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BOOSTLOG PROJECT

DELIVERABLE REPORT

BOOSTLOG – D2.7

M 24 – 31 December 2022

22 December 2022

Cloud report – Logistics Networks

WP2

HACON

ALICE, ZLC

Final

https://www.etp-logistics.eu/boostlog/

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1. Introduction and methodology

1.1. The BOOSTLOG project

1.2. Scope of this deliverable

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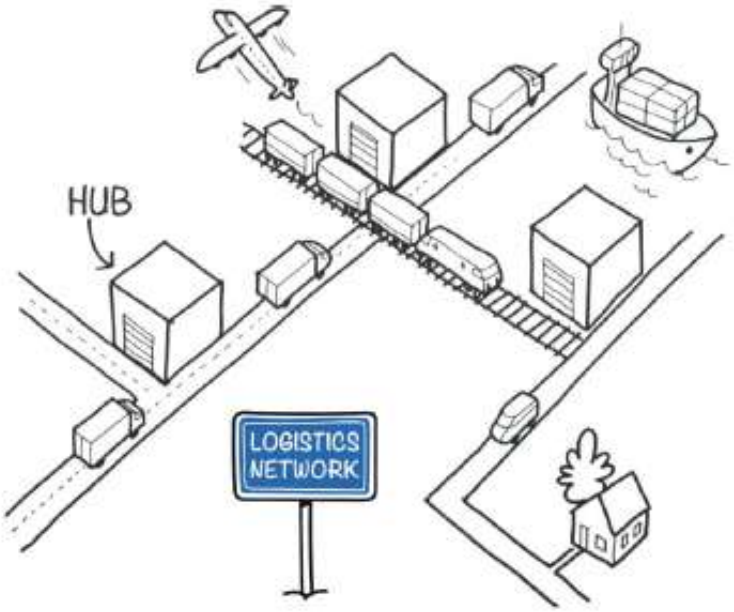

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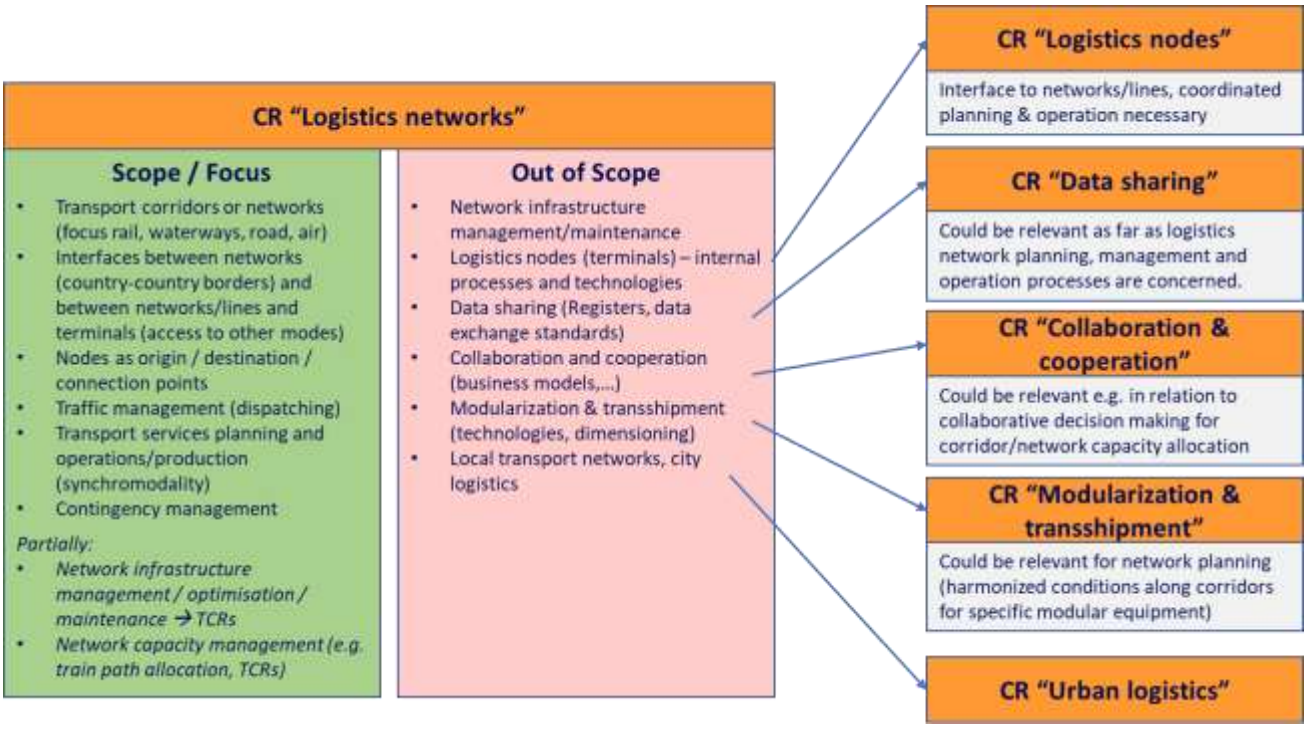

