Enabling the PI to solve multi-layered problems of the last mile logistics

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DECARBOMILE
Decarbonise the last mile logistics

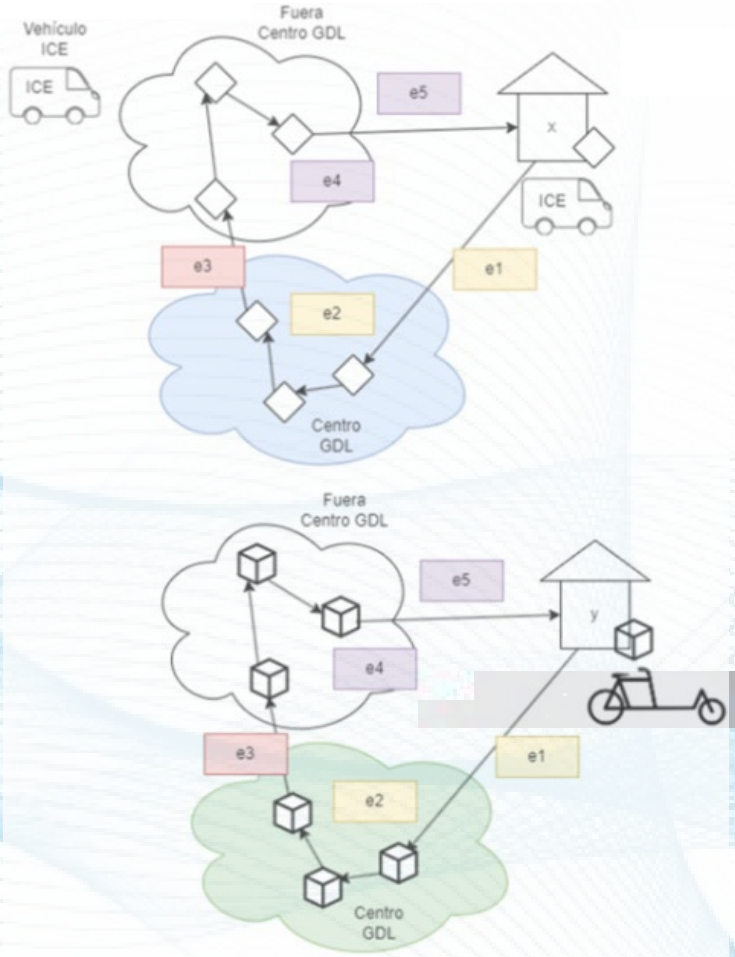
Agenda

- Casework Guadalajara, México
- Methodology scope
  - PI roadmap
  - City logistics
  - Challenges
- Applied development – DECARBOMILE
  - Clusterization
  - Gap analysis
  - Core digital infrastructure
- DECARBOMILE`s next steps

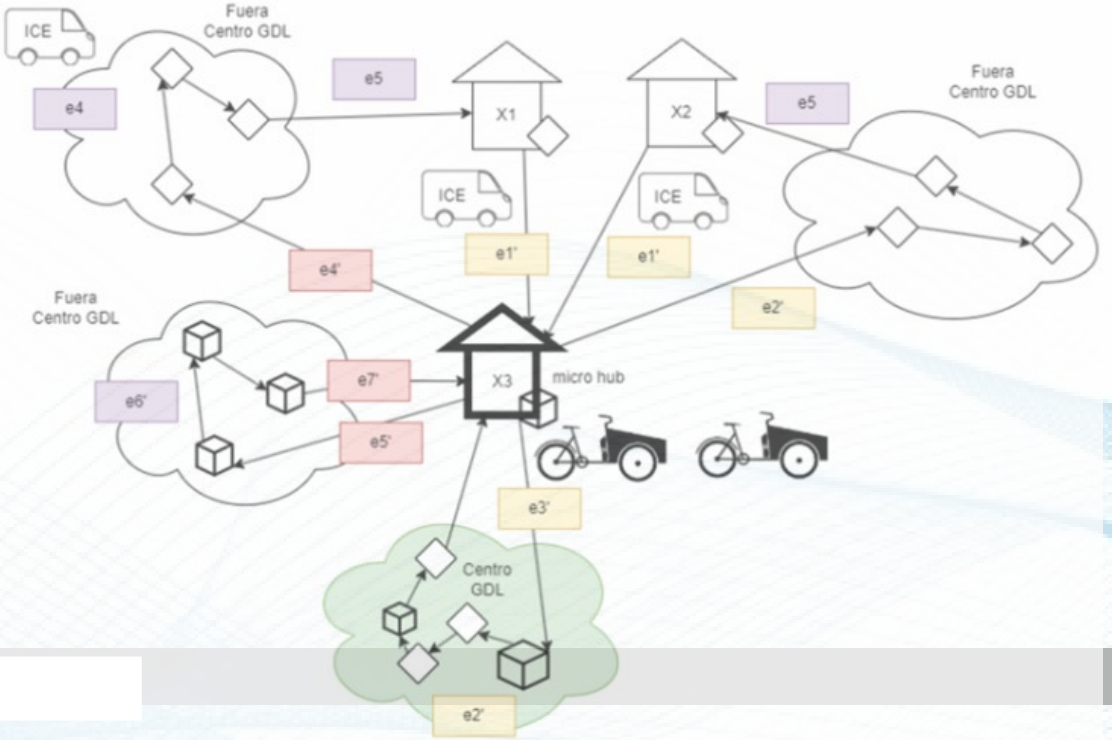
Collaboration with cyclelogistics in GDL, Mx

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Pre-pilot



Pilot



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SANITARIO
INORGANICO
ORGANICO
PRINCIPIA
HÉRCULES
HÉRCULES
MORENOS
CONTENIDO 24 PIEZAS


