



Cooperation between group of manufacturing and transport enterprises in the sphere of transport processes



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GOAL

To present the advantages of the cooperation in the area of joint organisation of transport processes (on the basis of real data analysis) that would cause positive effect on enterprise`s activity in the short and long term (load factor) and also on the region in which the enterprise operates (environmental and social aspects).

AGENDA

- **Introduction** – why is it worth co-sharing supplies?
 - ✓ possible solutions and advantages for users
 - ✓ organisation and technical requirements
 - ✓ business case study from ECR Poland
 - ✓ conclusions





The DiSCwise project aims to Develop, Demonstrate and Deploy a Reference Architecture for Interoperability in the Transport and Logistics Sector in an effort to achieve:

- Integration of small and medium sized transport service providers into efficient door-to-door supply chains at cost affordable to them.
- Facilitating a more sustainable European logistics by enabling transport users (large and small) to select environment-friendly alternatives.
- Making European supply chains more efficient by providing state-of-the-art tracking and management capabilities.

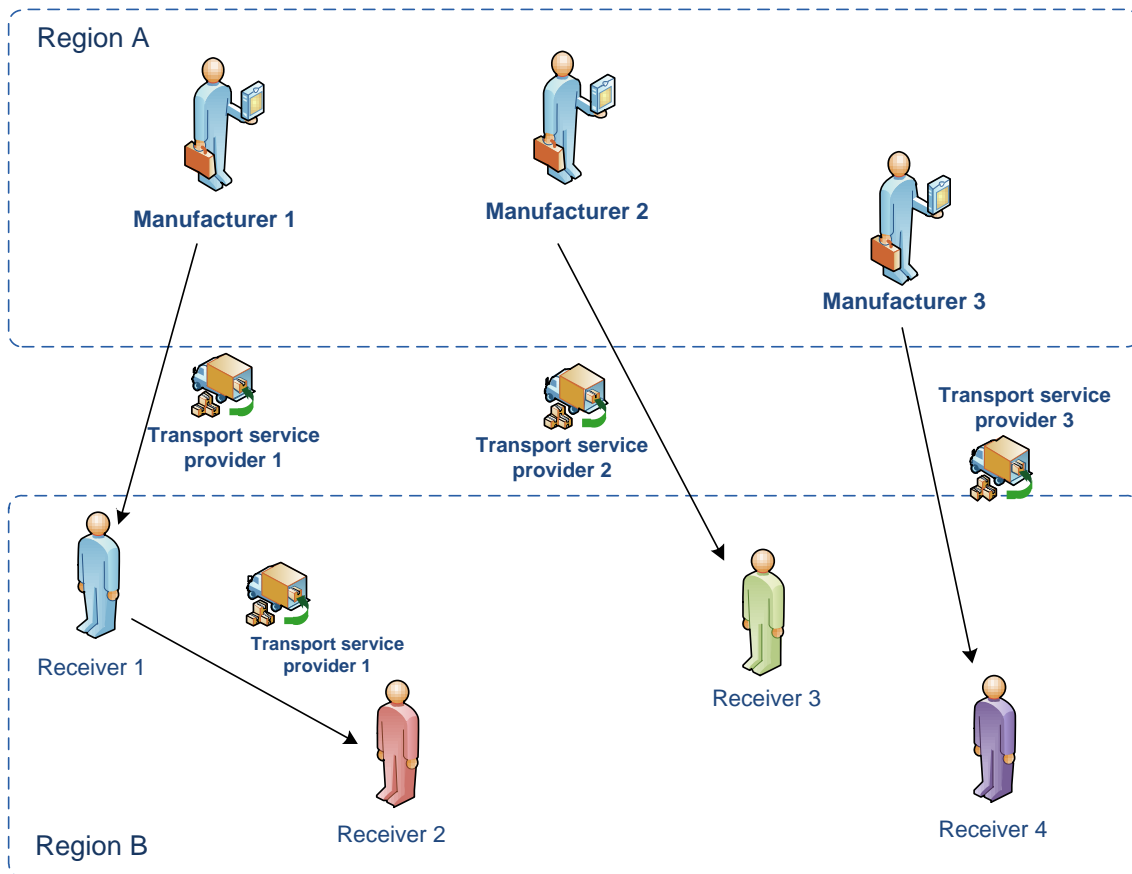
The DiSCwise project is funded by DG Enterprise and supports EU's Freight Transport Logistics Action Plan.



