



The Global Language of Business

Sustainable Freight Transport

Challenges & Opportunities

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Brussels 9th October 2017



P&G



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Sustainable Freight Transport Challenges & Opportunities

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***ALICE* Chairman**

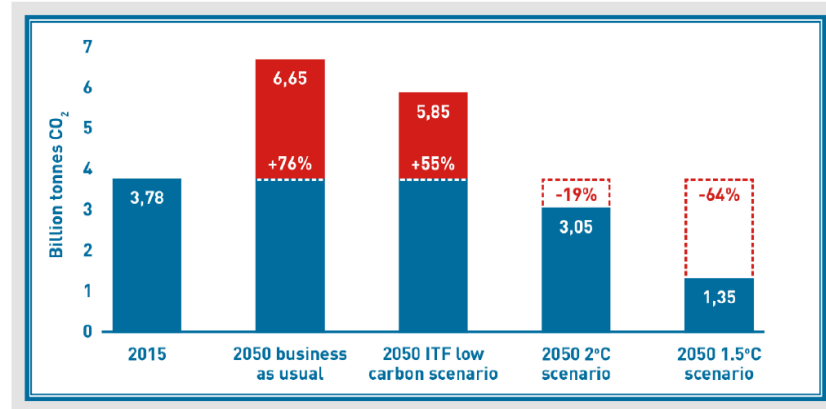
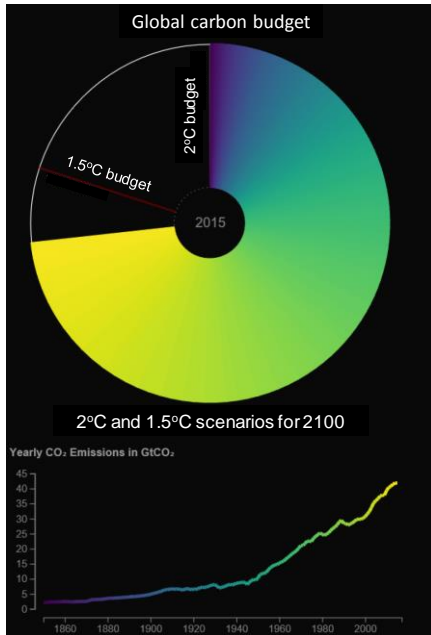




UNFCC COP 21 Conference on Climate Change
December 2015



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Smart Freight Centre (2017). Smart Freight Leadership, based on data from ITF Transport Outlook 2017 and SLoCaT 2016

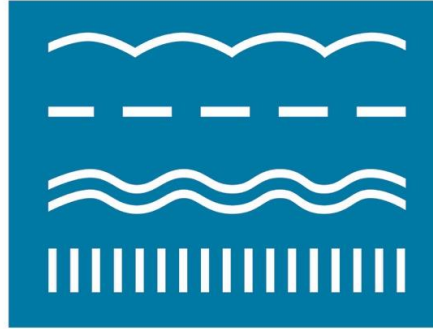


DO WE HAVE THE RIGHT GAUGE?