KOMBUCHA
BELOT
EST. 2014


kombuchabelot
KOMBUCHA
BELOT
BELOT-MOVIL

Collaboration with cyclelogistics in GDL, Mx

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Results

CO_{2eq} / kg*km

60-70%

$

operations costs

15-25%

Social

4 half-FTE

+100$/h

20-24% km

40-48km

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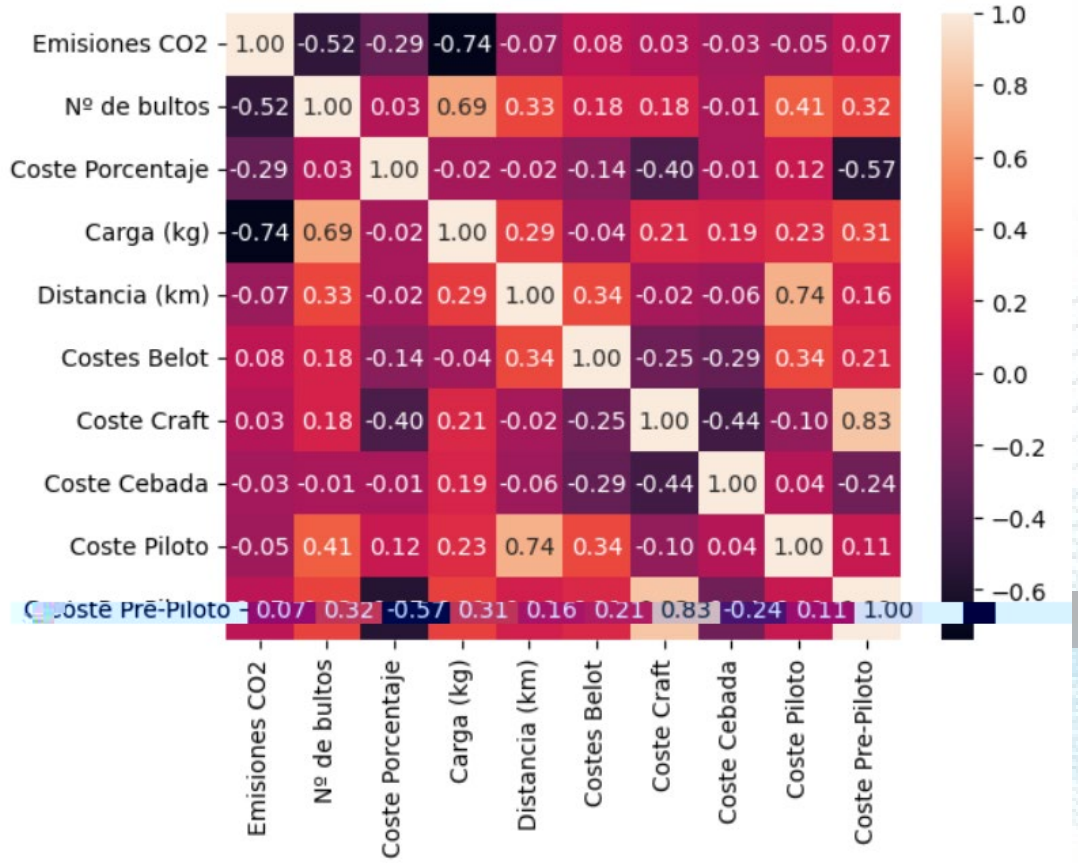
Splitting cost in collaboration



Scale up

Business informed Low Emission Zones

Charging infrastructure deployment

Digital infrastructure for data flowing

Neutral entity for enabling capacities

- Hubs
- Vehicles
- Digital

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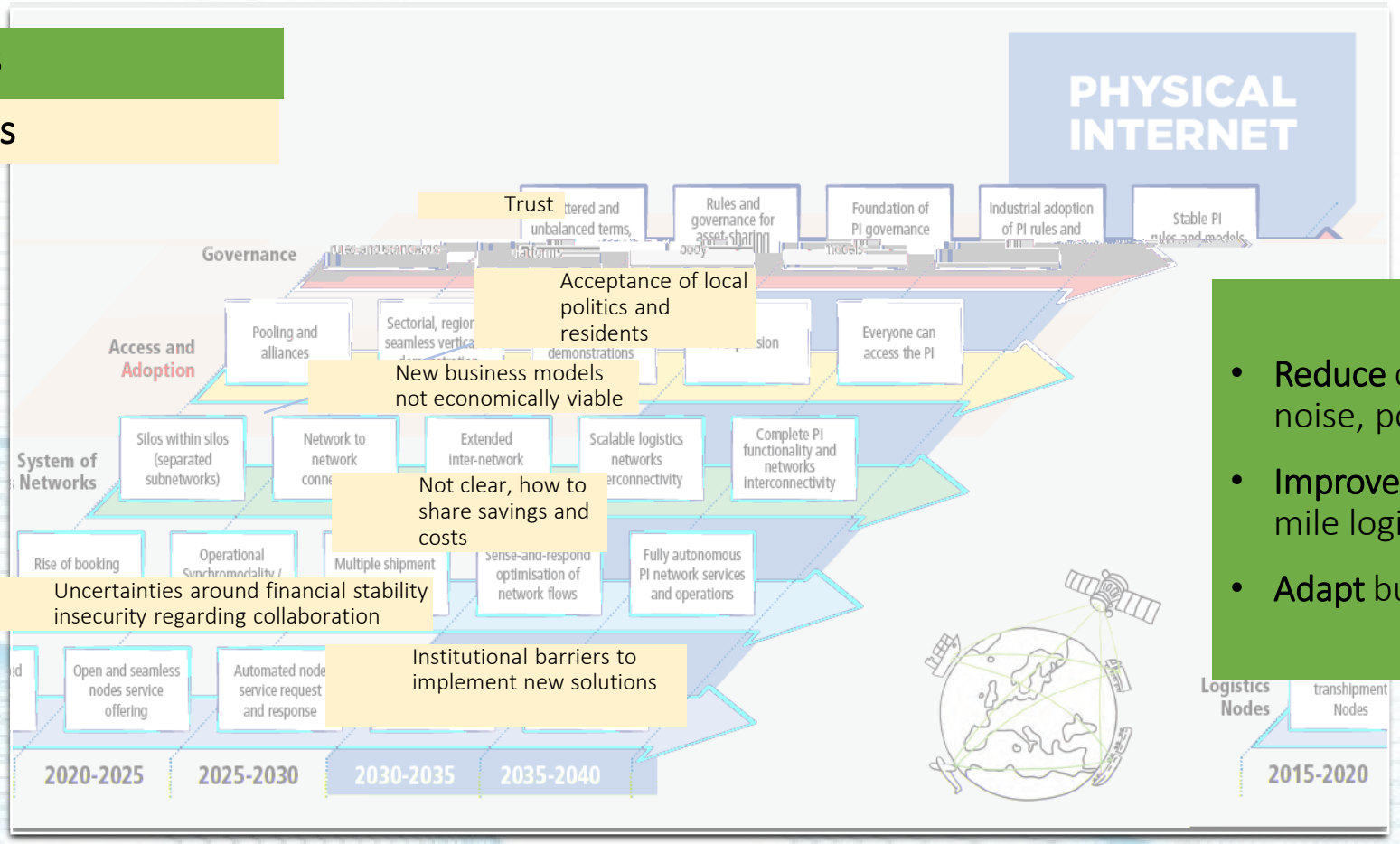
Digital, City Logistics and PI

