Analysis of the market actors interests in Shift2Rail and Interoperability Framework solutions

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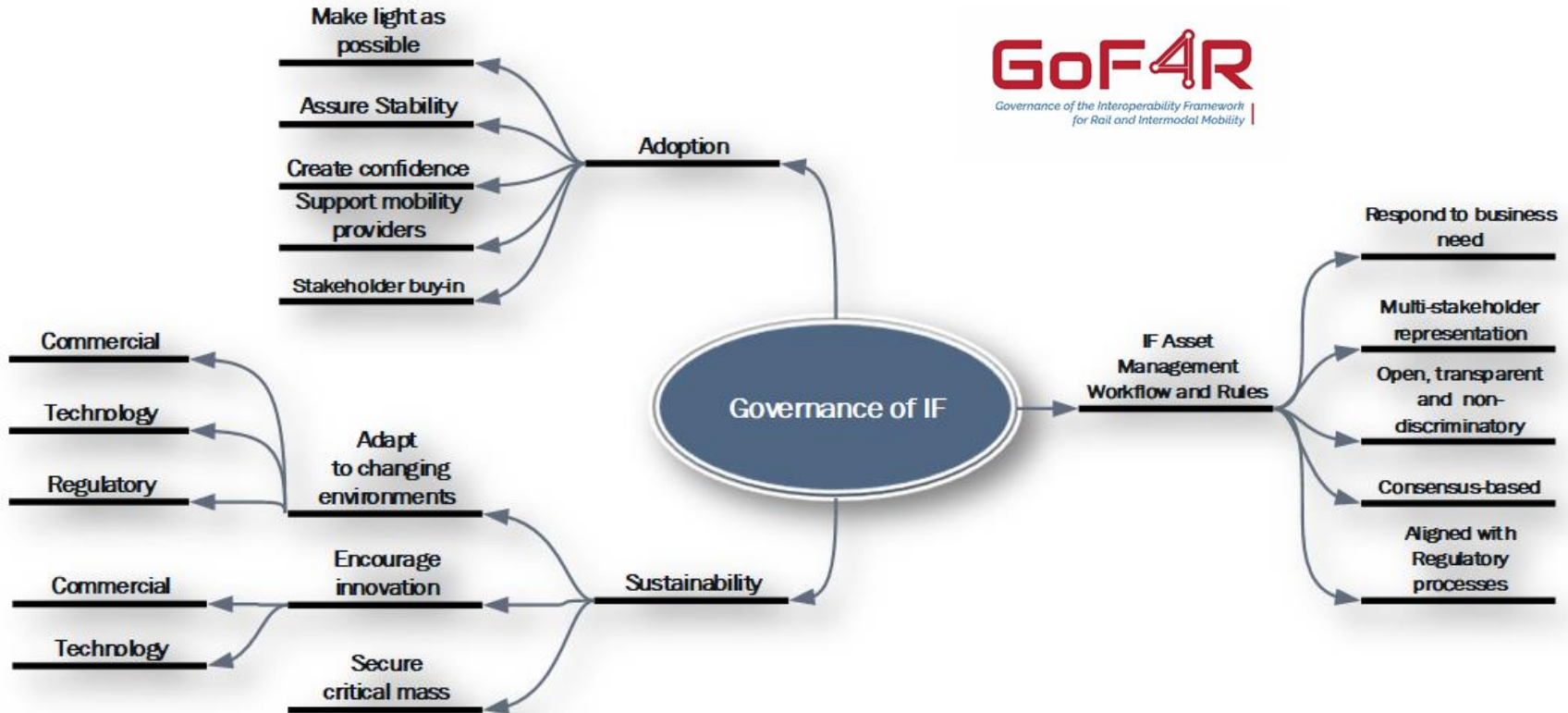
Challenge: seamless travel experience enabled by the **Interoperability Framework**

- **Creates an explicit, formal, shareable, machine-readable and computable description of Data and Services** in order to allow a higher degree of automation of distributed processes *across* **multiple data formats** and unspecified actors (*semantic interoperability*).

- No **need for centralized platforms** or single standards.

- The knowledge is FORMALISED through an **Ontology** and described in a language that can be understood and processed by machines.

- **Web of Transportation Data**: developers will be able to develop (Innovative) Apps.

