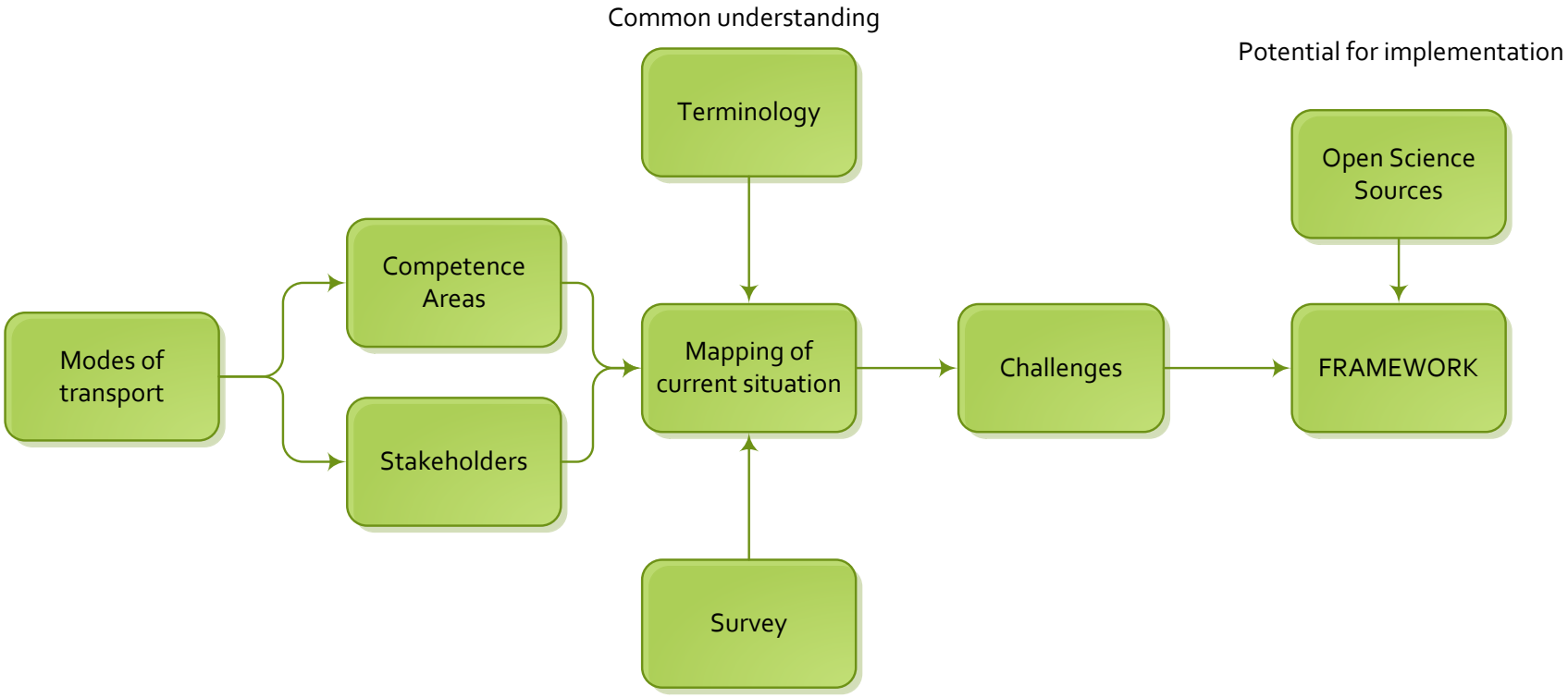
Deliverable 1.2:

- **connects transport modes, stakeholders and competence areas** to extrapolate the main challenges to be addressed by the framework structure;
- is complementary to Task 1.1, where **key actors**, namely industry, research, public authorities and society in general together with **competence areas** were **analysed**;
- Lists Open Science **main challenges, analyses transport sector stakeholders experience and proposes a framework**.