PI-City logistics targets

Barriers and challenges

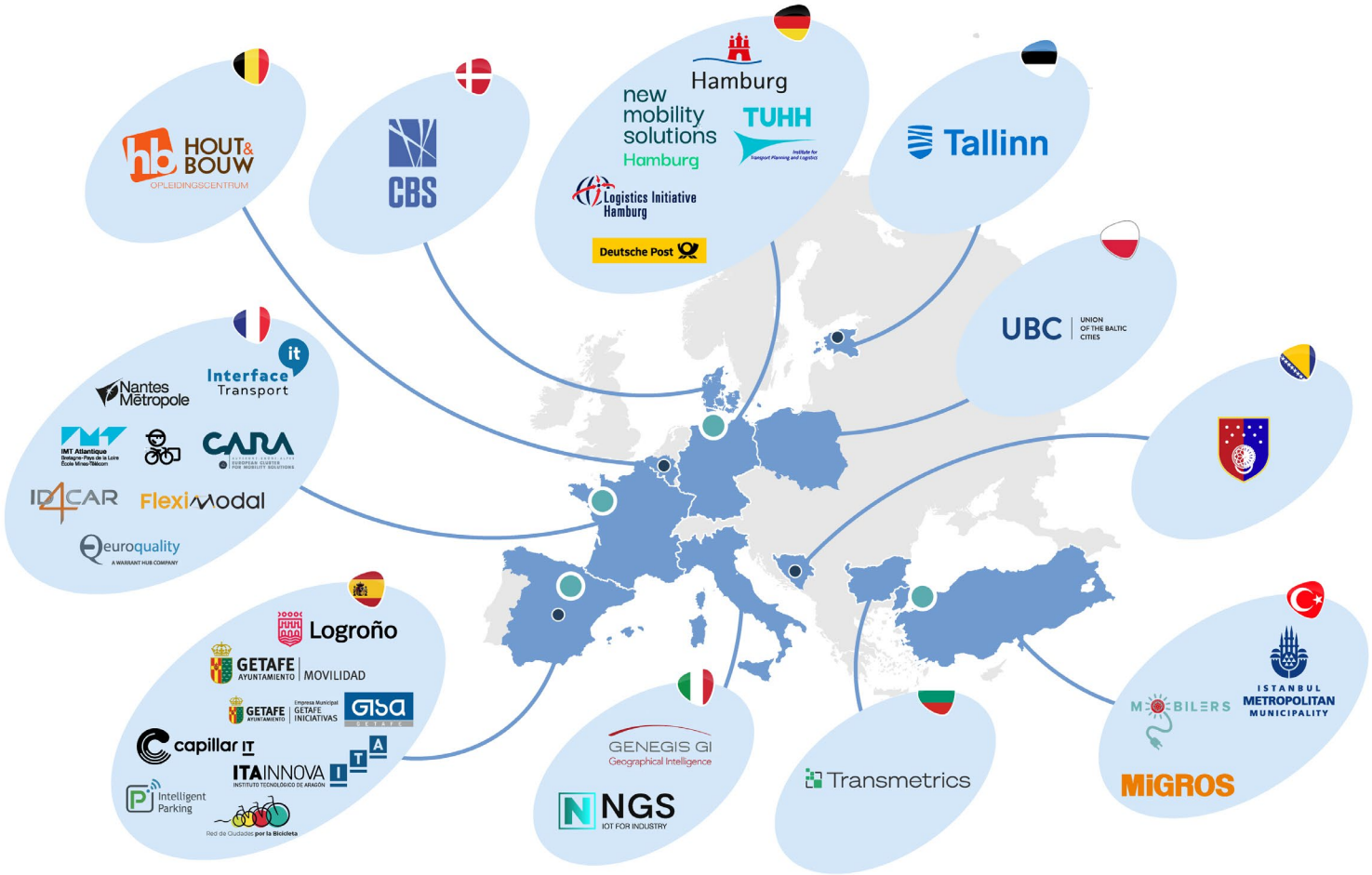


- **Reduce** congestion, emissions, noise, pollution
- **Improve** the quality of life & last mile logistics
- **Adapt** business models

PI and Functional Criteria

5 pillars to articulate action

Systematize, complete, scale



48 months

1st September 2022

31st August 2026

DECARBOMILE develops interoperable and multimodal logistics solutions for decarbonised last-mile delivery in urban contexts.

These different solutions will be further tested in 4 Living Labs and 4 Satellites to demonstrate their effectiveness and replicability potential.

*This project has received funding from the **Horizon Europe** Research and Innovation program, grant agreement No. 101069806, under the topic: HORIZON-CL5-2021-D6-01 Safe, Resilient Transport and Smart Mobility services for passengers and goods.*