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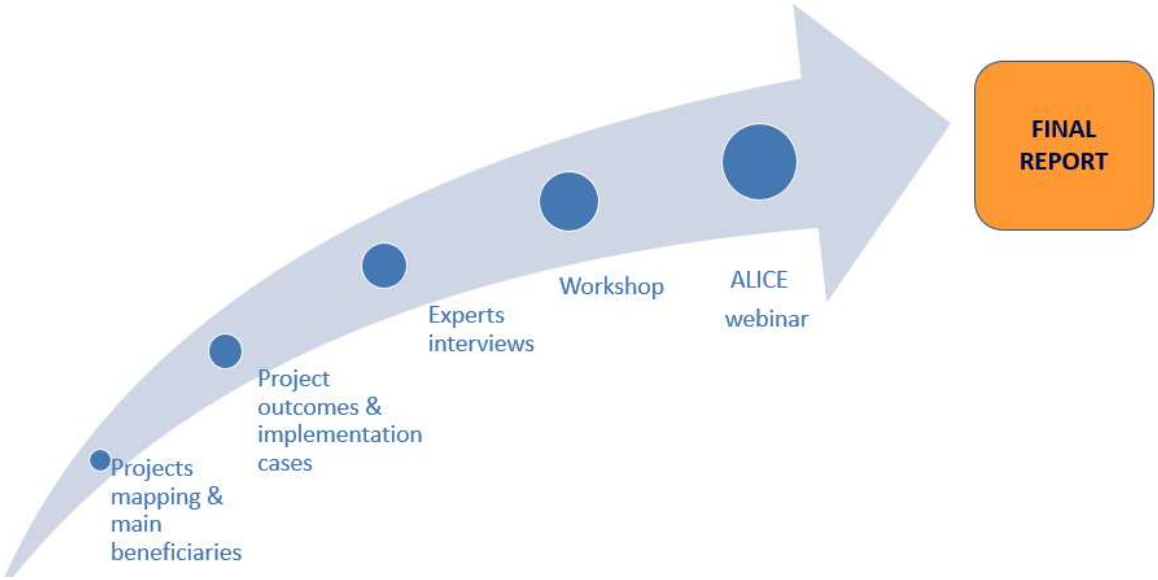
1.3. Methodology of Cloud Report elaboration



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2. Why improving Logistics Networks?

2.1. Introduction

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2.2. Expected positive impacts

1. Corridor and network infrastructure sets the basis for Europe-wide freight transport:

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2. Modal-shift depends on the capability of transport services, their characteristics and changes:

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3. Logistics framework conditions are changing

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	Expected impacts								
Action areas	**Decreased environmental impact; Improved energy consumption**	**Reduction of congestion on the road network**	**Modal shift**	**Improved capacity utilisation of barge, train and truck**	**Decreased cost of transport & overall logistics; Increased transport efficiency**	**Increased transport reliability and responsive-ness**	**Decreased travel times**	**Improved performance of the European Transport**	**Improved long distance-city distribution connectivity**
Intermodality (Multimodality, Synchro-modality)									
Operations and processes									
Digitalisation									
Transport management; Transport service planning and controlling									
Network capacity management (TCR, train path allocation…)									
Contingency management									
Last mile (operation processes, propulsion concepts and technologies)									

2.3. Barriers and guidelines to achieve the benefits of Logistics Networks

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DESCRIPTION	SOLUTIONS & GUIDANCE
Climate change risks	
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DESCRIPTION	SOLUTIONS & GUIDANCE
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Socio-economic developments	

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DESCRIPTION	SOLUTIONS & GUIDANCE
Increased operational problems	
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3. Analysis of current market practice

