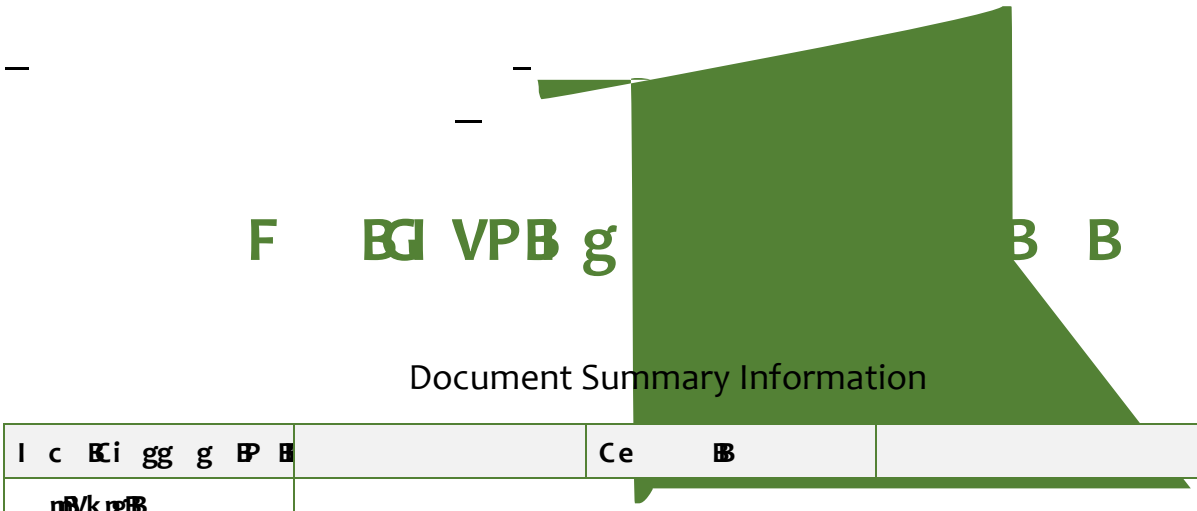

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Document Summary Information

I c BCi gg g BP B		Ce BB	
mBVkngBB			
U c BFc gBB		F c k BB	
R lge BVTNBB			
k g cdngBB			
mBRcemci gBB			
E ce cmBf gBFc gBB		Ce cmBB d k k BFc gBB	
Pc gBB		Fk f gmBB	
NgcfBDg ghlekc BB			
Tg kdngBC j BB			
E kd k Bh BB			

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No 860274.

Revision history (including peer reviewing & quality control)

g k B	K gBFc gB	B E ng gB	Ejc i gB	E kd B

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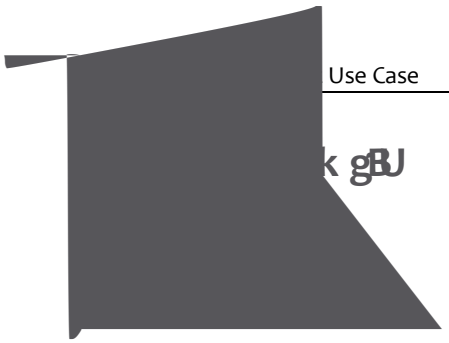
[illegible]	[illegible]
AI	Artificial Intelligence
DASH7	Developers' Alliance for Standards Harmonization of ISO 18000-7
DoA	Document of the Action
DSS	Decision Support System



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K f e k B
O c k i B R N C P G V B B

Table 1: Adherence to PLANET's GA Deliverable & Tasks Descriptions

RNCPGVB CB E g B VkrgB	RNCPGVB CBE g B rk gB	k gB F e g B Ejc g B	L khkec k B
FGNK GTC DNGB			
VCUMUB	B		

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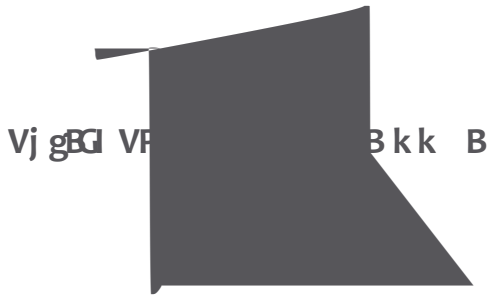

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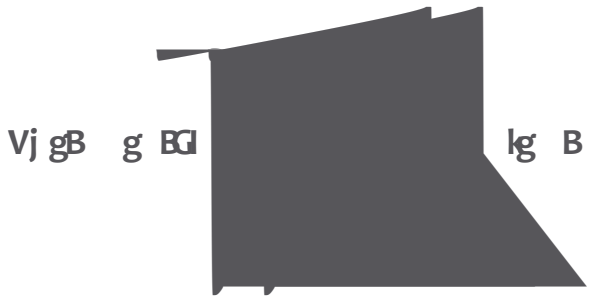