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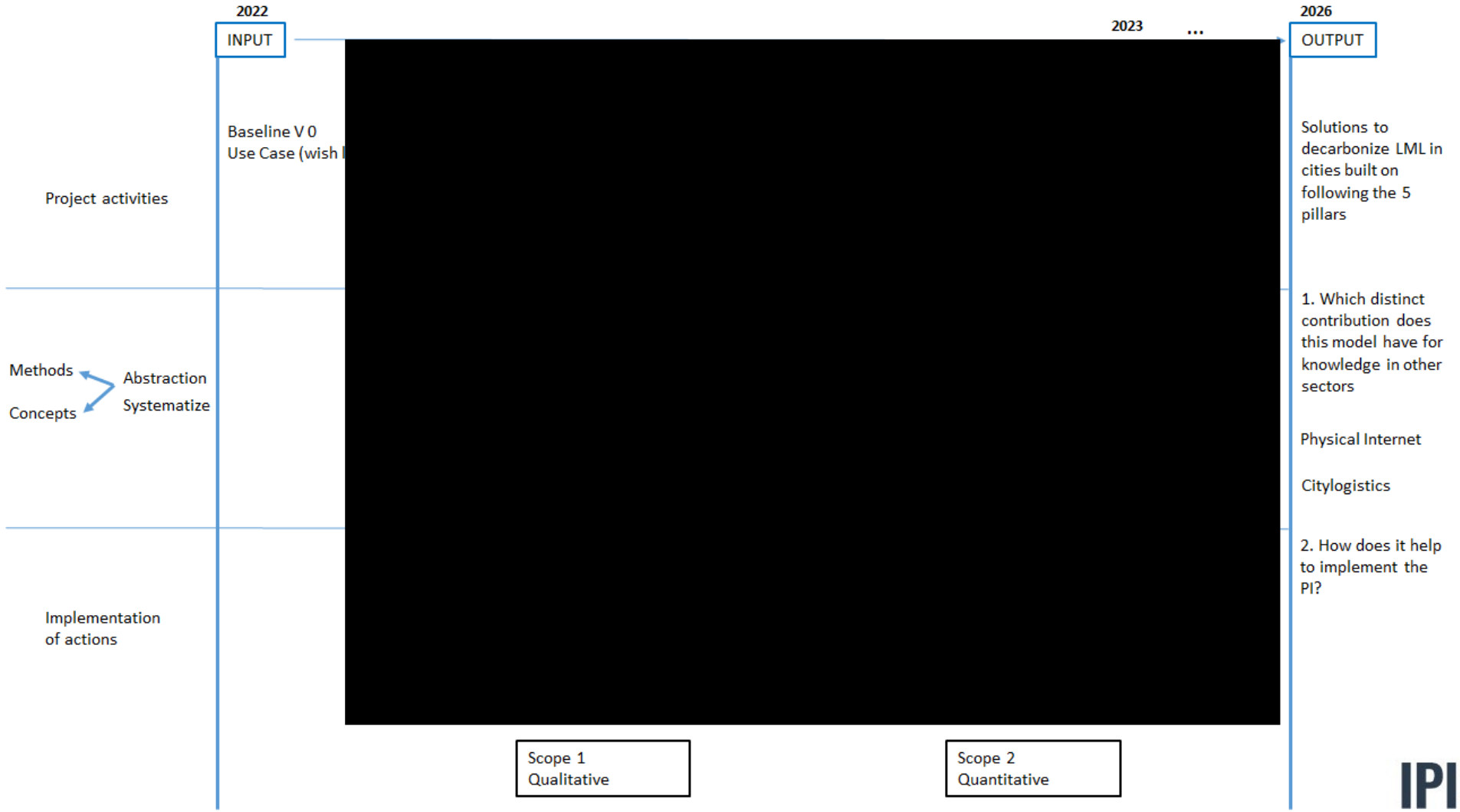
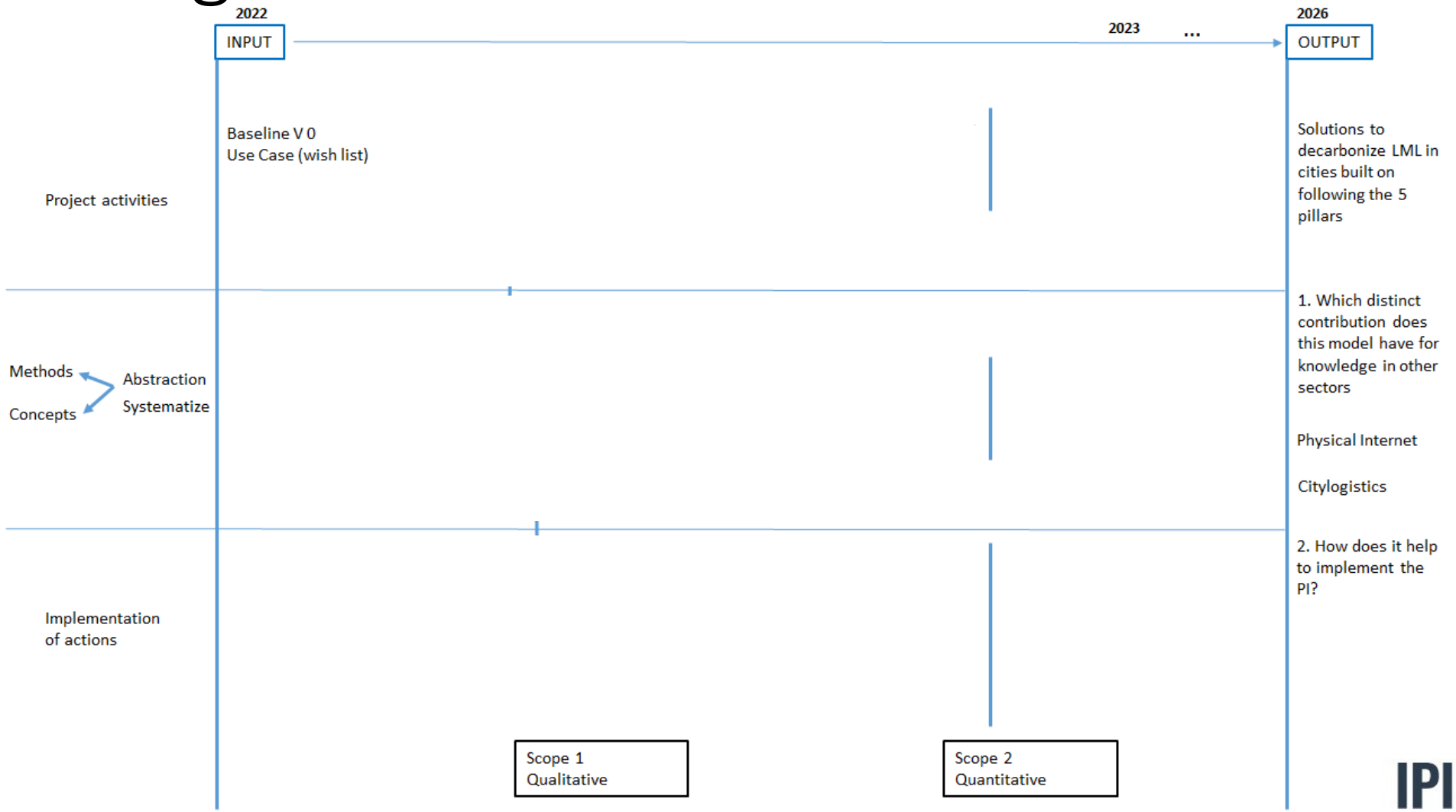
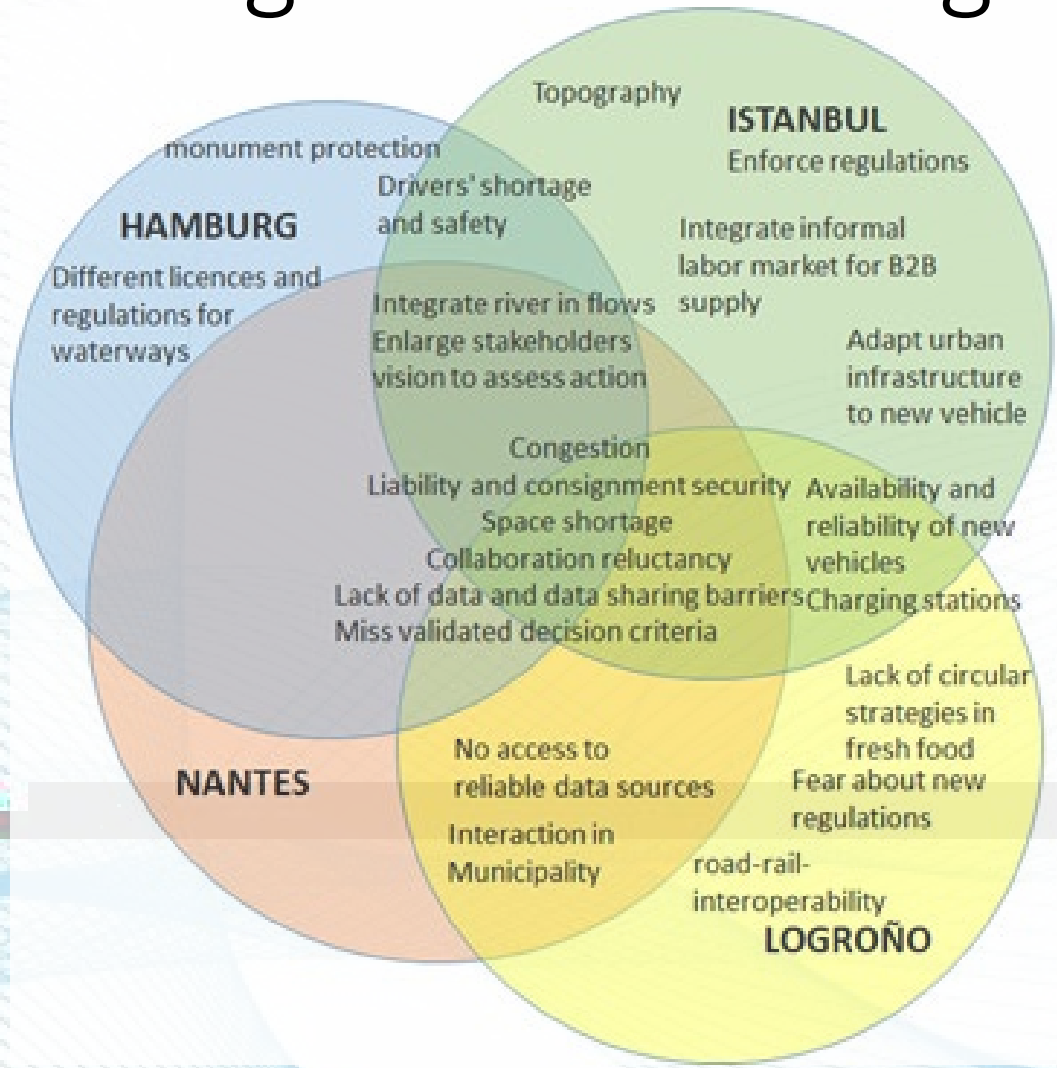
The black box