SMART
FREIGHT
CENTRE



GLEC
GLOBAL
LOGISTICS
EMISSIONS
COUNCIL



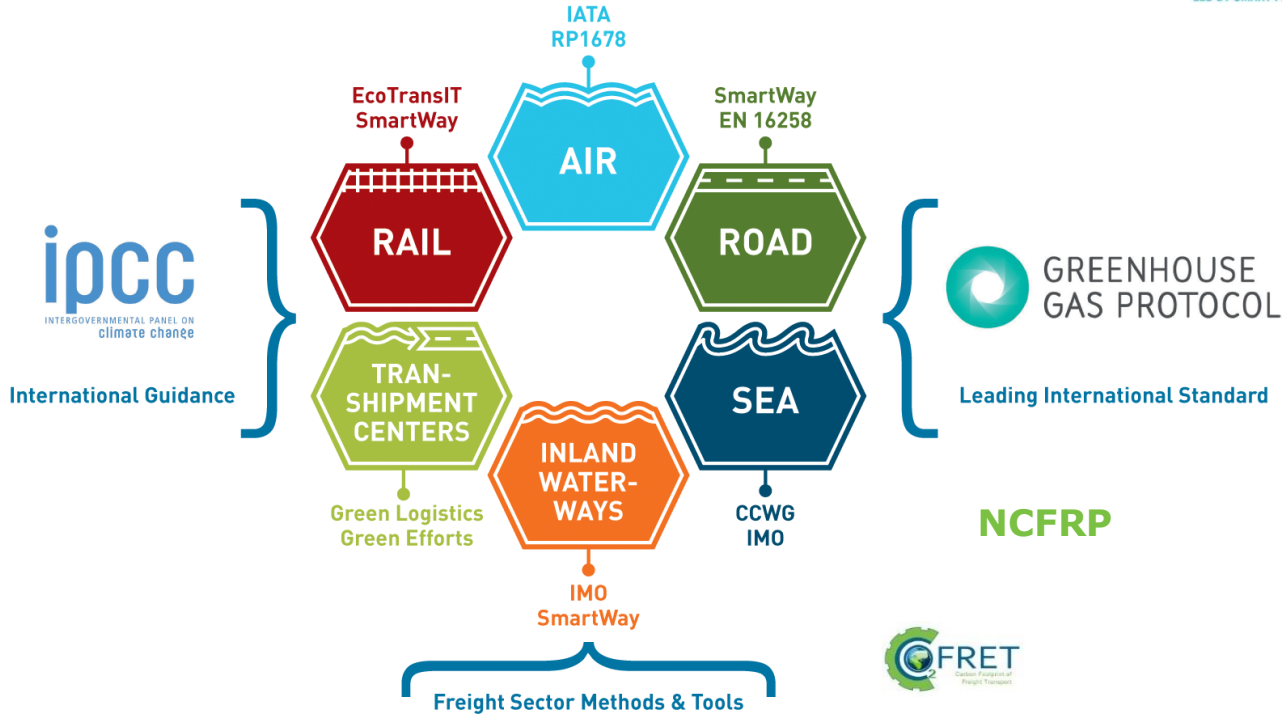
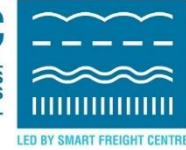
LED BY SMART FREIGHT CENTRE

Create and implement a universal and transparent way of **calculating logistics emissions across the global supply chain** used by companies for **reporting and decision-making** that leads to **improved efficiency** and **reduced emissions**.