3.1. Overview

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	Layers of Logistics Networks		
Action areas	**Network infrastructure, Interfaces**	**Transport services**	**Supply chain, Logistics services**
Intermodality (Multimodality, Synchromodality)		• • •	• • •
Operations and processes		• • • •	•
Digitalisation		• •	• •
Transport management; Transport service planning and controlling			

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	Layers of Logistics Networks		
Action areas	**Network infrastructure, Interfaces**	**Transport services**	**Supply chain, Logistics services**
Network capacity management (TCR, train path allocation…)	•	• •	
Contingency management	• •	•	
Last mile (operation processes, propulsion concepts and technologies)		•	•

3.2. Market practices at the "infrastructure" layer

Intermodality

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Transport management, planning and controlling

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Contingency management

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3.3. Market practice at the "transport service" layer

Intermodality and synchromodality

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Operation and processes

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Digitalisation

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Network capacity management

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Contingency management

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3.4. Market practices at the "logistics" layer

Operation and processes

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Digitalisation

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Last-mile

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4. Projects to improve Logistics Networks

4.1. Identification and selection of R&I projects relevant for Logistics Networks

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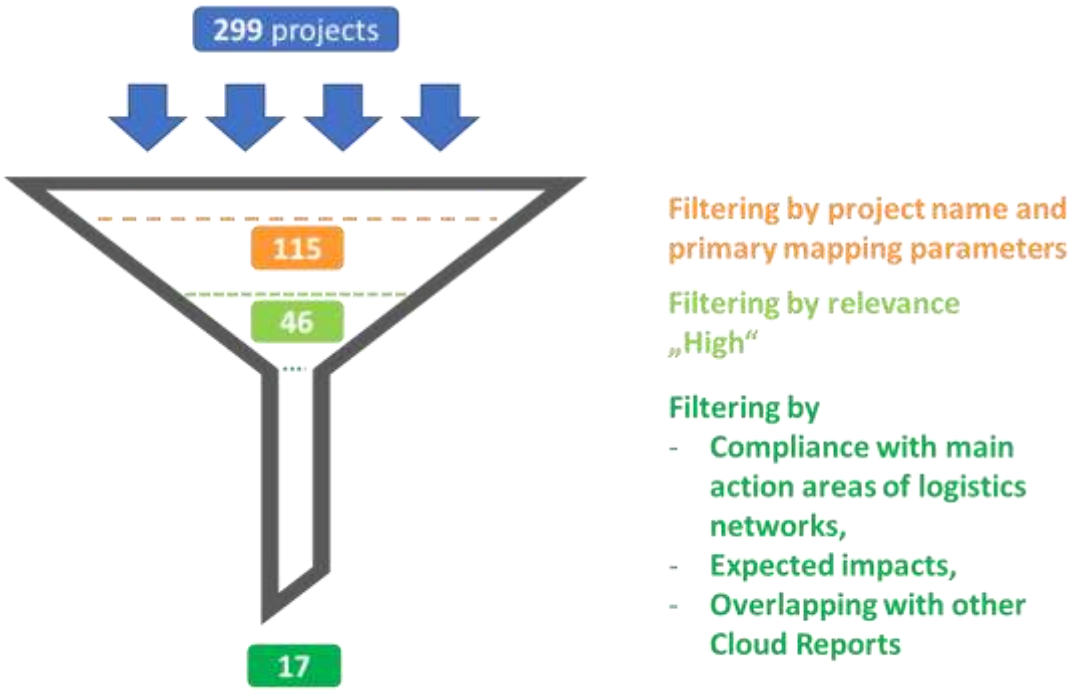

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Acronym	Name (CORDIS web Page)	Program	Coordinator	Period
ARCC				
CREAM				
FR8RAIL III				
GET SERVICE				
GIFTS				
INTERFACE				
LessThan WagonLoad				
LOGISTAR				
MOSES				
NEWS				
NOVIMAR				
RETRACK				

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Acronym	Name (CORDIS web Page)	Program	Coordinator	Period
Smart-Rail				
SYNCHRO-NET				
TELLISYS				
TIGER DEMO				
ViWaS				