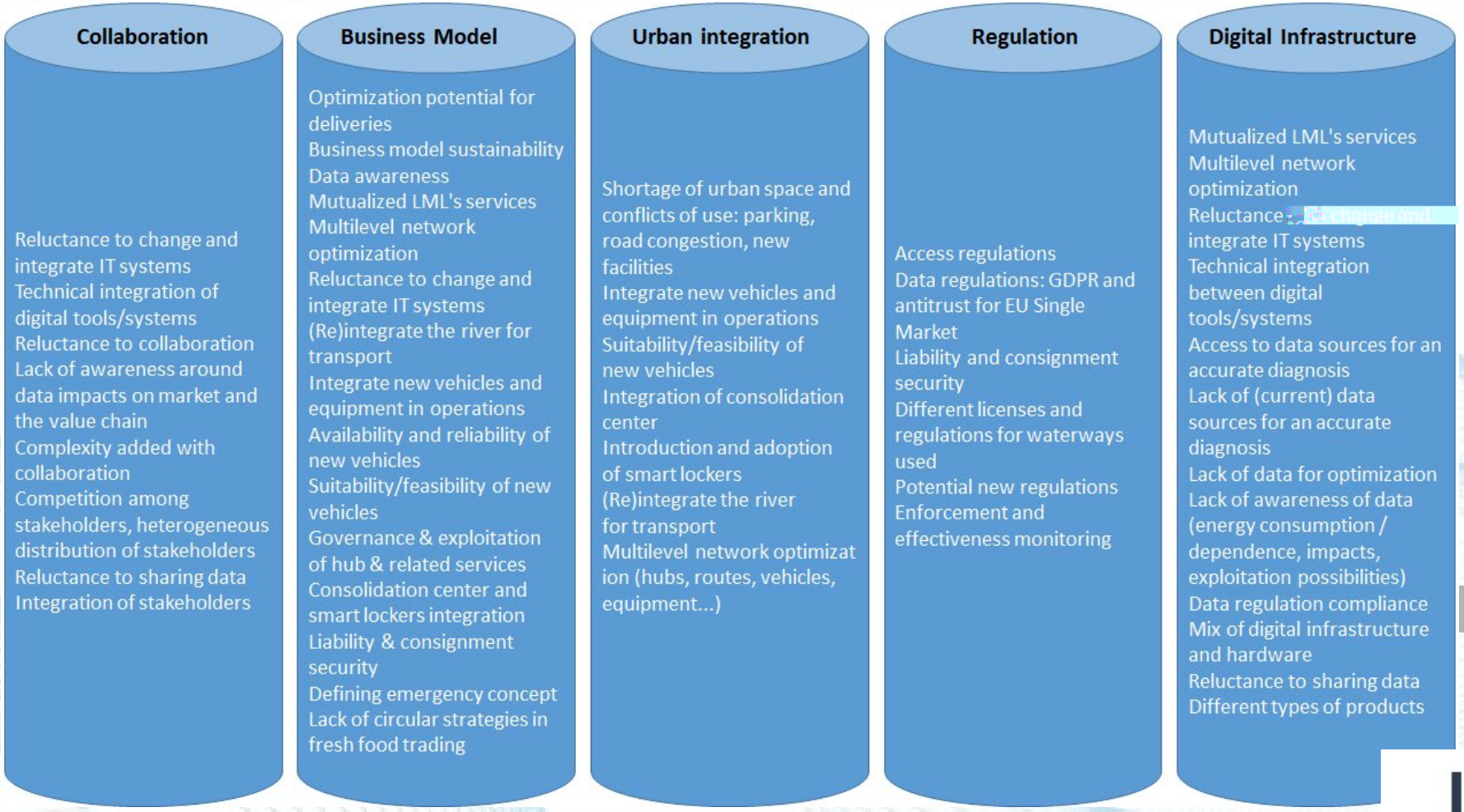
Unveiling the black box



Identified challenges in the Living Labs



Challenges according to the pillars



Gaps. 1

Consumer-centric focus

Logistics clients' profits & sustainability are largely dependent on urban logistics

- Conventional commerce → Overlook demand
- Full stack commerce → Sales tool

Data unawareness

Lack of tools and knowledge of regulation – **unfair competition** EU Single Data Market – hamper

- Get Access Treat → Perception about collaboration
- Exploit – Comply → New business models

Actions. Focus

Business advantage

Compliance verification

Depends on operational and data interoperability to scale and enact

Collaboration

Data exploitation strategies

Digital / Data

Sustainable logistics

Engage with customers

Actions. Core digital infrastructure
DSS & Data Spaces

Data models

Common API

Common identity and authorization

Data Space policies

City public standards to access

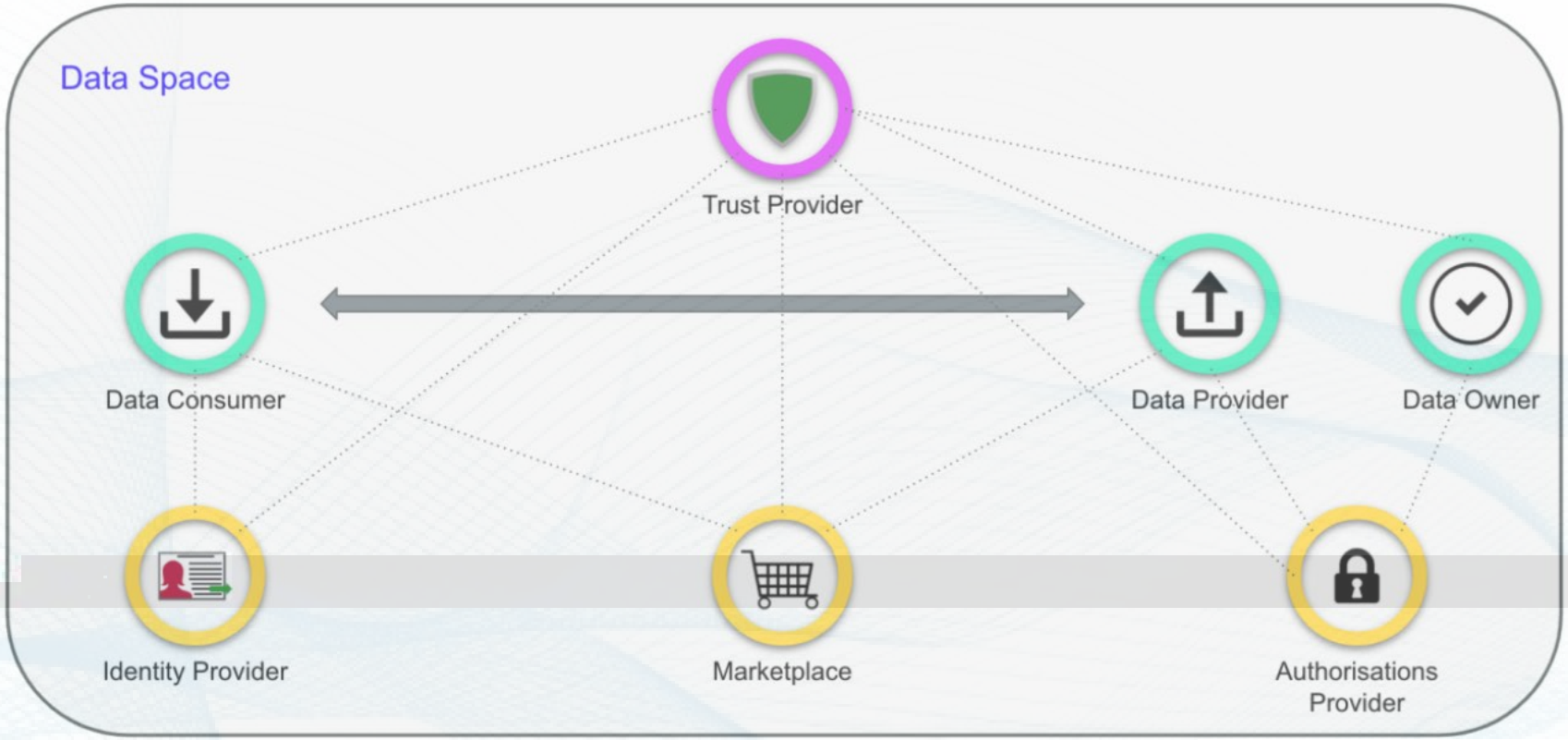
Regulations & certified labels to guarantee **sustainable logistics performance**