Members in Poland



CURRENT SITUATION



EXPECTATIONS

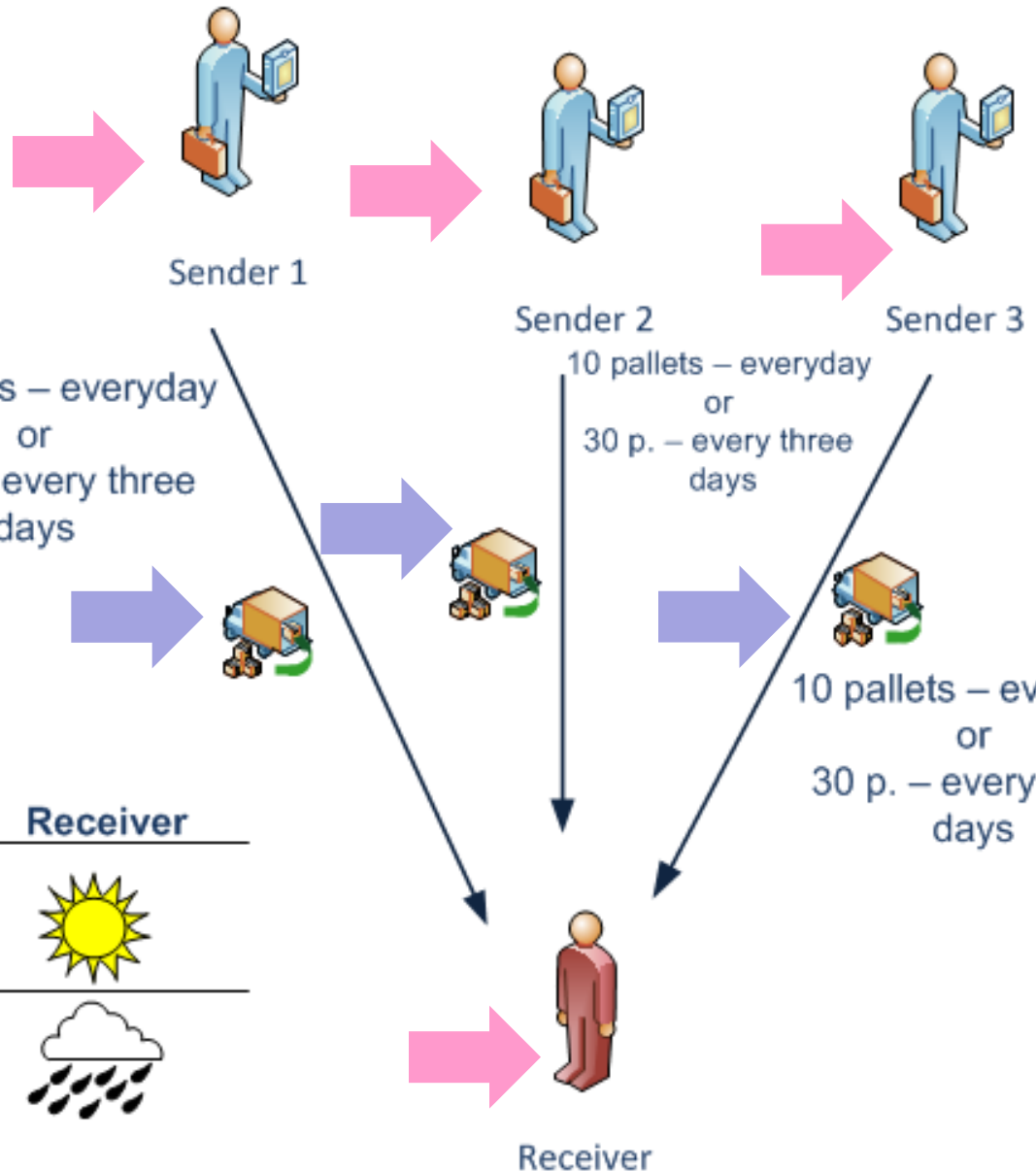
- reduce transport costs
- increase effectiveness of realised logistics processes
- increase companies' competitiveness
- reduce congestion



Constraints

Individual standards for description of senders' and receivers' localisation, errors and mistakes in databases, dispersed information

Current situation



Constraints

Monitoring at local level – individually by transport service providers

Effects (costs)

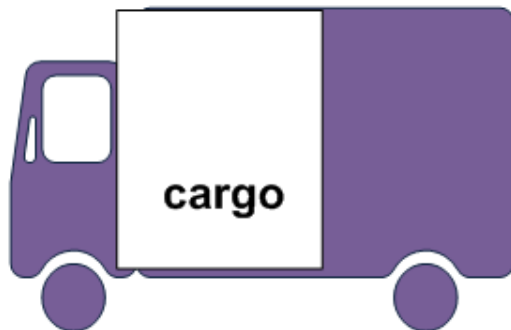
	Sender	Receiver
Everyday supply		
Every three days supply		



CURRENT SITUATION

Load factor

Poor – high transport cost per transport unit



Good – acceptable transport cost per transport unit



Very good – the lowest transport cost per transport unit



GOAL

HOW?

