UIC Conference
Paris – 17 April 2008

AGENDA 2015
for Combined Transport in Europe

website: http://www.uic.asso.fr/diomis

Purpose of AGENDA 2015

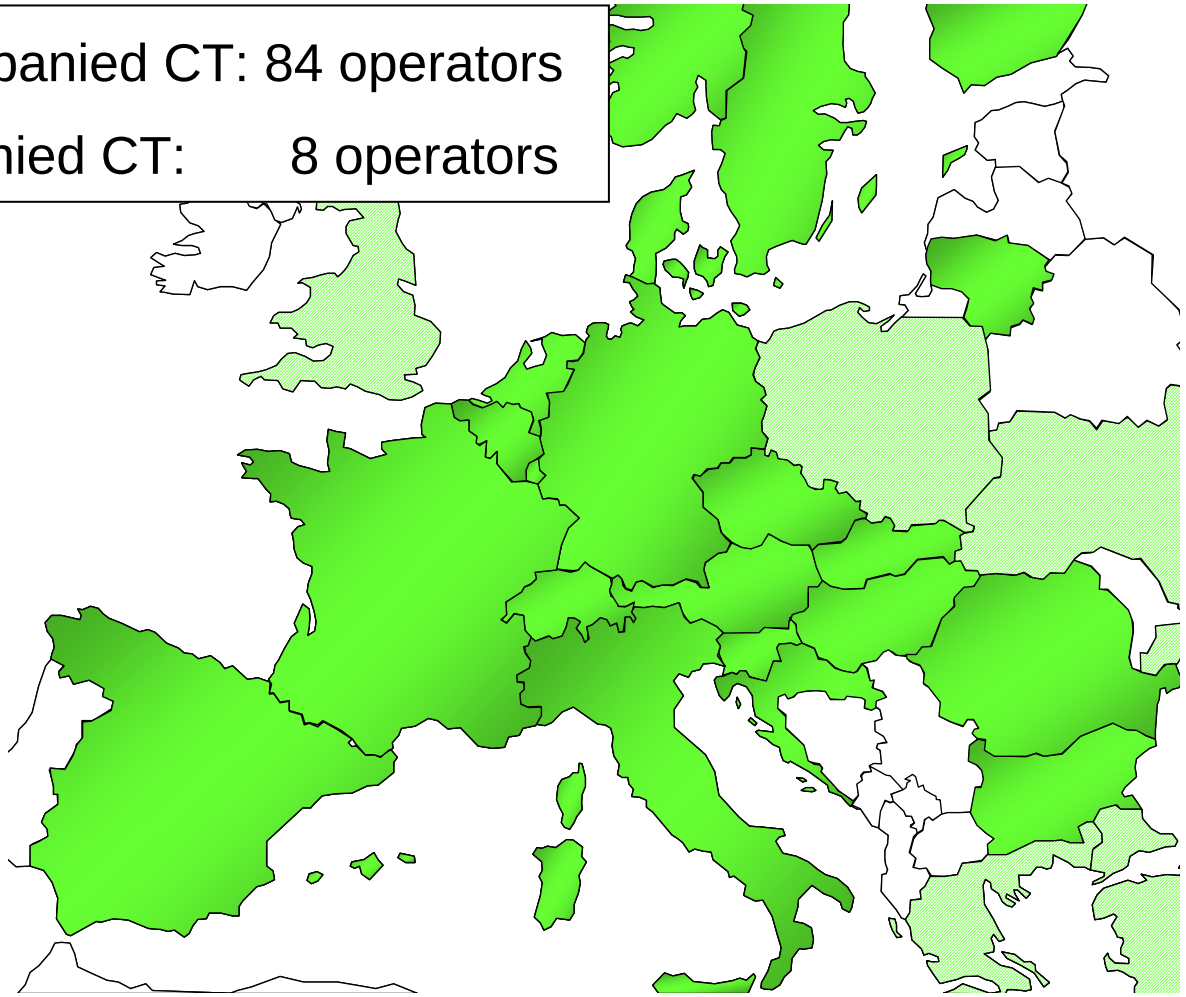
- Pinpointing combined transport (CT) growth potential by 2015 and beyond, thus providing a frame of reference for:
  - Intermodal industry: RU, IO
  - Customers: shippers, forwarders, shipping lines
  - Investors: loading units, wagons, terminals, locomotives
- Showing how CT volume can increase in face of constrained rail and terminal infrastructure capacities by employing infrastructure- and operator-efficient operation models
- Addressing the need for ensuring implementation of planned and additional infrastructure enlargement investments
- Encourage improved co-operation and international co-ordination