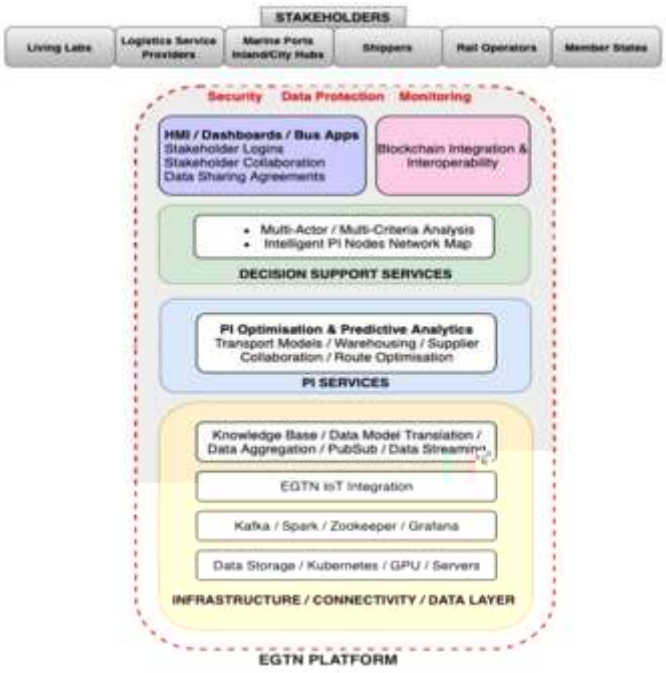
STAKEHOLDERS
Living Labs
Logistics Service Providers
Marine Ports Inland/City Hubs
Shippers
Rail Operators
Member States
Security
Data Protection
Monitoring
HMI / Dashboards / Bus Apps
Stakeholder Logins
Stakeholder Collaboration
Data Sharing Agreements
Blockchain Integration & Interoperability
Multi-Actor / Multi-Criteria Analysis
Intelligent PI Nodes Network Map
DECISION SUPPORT SERVICES
PI Optimisation & Predictive Analytics
Transport Models / Warehousing / Supplier Collaboration / Route Optimisation
PI SERVICES
Knowledge Base / Data Model Translation / Data Aggregation / PubSub / Data Streaming
EGTN IoT Integration
Kafka / Spark / Zookeeper / Grafana
Data Storage / Kubernetes / GPU / Servers
INFRASTRUCTURE / CONNECTIVITY / DATA LAYER
EGTN PLATFORM

k k i BNcd Bt fB gBec g BB

k k i BNcdB

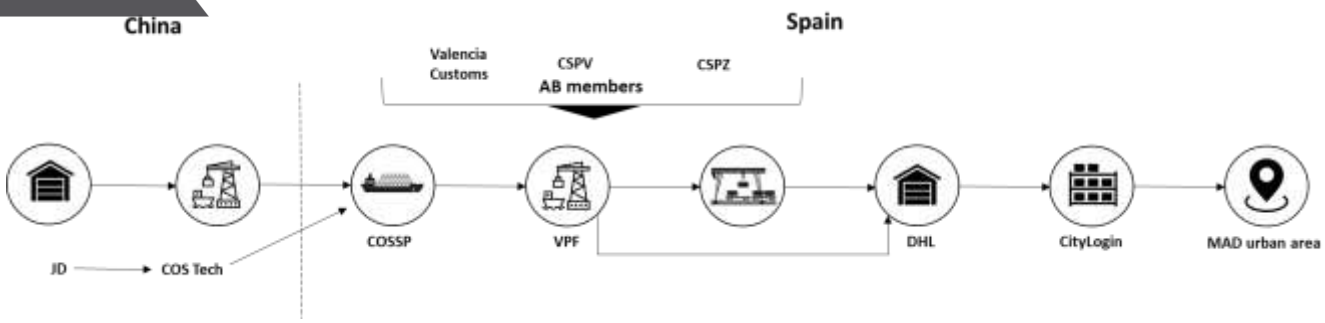

Figure 2: LL1 D2D transport chain and actors involved

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Table 2: LL1 UC1 EGTN technologies and expected benefits (from PLANET D1.2)

Table 3: LL1 UC2 EGTN technologies and expected benefits (from PLANET D1.2)