	Sender	Receiver
Everyday supply		

CURRENT SITUATION

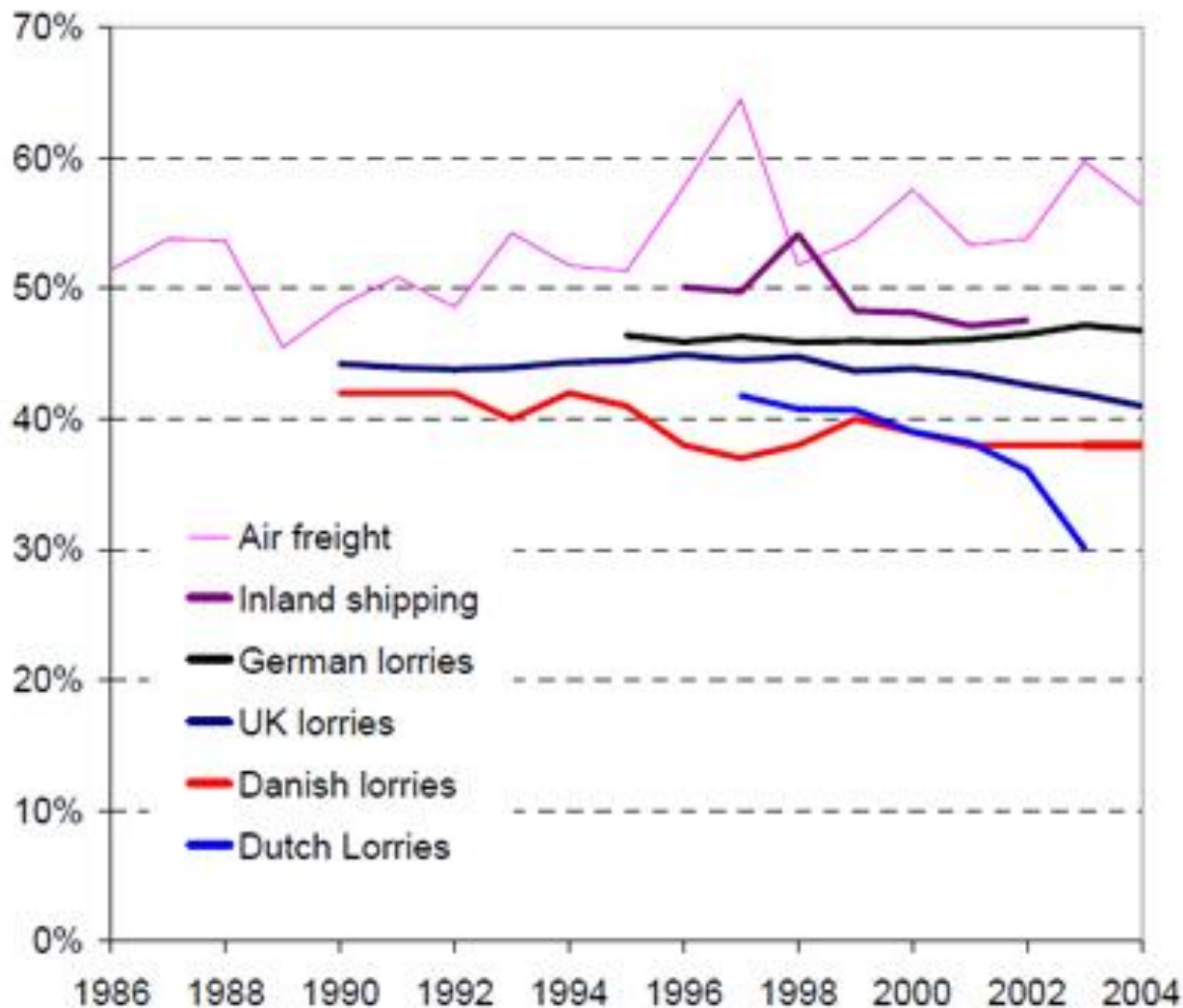


Figure 1 Load factors in freight transport

Source: TERM 2005 Load factors for freight transport, European Environmental Agency, 2005.