D1.2 procides input for:

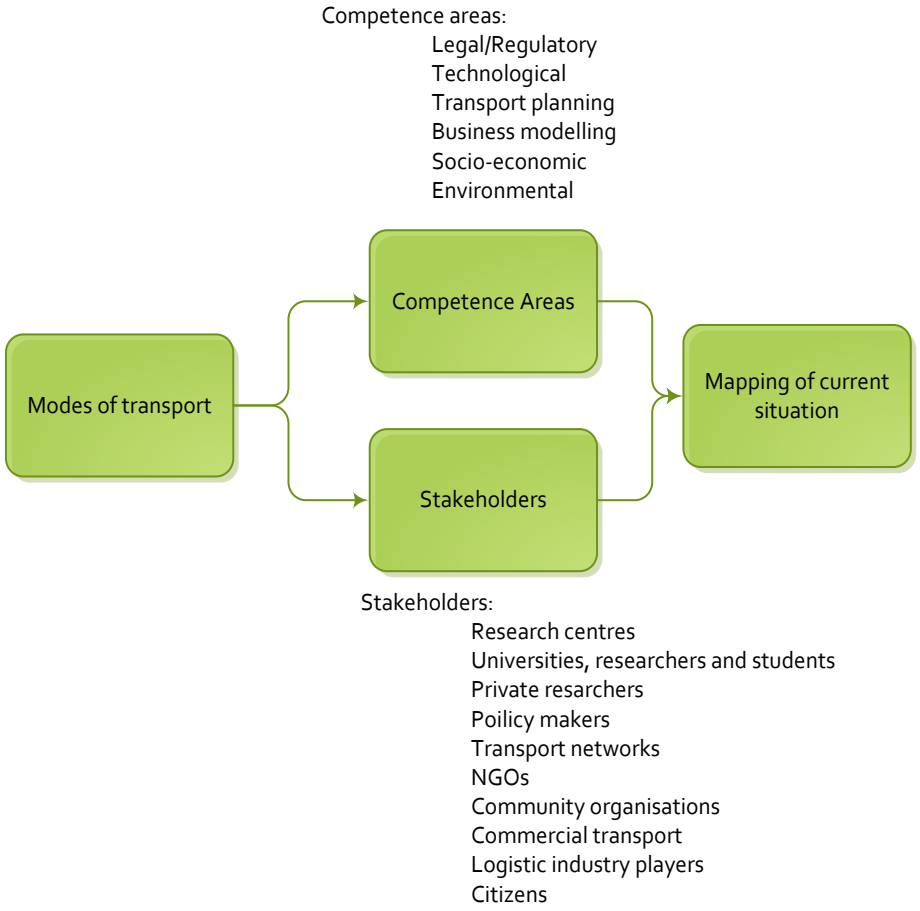
- **Task 3.2** "Set up of the European Open Science in Transport Forum" and **Task 3.3** "Set up of Open Science in Transport Observatory".
- **Task 5.1** "Identification of main challenges, opportunities, constraints and bottlenecks of Open Science in transport research" can use the main challenges identified here as a starting point for their work and **Task 5.2** "KPIs for Open Science in transport evaluation"

Approach for the D1.2



Transport Research

- Transport research includes all modes of transport for passenger as well as freight transport. (Railway Transport, Road Transport, Inland Waterway Transport, Pipelines (Oil and Gas) Transport, Maritime Transport, Air Transport and Intermodal Freight Transport.)
- **Challenges towards CAT** (Coordinated Automated Transport) in the Maritime, Aviation, Rail and Road (according to TRIMIS) are listed