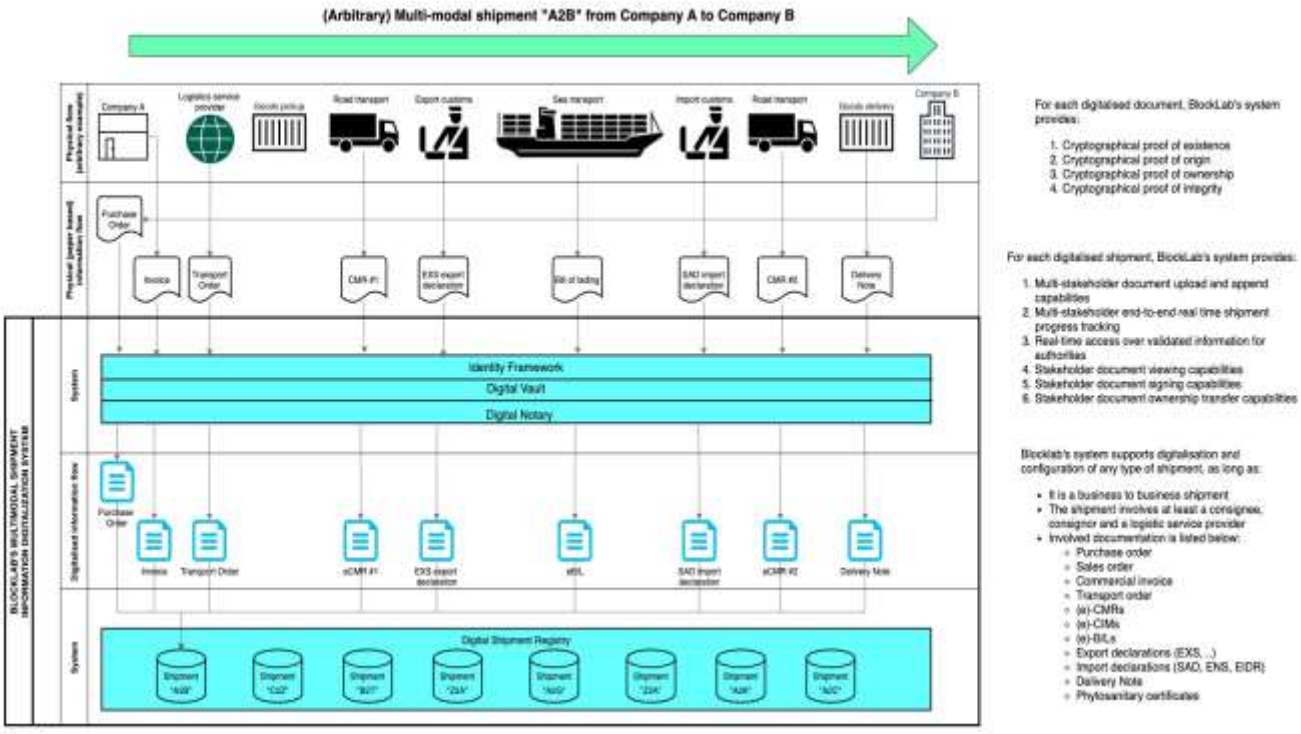

Figure 3: Living Lab 2, Use Case 2-Blockchain enabled platform

Table 4: LL2UC1 EGTN technologies and expected benefits

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Table 5: LL2UC2EGTN technologies and expected benefits

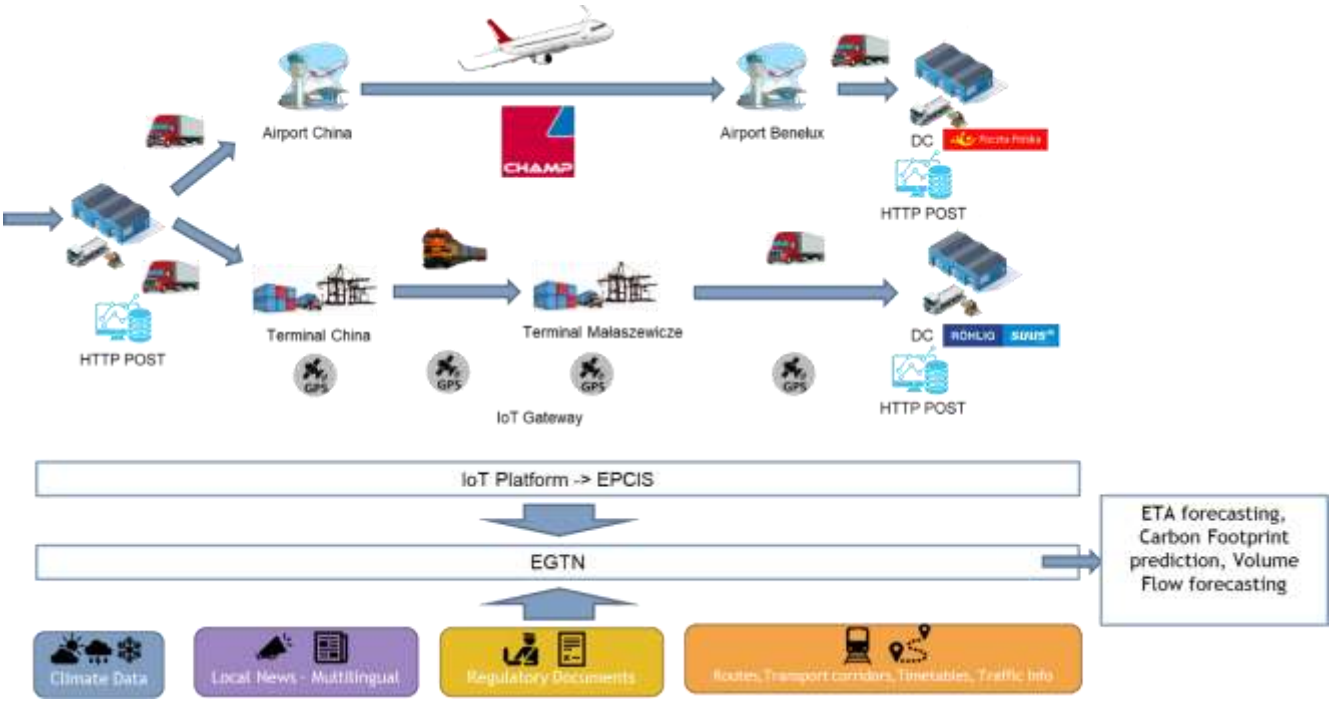

Figure 4 LL3 use cases scenarios

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Table 6: LL3UC1 EGTN technologies and expected benefits

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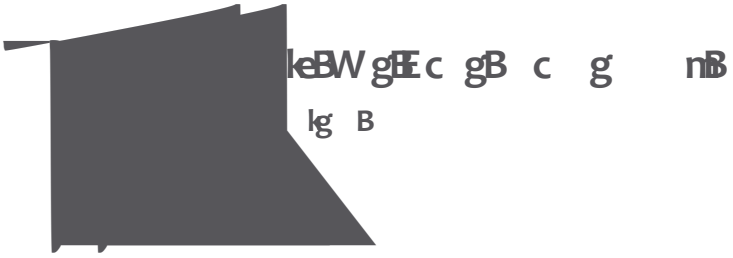
Figure 5: TEN-T programme priority projects involving Sines terminal

Figure 6: JUL (Logistics Single Window) (Source: APS-Port of Sines and Algarve Authority 2019)