Goal



Sender 1

Sender 2

Sender 3

Consolidation point

Warehouse

30 pallets – everyday

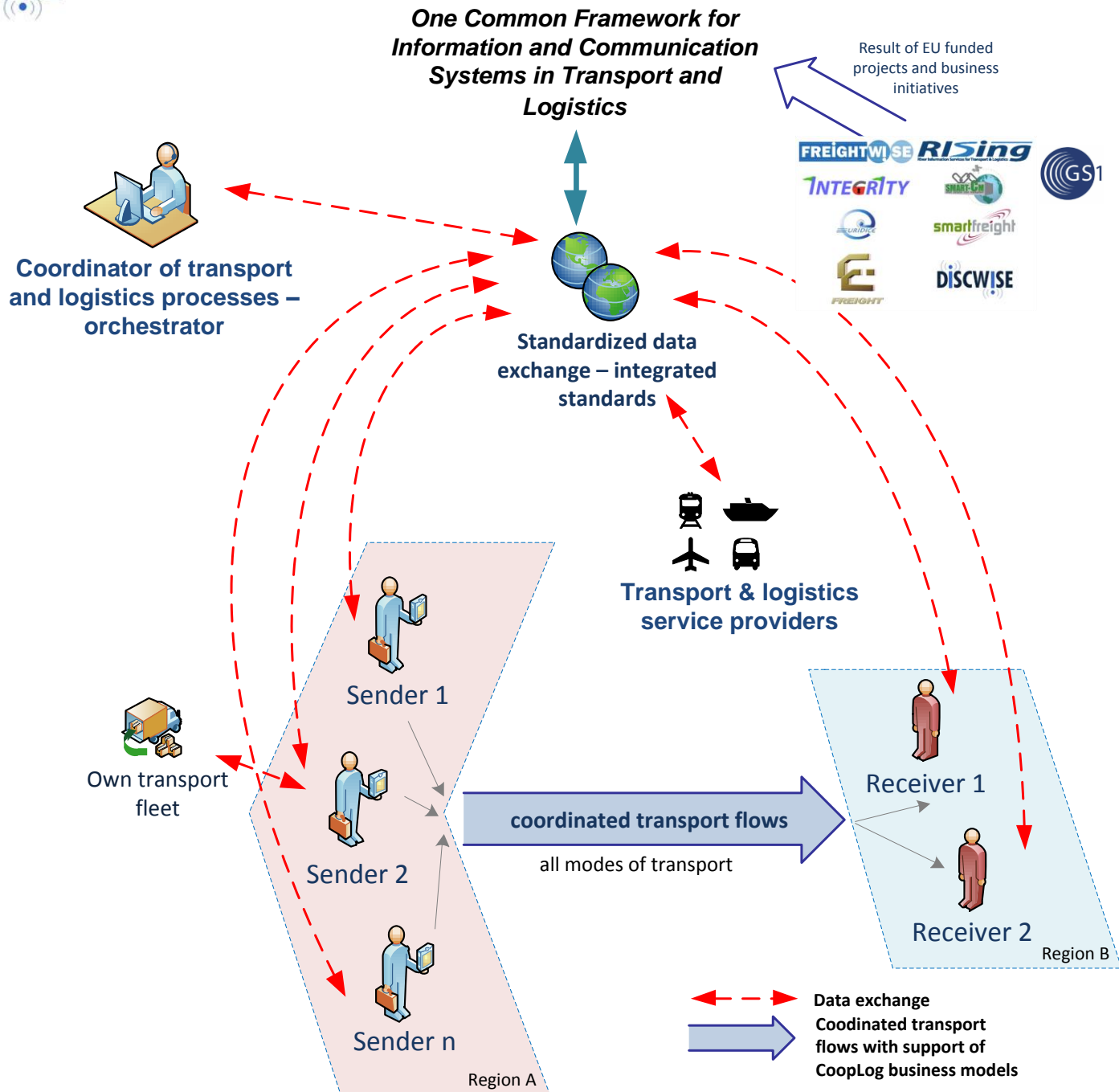
- 10 p. – Sender 1
- 10 p. – Sender 2
- 10 p. – Sender 3



