



● SuperGreen final workshop

Directorate-General
for Mobility
and Transport



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Unit D1 – Maritime transport and logistics

● SuperGreen final workshop

- Why SuperGreen ?
 - On the one hand : TEN-T developments
 - On the other hand : green technologies and ICT developments
 - How to apply the second ones in the first ones : green corridors concept
- Potential use of the results
- What next ?

● SuperGreen final workshop

● Why SuperGreen ?

- **On the one hand : TEN-T developments**
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● Potential use of the results

● What next ?

● TEN-T developments

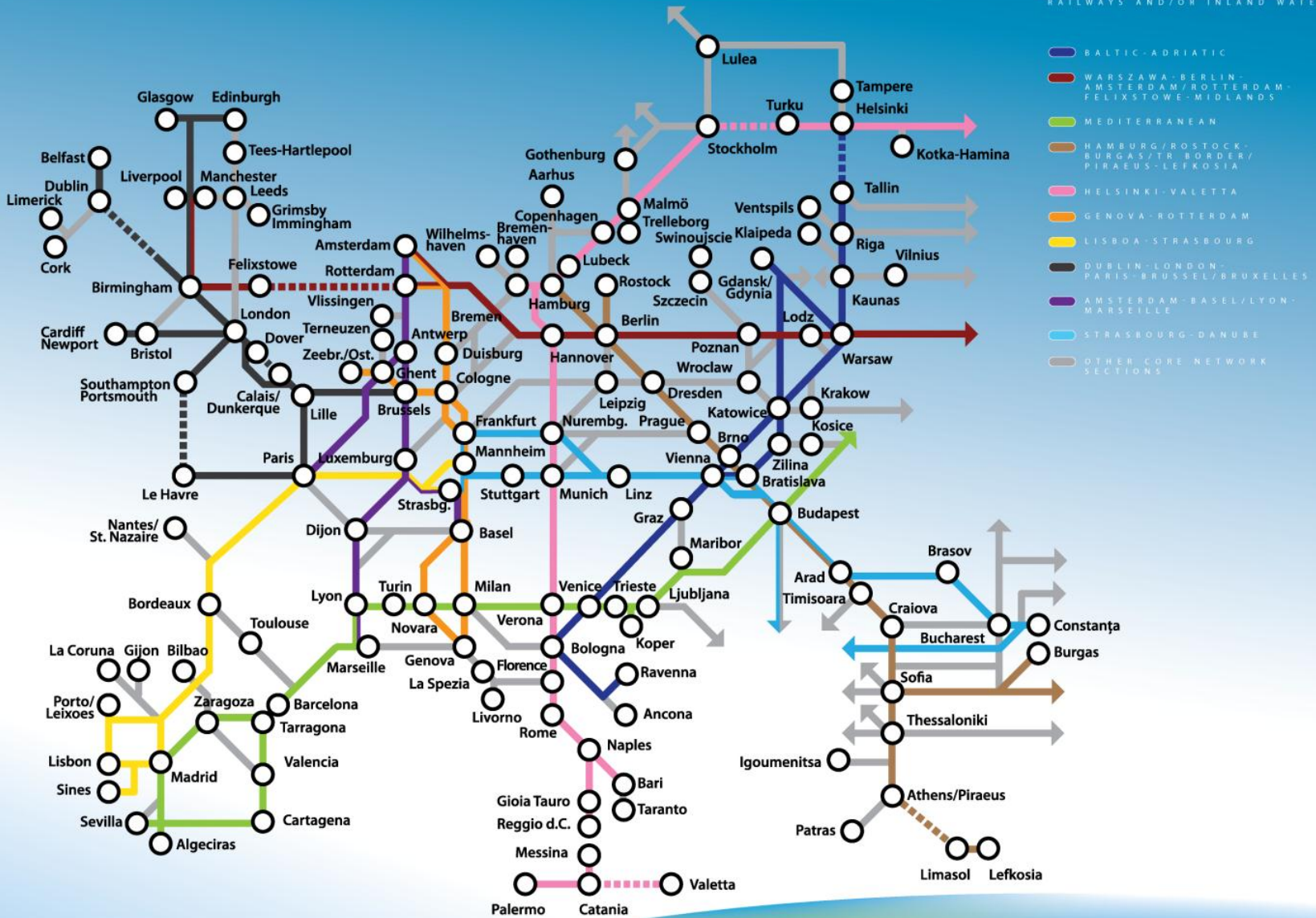
TEN-T policy review => proposal for new TEN-T guidelines (19 October 2011) :