Figure 7: Yixinou Series Train Operation Diagram as per today



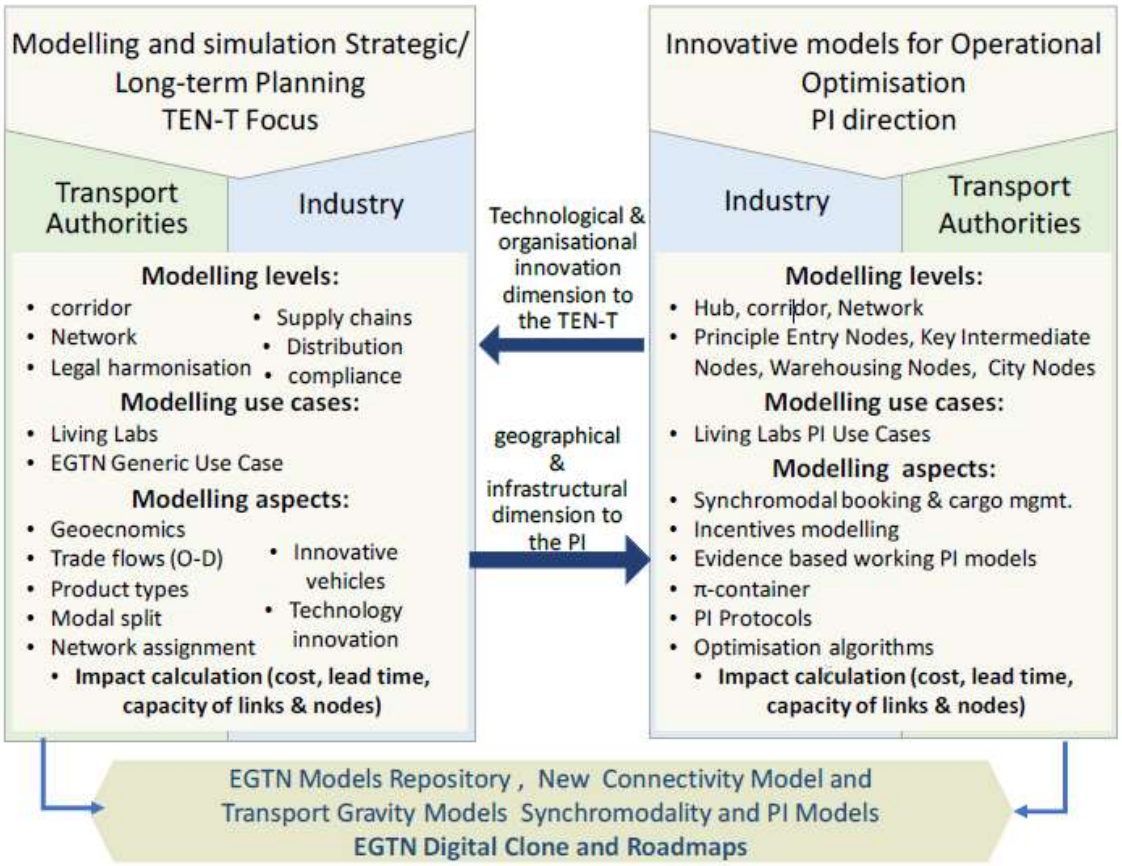


Figure 8: PLANET's modelling and simulation scope and approach (from PLANET DoA)

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E g B BR k ek ng Bh Be k i Bj gB g g keBW gBE c gB

Table 8: Generic Use Case Attributes

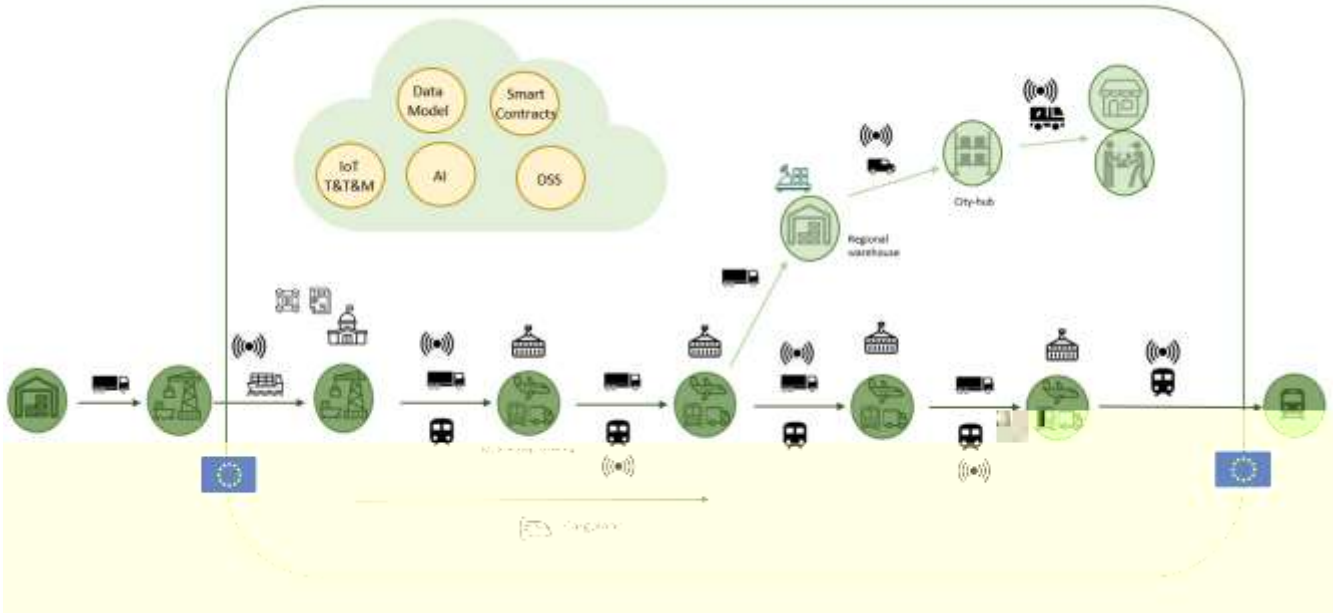

Figure 9: EGTN Generic Use Case overview

Table 9: Services to be hosted by PLANET EGTN Platform (under construction)