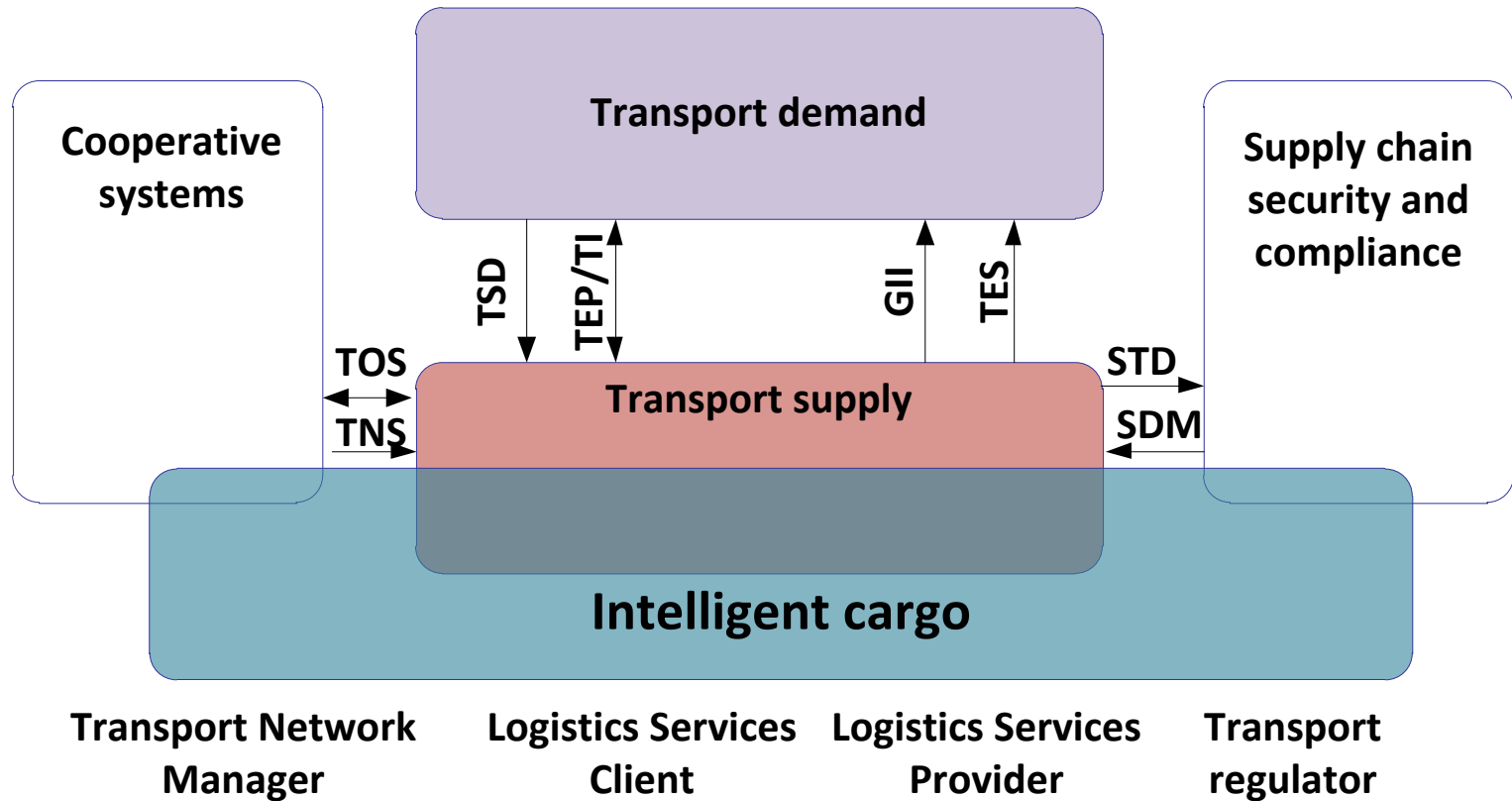
Receiver

How to eliminate existing constraints in data exchange needed to start collaboration in the whole supply chain?

	Sender	Receiver
Everyday supply		



Elements of the One Common Framework used in the reference model



Elements of the One Common Framework used in the reference model

- **TSD** Transport Service Description – a standard description of transport services suitable for automatic detection
- **TEP/TI** Transport Execution Plan/Transport Instruction – describing all the information needed related to the execution of a transport service.
- **GII** Goods Item Itinerary – providing information about the movement of the goods (possibly through a chain of services)
- **TES** Transport Execution Status – providing information about the progress of the transport and of the cargo condition
- **TOS** Transport Operation Status – assisting in establishing the best possible arrival time estimates
- **SDM** Security Data Message – providing information about the security of a sealed load unit.
- **STD** Standard Transport Document – providing a unified way of informing authorities about transport such that compliance may be verified.
- **TNS** Transportation Network Status – not suggested as a new standard, but a pointer to messages providing such information for the different transport modes.