Licenses for exploitation

Marketplace with local aware filters

Data Wallets

DSBA convergence architecture



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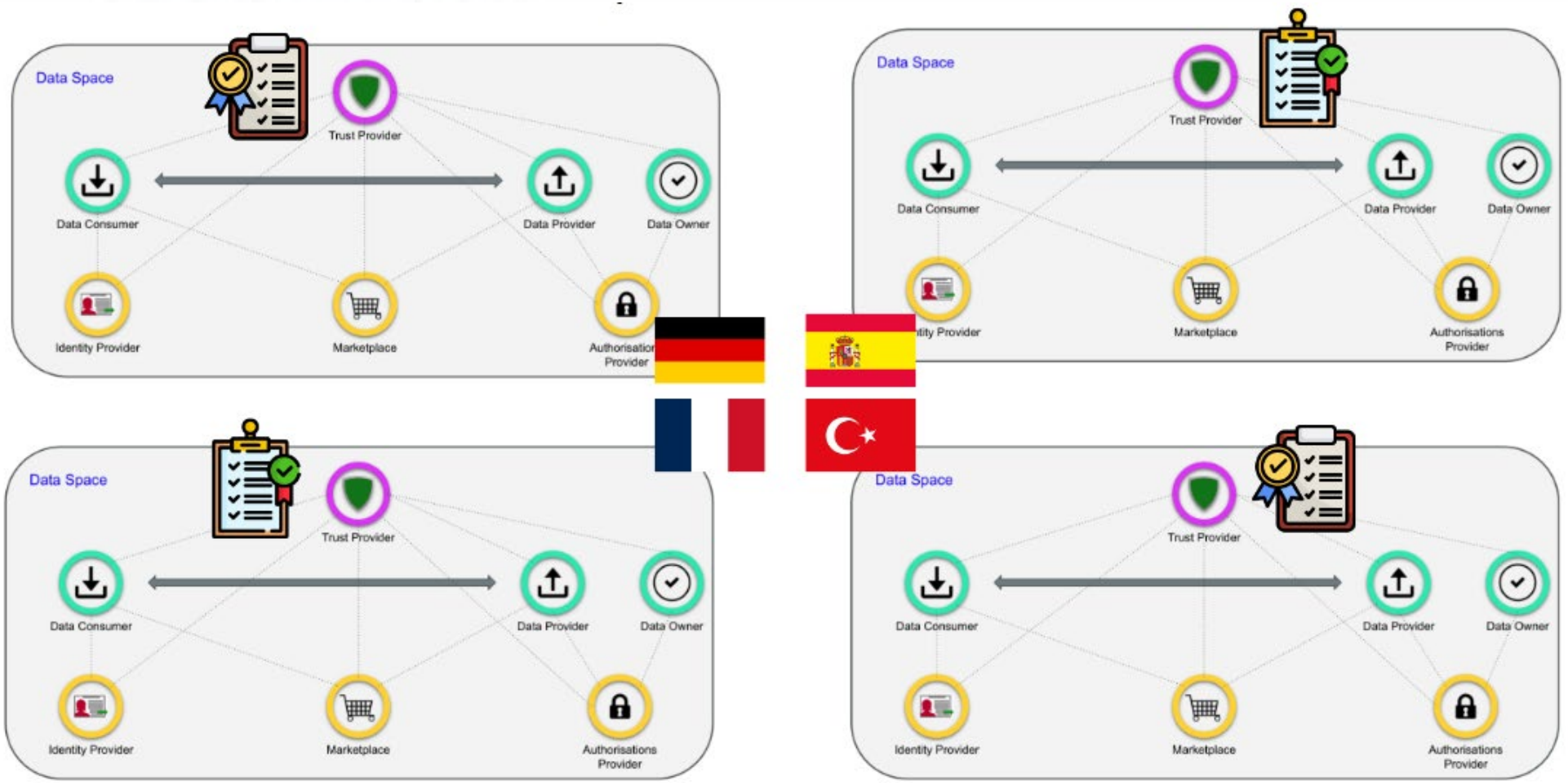
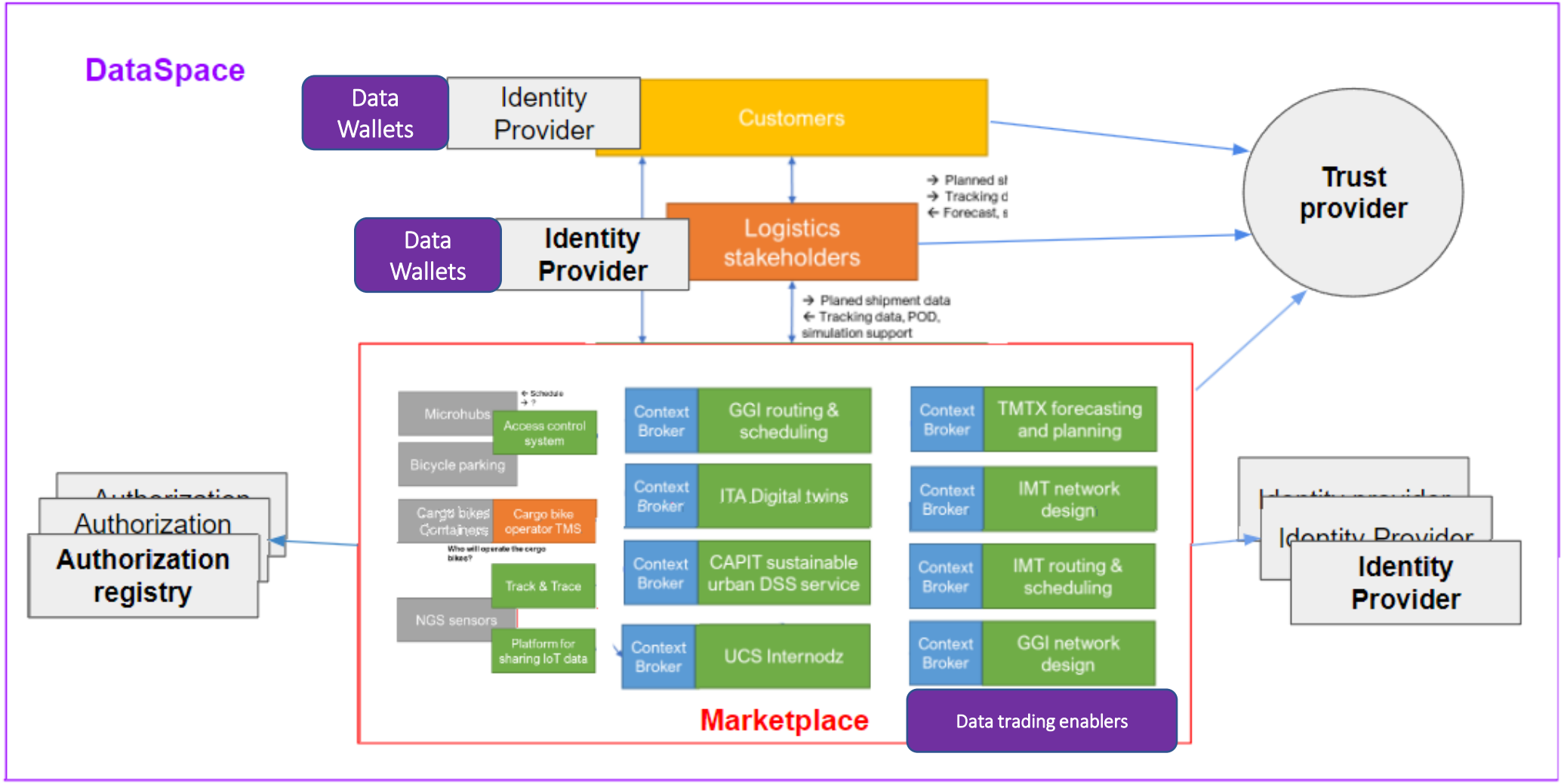
Actions. Federated Data Spaces