- A dual layer approach (core network / comprehensive network)
- A corridors' approach : rail freight corridors, ERTMS corridors or « green corridors » => multi-modal corridors
- Funding:
 - « Connecting Europe Facility » for the core network (€21.7 billion + € 10 billion from Cohesion Fund);
 - cohesion fund / ERDF for the comprehensive network

Under discussion at Council and Parliament

TEN-T CORE NETWORK & CORRIDORS

RAILWAYS AND/OR INLAND WATERWAYS



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● Green technologies and ICT developments

Green technologies

- Development and implementation of :
 - Clean, safe and silent vehicles for all modes (including new materials, new propulsion systems).
 - A sustainable alternative fuels strategy including also the appropriate infrastructure.
 - Carbon footprint calculators / common EU standards

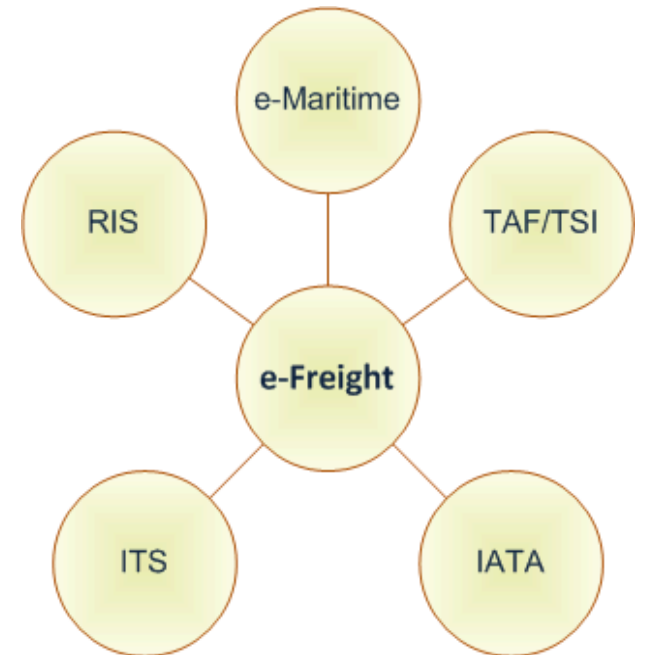
● Green technologies and ICT developments

ICT

- Modal initiatives : ITS, TAF-TSI, e-Maritime, RIS
- E-Freight : facilitate transport information exchange along the whole supply chain

Build the appropriate framework to streamline the electronic flow of information associated with the physical flow of goods

- Public consultation until 17/01
- Initiative planned to be released this year.



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● Logistics Action Plan 2007

Concept launched in action n°5 « green » transport corridors for freight

Green Corridors are a European concept denoting long-distance freight transport corridors where :

- advanced technologies,
- innovative management models
- co-modality, including :
 - ✓ adequate transshipment facilities at strategic locations
 - ✓ integrated logistics concepts (synchromodality).

are used to achieve energy efficiency and reduce environmental impact.



● White Paper on Transport 2011

- “ Roadmap to a Single European Transport Area. Towards a competitive and resource efficient transport system.”
- Target : -60% of GHG emissions by 2050
- Confirms the necessity to develop green freight corridors

Goal n°3 : 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by **efficient and green freight corridors.**

- Enlarges the view to multimodal freight corridors :

Initiative n°35 (multimodal freight corridors for sustainable transport networks)

● What is missing for the development of green corridors ?