Across Europe
Across Modes
Door-to-Door
Across Services

Planning
Shopping
Ticketing
Navigating
Tracking

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GoF4R Governance Objectives

BUT…

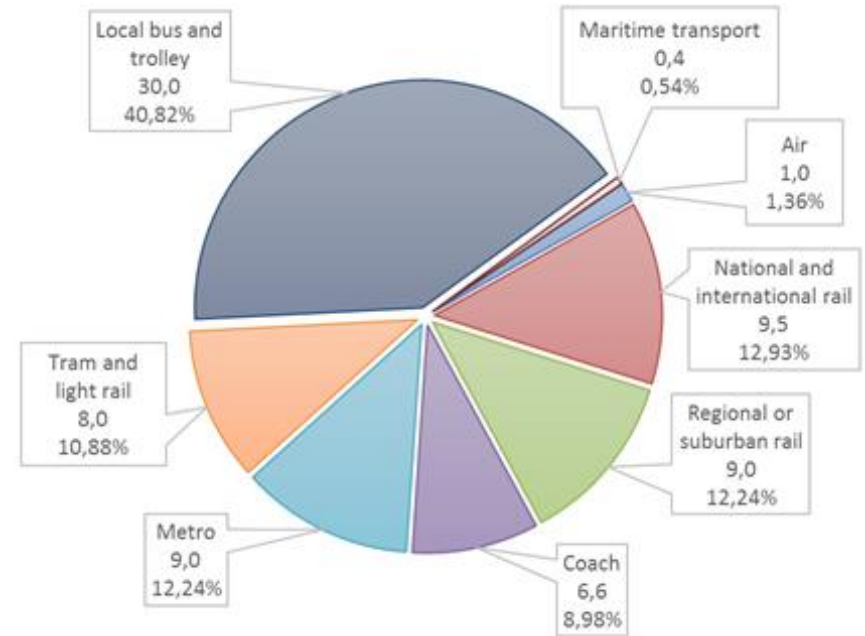# …what is the market for the Interoperability Framework in Europe?

Market Actors

- Customers/travelers
- Transport Authority
- Transport Service Operator (or Transport Operation Carrier)
- Travel service provider
- Retailer, Travel Agency, Distributor
- MaaS Providers
- IT supplier and software developer
- Payment service Providers
- International associations
- Community groups or Social networks

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Transport market overview

- The volume of European passenger collective transport market is around **66 billion passengers annually**.

- Open and interoperable transit data would enable "**Mobility as a Service**" (MaaS) to support a modal shift from private transport towards shared mobility solutions that are consumed as a service.

Passenger public transport transported in EU-28, bln. *Source: Eurostat and UITP*

Local bus and trolley 30,0 40,82%

Maritime transport 0,4 0,54%

Air 1,0 1,36%

National and international rail 9,5 12,93%

Regional or suburban rail 9,0 12,24%

Coach 6,6 8,98%

Metro 9,0 12,24%

Tram and light rail 8,0 10,88%

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Case Study: FS-Trenitalia

Third largest European Rail transport operator (820 million pax/year)
IT2Rail/Shift2Rail IP4 element of digitalization process of transformation from Italian Rail to European Mobility Company serving global Travelers

Challenge

o Rail TSPs comply with sectorial *data exchange* specifications supervised by the European agency (TAP TSI) through a centralized change control management process

o However, the FSI-Trenitalia transformation requires interoperability across a large set of heterogeneous standard and proprietary data specifications and service interfaces, some centrally governed by regulation and some not, different by transportation mode or specific to a Company

o The Interoperability Framework provides **two key capabilities** to the transformation:

- The **ability to leverage existing *data exchange*** by adding automation of the *interpretation* of the exchanged data with respect to common, formalized, machine-readable description of its semantics. This enables the automation of interoperability *across* the multiple data formats necessary for full multi-modal integration

- The **elimination of centralized platforms** and therefore of synchronization on a common, centrally controlled roadmap for deployment

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Case study: FS-Trenitalia

Actors and interaction with Interoperability Framework

Key Partners

- Other TSPs
- Travel platform businesses
- Car/Bike sharing Companies
- Retailers
- Banks
- Public Agencies
- Technology providers
- system integrators

Key Activities

- Maintain up-to-date, real-time digital representation of travel and transportation resources over the "open business ecoisystem"
- Construct digital context-aware description of Traveler's requirements in a specific sales session
- Dynamically build mobility solution across « open business ecosystem »
- Create and keep electronic records of contracts, sales, bookings and payments

Key Resources

- "Web of Transportation Data"
- Interoperability Framework (semantic interoperability)
- Artificial Intelligence and cognitive computing
- Online payments platform
- Contracts with partner Distributors and Suppliers, including Public Agencies