Actions. Federated Data Spaces. Services



USE CASES PROGRESS

Synergies between **Customer centric** pharma distribution and parcel delivery – Logroño

e-commerce logistics network design based on omnichannel customer profiling – Istanbul

Local bio-producers decarbonized B2B2C sales channels – Logroño

…

DEEP CRITERIA

Demand & offer characterization & Concentration (KPIs & OKRs)

CORE DIGITAL INFRATRUCTURE

FEDERATED CONVERGENCY

DECISION SUPPORT SYSTEM

Demand modeling
Capacities modeling
Collaboration modeling
Demand & offer sensitive network design & **optimization** – e.g. micro hubs, temporary, shuttle…
Multimodal (cargo bike+EV) routing

Demand forecast
π containers
π cargo e-bikes
µ hubs
Mobile hubs
Data counsel
…

Thank you

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DECARBOMILE

Next steps - Actions. FEDERATED Data Spaces

Data models

Common API

Common identity and authorization

Data Space policies

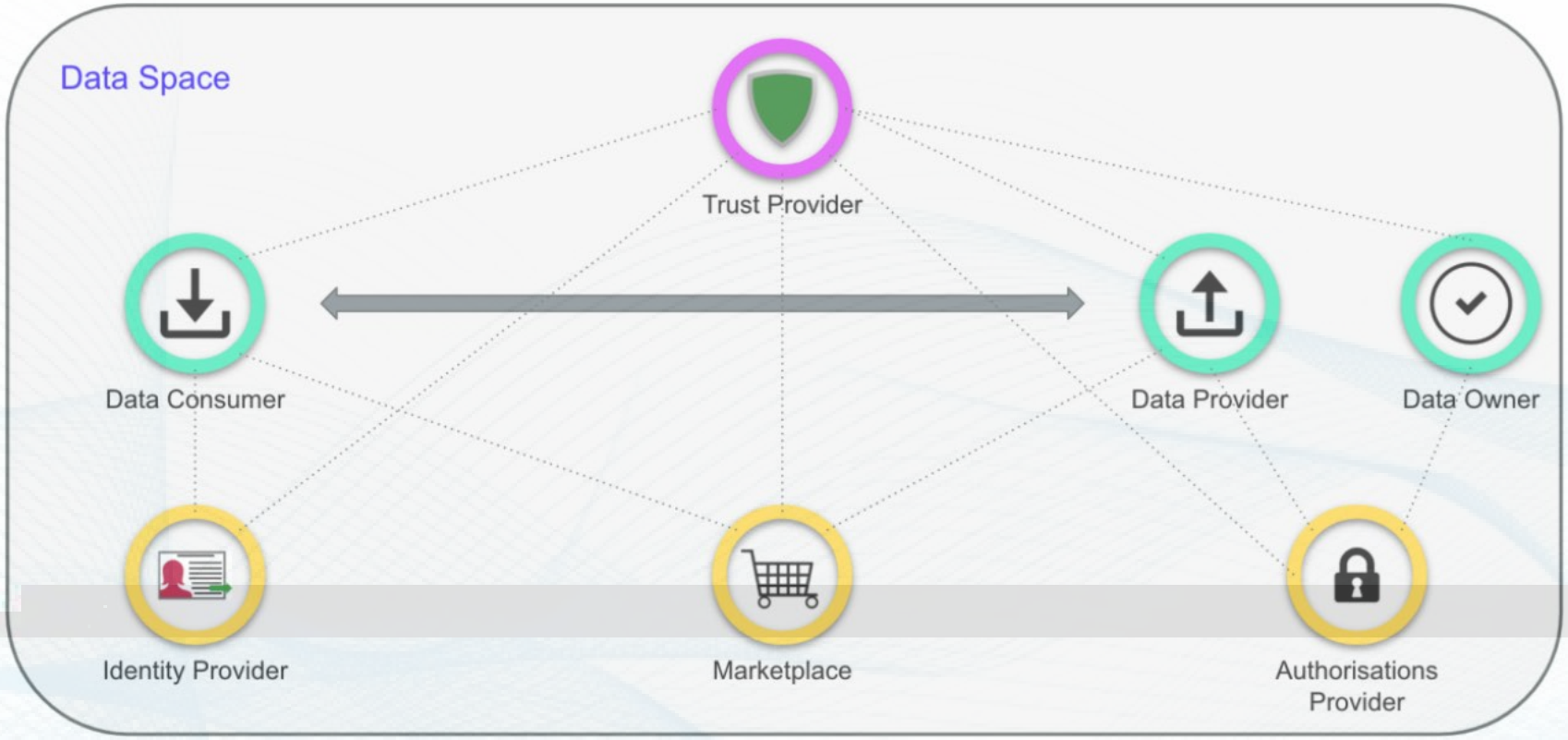
City public standards to access

Regulations, semantics & certified labels to guarantee sustainable logistics performance

