The SuperGreen project

a project led by the
National Technical University of Athens (NTUA)

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7th Framework Programme

- Theme title: Transport (including Aeronautics)
- Type of project: Coordination and Support Action
- Project full title: Supporting EU's Freight Transport Logistics Action Plan on Green Corridors Issues
- Project acronym: SuperGreen

Background

Freight Transport Logistics Action Plan (2007)

- Green transport corridors for freight.
- Green Corridors should in all ways be environmentally friendly, safe and efficient.
- Emissions, internal as well as external costs should be considered.

Objectives

- ***Support and recommendations*** on Green Corridors to EU's Freight Transport Logistics Action Plan.
- ***Encourage co-modality*** for sustainable solutions.
- ***Overall benchmarking*** of Green Corridors based on selected KPIs covering all aspects related to transport operations and infrastructure (emissions, internal and external costs).
- Conduct a programme of ***networking activities between stakeholders*** to facilitate information exchange, dissemination of research results and communication of best practises and technologies.

Objectives, contd.

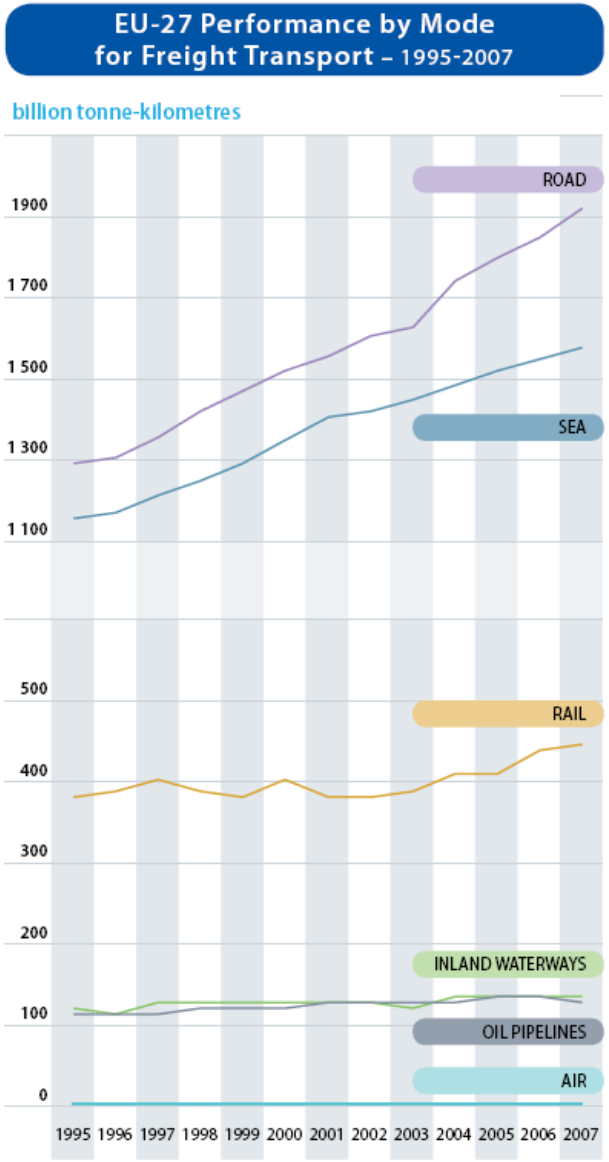
- ***Deliver studies*** addressing topics important for the further development of Green Corridors.
- ***Deliver policy recommendations*** at a European level for the further development of Green Corridors.
- Provide ***recommendations concerning new calls for R&D*** proposals to support development of Green Corridors (eliminate bottlenecks).

SuperGreen stakeholders

- transport operators
- terminal operators including ports
- infrastructure operators
- cargo owners (shippers)
- industry/consultants
- non Governmental Organisations (NGOs)
- environmental organisations
- authorities responsible for social and spatial planning
- R&D organisations and universities

All surface modes covered

- Road
- Rail
- Sea
- Inland Navigation



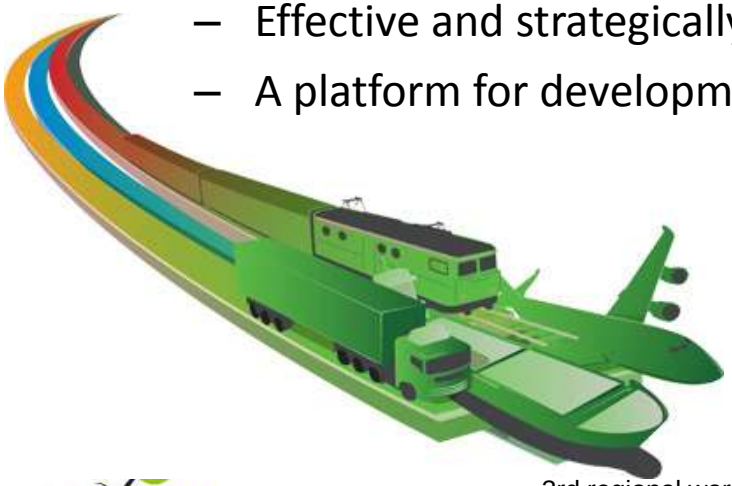
What is a green corridor?

EU Commission:

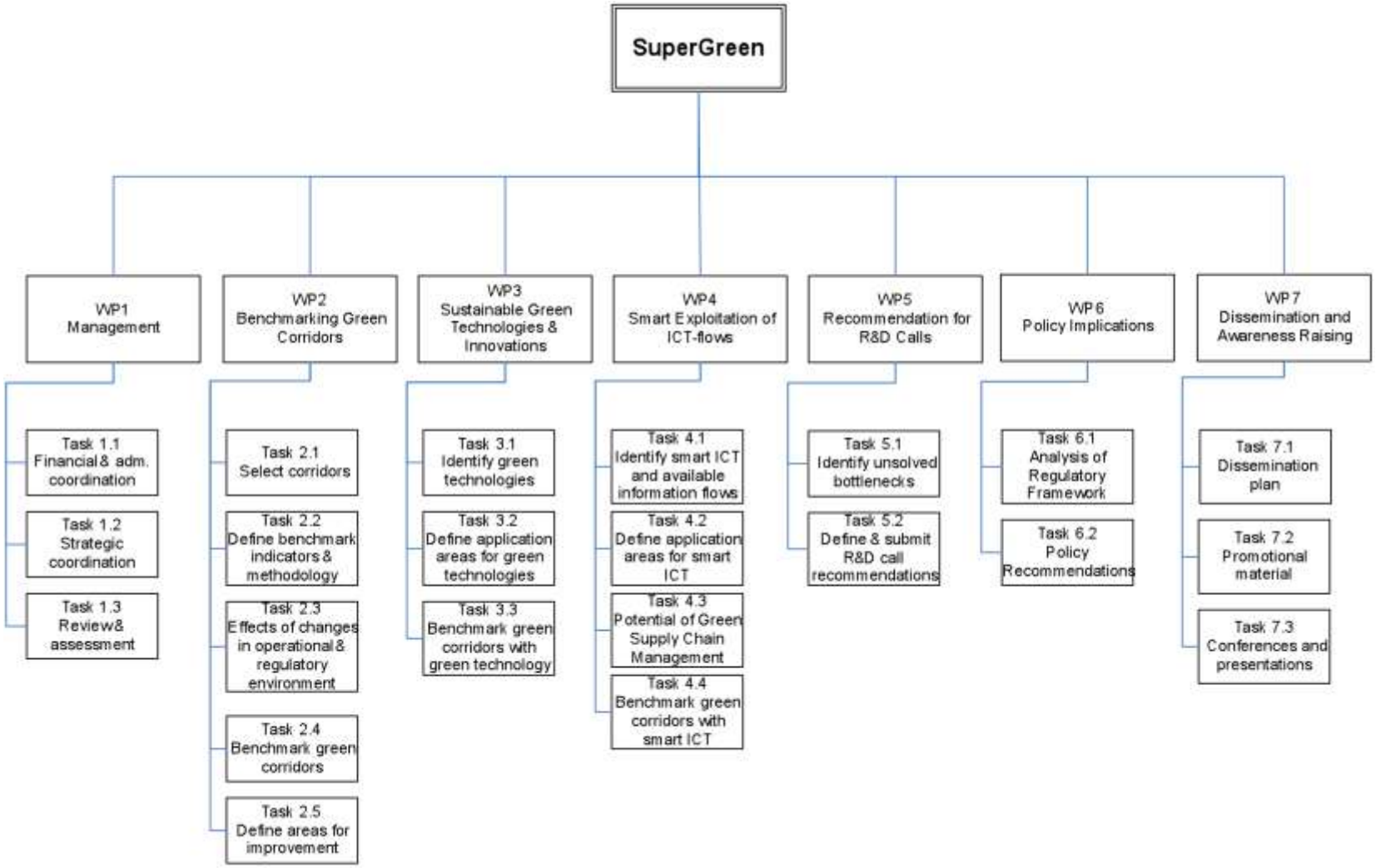
- Green Corridors are a European concept denoting long-distance freight transport corridors where advanced technology and co-modality are used to achieve energy efficiency and reduce environmental impact.

What is a green corridor?