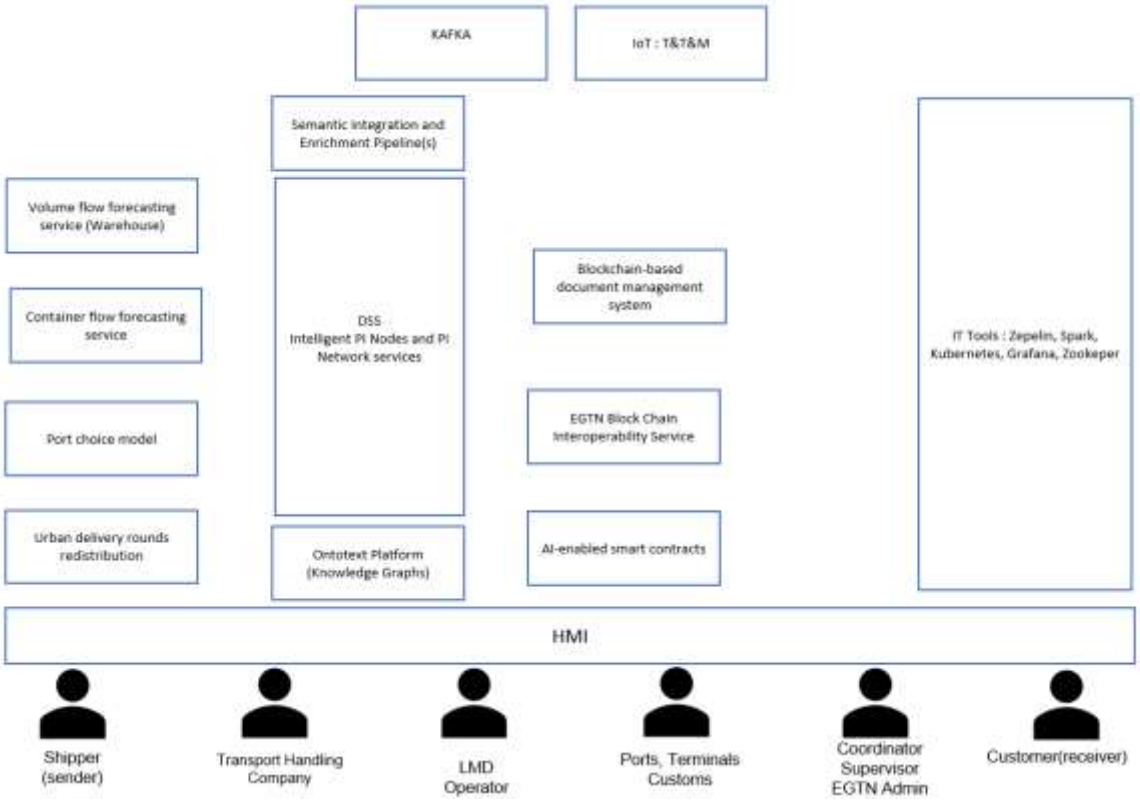

Figure 10: Representation of the current services in the EGTN Platform

BBE kg kcBt fBUgrge k B hBVGP VBe kf BB

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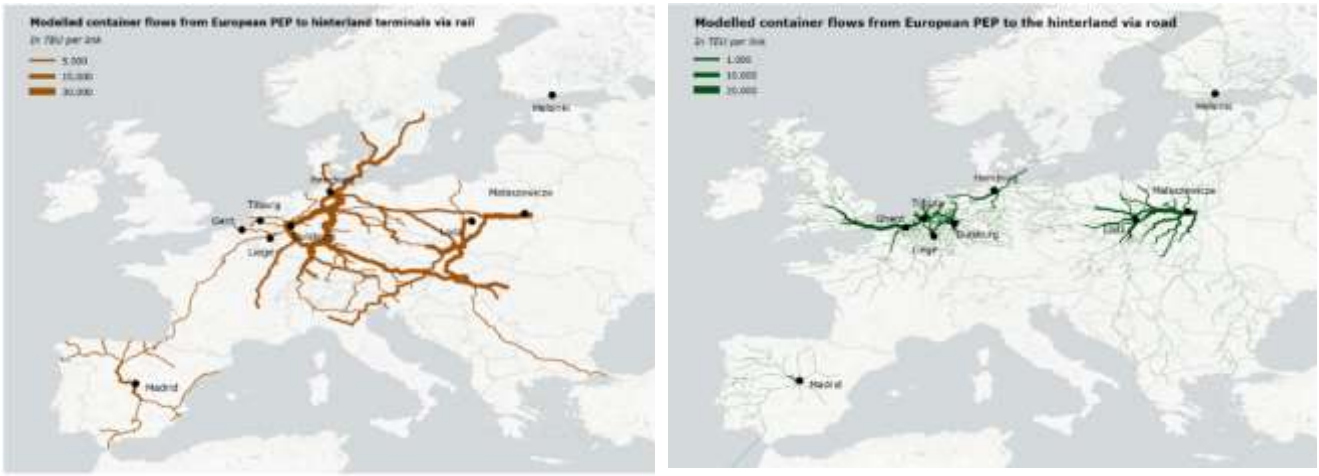

Figure 11: Modelled container flows from China to the European PEP on the rail/road network (2019)

Table 10 Trade volumes from China to Europe, via nodes on the Iberian Peninsula (2019)