Business cases - STAGES OF WORKS

STAGE I

Data analysis, preparing data for simulation

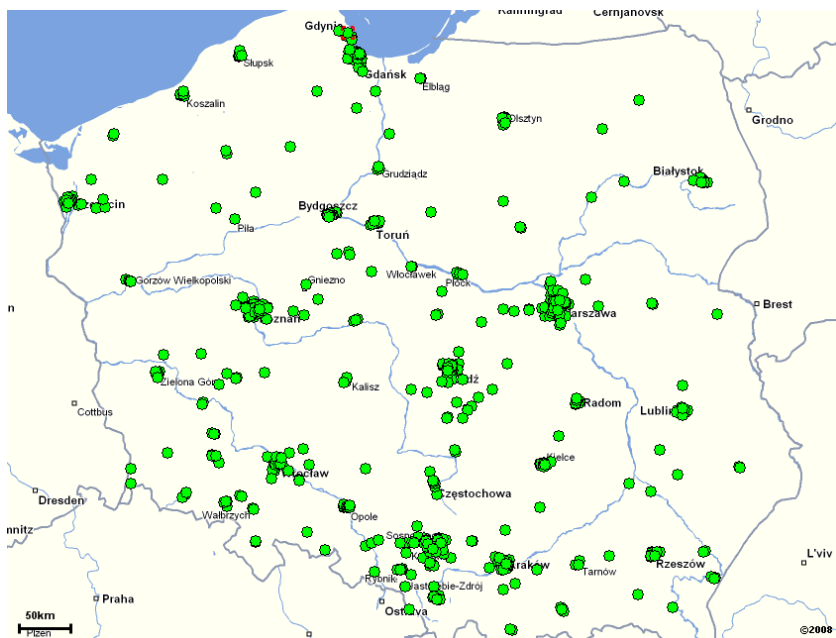
STAGE II

Simulation – costs analysis for 3 variants of supply

STAGE III

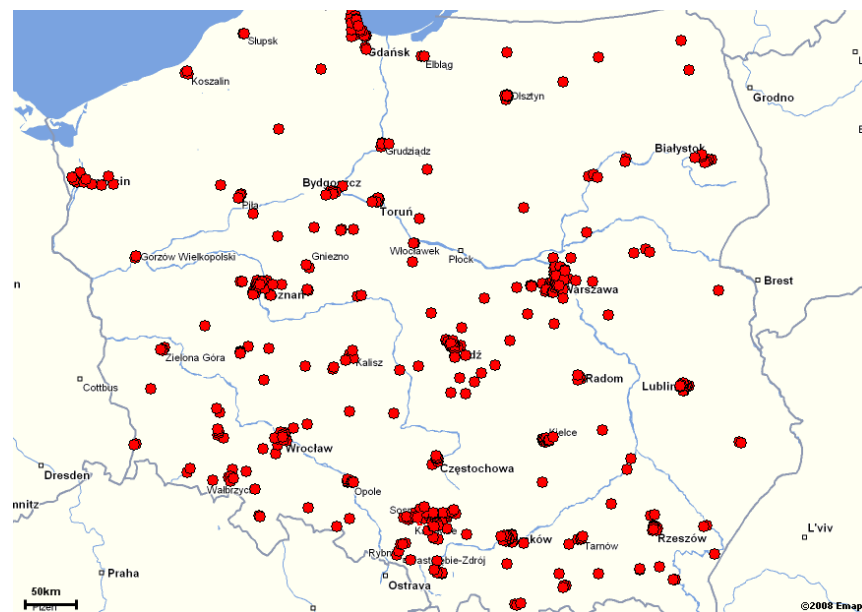
Analysis of first results, conclusions

STAGE I – data analysis, preparing data for simulation



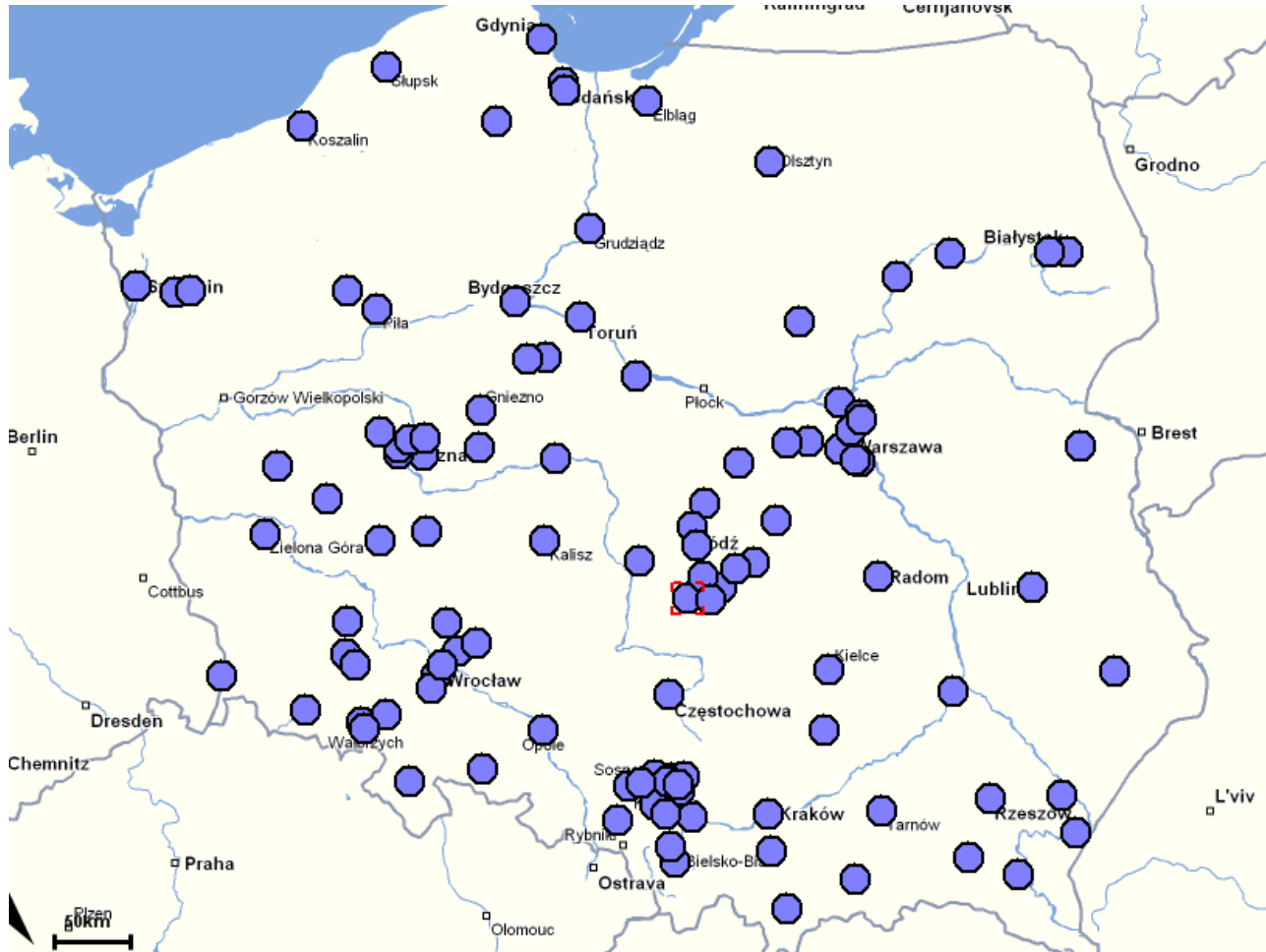
ECR company 2 clients

ECR company 1 clients



STAGE I – data analysis, preparing data for simulation

Common cities according to the clients databases of booth enterprises



STAGE II – simulation

- Costs of supply in three variants were calculated for common localisations:
 - variant 1: costs of supply for company 1
 - variant 2: costs of supply for company 2
 - variant 3: costs of supply for common localisations of both companies (combining volumes)
- 2 types of price lists were used:
 - **LTL** (*Less than Truck Loaded*) → pallets price list (price per 1 pul depending on transported volume and distance)
 - **FTL** (*Full Truck Loaded*) → price list per vehicle (price per kilometer: 2,9 PLN/km/32 pallets)

Standardisation of two independent databases contribute to transport cost reduction by 6-7% (of total transport costs) – without reducing customer service level.