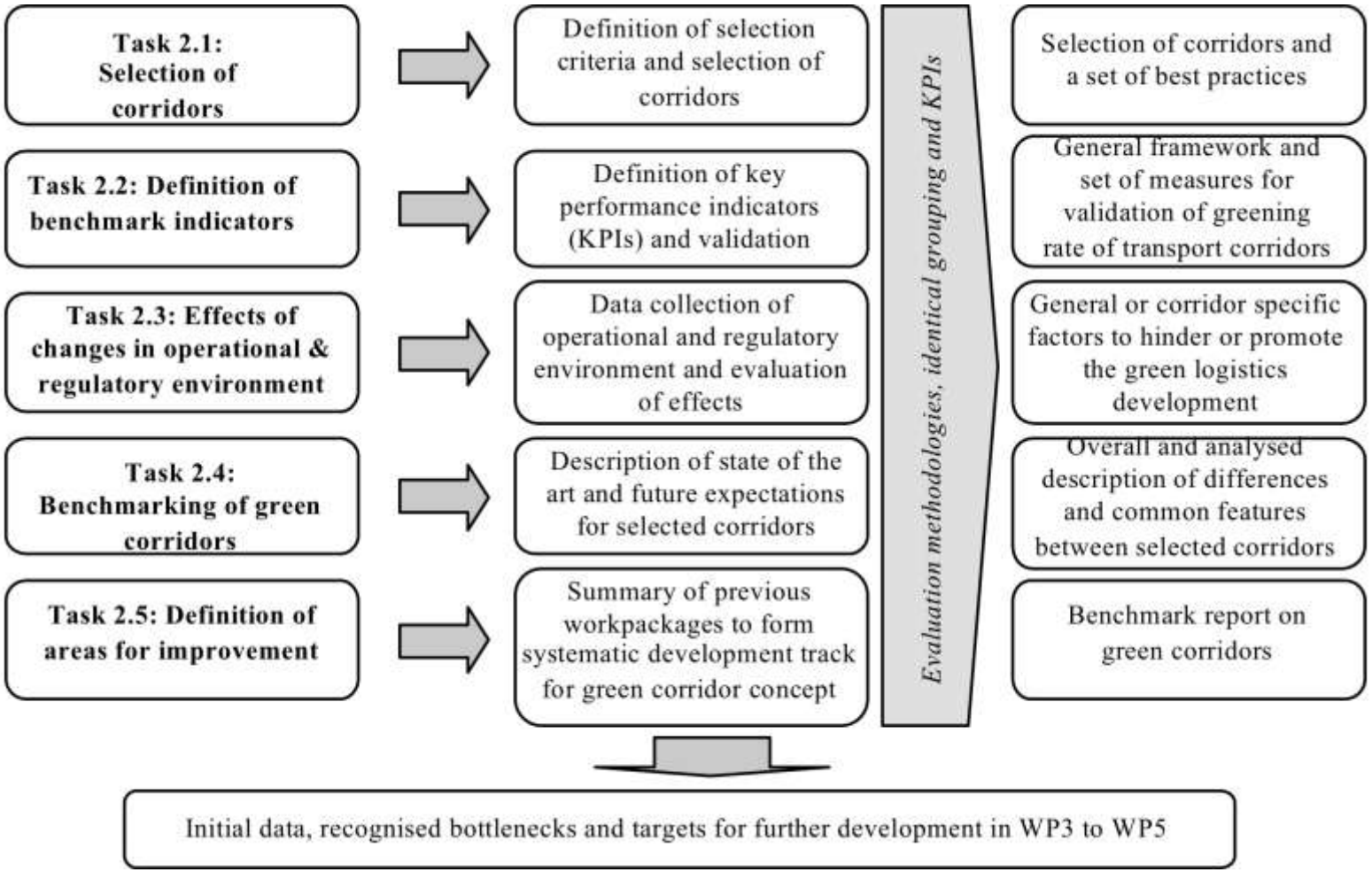
- Definition by the Swedish Ministry:
  A green transport corridor is characterised by:
  - Sustainable logistic solutions
  - Integrated logistic concepts with utilisation of comodality
  - A harmonised system of rules
  - National/international goods traffic on long transport stretches
  - Effective and strategically placed transshipment points and infrastructure
  - A platform for development and demonstration of innovative logistic solutions