Combined rail/road transport 2005-2015

Combined rail/road transport in Europe 2005

Strong growth of suppliers of CT services since 1990

- Unaccompanied CT: 84 operators
- Accompanied CT: 8 operators



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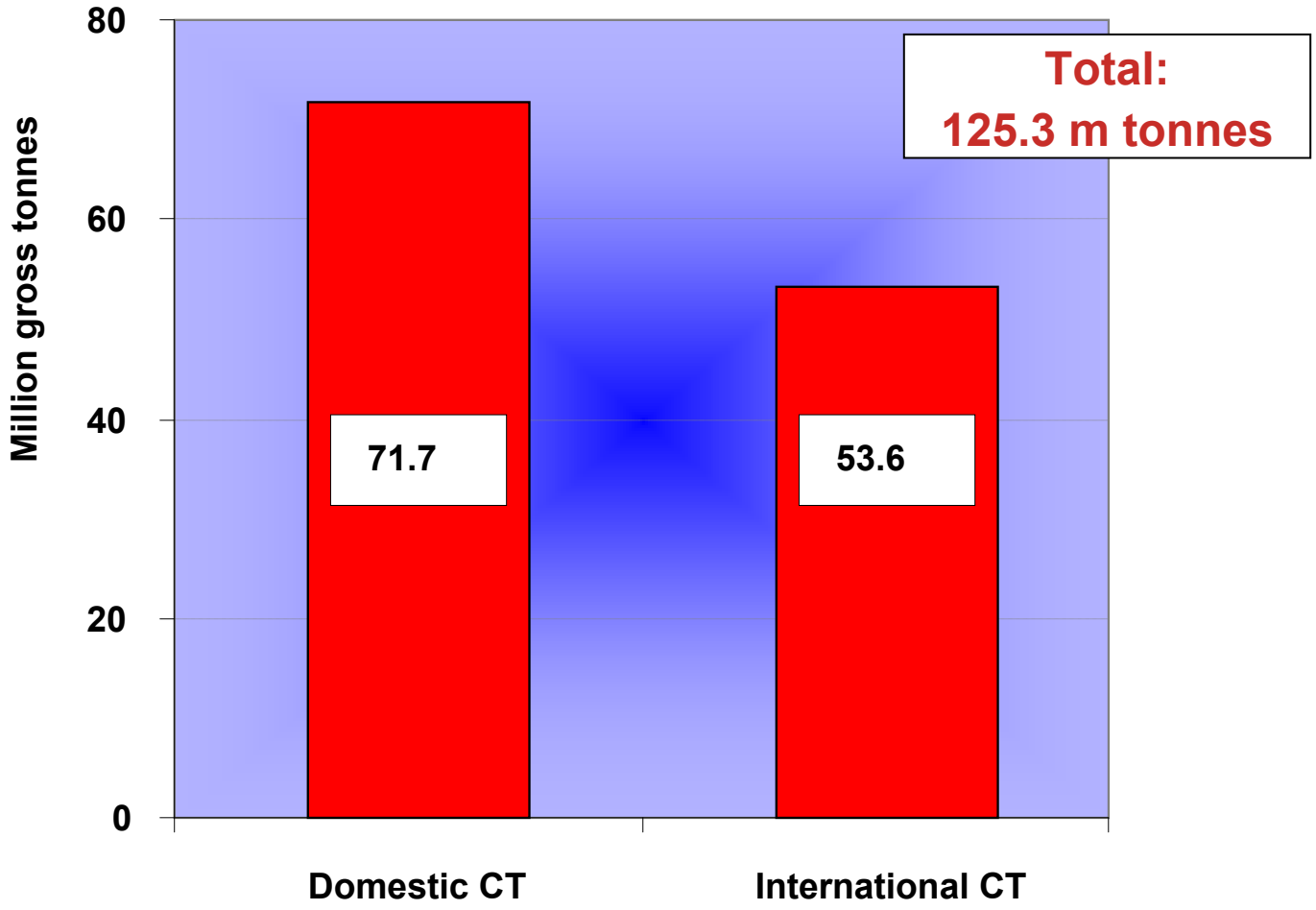
Combined rail/road transport in Europe 2005

Volume of unaccompanied CT services (in tonnes)