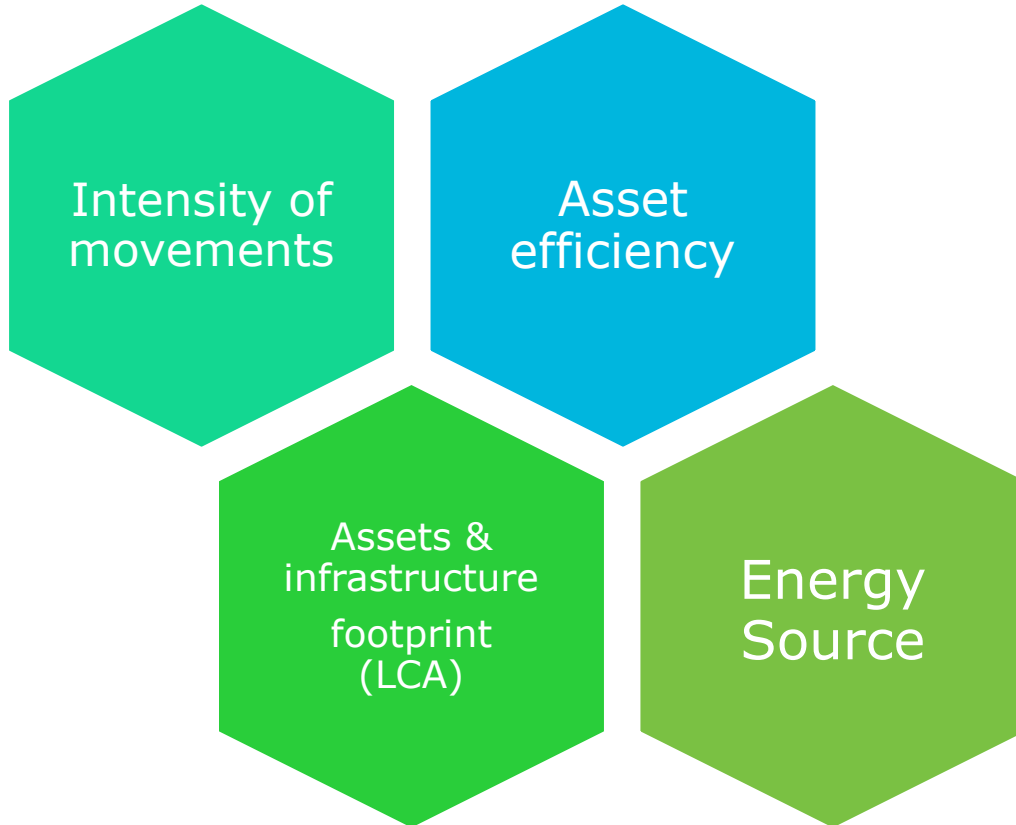


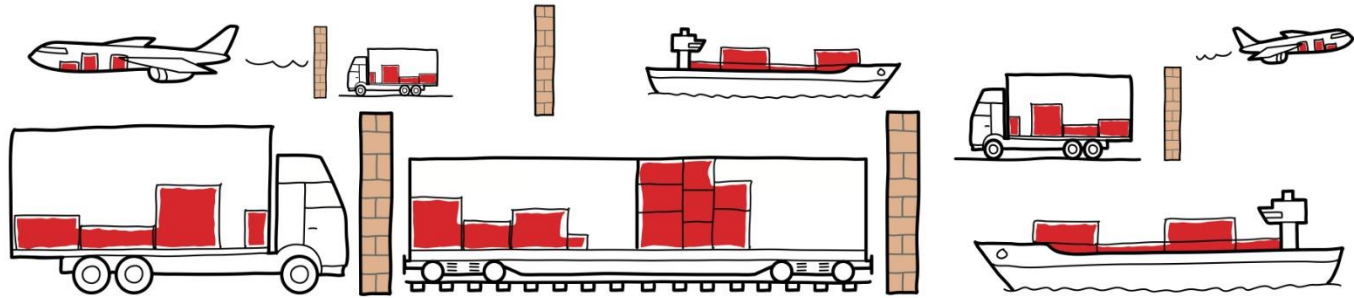
GLEC Framework: builds on existing methodologies and standards