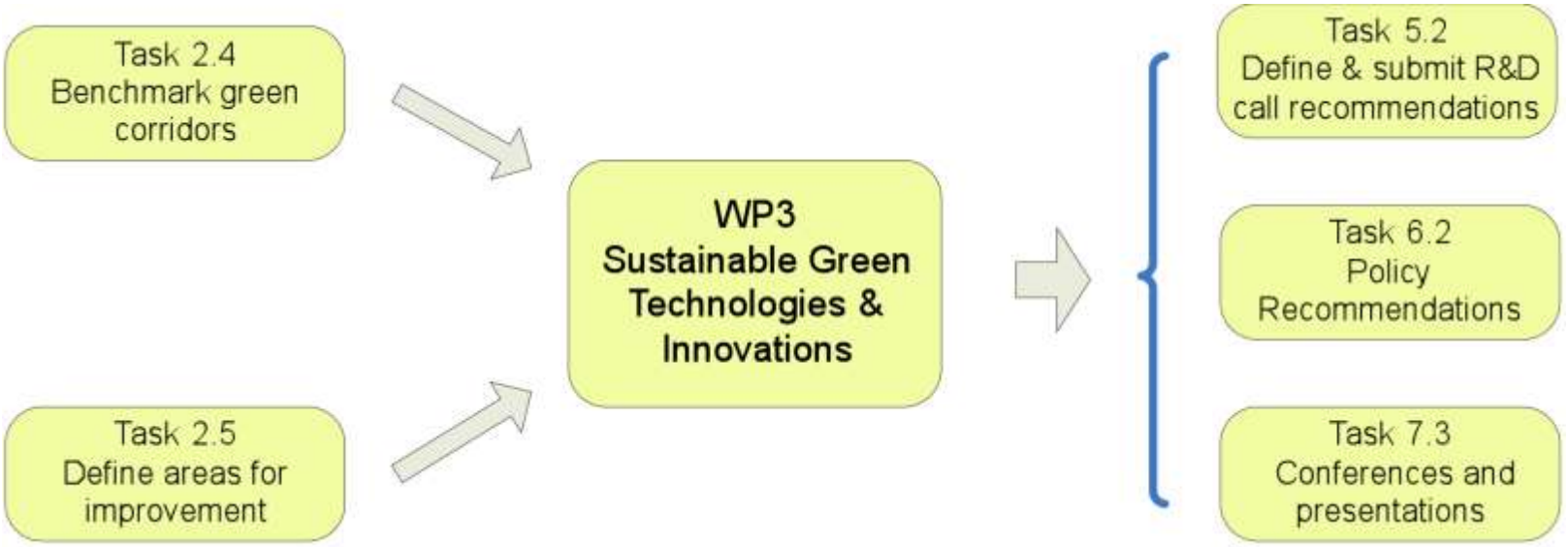
SuperGreen work package structure



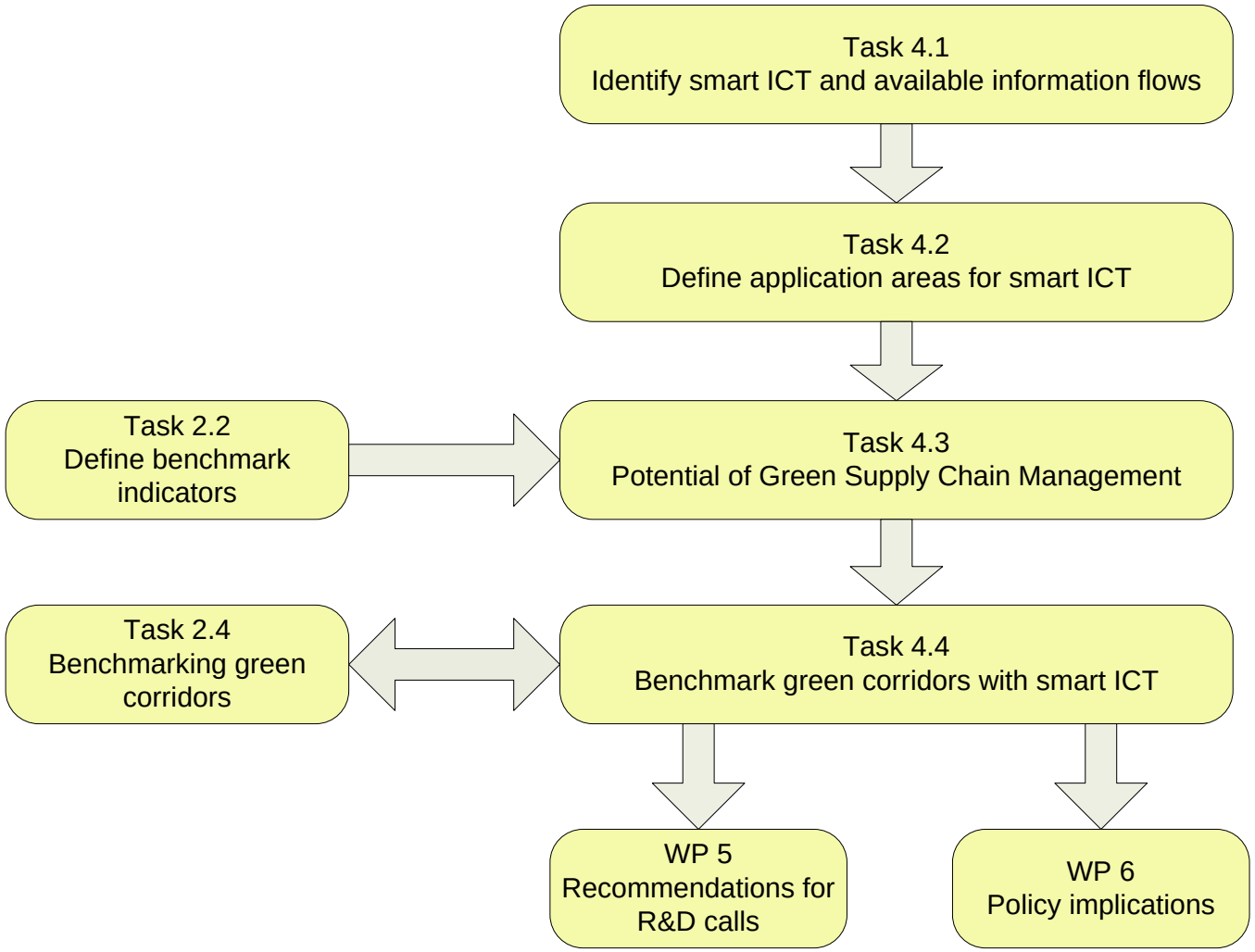
WP2: benchmarking green corridors



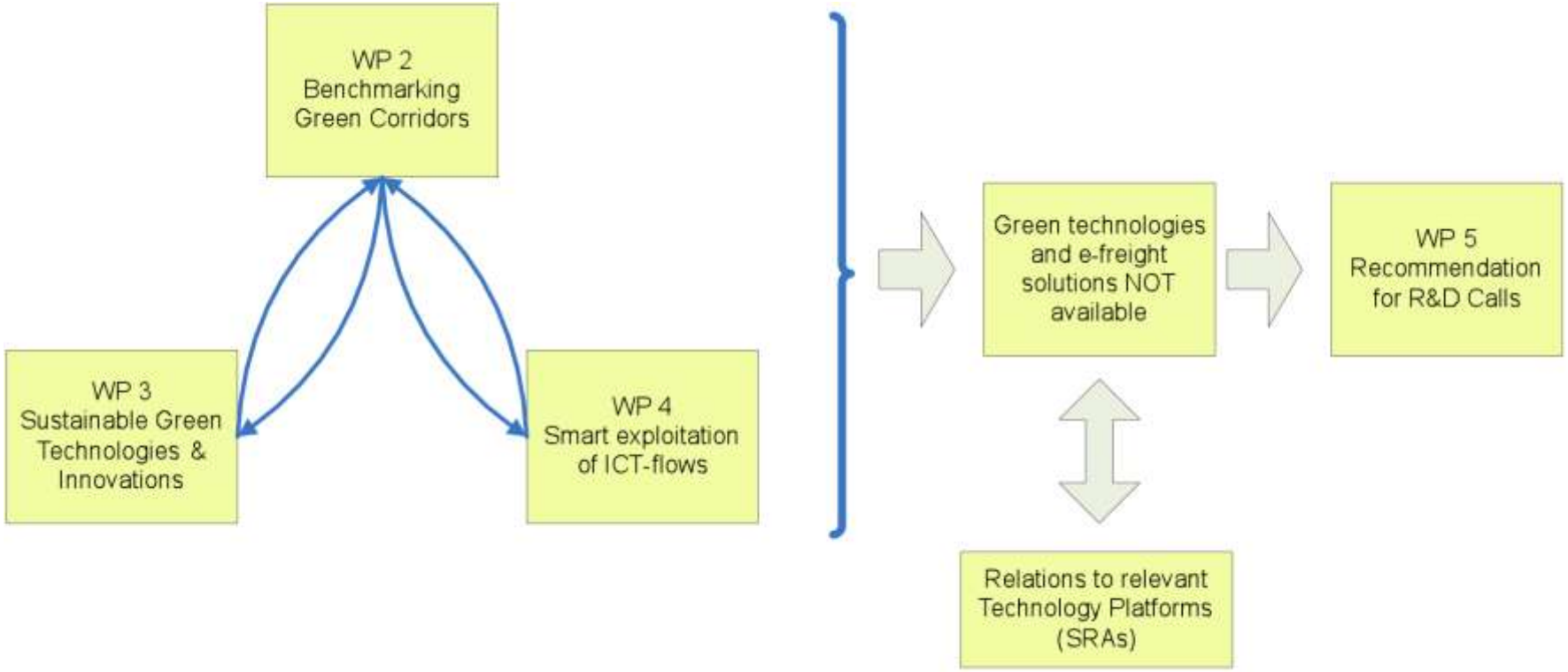
WP3: Sustainable green technologies and innovations