Licenses for exploitation

Marketplace with local aware filters

Data Wallets



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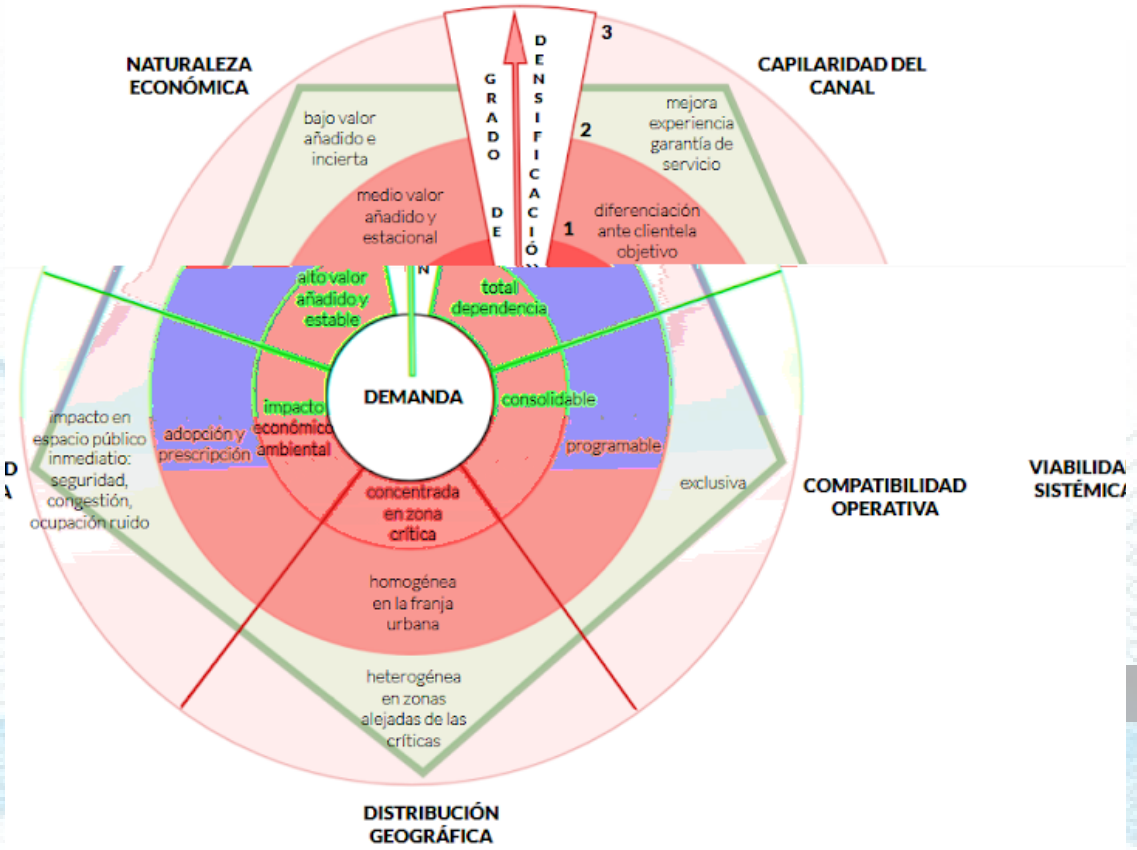
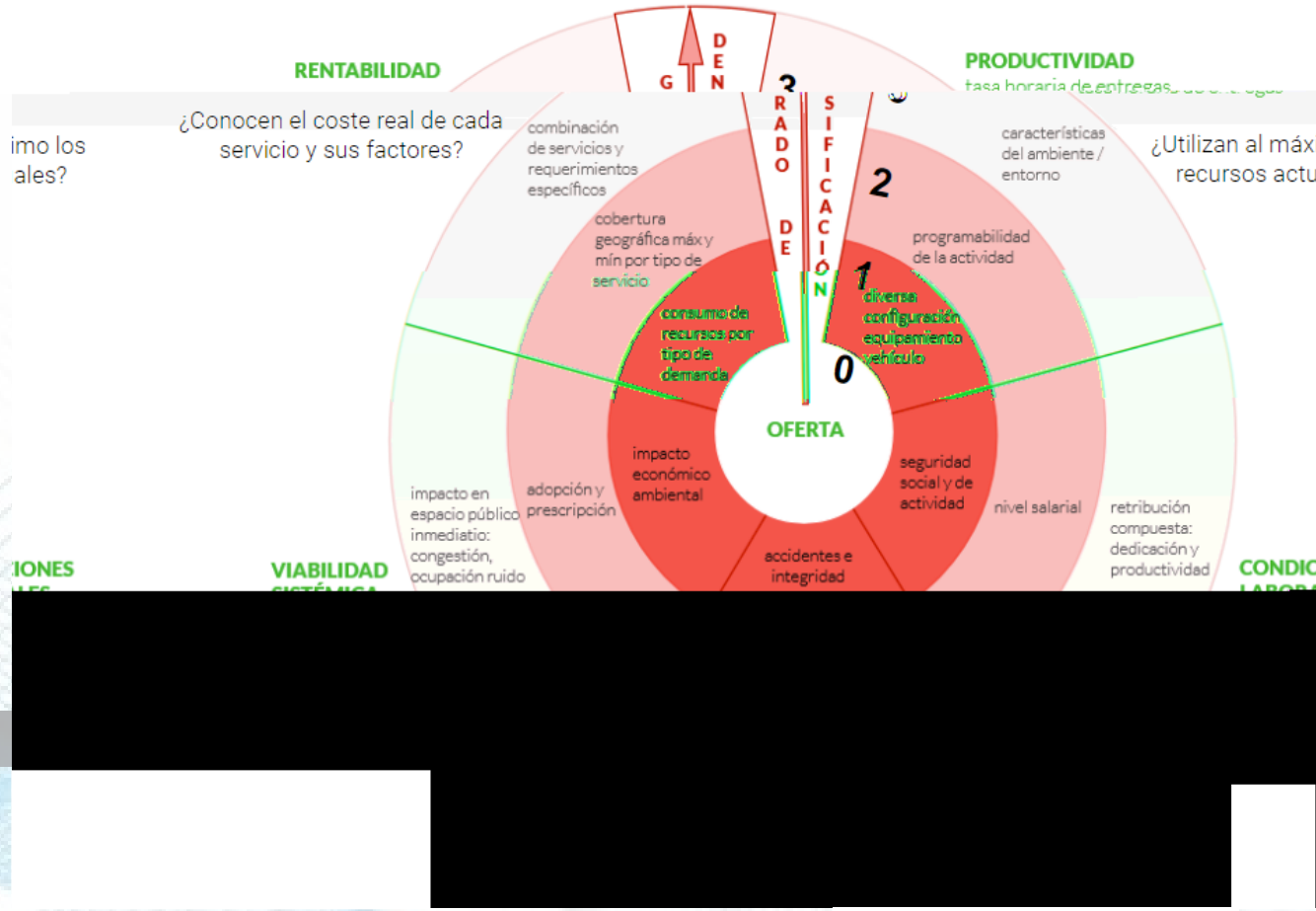
Next steps. **High level criteria**. Validate and refine

Cluster	Living Lab (where challenge is)	Sustainability (what the challenges impacts on/affects)						Actions (how to act on the challenge)																					
		offer			demand			models																					
								Pillars						Agents		PI Elements													
		social	environmental	economical	social	environmental	economical	digital infrastructure	urban integration	collaboration	business model		regulation	city	LML Operator	movables	goods, persons, infor	transport	traffic	land use	accession	activities	built infrastructure	facilities	digital infrastructure	nodes			
Challenge	Istanbul Hamburg Nantes Logroño	working conditions safety	systemic viability (emissions), scalability (adoption, prescription), liveability (urban experience: noise/accessibility/congestion/space use/...)	productivity profitability	geo-distribution systemic viability	economic nature channel capillarity	operational compatibility	built infrastructure facilities	Modal shift Customer engagement / role	Added value services: customization, data valorization																			

Next steps. **Demand & offer characterization & densification**





Next steps. **Demand & offer sensitive network design**