GLEC
GLOBAL
LOGISTICS
EMISSIONS
COUNCIL

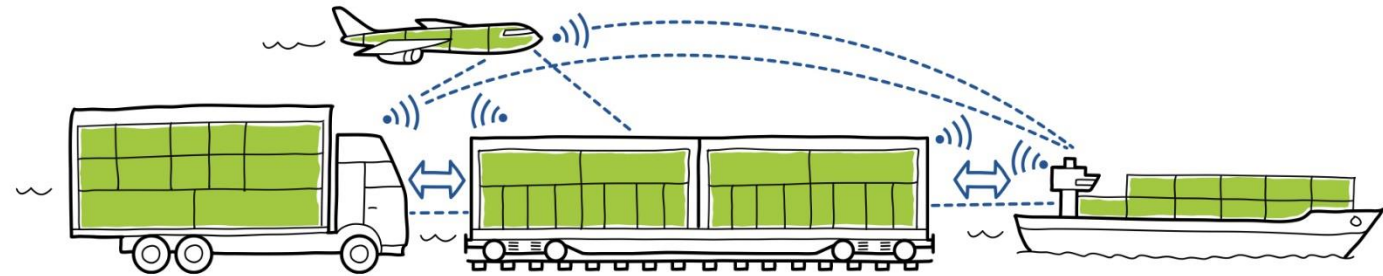


Control Levers





Challenge



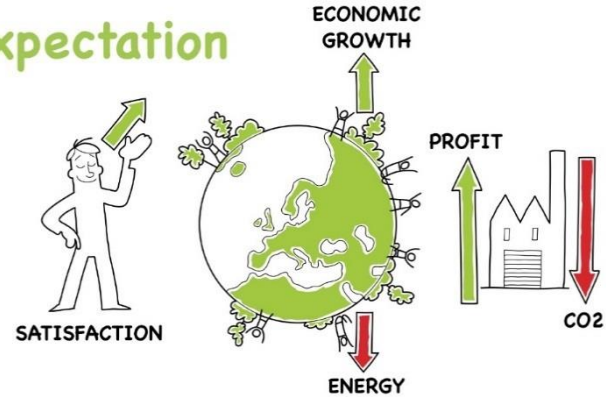


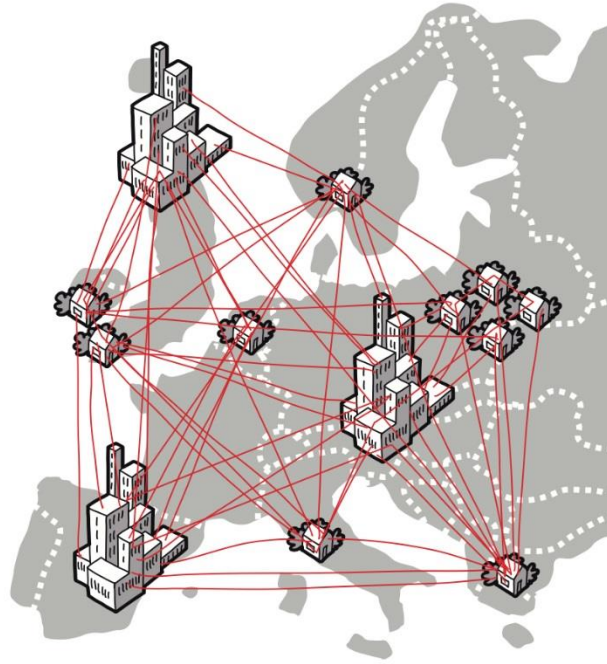
A TRULY INTEGRATED TRANSPORT SYSTEM FOR SUSTAINABLE AND EFFICIENT LOGISTICS



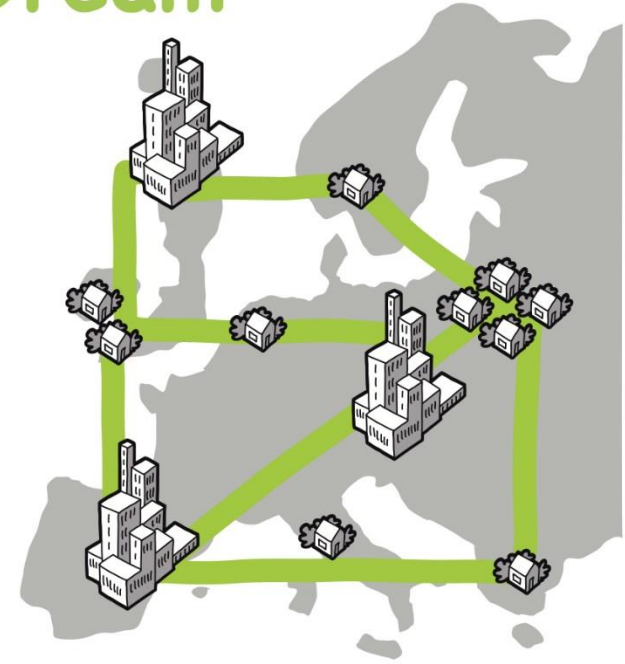
Systemic Approach: Systems of Systems

Expectation





Dream



Use your capacity, share your assets

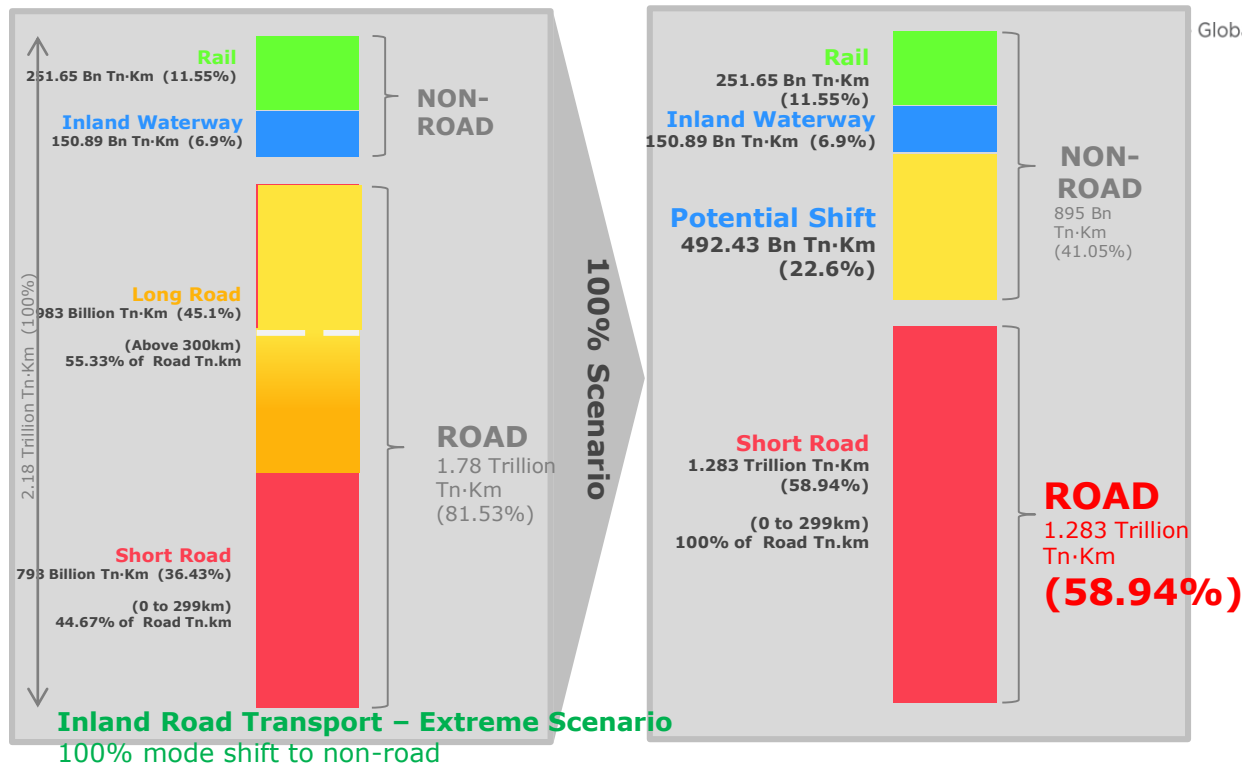


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Modal shift : 40% maximum

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SOURCE: Eurostat ([rail_go_typeall](#)), ([iww_go_atygo](#)) and ([road_go_ca_c](#)) – 2014 EU-28 Data.. For ([road_go_ta_dctg](#)) - Averaged Data from the year 2008 to 2014 and SNIC calculations
Assumption: Modal shift does not cause increase in the total Tn-km of a journey



The Truly Integrated Transport System in the Long distance context