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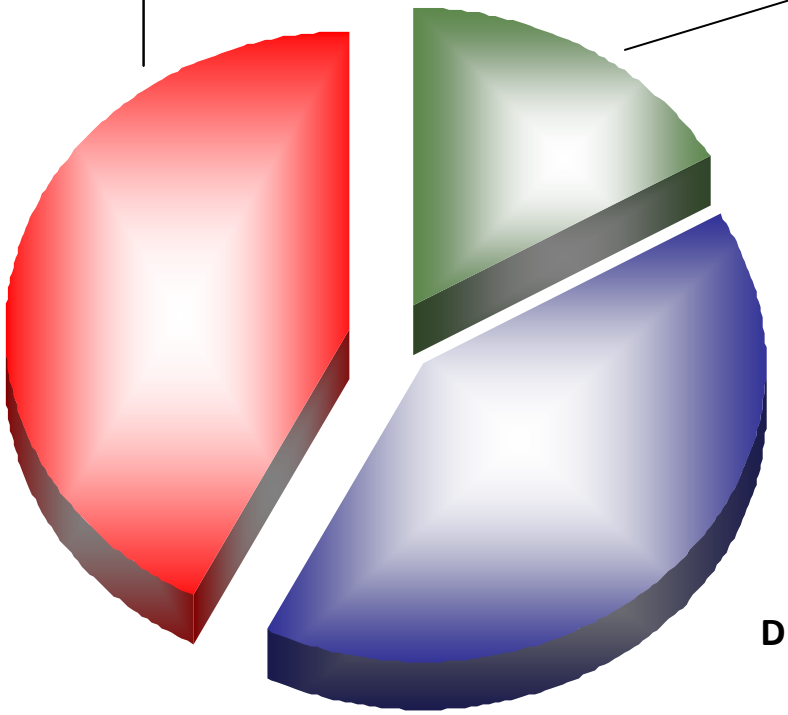
Combined rail/road transport in Europe 2005

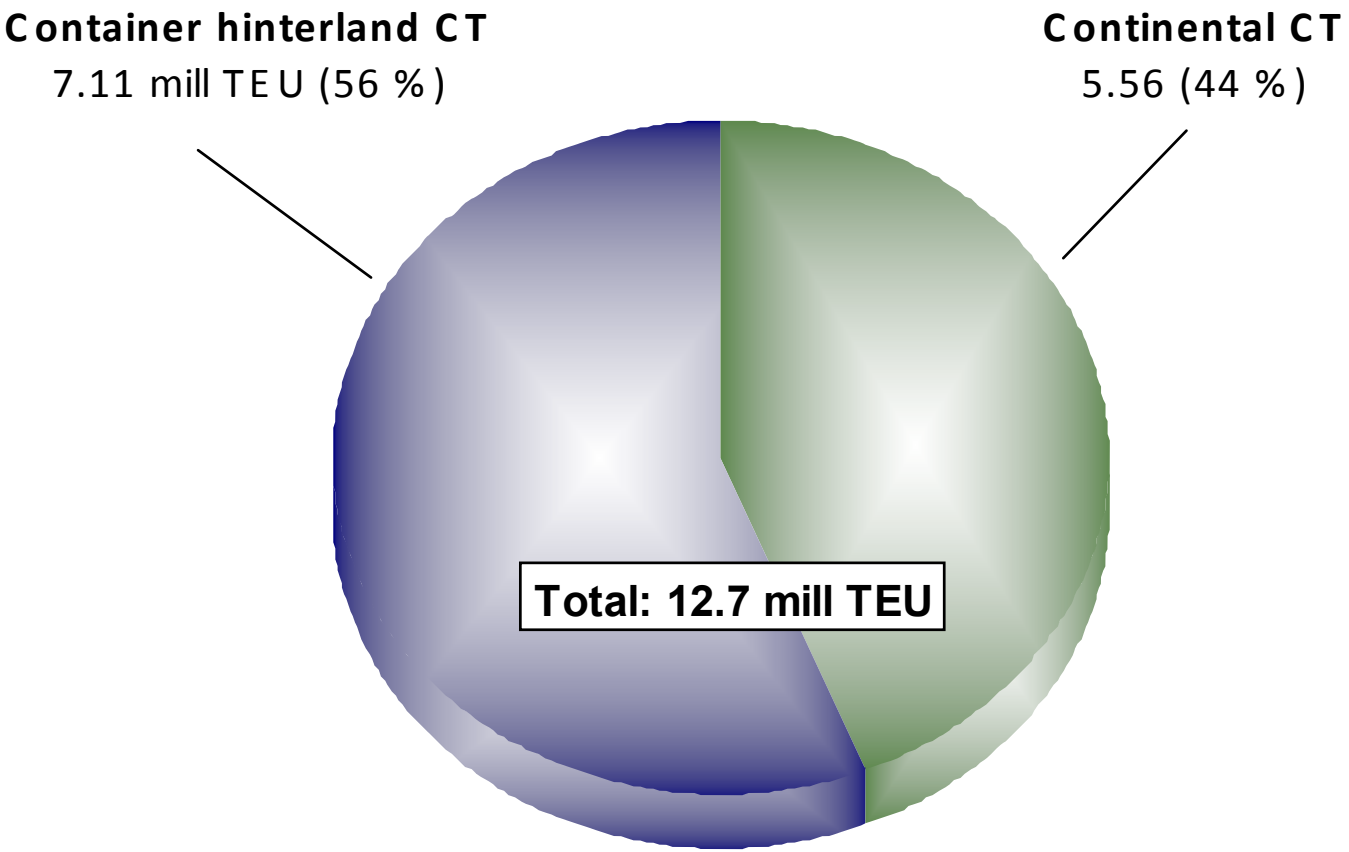
Volume of unaccompanied CT services by segments (TEU)