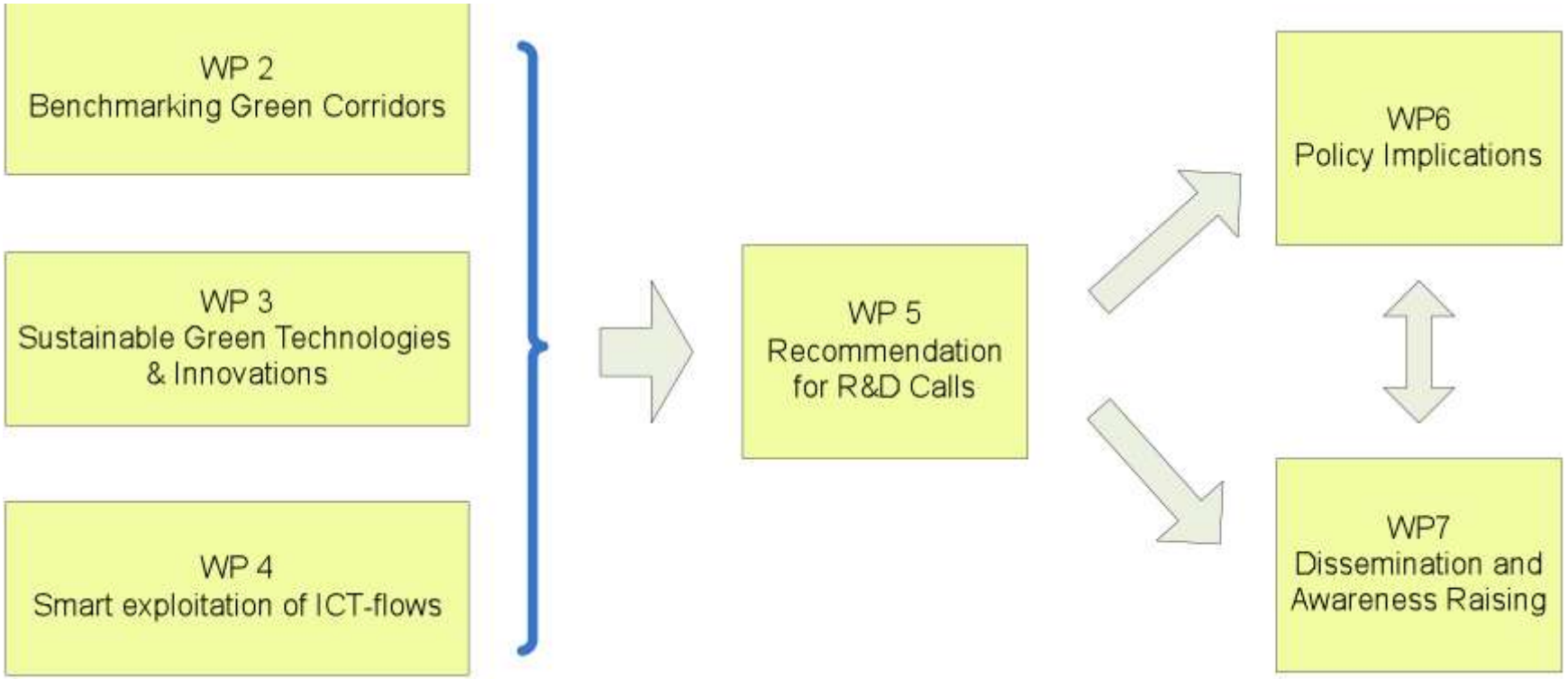
WP4: Smart exploitation of ICT flows



WP5: recommendation for R&D calls



WP6: Policy implications



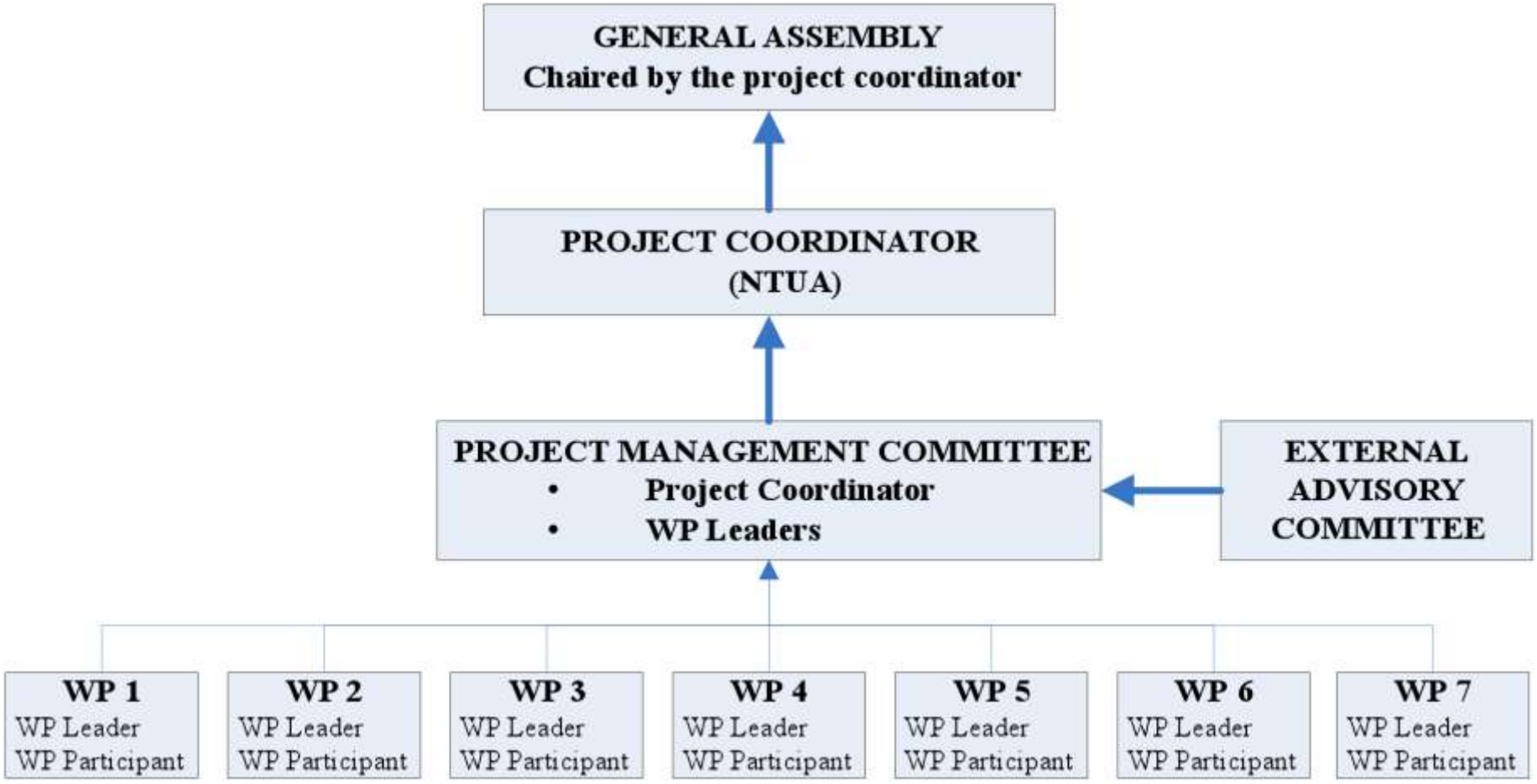
WP7: dissemination & awareness raising

- Dissemination plan
- Promotional material
  - Newsletter
  - Web site
- Friends email list
- Conferences and presentations
  - 3 major workshops, 4 technical

The consortium

Partner Number *	Partner name	Partner short name	Country
1 (Coordinator)	National Technical University of Athens	NTUA	Greece
2	Norsk Marinteknisk Forskningsinstitutt AS, MARINTEK	MAR	Norway
3	Sito Ltd (Finnish Consulting Engineers Ltd)	SITO	Finland
4	D'Appolonia S.p.A.	DAPP	Italy
5	Autoridad Portuaria de Gijon Gijón Port Authority-	PAG	Spain
6	DNV Det norske Veritas	DNV	Norway
7	via donau Österreichische Wasserstraßen-Gesellschaft mbH	VIA	Austria
8	NewRail - Newcastle University	UNEW	UK
9	CONSULTRANS	CONS	Spain
10	PSA Sines	PSAS	Portugal
11	Finnish Transport Agency	FMA	Finland
12	Straightway Finland Ry	SWAY	Finland
13	SNCF Fret Italia	SFI	Italy
14	Procter & Gamble Eurocor	PG	Belgium
15	VR Group	VRG	Finland
16	Lloyd's Register-Fairplay Research	LRFR	Sweden
17	Hellenic Shortsea Shipowners Association	HSSA	Greece
18	Dortmund University of Technology	DUT	Germany
19	TES Consult Ltd	TES	Ukraine
20	Turkish State Railways	TCDD	Turkey
21	DB Schenker AG	SCH	Germany
22	Norwegian Public Road Administration	NPRA	Norway

Organizational structure



Advisory Committee

- Unique feature of the SuperGreen project
- Purpose: provide independent advice and feedback on key issues related to the progress of the project, and to validate its main results.
- Will ensure key stakeholder input into the project.
- Is invited to participate in selected meetings and workshops.

NAME	Organisation
Herman de Meester	European Community Shipowners Association (ECSA)
Karin de Schepper	Inland Navigation Europe (INE)
Jacques Dirand	Community of European Railway and Infrastructure Companies (CER)
Rein Jüriado	European Commission, DG-MOVE (SuperGreen project officer)
Fuensanta Martinez Sans	ACEA-European Automotive Manufacturers Association
Manfred Reuter	Hamburg Port Authority
Algirdas Sakalys	Competence Centre of Intermodal Operators Transport and Logistics (CCITL) of Vilnius Gediminas Technical University (VGTU)
Jerker Sjögren	Ministry of Enterprise, Energy and Communications, Sweden
Nicolette van der Jagt	European Shippers Council (ECS)
Michel Violland	International Transport Forum (OECD)
Peter Wolters	European Intermodal Association (EIA)

Duration & budget

- Official start: 15 Jan. 2010
- Duration: 3 years
- Total budget: 3,453,747 EUR
- EC contribution: 2,634,698 EUR

WP2: benchmarking green corridors

Status

Thus far: 2 public deliverables

- D2.1: Selection of corridors
- D2.2: KPIs

- Both available at:

http://www.supergreenproject.eu/info.html

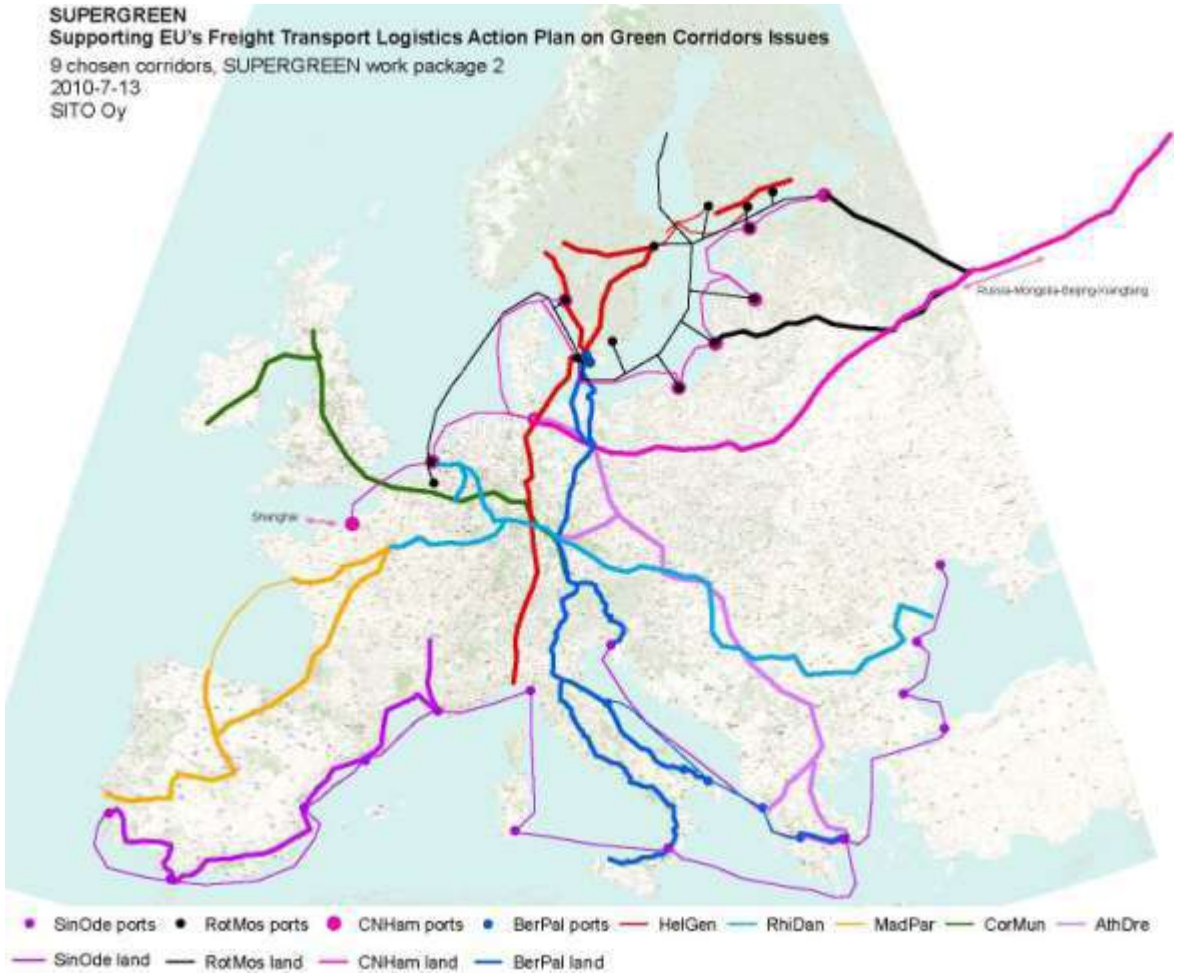
Issues to be addressed include

- Which corridors to select for study?
- What are the KPIs?
- How are selected corridors benchmarked?