4.2. Overview on the selected projects

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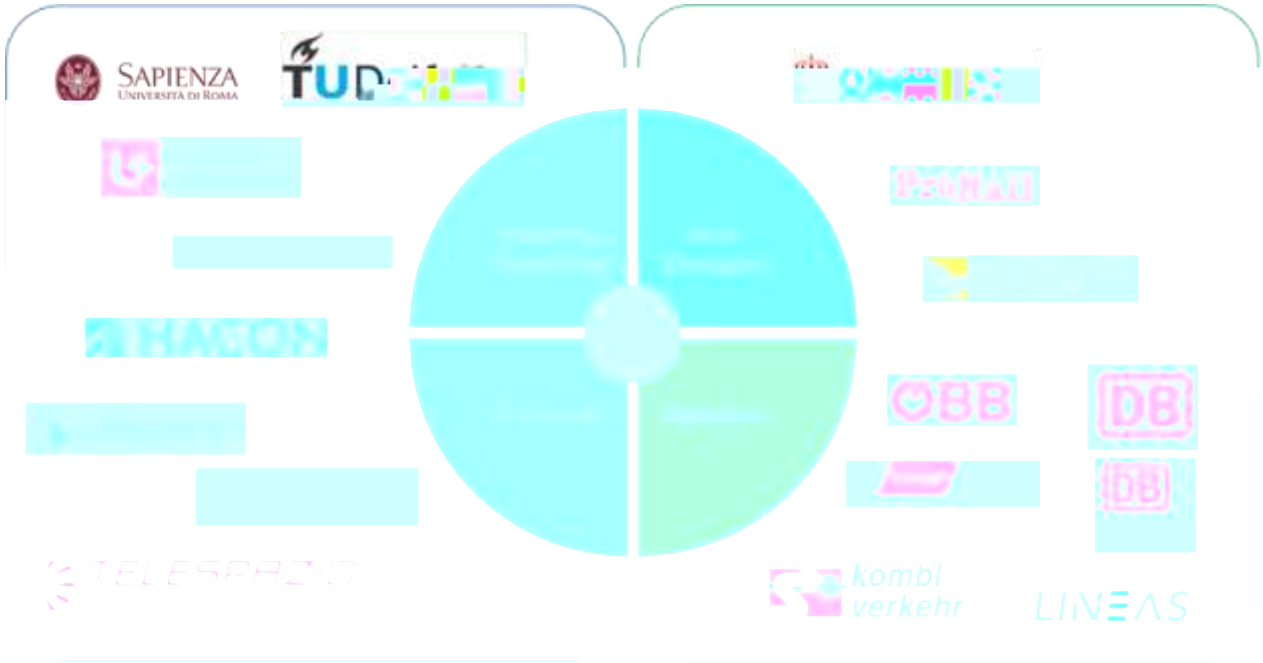

4.3. Expected impacts of the selected projects

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Expected impacts	KPIs	Projects
Decrease of environmental impact		
Reduction of congestion on the road network		
Modal shift		
Improved capacity utilisation of barge, train and truck		
Decreased cost of transport & overall logistics **Increased transport efficiency**		
Increased transport reliability and responsiveness		
Improve the performance of the European Transport		
Improve long distance-city distribution connectivity		

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4.4. Description of the selected projects

(1) Projects at the "infrastructure" layer

ARCC (Automated Rail Cargo Consortium: Rail freight automation research activities to boost levels of quality, efficiency and cost effectiveness in all areas of rail freight operations)[55]

FR8RAIL III (Smart data-based assets and efficient rail freight operation)[56]

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MOSES (Motorways of the Sea European Style)

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(2) Projects at the "transport services" layer

CREAM (Customer-driven Rail-freight services on a European mega-corridor based on Advanced business and operating Models)[58]

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GET SERVICE (Service Platform for Green European Transportation)[59]

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INTERFACE (Improvement of intermodal terminal freight operations at border crossing terminal)

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LessThanWagonLoad

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NEWS (Development of a next generation European inland waterway ship and logistics system)[64]

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NOVIMAR (NOVel Inland waterway and MARitime transport concepts)[65]

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RETRACK (Reorganisation of transport networks by advanced rail freight concepts)[66]

Smart-Rail (smart supply chain oriented rail freight services)[67]

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ViWaS (Viable Wagonload Production Schemes)[68]

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TIGER DEMO (Trans-Rail Integrated Goods European-Express Routes Demonstrators)[69]

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(3) Projects at the "logistics" layer

GIFTS (Global Intermodal Freight Transport System)

LOGISTAR (Enhanced data management techniques for real time logistics planning and scheduling)

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SYNCHRO-NET (Synchro-modal Supply Chain Eco-Net)[75]