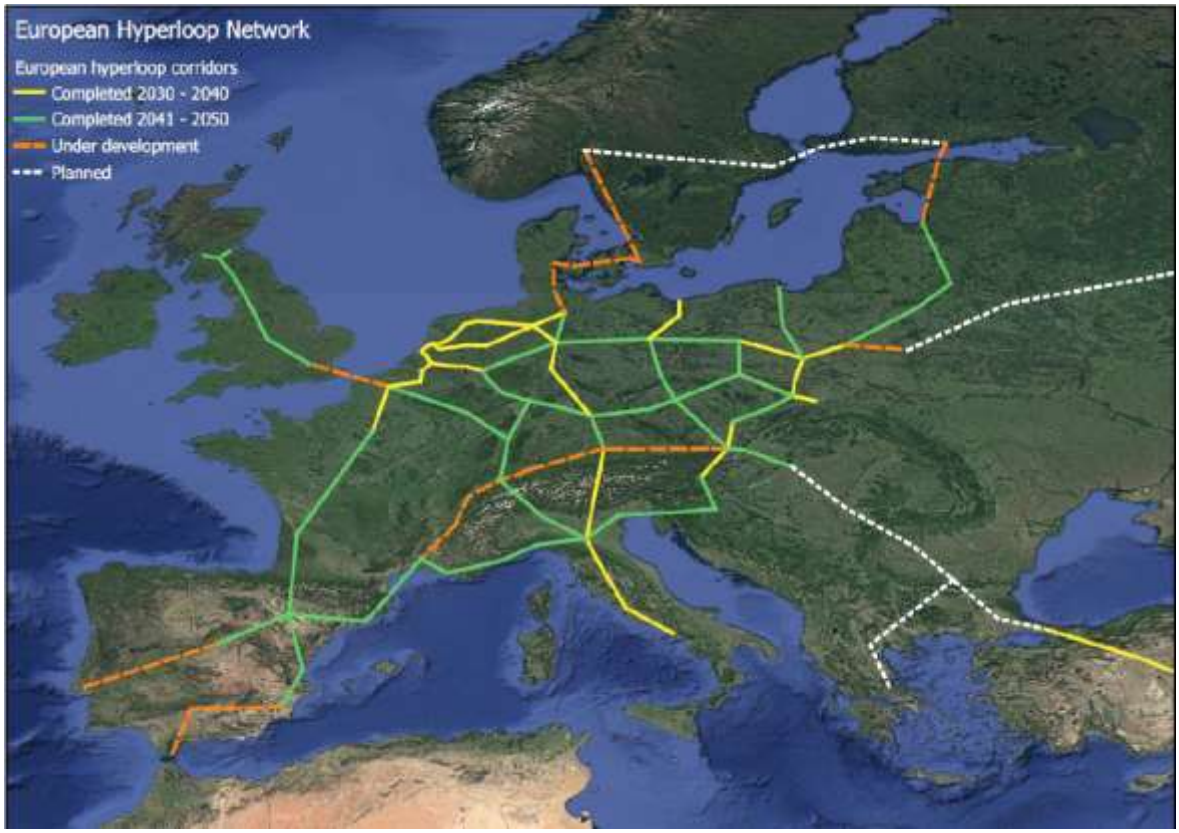

Figure 12 European hyperloop network

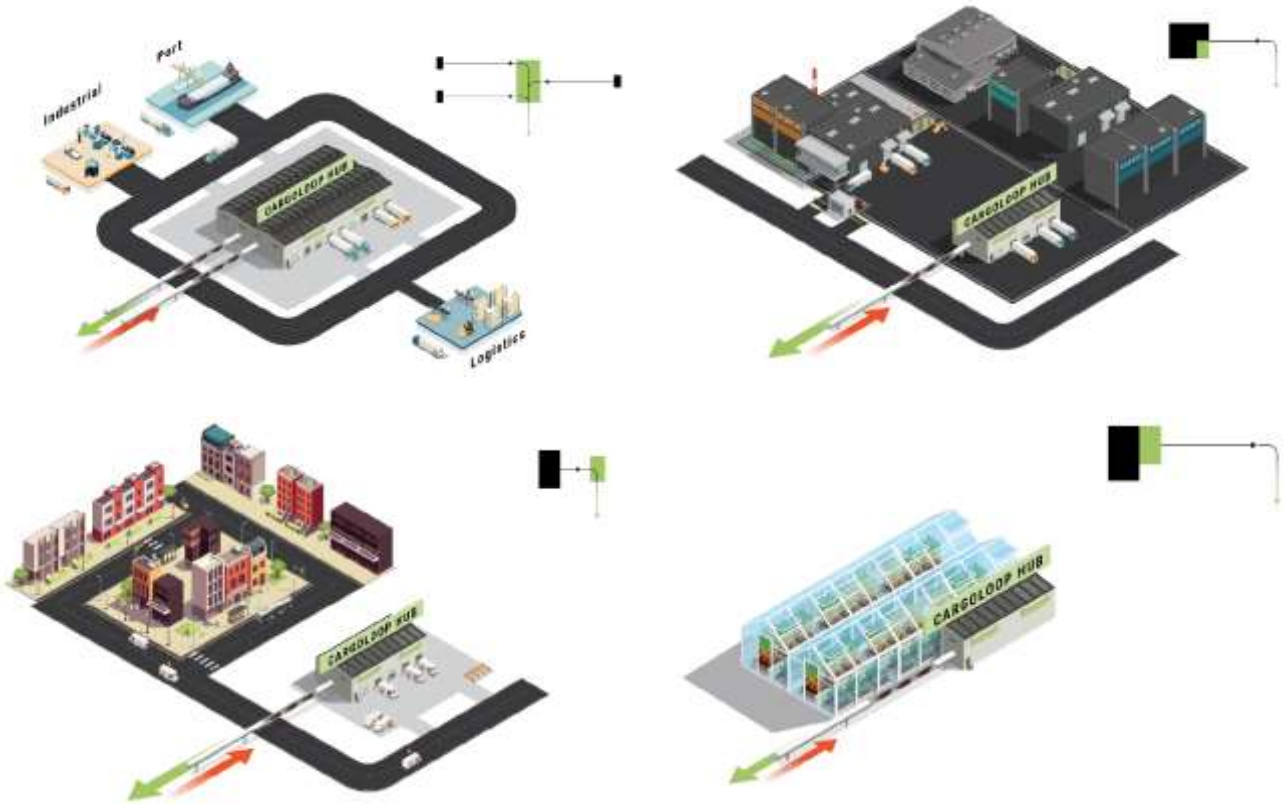

Figure 13 Types of cargo hubs

Gl VPBg g kBWgBEc gBUk nc k BFg ki B

Uk nc k B gBB

Ueg c k BfghkkkkBB

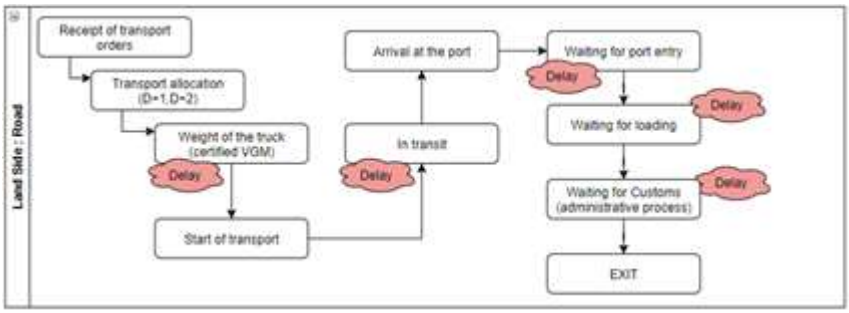

Figure 14: AS IS "truck" agent process diagram

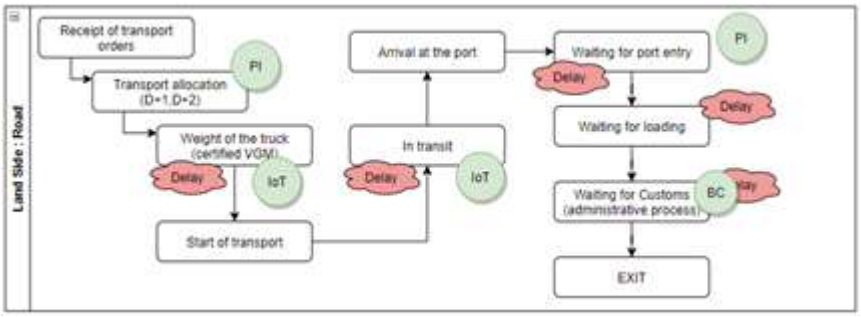

Figure 15: Technology-enabled "truck" agent process diagram

Uk nt k BRnt B