EU wide **co-modal transport services** within a well **synchronized, smart and seamless network**, supported by **corridors and hubs**, providing optimal support to **global supply chains door-to-door**

Resilient transport and logistics networks

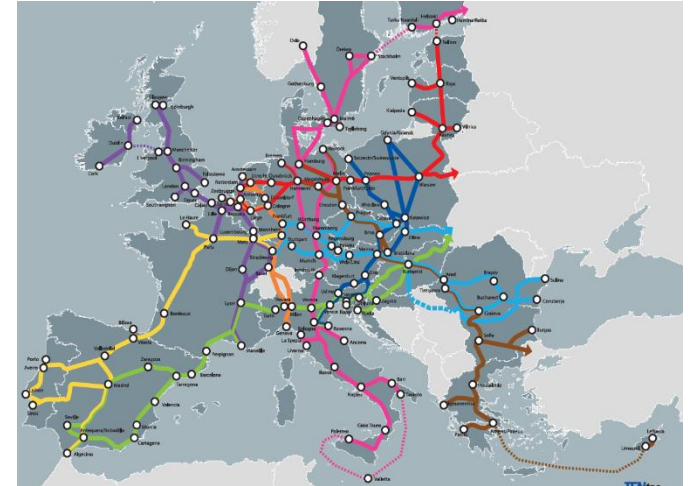
Seamless and secure cross borders transport operations

Develop **seamless transshipment** (automation)

“Smart” hubs serving the transport industries according to supply chains and manufacturing networks needs.

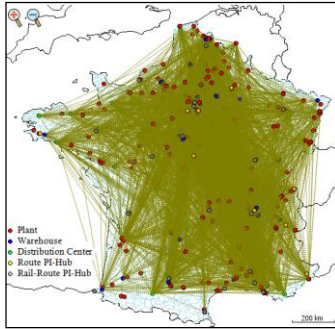
Fully available & visible intermodal transport **services → Synchronodal Logistics Solutions**

Seamless **information exchange** end-to-end

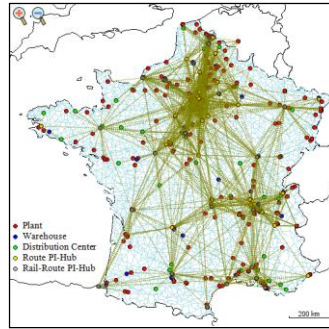


Hyperconnected Transportation

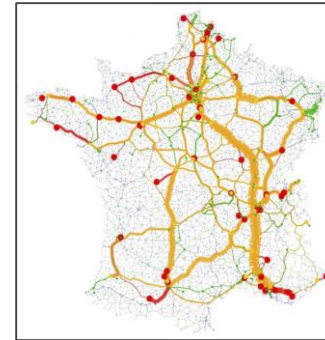
Results from a simulation experiment with top retailers
Carrefour and Casino in France and their 100 top suppliers