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TELLISYS (Intelligent transport system for innovative intermodal freight transport)[76]

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5. Implementation cases

5.1. Overview on Outcomes and Implementation cases

Acronym			
ARCC			
CREAM			

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Acronym			
FR8RAIL III			
GET SERVICE			
GIFTS			
INTERFACE			
LessThan WagonLoad			
LOGISTAR			
MOSES			
NEWS			
NOVIMAR			
RETRACK			
Smart-Rail			
SYNCHRO-NET			
TELLISYS			
TIGER DEMO			
ViWaS			

5.2. Implementation cases

(1) Train monitoring (Train Monitor) – CREAM (FP6)

Tracking & tracing module (RealTime):

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Information management module (Hafas Information Manager HIM):

Statistics module (File&View):

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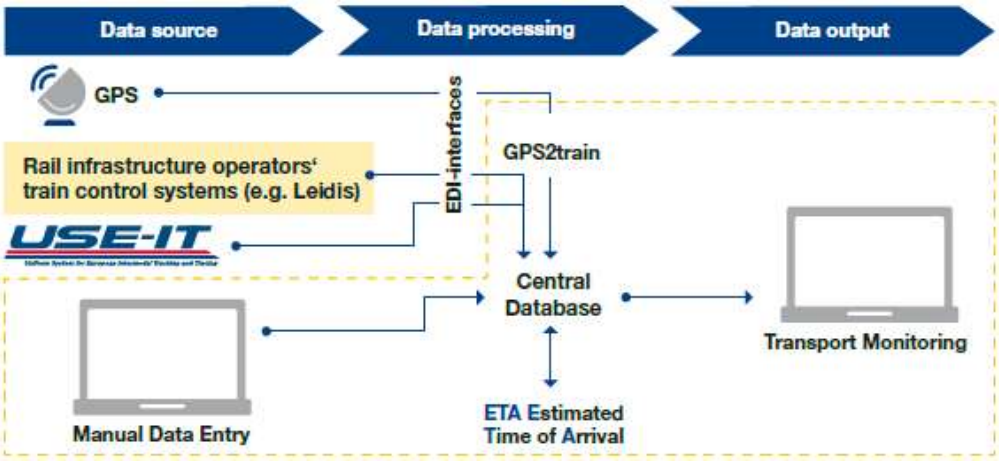

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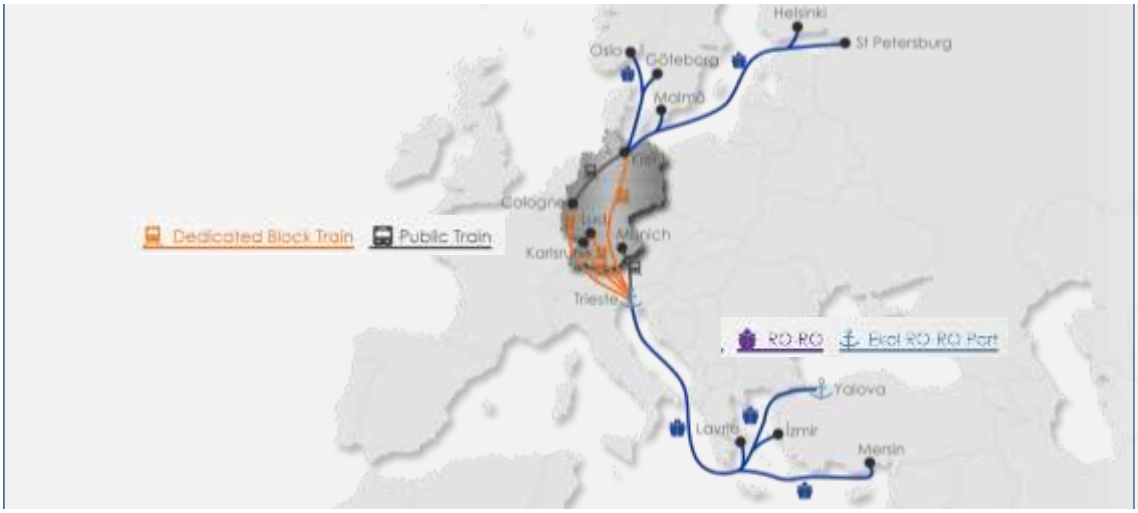
(2) Multimodal short sea – rail transport service Turkey – Germany (via Trieste) (EKOL) – CREAM (FP6)