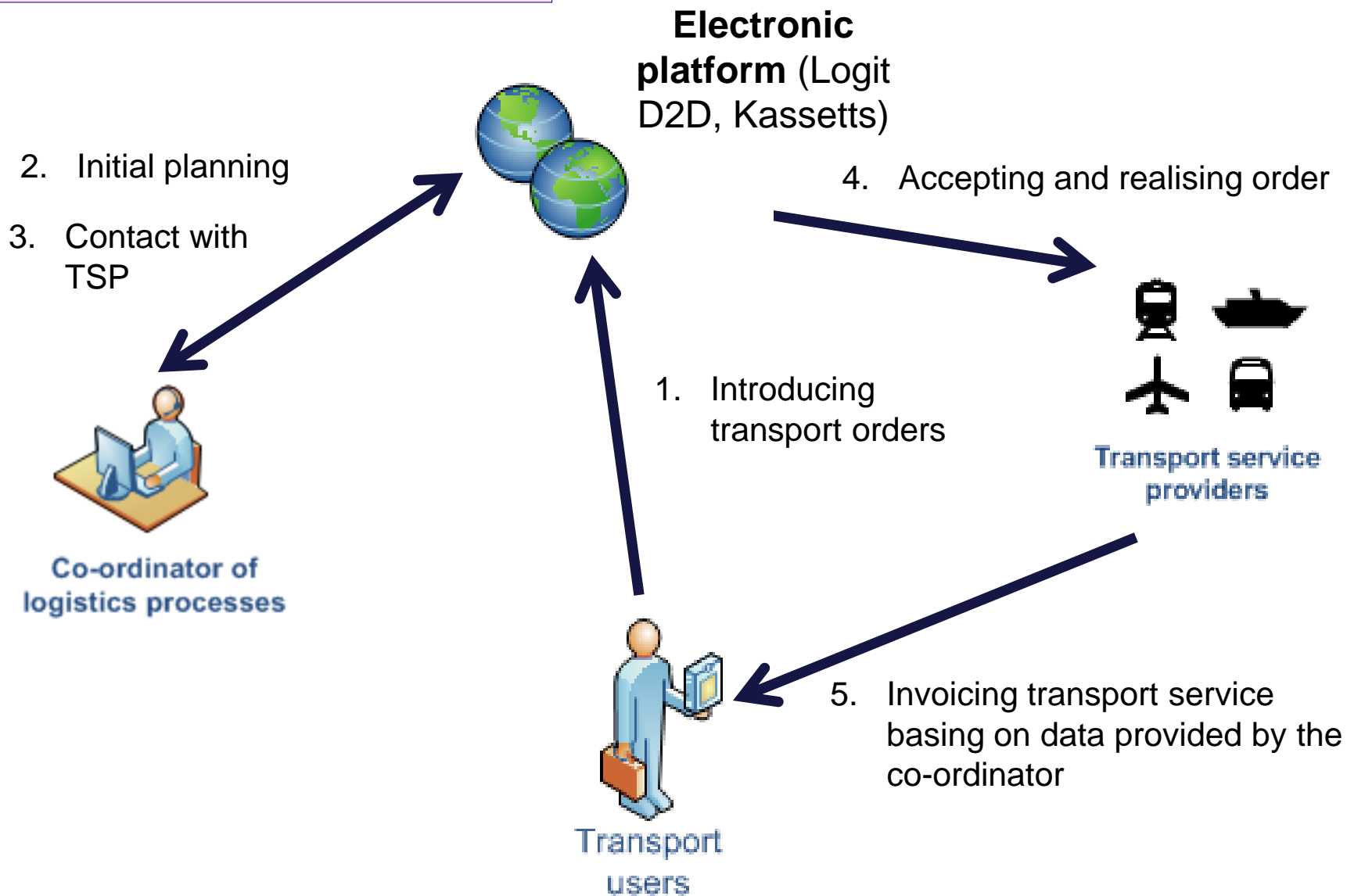


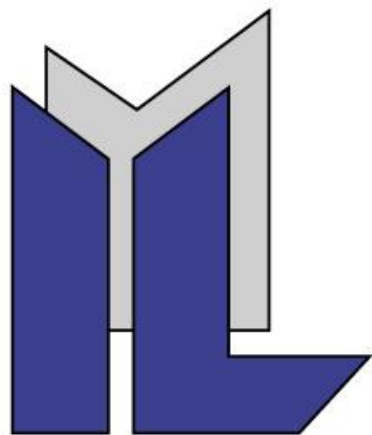
Distributors	Lack of cooperation			Cooperation (new model implemented)			
	Transport cost KTN (1 tkm = 0,28 euro)	Average transport cost of single box [euro]	Number of used trucks [PCS]	Transport cost KKTn (1 tkm = 0,28 euro)	Average transport cost of single box [euro]	Percentage costs savings [%]	Number of used trucks [PCS]
D 1	5,52	1,84	1	4,23	1,41	-30,5%	1
D 2	9,60	1,92	1	7,45	1,49	-28,9%	
D 3	7,36	1,47	1	5,18	1,04	-42,2%	
D 4	13,92	2,32	1	11,31	1,88	-23,0%	
Total	36,43	1,92	4	28,17	1,48	-29,3%	1

- First simulation proved that cooperation in organisation of transport processes by transport users can bring financial, quality and organisational benefits.
- Standardisation of two independent databases contribute to transport cost reduction by 6-7% (of total transport costs) – without reducing customer service level. Another example proved that it is possible to achieve even bigger savings
- There is a need for One Common Framework for Information and Communication Systems in Transport and Logistics.
- For more than two enterprises there is a need for a communication platform (like D2D, Kassetts), which allows efficient information exchange.
- Furthermore, the solution enables reduction of the number of used trucks which contributes to decreasing truck traffic.



OPERATION ACTIVITIES





**Thank you for
your attention**

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