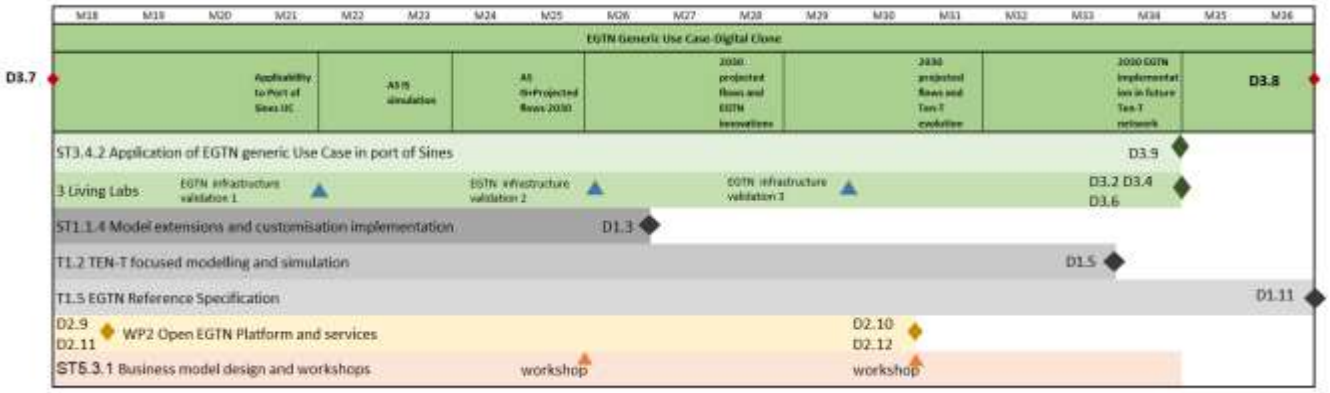

Figure 16: High level timeline of the simulation plan

Table 11: KPIs used in the Generic Use Case assessment, classified per category

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		• • • •

Kfg khlec k Bt fBg i ci g g B hBk g g gfBti g Be rg g c B
g mBt fB gBec g B
cn gBPg mBC cn kB

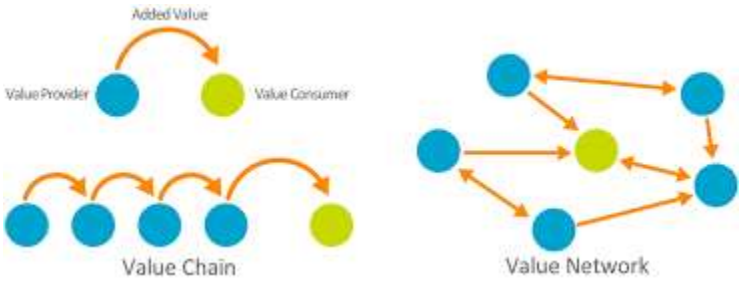

Figure 17: Value chain vs Value network perspective [9]