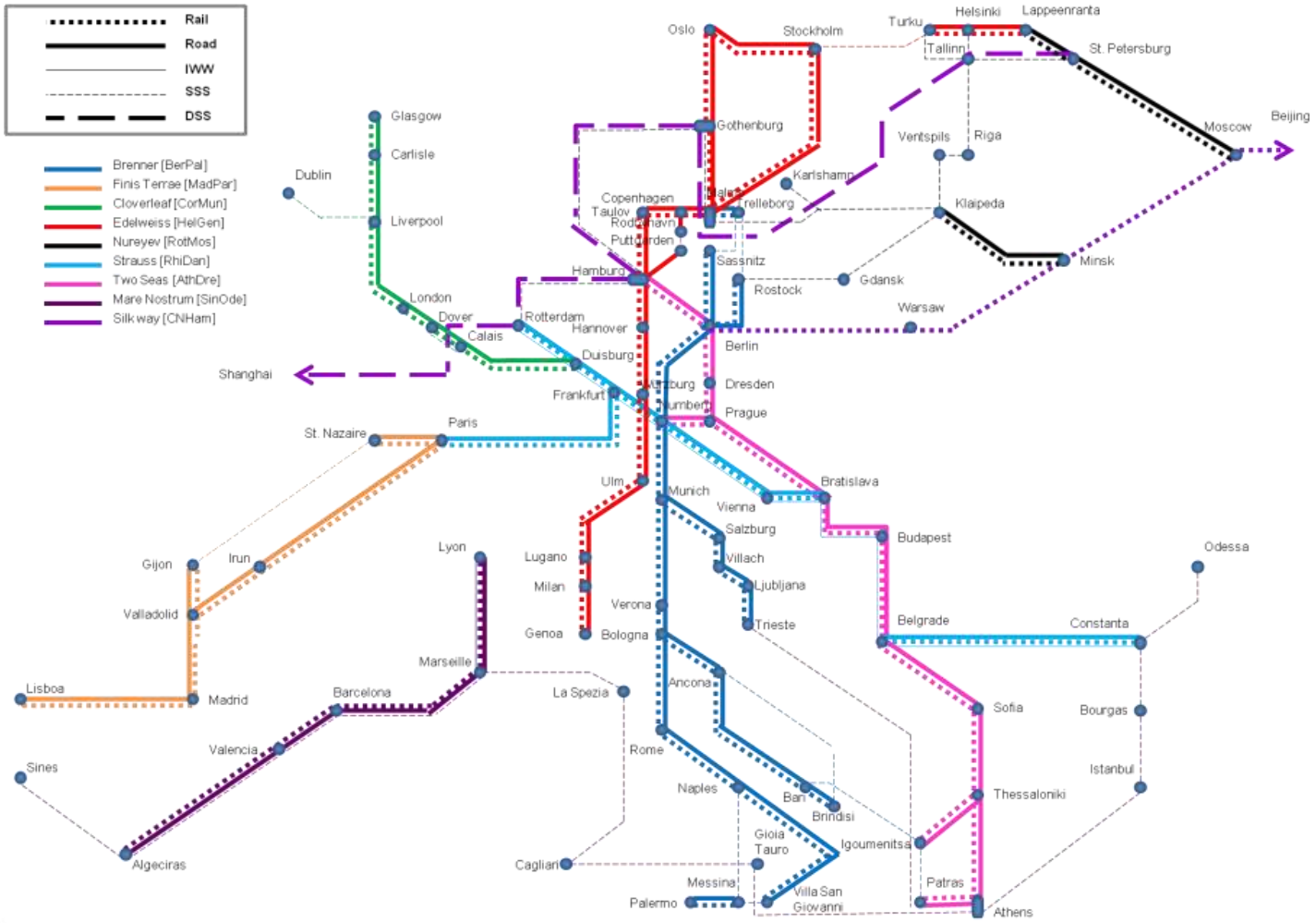
SuperGreen Corridors

BRIEF DESCRIPTION- BRANCHES	NICKNAME
Malmö-Trelleborg-Rostock/Sassnitz- Berlin-Munich-Salzburg-Verona-Bologna-Naples-Messina-Palermo Branch A: Salzburg-Villach-Trieste (Tauern axis) Branch B: Bologna-Ancona/Bari/Brindisi-Igoumenitsa/Patras-Athens	**Brenner**
Madrid-Gijon-Saint Nazaire-Paris Branch A: Madrid-Lisboa	**Finis Terrae**
Cork-Dublin-Belfast-Stranraer Branch A: Munich-Friedewald-Nuneaton Branch B: West Coast Main line	**Cloverleaf**
Helsinki-Turku-Stockholm-Oslo-Göteborg-Malmö-Copenhagen (Nordic triangle including the Oresund fixed link)- Fehmarnbelt - Milan - Genoa	**Edelweiss**
Motorway of Baltic sea Branch: St. Petersburg-Moscow-Minsk-Klapeida	**Nureyeev**
Rhine/Meuse-Main-Danube inland waterway axis Branch A: Betuwe line Branch B: Frankfurt-Paris	**Strauss**
Igoumenitsa/Patras-Athens-Sofia-Budapest-Vienna- Prague-Nurnberg/Dresden-Hamburg	**Two Seas**
Odessa-Constanta-Bourgas-Istanbul-Piraeus-Gioia Tauro-Cagliari-La Spezia-Marseille-Barcelona-Valencia-Sines Branch A: Algeciras-Valencia-Barcelona-Marseille-Lyon Branch B: Piraeus-Trieste	**Mare Nostrum**
Shanghai-Le Havre/Rotterdam-Hamburg/Göteborg-Gdansk-Baltic ports-Russia Branch:Xiangtang-Beijing-Mongolia-Russia-Belarus-Poland-Hamburg	**Silk Way**

SuperGreen Corridors ii



SuperGreen Corridors iii



Corridor equivalence

- “Scandria”: part of our “Brenner”
- “EWTC II”: part of our “Nureyev”

KPI areas: 5 groups

- Efficiency
- Service quality
- Environmental sustainability
- Infrastructural sufficiency
- Social issues

KPIs hierarchy

Efficiency	Absolute unit cost Relative Unit cost
Service quality	Transport time Reliability Frequency of service ICT applications Cargo security Cargo safety
Environmental sustainability	CO_2-eq SOx NOx PM
Infrastructure sufficiency	Congestion Bottlenecks
Social issues	Land use - urban areas Land use - sensitive areas Traffic safety Noise

Efficiency KPIs

- Absolute unit costs (€/tonne), used for comparisons of transport solutions on the same route. Also used to express costs incurred on nodes.

- Relative unit costs (€/tkm), used for comparisons of transport solutions either on different routes within the same corridor, or on different corridors.

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Service quality KPIs

- **Transport time**, expressed in either absolute terms (hours, days) or in relative terms (average speed)
- **Reliability**, expressed as the percentage of on-time deliveries
- **Frequency of service**, expressed as number of shipments available per week
- **ICT applications**, expressed as the assessed result of:
- *- Availability of tracking services on nodes/links*
- *- Integration & functionality of tracking services*
- *- Availability of other ICT services on nodes/links*
- *- Integration & functionality of other ICT services*
- **Cargo security**, expressed as percentage of security incidents over total number of shipments
- **Cargo safety**, expressed as percentage of safety incidents over total number of shipments

Environmental sustainability KPIs

- CO_2-eq
- SO_X
- NO_X
- $PM_{2.5}$ or PM_{10} (depending on data availability)

•Grams of emissions PER TONNE KM

•**NOTE: Load factor** is a most crucial parameter!

Infrastructural sufficiency KPIs

- Congestion, expressed in either absolute terms (average delay in hours) or in relative terms (ratio of average delay over total transport time). Alternatively congestion can be expressed in money terms, if the average delay is multiplied by a proper 'value of time'.

- Bottlenecks, expressed as the assessed result of an inventory of different types of bottlenecks per transport solution combined with information on ongoing and planned projects addressing removal or diminishing of the bottlenecks.

Social issues KPIs

- Land use – urban areas, expressed as the percentage of urban areas in a buffer zone formed by a 20 km radius from the median line of each corridor (use of CORINE Land Cover spatial dataset).
- Land use – sensitive areas, expressed as the percentage of environmentally sensitive areas in a buffer zone formed by a 20 km radius from the median line of each corridor (use of Natura 2000 spatial dataset).
- Traffic safety, expressed as the incident rate of accidents and/or fatalities over the total number of shipments or total transport work (ton-km).
- Noise, expressed as percentage of total distance exposed to noise levels above 50 dB (55 dB for rail transport).