- the precise definition of a green corridor through KPIs (key performance indicators). These KPIs need to cover all aspects related to transport operations and infrastructure (emissions, internal and external costs).
- a first assessment of corridors and technologies

=> SuperGreen (2010-2012)

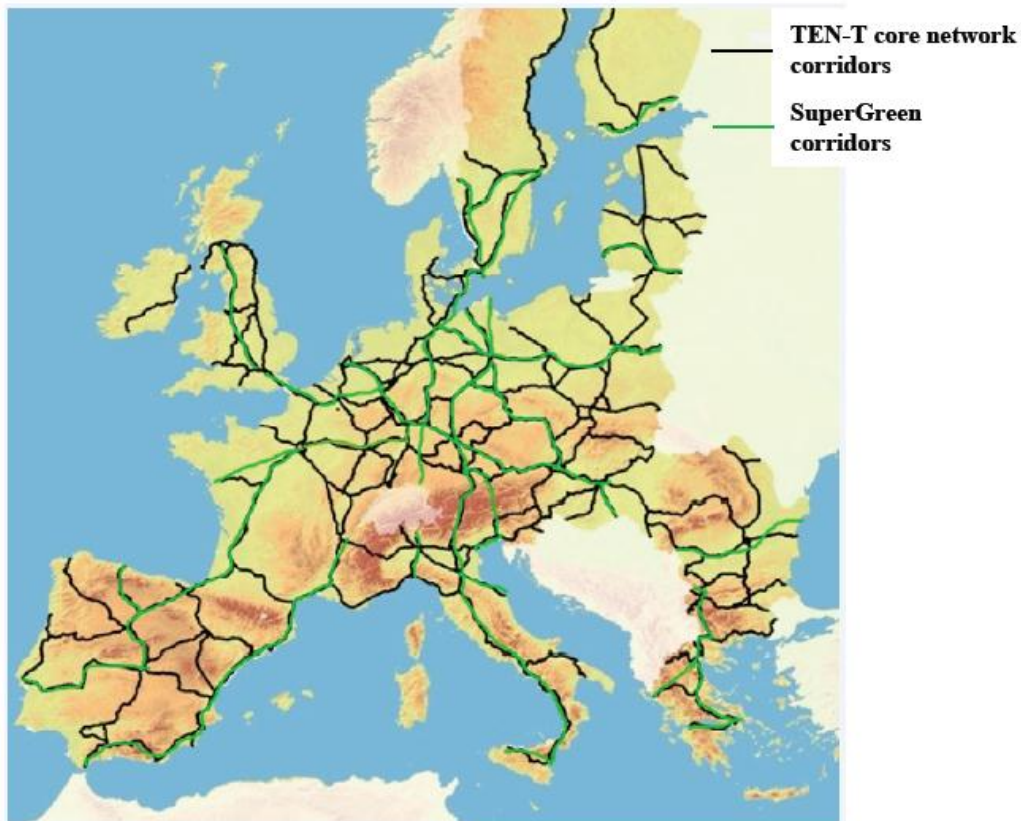


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- **Potential use of the results**
- What next ?

● Where could results be used ?

- Exchange of best practices
- Policy recommendations



⇒ Representative results

Green corridor as part of core network corridors

Where could results be used ?

KPIs

	KPI	Output unit
Efficiency	Absolute costs	€/ton
	Relative costs	€/ton-km
Service quality	Transport time (or speed)	Hours (or km/h)
	Reliability	On-time deliveries / total nb of shipments
	ICT applications	Graded scale: availability, integration & functionality of cargo tracking & other services
	Frequency	Number of services per year
Environmental sustainability	Cargo security	Security incidents / total nb of shipments
	Cargo safety	Cargo safety incidents / total nb of shipments
	CO2-eq emissions	g/ton-km
Infrastructural sufficiency	NOx emissions	g/1,000 ton-km
	SOx emissions	g/ ton-km
	PM emissions	g/1,000 ton-km
	Congestion	Hours of delay in average /ton-km
Social	Bottlenecks	Graded scale : Nb & category
	Corridor land use	Share of distance per area type
	Traffic safety	% of traffic safety incidents
	Noise	Share of distance above level

=> definition of a green corridor (a label ?) + follow-up
 (corridor development plans : define objectives / plan the monitoring of projects)

Where could results be used ?