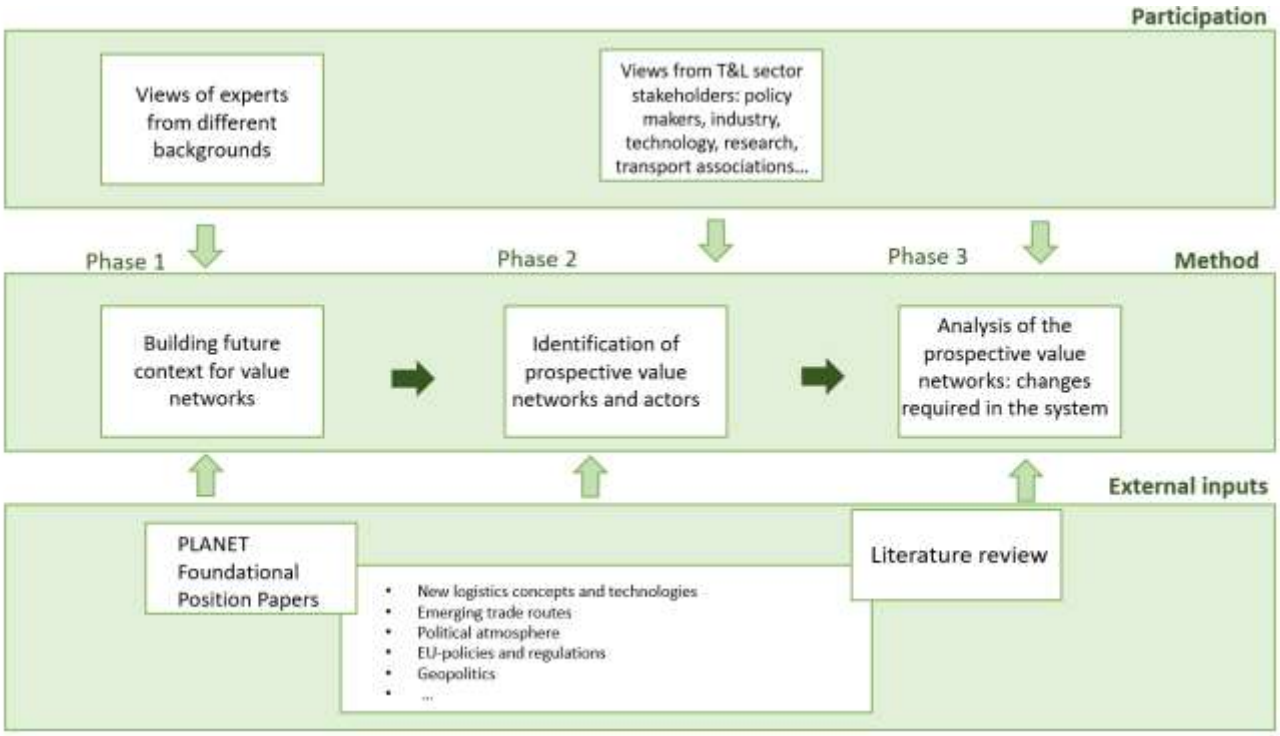

Figure 18: VNA process applied in PLANET (adapted from Tuominen, 2015)

	All main critical uncertainties	Variation	Scenario 1	Scenario 2	Scenario 3	Scenario 4
			Scenarios			
PP1	*Impact of drought (climate change)*	High	✓		✓	
		Low		✓		✓
	World economy	Regionalisation	✓	✓		
		Globalization			✓	✓
PP2	*Location of production*	Regionalisation				
		Globalization				
	Development of digital solutions	High				
		Low				
	Development of hard infrastructure	High				
		Low				
PP3	*Level of door-door document harmonization EU/transit countries /origin countries*	High				
		Low				
	Railway infrastructure interoperability	High				
		Low				
	Restrictions on transport of dangerous goods	Reduced				
		Remaining				
	Level of Chinese subsidies	Reduced				
		Stable				
PP4	*EU PI supporting Policy*	Weak	✓		✓	
		Strong		✓		✓
	PI adoption	High	✓	✓		
		Low			✓	✓

Figure 19 Future EGTN scenarios as per the project Position Papers (st 1.1.2)

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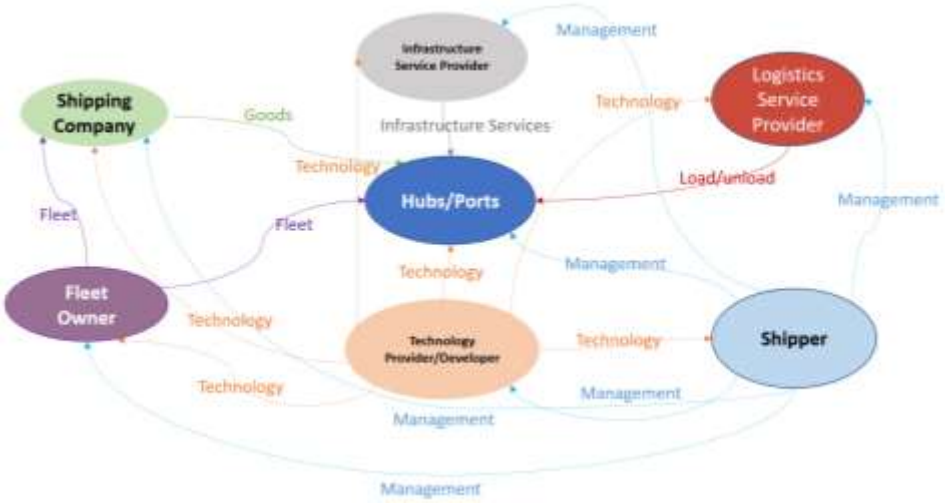

Figure 20: General Example of value network applied to a Transport & Logistics environment (based on PLANET's D5.1)

Value Chain/network activities	Actors	Value creation	Value capture/needs	Supportive activities

Figure 21: Template for the value chain/network analysis (from [8])

cn gBPg mKC cn kB hBgrge gfB gBec gB

Tghg g eg BB

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