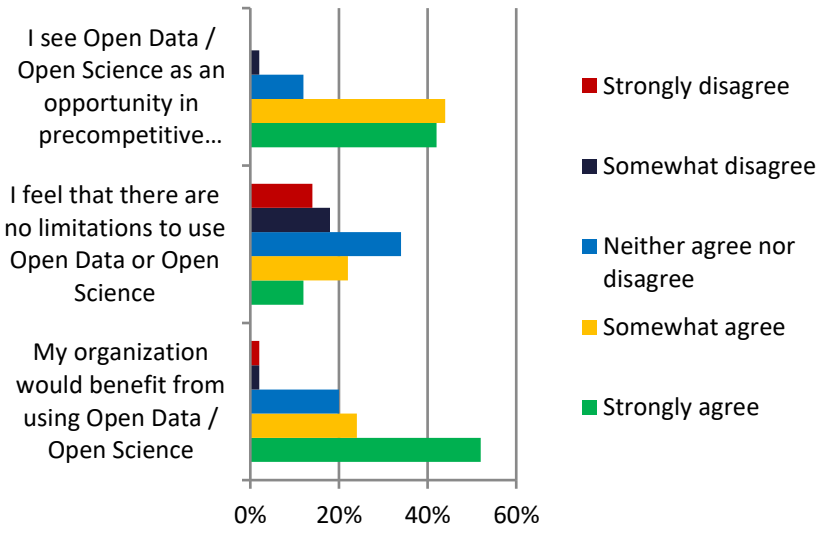


Stakeholders influenced based on the competence area

Competence area	Primary stakeholder	Secondary stakeholders
Legal/ Regulatory	Policy makers and public authorities, with the participation of transport networks and commercial and logistics industry players.	Research centres and universities together with researchers and students,
Technological	Research centres and universities together with commercial transport and logistics industry players followed by transport network and policy makers	Transport network and policy makers
Transport planning	Public authorities, transport networks and policy makers	Commercial transport and logistics industry players and research centres and universities.
Business modelling	Policy maker, Public authority, Transport networks, Commercial and logistics transport players"	Research centres and universities
Socio-economic	public authorities, commercial transport and logistics industry players and transport network	Transport network
Environmental	Research centres and universities, public authorities, commercial transport and logistics industry players and policy makers	NGOs and community organizations together with citizens

Survey – stakeholder-centered study

- Majority of answers were collected from **research and development institutions**. As an outcome the knowledge is relatively low, ecpecially for Open Science and Open Data.
- Stakeholders identified that there is a **need for Open Science and Open Data** but there are also **limitations, lack of common policy and monetary issues** were highlighted.
- There is a need to:
  - providing **common understanding** among all stakeholders,
  - developing **technical solutions for automatization** and
  - **improving data quality** as well as **setting up the funding schema** to support stakeholders' contribution.