Total:
12.67 m TEU

Combined rail/road transport in Europe 2005

Volume of total unaccompanied CT services (in TEU)

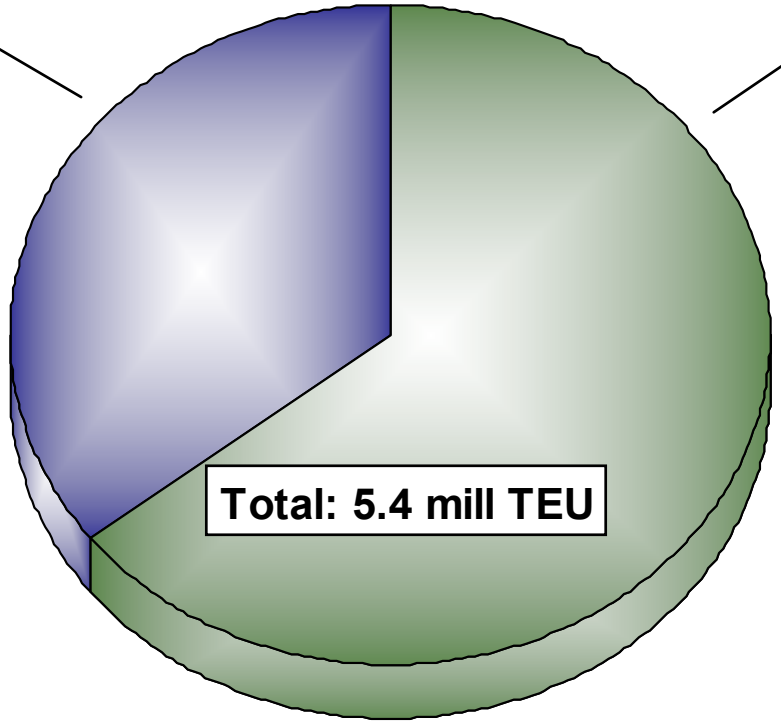


Combined rail/road transport in Europe 2005

Volume of international unaccompanied CT services (TEU)

Container hinterland CT
1.92 mill TEU (36 %)

Continental CT
3.46 mill TEU (64 %)



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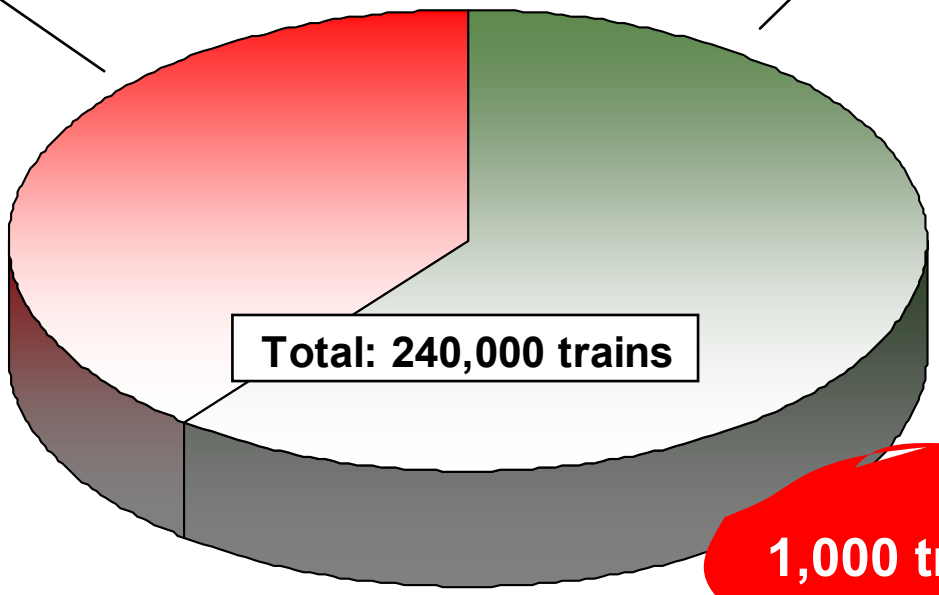
Combined rail/road transport in Europe 2005