Current flows



Hyperconnected flows



Current: Trucks

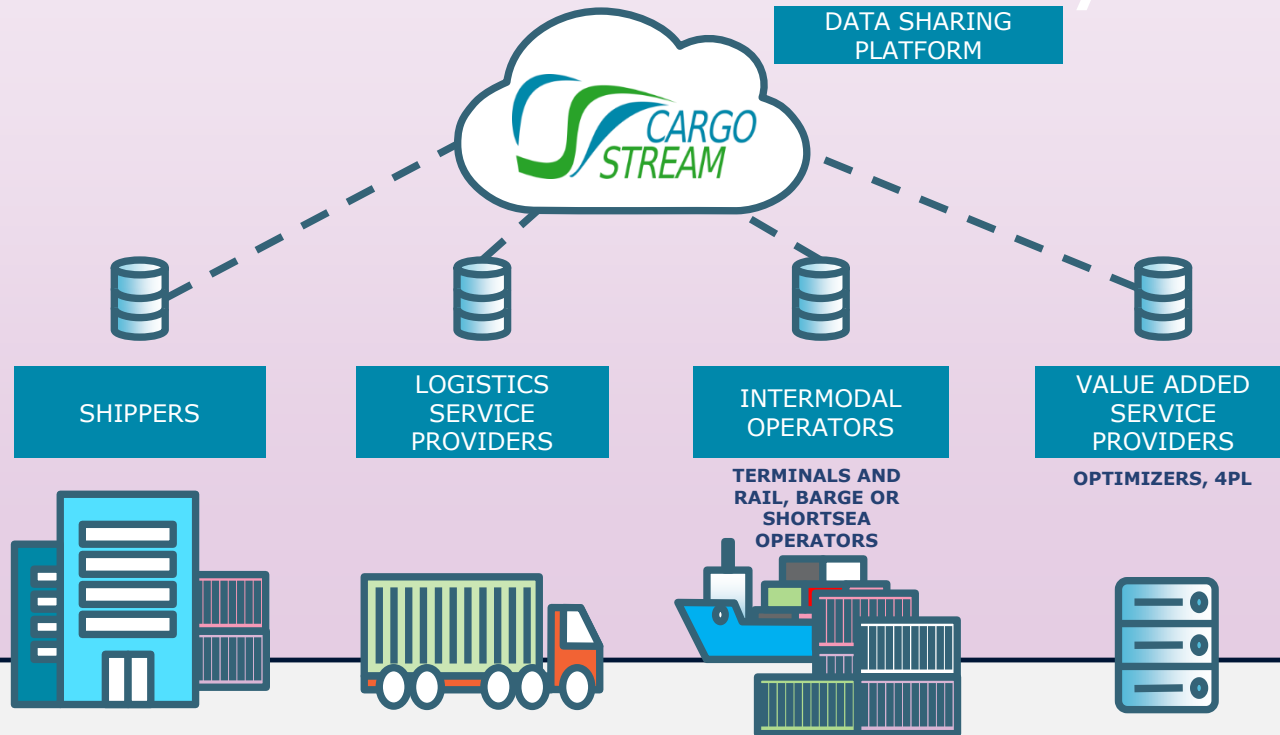
Hyperconnected: Trucks & Rail

Economical: Up to 32% overall cost saving

Environmental: About 60% reduction of greenhouse gas emissions

50% of volume shifted from road to rail

CargoStream: making collaboration easy



Modular trailer initiative



VOLVO

DAF

A **PACCAR** COMPANY
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Truck Manufacturers

**SCHMITZ
CARGOBULL**
The Trailer Company.

ECK

Trailer Manufacturers

P&G

IRU International
Road Transport
Union

End Users



BOSCH

Suppliers

Fraunhofer

virtual vehicle

TNO innovation
for life

IFSTAR

Research Institutes

FEHRL



Service Supplier



TRANSFORMERS Innovation



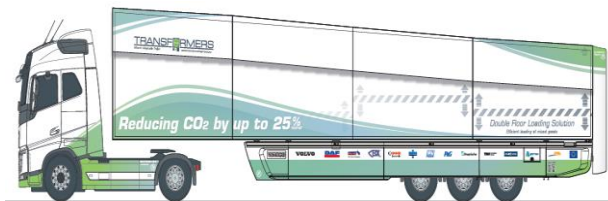
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Trailer Mounted
Electric Driveline
"Hybrid on
Demand"



Whole Vehicle
Combination
Aerodynamics



Load Capacity
Optimisation





The Truly Integrated Transport System in the Urban context

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Adaptability to new freight transport technologies and concepts like automated land- or air vehicles, drones and AGVs.