Approach

- Initial selection of KPIs
- Development of (20-step) methodology
- Extensive solicitation of feedback from stakeholders on both KPIs and methodology
- Application to selected corridors (ongoing process)
- Projected end of WP2: July 2011

Stakeholder input

- Industry participation in stakeholder workshops
  - 1st plenary w/s: **Helsinki, 28 Jun. 2010**
  - 1st regional w/s: **Napoli, 19 Oct. 2010**
  - 2nd regional w/s: **Antwerp, 1 Feb. 2011**
  - 3rd regional w/s: **Malmö, 10 Mar. 2011**
  - 4th regional w/s: **Sines, 24 Mar. 2011**
  - 2 more plenary workshops (thru 2013)
- Through Advisory Committee
- Link with other projects and related activities

Stakeholder input ii

- **Input from stakeholders was obtained through a specially designed questionnaire**
- **1st Regional Workshop in Naples (19/10/2010)**

- The concept was welcomed
- The methodology was accepted in principle
- No need to aggregate corridor KPIs into a single indicator
- Need to associate KPIs to specific end-users
- KPIs are exhaustive but too many; need for further filtering
- No need to have a KPI on fair and open access to infrastructure

- **Advisory Committee meeting in Brussels (26/10/2010)**

- KPIs on infrastructure, land-use and ICT applications are inputs rather than outputs
- Scarcity costs for railways should be taken into consideration
- Use qualitative indicators when quantitative ones are not feasible
- Transit time, reliability and frequency are the most important indicator of the service quality group
- Data availability leaves much to be desired

Napoli w/s, 19 Oct. 2010

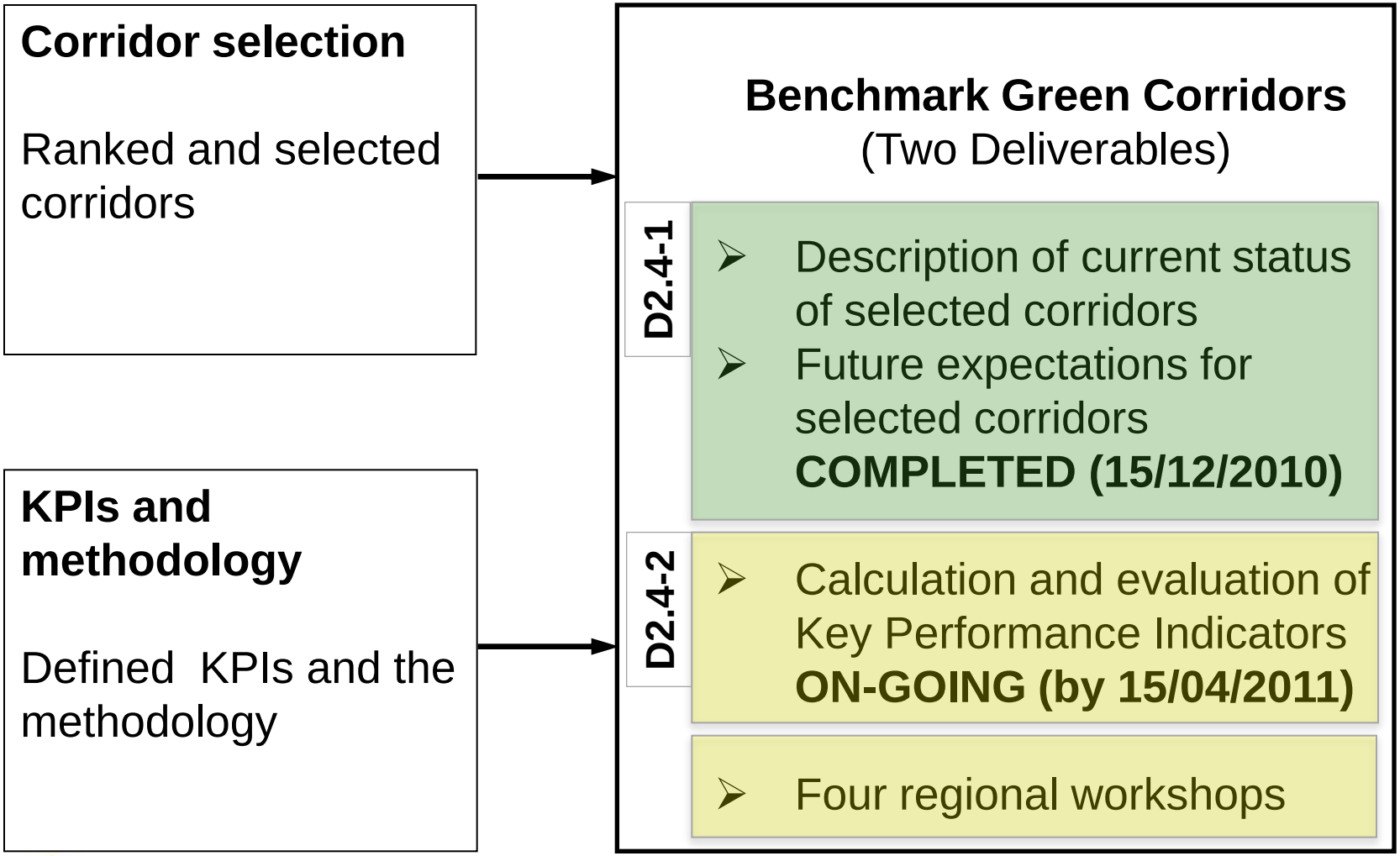
supergreen

26 Oct. 2010, Brussels

Consortium's ranking of KPI importance (provisional)

KPI	Input unit	Output unit	Assessment
Efficiency			
Absolute costs	ton, €	€/ton	3 Can manage without
Relative costs	ton, €, km	€/ton-km	1 Must have
Service quality			
Transport time	hours	hours	1 Must have
Reliability	Total number of shipments, On-time deliveries	%	1 Must have
ICT appl.	Availability, integration & functionality of cargo tracking & other services	graded scale	2 Prefer to have
Frequency	Services per week	number	1 Must have
Cargo security	Total number of shipments, Security incidents	%	2 Prefer to have
Cargo safety	Total number of shipments, Cargo safety incidents	%	2 Prefer to have
Environmental sustainability			
CO_2 emissions	ton, km	g/ton-km	1 Must have
NO_X emissions	kg, km	g/1,000 ton-km	1 Must have
SO_X emissions	kg, km	g/1,000 ton-km	2 Prefer to have
PM emissions	kg, km	g/1,000 ton-km	2 Prefer to have
Infrastructural sufficiency			
Congestion	ton, km, Average delay	hours/ton-km	2 Prefer to have
Bottlenecks	number & category	graded scale	2 Prefer to have
Social			
Corridor land use	Share of distance per area type	percent	2 Prefer to have
Traffic safety	Traffic safety incidents	percent	2 Prefer to have
Noise	Share of distance above level	percent	2 Prefer to have

Benchmark Green Corridors

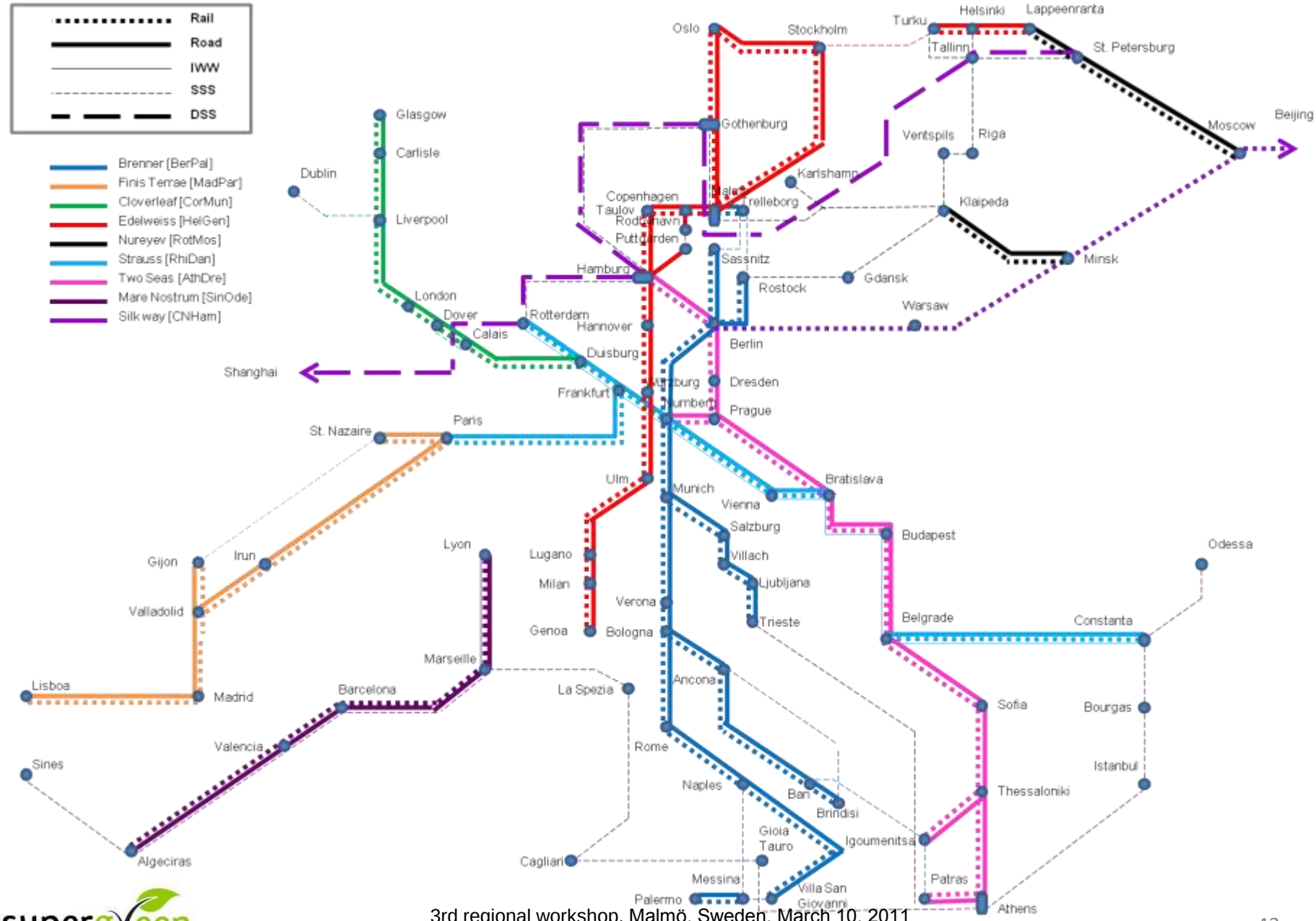


Description of corridors

(Example corridor matrix of Two Seas)