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(3) New through-going corridor-wide rail transport- and logistics concept (RETRACK network) – RETRACK (FP6)

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(4) Cross-border dispatcher – Smart-Rail (H2020)

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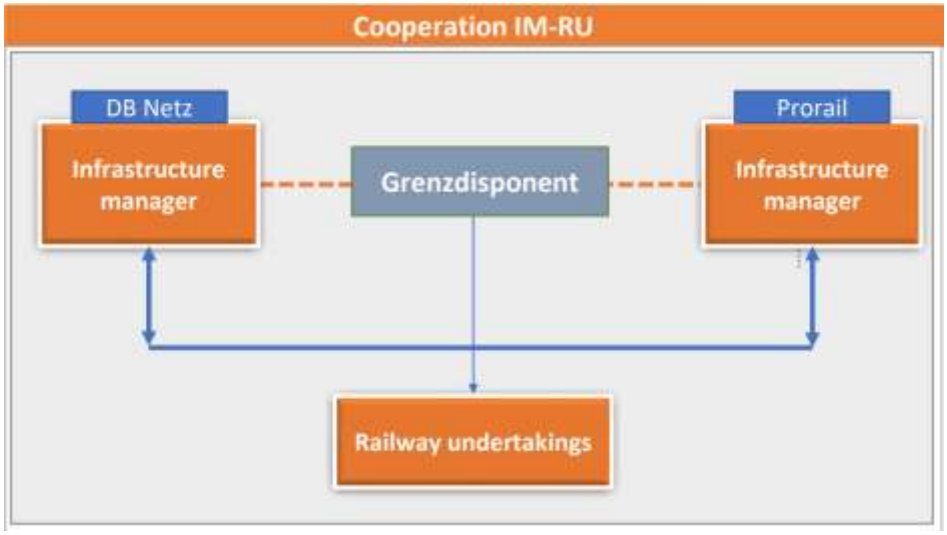

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(5) Hub- and spoke concept to integrate smaller terminals via mega hubs (Intermodal Network 2015+) – TIGER DEMO (FP7)

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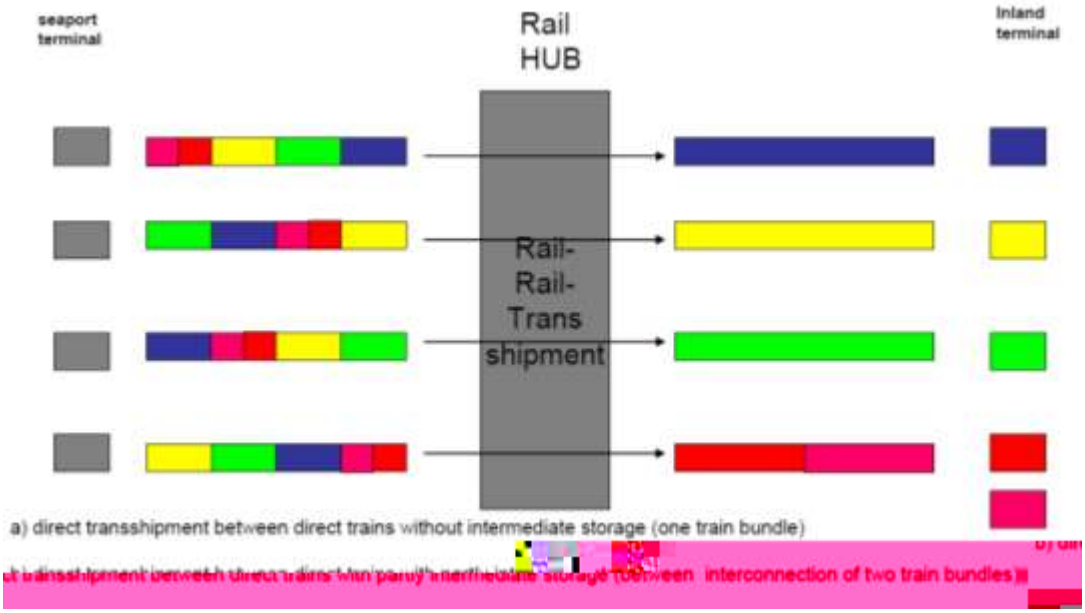

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5.3. Further demonstrations and temporary implementations