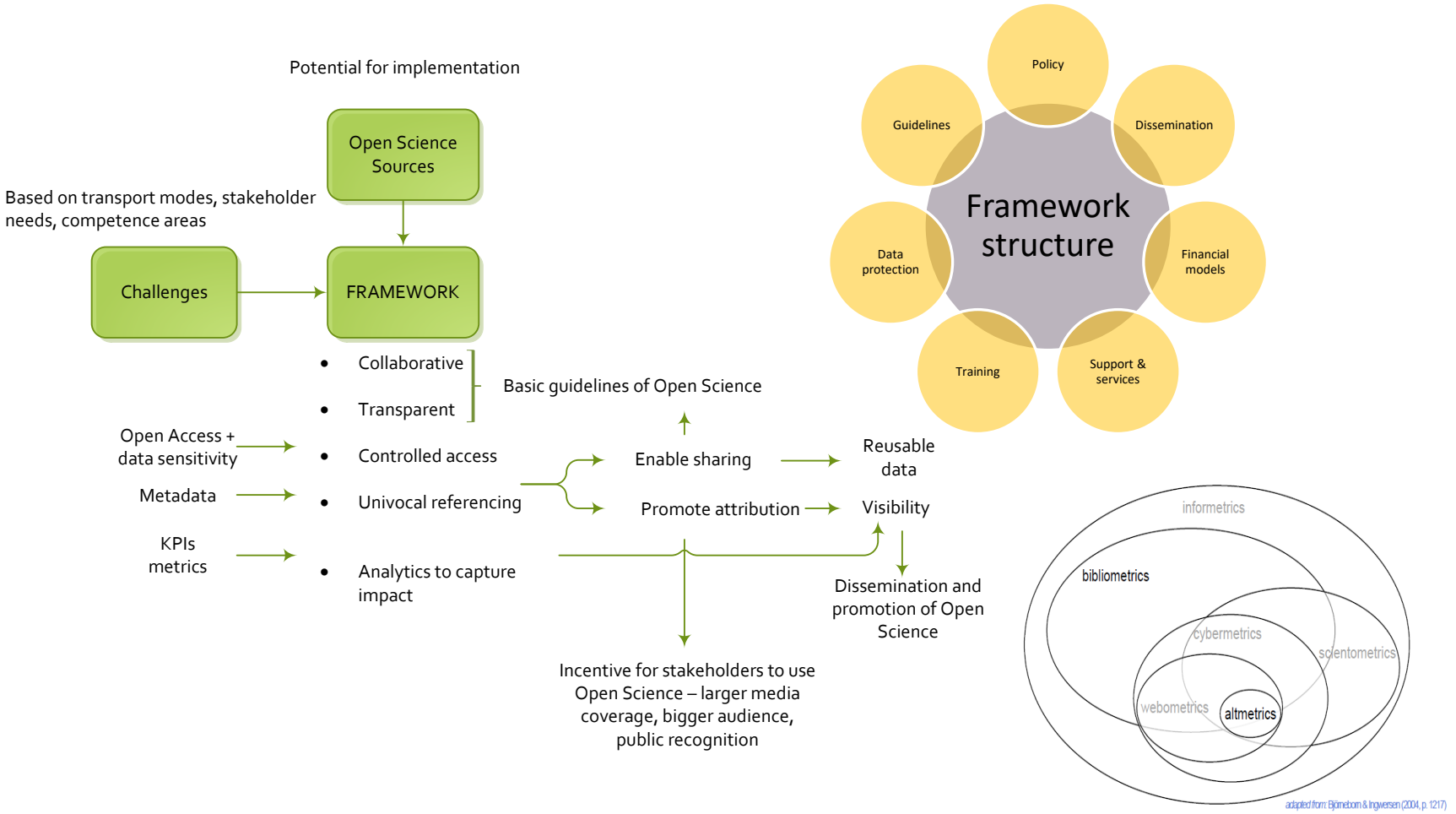


Main Challenges in Open Science

- Fragmented data and large variety of stakeholders
- Enhancement of data security and privacy principles
- Funding
- Data quality
- Lack of skilled experts
- Legal challenges
- Technological challenge

Beyond the challenges that accessing research data, the **field of transport entails bigger challenges**. The **ever-growing volume** of collected **data** makes **Big Data** a valuable resource for the transport sector mainly due to the implementation of disruptive technologies such as **automation and connected vehicles**. This type of data, however, requires special handling concerning **storage space and computer processing capabilities**, building up the **technological challenge**.

Metrics and Framework

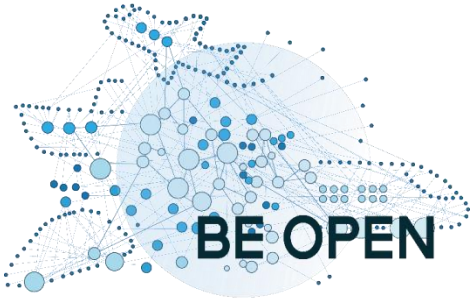


Outcomes

- Identified Terminology
- different **sources** of Open Science **were analysed and categorised** in terms of the type of transport research data they provide, the key actors and competence areas involved and at which step of the research process they can be of assistance.
- Identified Challenges
  - governance models, legal concerns, data security, infrastructure and training requirements and standards are addressed in this manner.
- Available **opportunites**, related to the identified challenges were listed
- Proposed framework
  - The aim of the structure of a framework proposed is to provide the resources necessary to overcome the main challenges.
- Finally, the **different sources are classified** in terms of the challenges they can help **to overcome, proving the potential benefits of Open Science implementation in transport research.**

Potential for implementation in transport research

Identified Challenge	Framework Topics	Opportunities
Lack of skilled experts	Training requirements	GO-Train, European Skills and Qualifications Matrix for Open Science. FOSTER Plus
Legal challenges	Policy	Policy development to create common understanding EOSCPilot Open Science Policy Platform V-Advance GO CHANGE
Data quality	Explicit guidelines	EU ODP EUROSTAT FAIR European Commission Open Research Publishing Platform TRIMIS
Technological challenge	Support and research services	Transport Research Cloud (TRC) eInfraCentral Next generation repository FREYA EOSC-Hub OpenAIRE-Advanced GO-BUILD – coordinating FAIR technology
Funding	Financial schemas	EC initiative to support Open Science
Enhancing data security and privacy principles.	Data protection and security	Cyber security framework EOSCPilot
Fragmented data and large variety of stakeholders:	Policy and Guidelines, Dissemination of Open Science in transport research data	Research Data Alliance (RDA)/ RDA Europe 4 Transport fOrum/ Observatory for Promoting Open Science - TOPOS Implementation Roadmap for the European Science Cloud – Communication European Cloud FREYA V-Advance



Thank You!