Value Propositions

- Integrated mobility solutions, tailored to individual Traveler's requirements and circumstances, that make optimal use of all available travel and transportation resources.
- One stop full end-to-end provider of customer-centric mobility solutions
- Mobility packages offered as a service

Customer Relationship

- Trusted personal digital advisor for all Customer's mobility problems

Channels

- Travel Companion
- Integrated mobility platform

Customer Segments

- Global Business and Leisure Travelers
- Global Persons with mobility contraints
- Global Tourist Operators
- Global event organizers

Cost Structure

- IT development, maintenance and services (semantic annotations, artificial intelligence)
- Training and skills development
- Contract development and maintenance
- Mobility services design and marketing

Revenue Streams

- Sales of mobility solutions
- Sale of advanced personalized assistance and customer care services
- Partnerships with suppliers of extended travel and transportation services
- Advertising
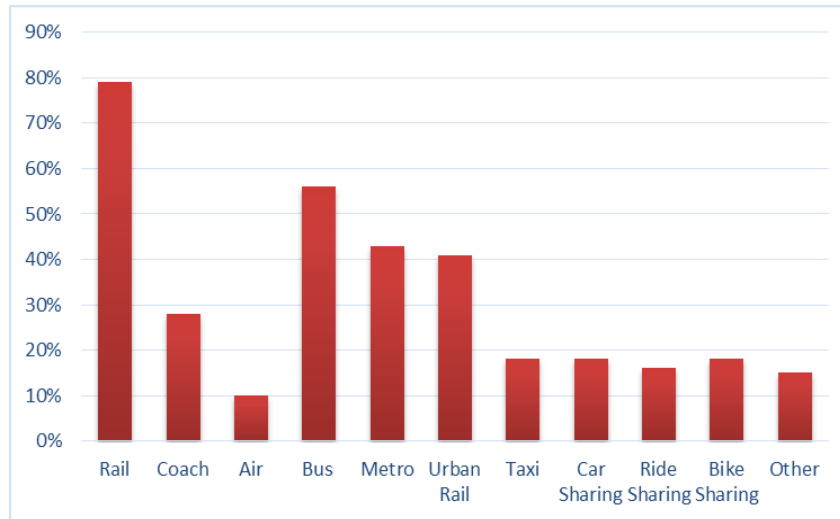
Case study-FS Business model

Results of the stakeholders consultation

o Assess the impact of the Interoperability Framework in Europe and its potential market adoption

o 80 different stakeholders
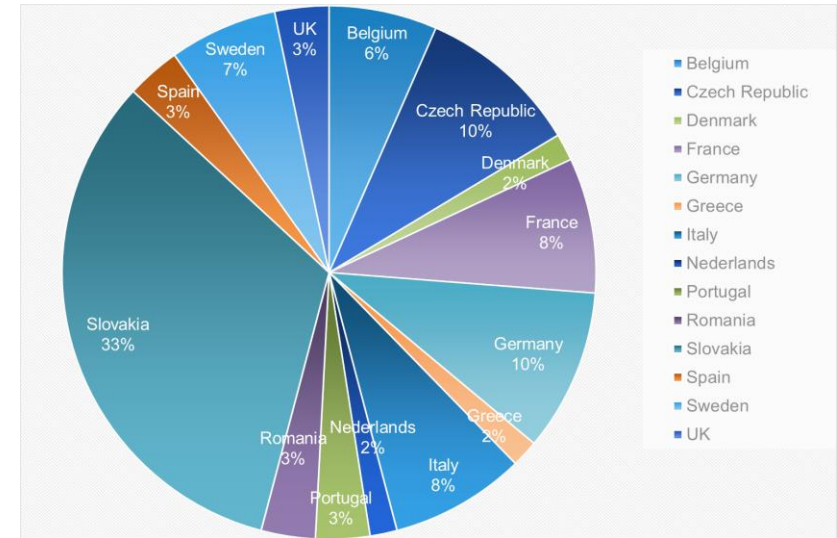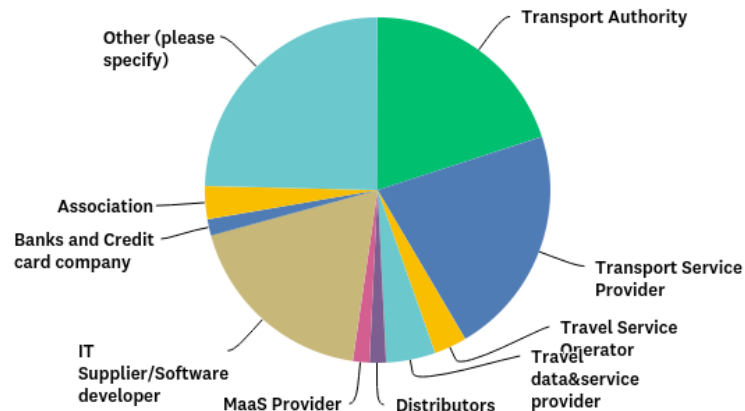

Company type and countries

Results of the stakeholders consultation

Which transport services are covered by your business?