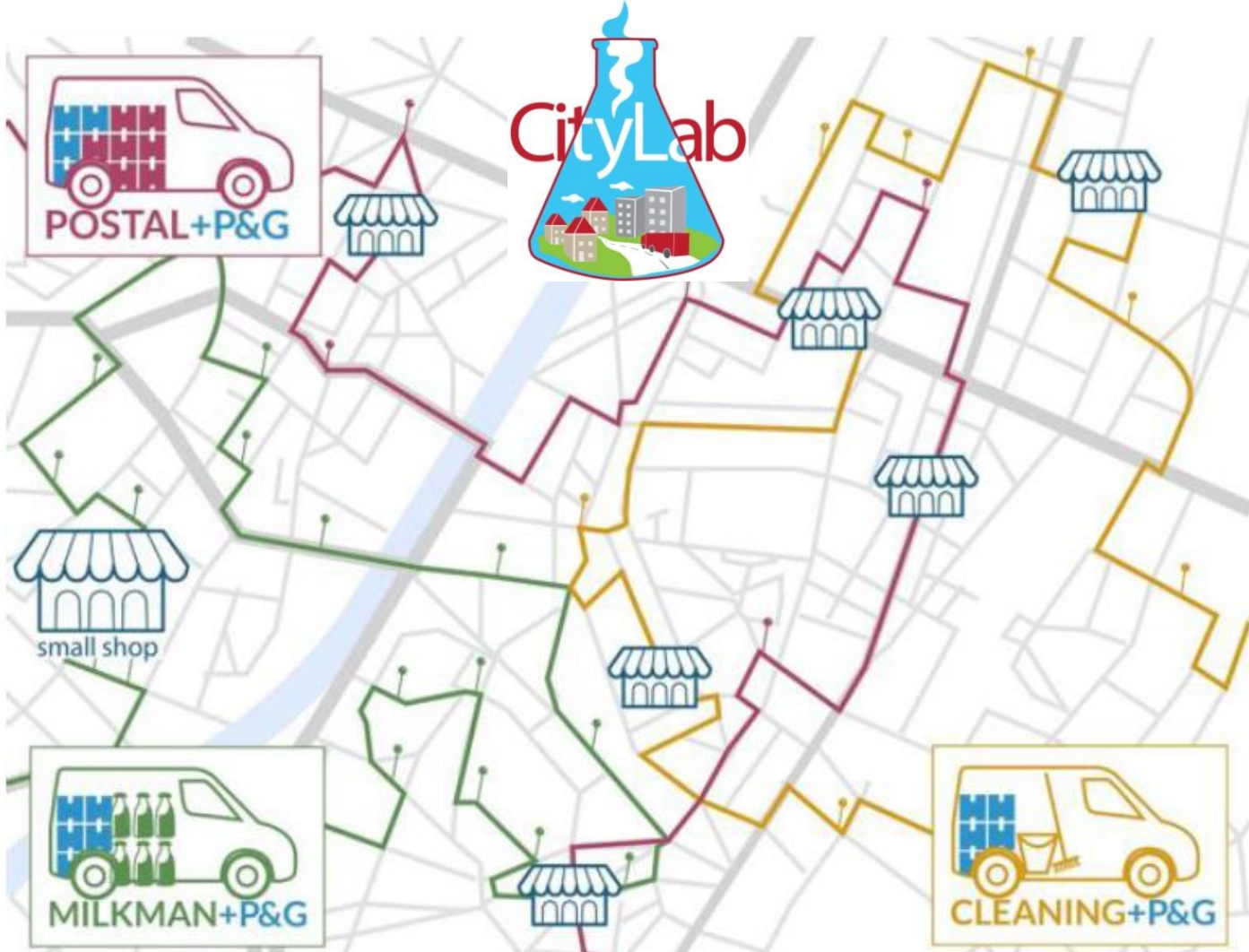
Optimal integration of freight transport with people mobility. Freight and people are moving sharing infrastructure and resources in a smart combination leveraging infrastructure utilization.