Mode : 1= rail, 2= road, 3=SSS, 4=DSS, 5=IWW, 6= rail+road, 7=rail+SSS, 8=rail+road+IWW, 9=IWW+rail

Node name	Node id	Igoumenitsa	Patras	Athens	Thessaloniki	Sofia	Budapest	Bratislava	Vienna	Prague	Nurnberg	Dresden	Berlin	Hamburg
Igoumenitsa	18													
Patras	19													
Athens	20		6											
Thessaloniki	91	2		6										
Sofia	50				6									
Budapest	51					6								
Bratislava	52						6							
Vienna	92							6						
Prague	53							6						
Nurnberg	54									6				
Dresden	55									6				
Berlin	5											6		
Hamburg	56												6	


Rail
Road
IWW
SSS
DSS
Brenner [BerPal]
Finis Terrae [MadPar]
Cloverleaf [CorMun]
Edelweiss [HelGen]
Nureyev [RotMos]
Strauss [RhiDan]
Two Seas [AthDre]
Mare Nostrum [SinOde]
Silk way [CNHam]
Oslo
Stockholm
Turku
Helsinki
Lappeenranta
Tallinn
St. Petersburg
Moscow
Beijing
Ventspils
Riga
Karlshamn
Klaipeda
Minsk
Gothenburg
Copenhagen
Taulov
Rodbyhavn
Puttgarden
Rostock
Gdansk
Warsaw
Berlin
Hamburg
Hannover
Duisburg
Frankfurt
Dresden
Prague
Nürnberg
Glasgow
Carlisle
Dublin
Liverpool
London
Dover
Calais
Rotterdam
Shanghai
St. Nazaire
Paris
Ulm
Munich
Vienna
Bratislava
Budapest
Salzburg
Villach
Ljubljana
Trieste
Lugano
Milan
Verona
Genoa
Bologna
Lyon
Gijon
Irun
Valladolid
Lisboa
Madrid
Barcelona
Marseille
La Spezia
Ancona
Rome
Naples
Bari
Brindisi
Gioia Tauro
Cagliari
Messina
Palermo
Villa San Giovanni
Algeciras
Sines
Valencia
Belgrade
Constanta
Odessa
Sofia
Bourgas
Istanbul
Thessaloniki
Igoumenitsa
Patras
Athens

Data Collection and Tools

- The first round of data collection has been completed
  - Identified needs of green technologies, ICT solutions and/or policy interventions over the corridors
  - General data, e.g. identified freight volumes and distances
- EcoTransIT World has been chosen as an emission calculator

Calculation and evaluation of KPIs

Started end of November 2010

Two phases:

- Assessment of KPIs at the level of transport chains using the corridor under examination
  - Guidelines and a questionnaire for data collection on transport chains through interviews has been developed
  - Brenner Corridor has been tested as a pilot case
  - Pilot results consulted with stakeholders in Antwerp
  - Evaluation and calculation of KPIs for the other corridors
- Aggregating transport chain level KPIs at the corridor level

Assessment of KPIs at transport chain level

For each selected corridor ->

Step 1: Identification of the critical corridor segment
Step 2: Cargo flows along the critical segment
Step 3: Selection of typical cargoes
Step 4: Selection of typical transport chains (10-15)
Step 5: Description of vehicles used
Step 6: Evaluation of selected KPIs on typical transport chains

Assessment of KPIs at transport chain level ii

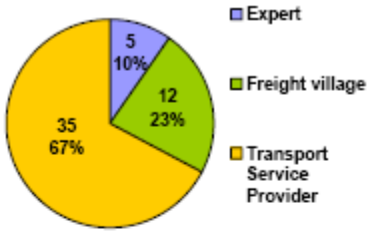
- Evaluation of KPIs is based on interviews with shippers, 3PLs, TSPs, Freight Villages, etc…

- e-mail with brief explanation of project and activity to perform
- phone call to ask information about the availability for the interview
- e-mail with the predesigned questionnaire to fill in
- phone call(s) to collect information and data

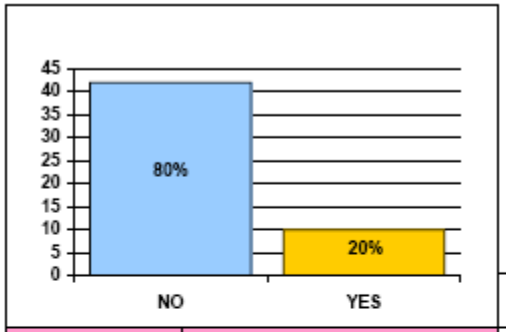
- Using EcoTransIT World for estimating emissions on identified transport chains

Pilot case Brenner

Interviews:



Contacted Companies	
Type of Contact	Total
Expert	5
Freight village	12
Transport Service Provider	35
Total	*52*



Data provided		Type of Contact: Expert	Freight village	Transport Service Provider	Total
No	Confidential data			4	4
	Difficulty to provide data	2	3	6	11
	Not available to provide data		2	12	14
	Starting operational phase		5		5
	Not Useful - Corridor not covered		1	5	6
	Fee requested	1		1	2
	Total	3	11	17	42
Yes	Only KPIs	2			2
	Transport chain+KPIs		1	7	8
	Total	2	1	7	10
	Total	5	12	35	52

Pilot case Brenner ii

TC no	Origin – Destination	Mode	Annual volume (t)	Key Performance Indicators (KPIs)												
				Cost EUR/tkm	Delivery time (h)	Emissions				Reliability	Frequency (If possible no per year)	ICT applications	Cargo Security	Cargo Safety	Congestion	Bottlenecks
						CO2 eq	NOx	SOx	PM10							
1	Verona – Naples	Train	61000	-	12	17,61	0,02	0,09	0,006	92%	260	100%	0%	0%	8%	4
2	Verona – Nurnberg	Train	500000	0,8	9	14,87	0,01	0,05	0,004	50%	260	100%	0%	0%	50%	3
3	Verona – Nurnberg	Train	2700000	0,05	9	14,87	0,01	0,05	0,004	100%	572	100%	0%	0%	50%	3
4	Verona – Berlin*	Road	1100	0,07	25	71,86	0,51	0,08	0,013	50%	2600	0%	0%	0%	50%	1
5	Rome – Nurnberg*	Road	32000	0,05	48	62,08	0,47	0,07	0,013	80%	104	100%	0%	0%	4%	2
6	Rome – Palermo*	SSS	1.500	0,04	24	16,99	0,25	0,12	0,018	100%	52	100%	0%	0%	0%	0
7	Roma – Palermo*	Road	<100	1	48	61,64	0,46	0,07	0,013	25%	52	100%	0%	0%	100%	1
8	Verona – Trelleborg	Train - SSS	13000	0,035	50	10,62	0,01	0,02	0,002	98,80%	624	100%	0,50%	2%	0%	1
9	Bari – Athens*	Road - SSS	10000	0,036	72-96	27,28	0,18	0,08	0,008	95%	52	100%	<0,5	0%	0%	1
10	Bari – Thessaloniki*	SSS - Road	3000	0,028	72-96	42,11	0,29	0,10	0,011	95%	26	100%	<0,5	0%	0%	0
11	Trieste – Munich	Train	81000	-	12	12,53	0,01	0,04	0,003	85%	416	100%	1%	1%	5%	2
12	Trieste – Salzburg	Train	652500	-	8	9,49	0,01	0,05	0,003	90%	208	100%	1%	1%	10%	1
13	Trieste – Villach	Train	135600	-	4	16,36	0,02	0,09	0,006	95%	364	100%	1%	1%	5%	1
14	Berlin – Thessaloniki	Road - SSS	437	0,092	76	27,11	0,19	0,06	0,006	99%	104	0%	<1%	1%	5.88%	2
15	Bari - Berlino	Road	24000	0,05	72	46,51	0,11	0,05	0,004	99%	1040	100%	0%	0%	2%	0
16	Bari - Athens	Road	8500	0,05	24	47,83	0,12	0,05	0,004	99%	520	100%	0%	0%	0%	0

Pilot case Brenner iii

	Intermodal	Road	Rail	SSS*
CO2 (g/tkm)	10.62-42.11	45.51-71.86	9.49-17.61	16.99
Cost (€/tkm)	0.028-0.092	0.05-0.06	0.05-0.80	0.04
Reliability **	95-99	60-99	60-95	100
Frequency	26-624	52-2600	208-572	52