Benchmarking :

of corridors :

Corridor	Mode	Cost (€/tkm)	Av. speed (km/h)	Reliability (%)	Frequency (no./year)	CO ₂ (g/tkm)	SOx (g/tkm)
Brenner	Intermodal	0.03-0.09	9-41	95-99	26-624	10.62-42.11	0.02-0.14
	Road	0.05-0.07	19-40	50-99	104-2.600	46.51-71.86	0.05-0.08
	Rail	0.05-0.80	44-98	50-100	208-572	9.49-17.61	0.04-0.09
	SSS	0.04	23	100	52	16.99	0.12
Cloverleaf	Road	0.06	40-60	80-90	4.680	68.81	0.09
	Rail	0.05-0.09	45-65	90-98	156-364	13.14-18.46	0.01-0.02
Nureyev	Intermodal	0.10-0.18	13-42	80-90	156-360	13.43-33.36	0.03-0.15
	SSS	0.05-0.06	15-28	90-99	52-360	5.65-15.60	0.07-0.14
Strauss	IWT	0.02-0.44	-	-	-	9.86-22.80	0.01-0.03
Mare Nostrum	SSS	0.003-0.20	17	90-95	52-416	6.44-27.26	0.09-0.40
	DSS	-	-	-	-	15.22	0.22
Silk Way	Rail	0.05	26	-	-	41.00	-
	DSS	0.004	20-23	-	-	12.50	-

of ICT and green technologies :

Technology name	Corridor	Mode of Transport	SuperGreen KPI	Impact compared to baseline [%]	
Hybrid trucks	VE03	Brenner	Road	Cost [euro/tk.m]	6% to 7%
				CO ₂ emissions [gr/tk.m]	25%
	Cloverleaf	Road	Cost KPI [euro/ tk.m]	13% to 23%	
				CO ₂ emissions [gr/tk.m]	-49% to 25%
Aerodynamic drag improvements	VE29	Brenner	Road	SOx emissions [gr/tk.m]	10% to 26%
				Cost [euro/tk.m]	3% to 4%
	Cloverleaf	Road	CO ₂ emissions [gr/tk.m]	13% to 25%	
				Cost KPI [euro/ tk.m]	2% to 8%
Exhaust abatement systems	EN21	Mare Nostrum	Maritime	Cost [euro / tk.m]	-4% to -1%
				SOx emissions [gr/ tk.m]	90% to 96%
	Strauss	IWW	Cost KPI [euro/tk.m]	0% to 1%	
				CO ₂ emissions [gr/tk.m]	-5% to 8%
LNG	FU08	Nureyev	Maritime	CO ₂ emissions [gr / tk.m]	10% to 20%
				SOx emissions [gr/ tk.m]	98% to 100%
	Strauss	IWW	CO ₂ emissions [gr / tk.m]	10% to 19%	
				SOx emissions [gr/tk.m]	95% to 100%
Route optimisation systems	NA16	Strauss	IWW	Cost KPI [euro/ tk.m]	1% to 1%
				CO ₂ emissions [gr/tk.m]	10% to 10%
			SOx emissions [gr/tk.m]	10% to 10%	
EREX	BP13	Cloverleaf	Railways	Cost KPI [euro/ tk.m]	1% to 100%
Braking energy recovery & On-board energy storage systems	LU13 & LU14	Silkway	Railways	CO ₂ [gr/ tk.m]	30% to 40%

=> recommendations / promotion of the technologies and practices with the most positive impact

=> impact assessment of European policies, e.g. e-Freight

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● What next ?

- Implementation on infrastructures : TEN-T developments
- Implementation on logistics operations
- Impact assessments of European policies

● Thank you for your attention