- Multimodal interoperability is very relevant for the business of the **70%** of the consulted stakeholders

- **80%** would you be willing to participate in a wider interoperability approach than today

Results of the stakeholders consultation
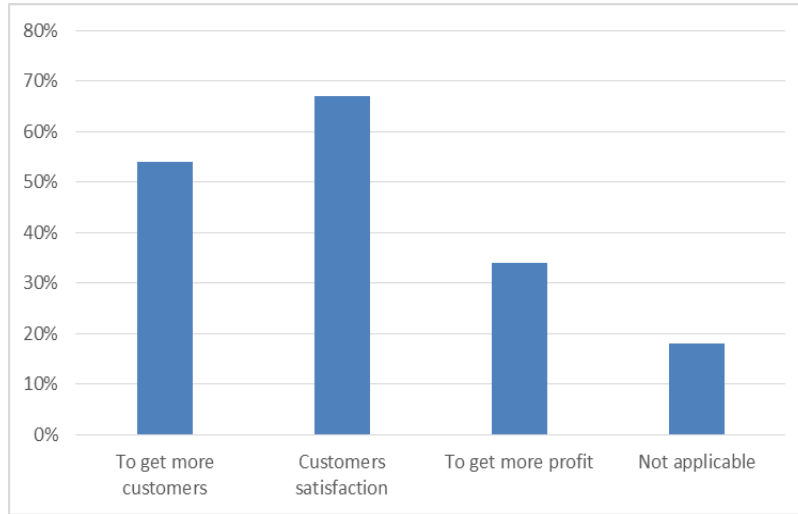
What is your possible business opportunities through the exploitation of such technology, which enable data and services accessibility?
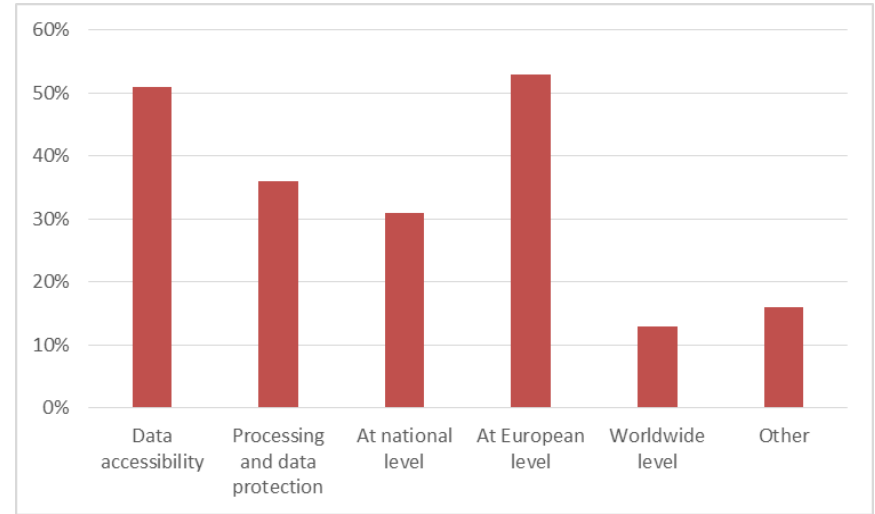
What is the perspective existing regulation framework should be revised?

Conclusions

o The market for **IF is concerning all transport operators** within Europe

o Multimodal interoperability is very relevant for business and there is a **strong interest to participate to a wider European approach**, integrating diverse modes of transport

o **Interoperability Framework governance should be market driven** - but also pushed by EU institutions, defining rules, roles and tasks. It should be open and inclusive. However, a distinction has to be made between commercial services and services operated under public service obligations defined by local authorities.

o The **knowledge of semantic interoperability is rather poor**, although this technology is perceived as beneficial for the business, mostly to reach customers' satisfaction and to gain more customers.

o The main barriers identified by stakeholders for the market adoption of the Interoperability Framework are **adaptation cost with legacy systems**, **lack of business cases** and **lack of skills**.

o Regulation at EU level on **data accessibility** is recommended.

o This "**global mobility market**" would benefit from a technology that enables interoperability, and most of all needs a **governance** for an interoperability framework.