Specific conditions or circumstances affecting (only) one dedicated outcome, but might be also regarded as typical for similar projects, for instance:

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Structural issues, which more or less apply to all the outcomes of this cloud, and which prevent bridging the "valley of death". This valley of death is mostly not evoked by lack of technical readiness, but by missing commercial maturity:

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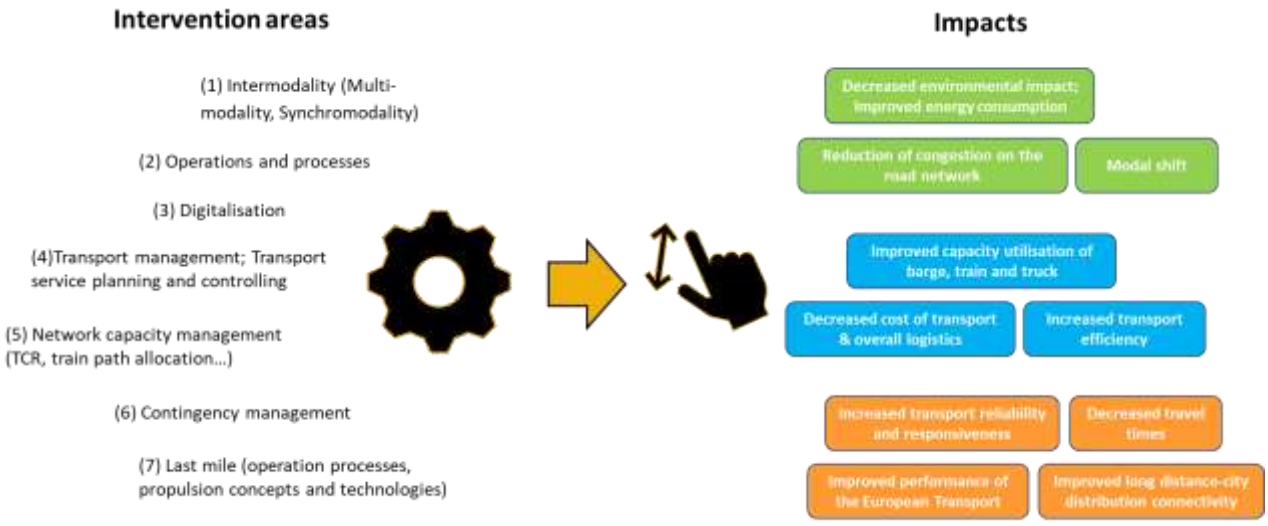
6. Potential implementation paths



(1) Composition of the consortium

- **Right mix of partners**
- **Trust within consortium**

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- **Same level of knowledge and "access" to the topic**
- **Partner commitment**

(2) Topic/subject of the project

- **Solution must be economically viable**
- **linked to real practice**
- **Project must consider European decision-making environment (entity and rules / priorities)**
- **Focus on a fewer, but dedicated topics**

(3) Process of tendering/application/funding

- **National projects often allow more efficient consortia**
- **Flexibility for project design in application phase, focus on project result**

(4) Project execution and implementation of outcomes

- **Rules in the grant agreement**
- **Idea: dedicated consultant paid by EU for project documentation and administration**
- **Non-feasibility of a solution might be also an outcome**

(1) Climate change risks

(2) Diversity and/or insufficient level of infrastructural and technical standards

(3) Socio-economic developments

(4) Increasing operational problems

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Annex I – Implementation case template

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Annex II – Evaluation of the projects' status

TARGETED IMPACTS	NR. OF PROJECTS	PROJECT/STATUS	
Decrease of environmental and climate impact	**8**		
Reduction of congestion on the road network	**3**		
Modal shift	**11**		
Improved capacity utilisation of barge, train and truck	**9**		
Decreased cost of transport & overall logistics **Increased transport efficiency**	**13**		

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TARGETED IMPACTS	NR. OF PROJECTS	PROJECT/STATUS
Increased transport reliability and responsiveness	**12**	
Improve the performance of the European Transport	**12**	
Improve long distance-city distribution connectivity	**3**	

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Annex III - The projects' outcomes (long list)

PROJECTS (acronym)	OUTPUTS			
	Technology	Business Model	Policy	Service / Product
ARCC	•			
CREAM	• • •		• • •	•
FR8RAIL III	•			
GET SERVICE	•	• •	• •	•