Unaccompanied intermodal trains

International CT
95,000 trains (40 %)

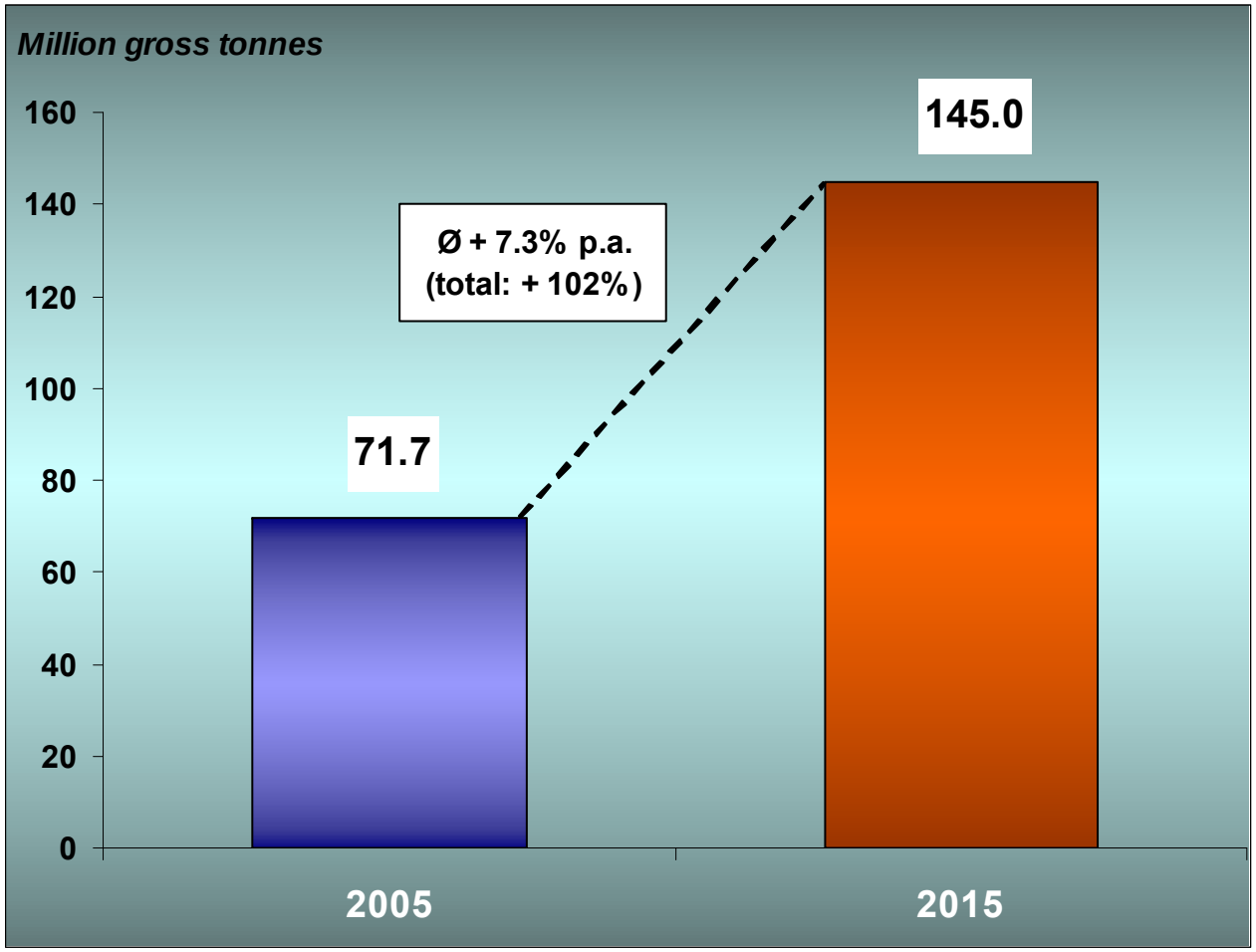
Domestic CT
145,000 trains (60 %)