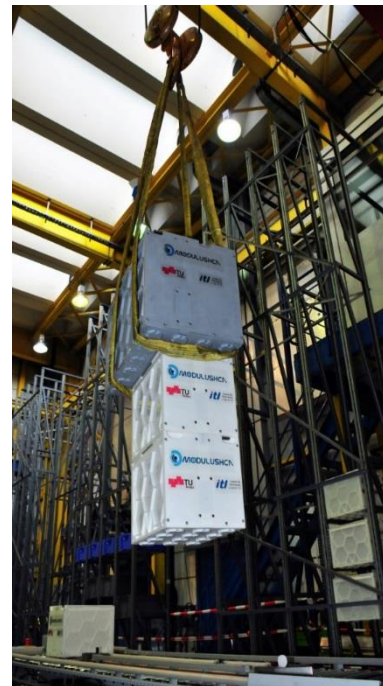
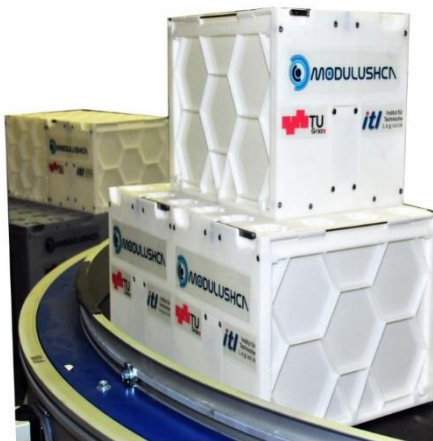
Further Modularization of Load and Transport Units

Develop **seamless transshipment**
(automation)



Mercedes-Benz: Hitching a ride through the physical internet




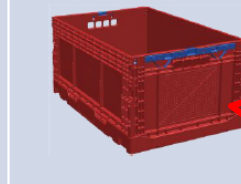







GS1 Germany New consensus



EDEKA	Müller	Rossmann	dm	GS1
Stauchdrucktest 3-er Stapel** 1.200 daN	1.100 daN	1.000 daN	1.400 daN	FEM-Berechnung
Bodendurchbiegung* 30Kg- 5mm Gewicht:3,2 Kg LKR-Boden,10mm	7,5kg – 12mm Gewicht: 2,3 Kg Einfacher Boden,	20kg – 11,3mm Gewicht: 2,8 Kg Einfacher Boden	30kg – 1,7mm Gewicht: 3,2 Kg Doppelboden	Gewicht: 2,7 Kg FEM-Berechnung, Wert zu definieren Doppelboden
				





Market dynamics

Ill defined regulatory framework

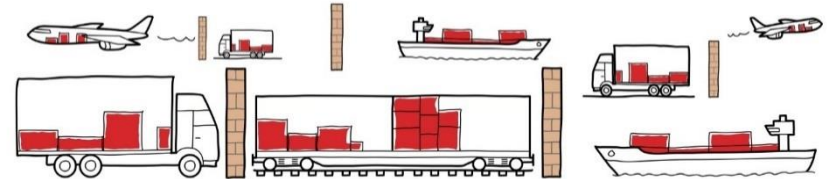
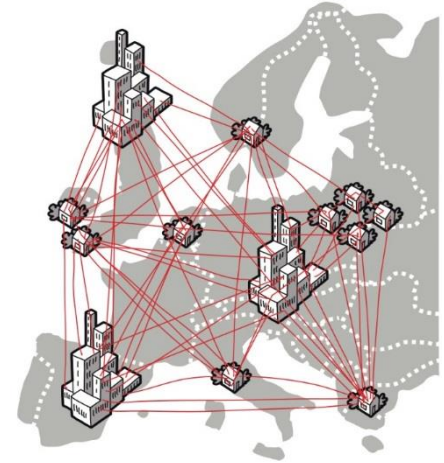
Lack of transhipment and modularization technology

Barriers

Lack of trust on sharing information

Lack of IT/ICT Systems interoperability

Lack of industry well recognized business and operational models





**Stakeholders
Support**

**Autonomous
Transport**

Robotics

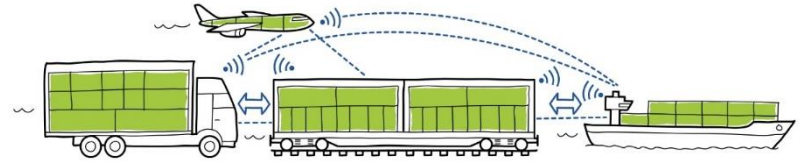
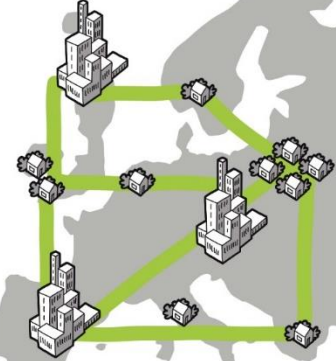
Enablers

**IoT, Big Data,
5G,...**

**IT/ICT Systems
interoperability**

**Leadership and
entrepreneurship**

Dream





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