Nureyev

TC no	Origin – Destination	Mode	Annual volume (t)	Key Performance Indicators (KPIs)												
				Cost EUR/tkm	Delivery time (h)	Emissions (g/tkm)				Reliability	Frequency (If possible no per year)	ICT applications	Cargo Security	Cargo Safety	Congestion	Bottlenecks
						CO2 eq	NOx	SOx	PM10							
1	Hamburg-Moscow	IT	600 000	0,179 eur	120	33,36	0,34	0,15	0,02	90%	360	100%	0,1%	1 %	10%	2
2	Hamburg-Moscow	IT	300 000	0,158 eur	168	16,02	0,13	0,03	0,01	90%	360	100%	0,1%	1%	10%	2
3	Hamburg-Moscow	IT	1 000 000	0,152 eur	120	28,71	0,28	0,12	0,01	90%	360	100%	0%	1%	30%	2
4	Hamburg-St.Petersburg	SSS	125 000	-	120	5,65	0,12	0,07	0,01	90%	156	100%	0,1%	1%	10%	2
5	Rotterdam-Helsinki	SSS	1 000 000	0,051 eur	72	10,48	0,23	0,14	0,02	90%	360	100%	0,1%	1%	10 %	1
6	Hamburg-Helsinki	IT	2 000 000	0,099 eur	28,5	13,43	0,24	0,13	0,02	90%	360	100%	0,1%	1%	10%	1
7	Gothenburg-Rotterdam	SSS	230 000	-	48	10,46	0,23	0,14	0,02	90%	156	100%	0%	1%	1%	0
8	Rotterdam-Moscow	IT	1 000 000	0,130 eur	96	25,82	0,28	0,12	0,01	80%	156	100%	0%	0%	40%	1
9	Hamburg-Helsinki	SSS	230 000	0,064 eur	60	10,15	0,23	0,14	0,02	90%	360	100%	0,1%	1%	10%	1
10	St.Petersburg-Helsinki	SSS	190 000	-	24	15,60	0,26	0,14	0,02	99,9%	52	0%	0%	0%	0%	0

Qualitative indicators are marked in red

Nureyev ii

	Intermodal	Road	Rail	SSS
CO2 (g/tkm)	13.43-33.36	-	-	5.65-15.60
Cost (€/tkm)	0.10-0.179	-	-	0.05-0.06
Reliability	80-90	-	-	90-99.9
Frequency	156-360	-	-	52-360

Cloverleaf

TC no	Origin – Destination	Mode	Annual volume (t)	Key Performance Indicators (KPIs)											
				Cost EUR/tkm	Delivery time (h)	Emissions (g/tkm)				Reliability	Frequency (If possible no per year)	ICT applications	Cargo Security	Cargo Safety	Congestion	Bottlenecks
						CO2 eq	NOx	SOx	PM10							
1	Rugby-Carlisle	Rail	194,000	n/a	8	18.45	0.016	0.014	0.0014	97%	312	0	0	0	37.50%	3
2	Midlands-Glasgow	Rail	78,000	0.05	10	18.46	0.016	0.014	0.0014	98%	156	0	0	0	5%	0
3	Duisburg-Midlands	Rail	68,000	0.095	20	13.14	0.017	0.021	0.0018	90%	156	0	0	0	20%	1
4	Midlands-Glasgow	Rail	480,000	n/a	8	18.46	0.016	0.014	0.0014	98%	364	own	0	0	40%	2
5	Dusiburg-London	Road	112,350	0.06	10	68.81	0.505	0.091	0.0153	80%	4680	own	3%	1-2%	20-25%	3
6	London-Glasgow	Road	n/a	n/a	12	n/a	n/a	n/a	n/a	90%	n/a	own	1%	1%	20-25%	4

Qualitative indicators are marked in red

Cloverleaf ii

	Intermodal	Road *	Rail	SSS
CO2 (g/tkm)	-	68.81	13.14-18.46	-
Cost (€/tkm)	-	0.06	0.05-0.09	-
Reliability	-	80-90	90-98	-
Frequency	-	4680	156-364	-

* One transport chain evaluated

Finalization of the task

- Finalization of calculation of transport chain level KPIs for each corridor
  - using reduced number of transport chains (3-4)
  - focus on quality data
  - using six corridors for testing purposes

- Interpret the results: why difference in KPIs? What are the main factors? What do they mean?

- Dig into raw data

- Connect with other WPs (WP3: technologies, WP4: ICT)

- one more regional workshop (Sines, March 24)

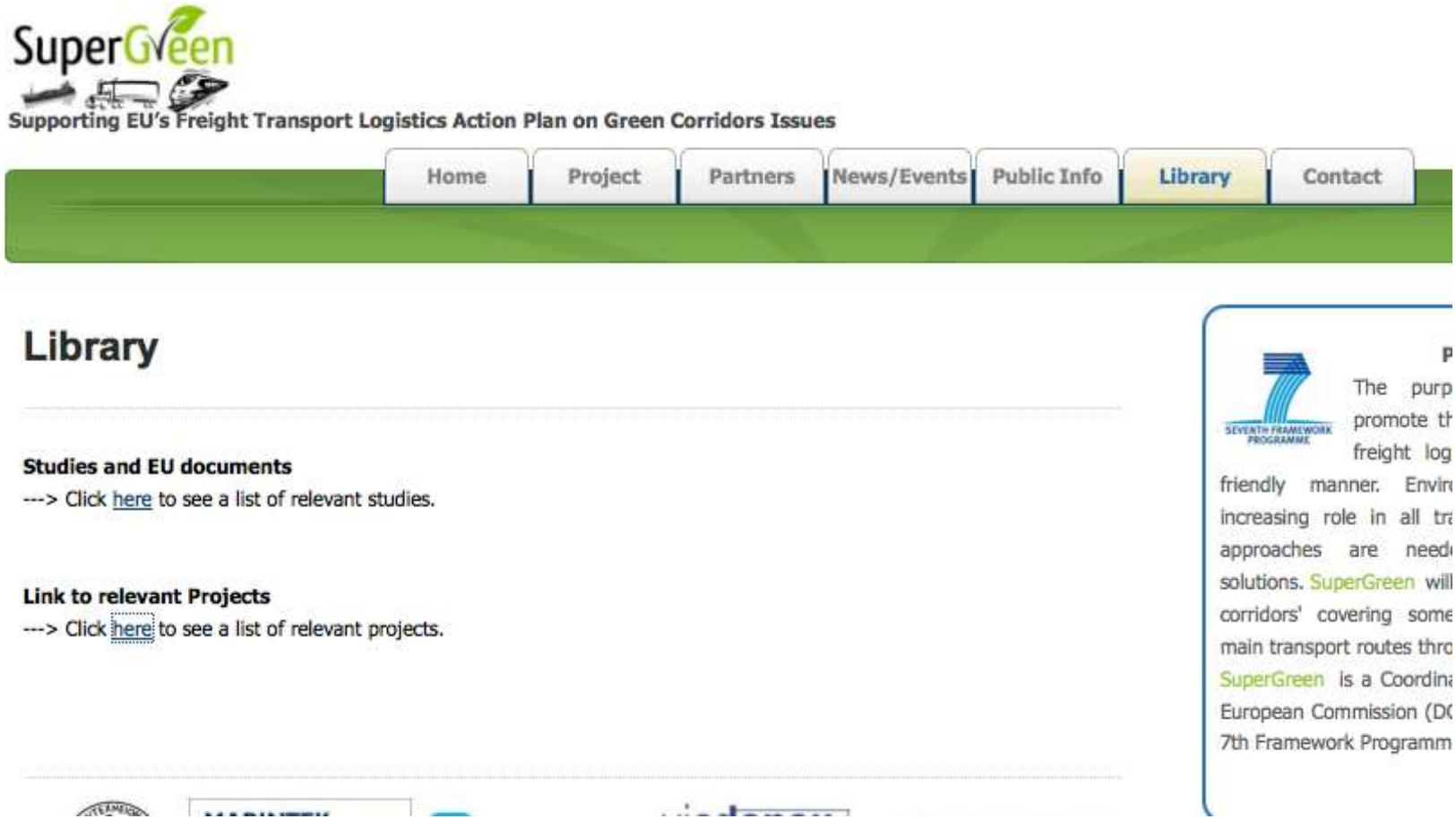
Smart ways to get connected

- Give us a call or send an email!

- Send an email to supergreen@martrans.org

  (SuperGreen friends email list: keeping track of the project)
- Visit our web site www.supergreenproject.eu

Library section of site



Events in which SuperGreen was presented

- EC Green corridor conference, Brussels, Dec. 2009
- Green corridor conference, Gothenburg, Sweden, May 2010
- Green corridor conference, Malmo, Sweden, May 2010
- Europe Maritime Day conference, Gijon, Spain, May 2010,
- TEN-T conference, Zaragoza, Spain, June 2010
- EIRAC conference, Wiesbaden, June 2010
- AIRO conference, Villa San Giovanni, Italy, September 2010
- Trans-Baltic conference, Gdansk, Poland, September 2010
- ECO-TRANSIT conference, Paris, France, October 2010
- ECITL conference, Bremen, Germany, November 2010
- Port Integration conference, Ancona, Italy, November 2010

Forthcoming events in 2011

- March 24: 4th regional workshop, Sines, Portugal

- September 12: 2nd plenary workshop, Genoa, Italy

  (villa Pagoda)

Thank You!

WWW.SUPERGREENPROJECT.EU