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PROJECTS (acronym)	OUTPUTS			
	Technology	Business Model	Policy	Service / Product
GIFTS	• •	•	•	•
INTERFACE	•		•	• • •
LessThanWagonLoad	•	•	• • • •	• • •
LOGISTAR	• • •		•	•
MOSES	• •	•		

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PROJECTS (acronym)	OUTPUTS			
	Technology	Business Model	Policy	Service / Product
	• •			
NEWS	•	• •	• • •	• •
NOVIMAR	• •	• •		• • • •
RETRACK				•

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PROJECTS (acronym)	OUTPUTS			
	Technology	Business Model	Policy	Service / Product
Smart-Rail	• •	•		• •
SYNCHRO-NET	• •	•		• • • •
TELLISYS	•			•

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PROJECTS (acronym)	OUTPUTS			
	Technology	Business Model	Policy	Service / Product
	•			• •
TIGER DEMO	• • • • •	•		• • •

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PROJECTS (acronym)	OUTPUTS			
	Technology	Business Model	Policy	Service / Product
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PROJECTS (acronym)	OUTPUTS			
	Technology	Business Model	Policy	Service / Product
	• • • •			
ViWaS	•			•

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Annex IV– Semi-structured interview guide

1. Project introduction

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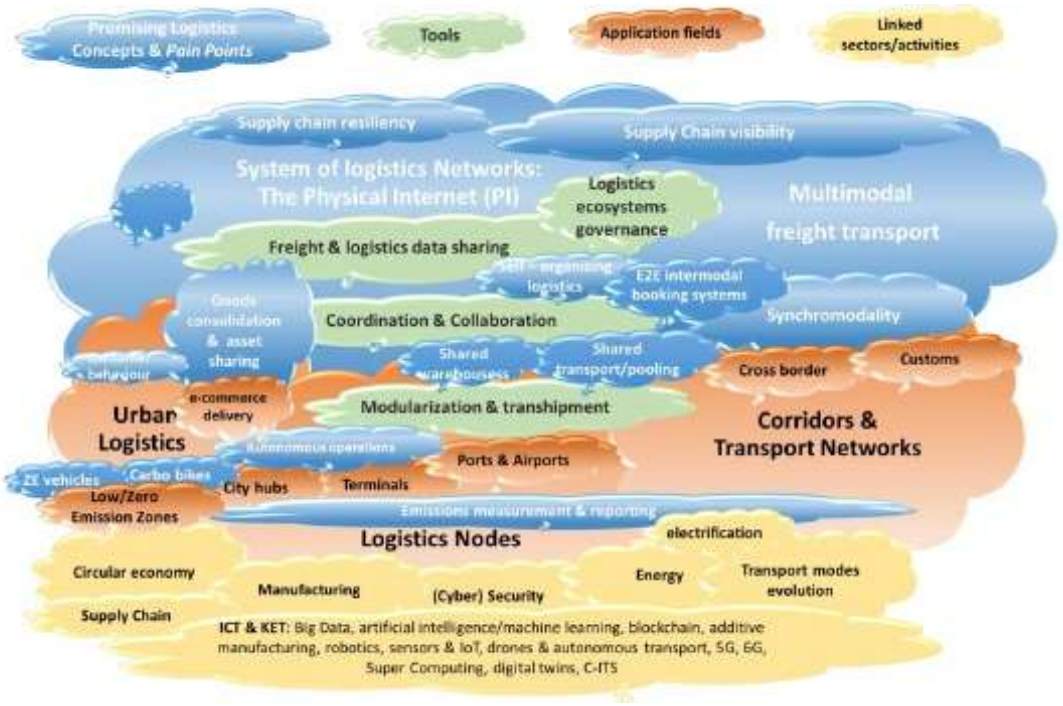
Logistics Nodes

2. Cloud and subclouds diagram



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3. Most relevant projects in the cloud

4. Organizations with highest participation in relevant projects in the cloud

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5. Trends and societal drivers relevant/addressed for the Cloud

LIST of trends and societal drivers:

Climate change, urbanization, individualization, digitalization, demographic change, resource scarcity, circular economy, driver shortage, online shopping, COVID-19

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6. Relevant EU policies addressed

LIST of policies addressed by the cloud:

- **The European Green Deal**
- **Promoting our European way of life**
- **A Europe fit for the digital age**

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7. Project participation of your organization per Cloud

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8. Project Outcomes

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9. Implementation Cases

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10. Final comments

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