1,000 trains p.d

Combined transport in Europe 2005-2015

Unaccompanied domestic CT: goods moved 2005/2015



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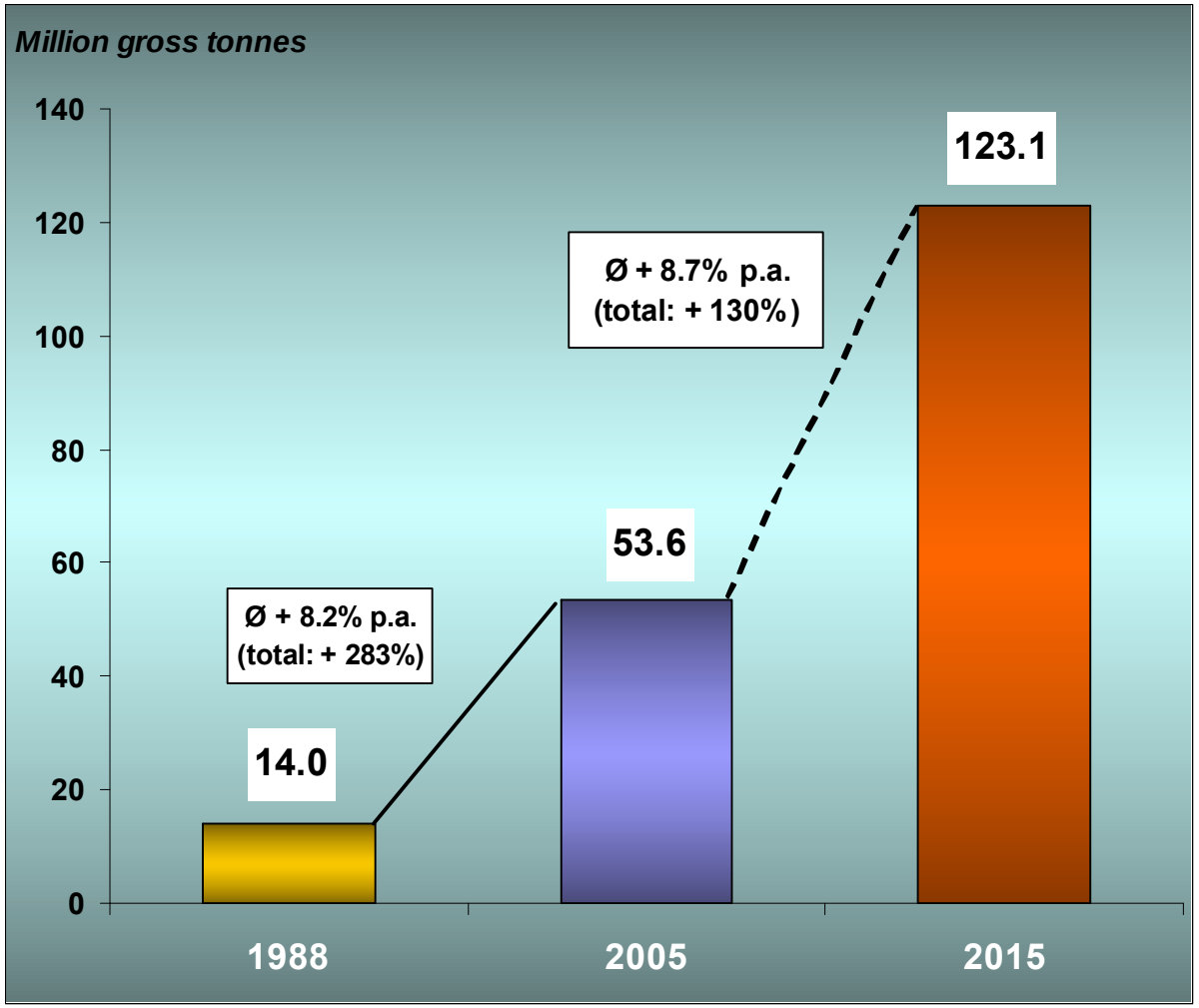
Combined transport in Europe 2005-2015

Unaccompanied international CT: goods moved 2005/2015



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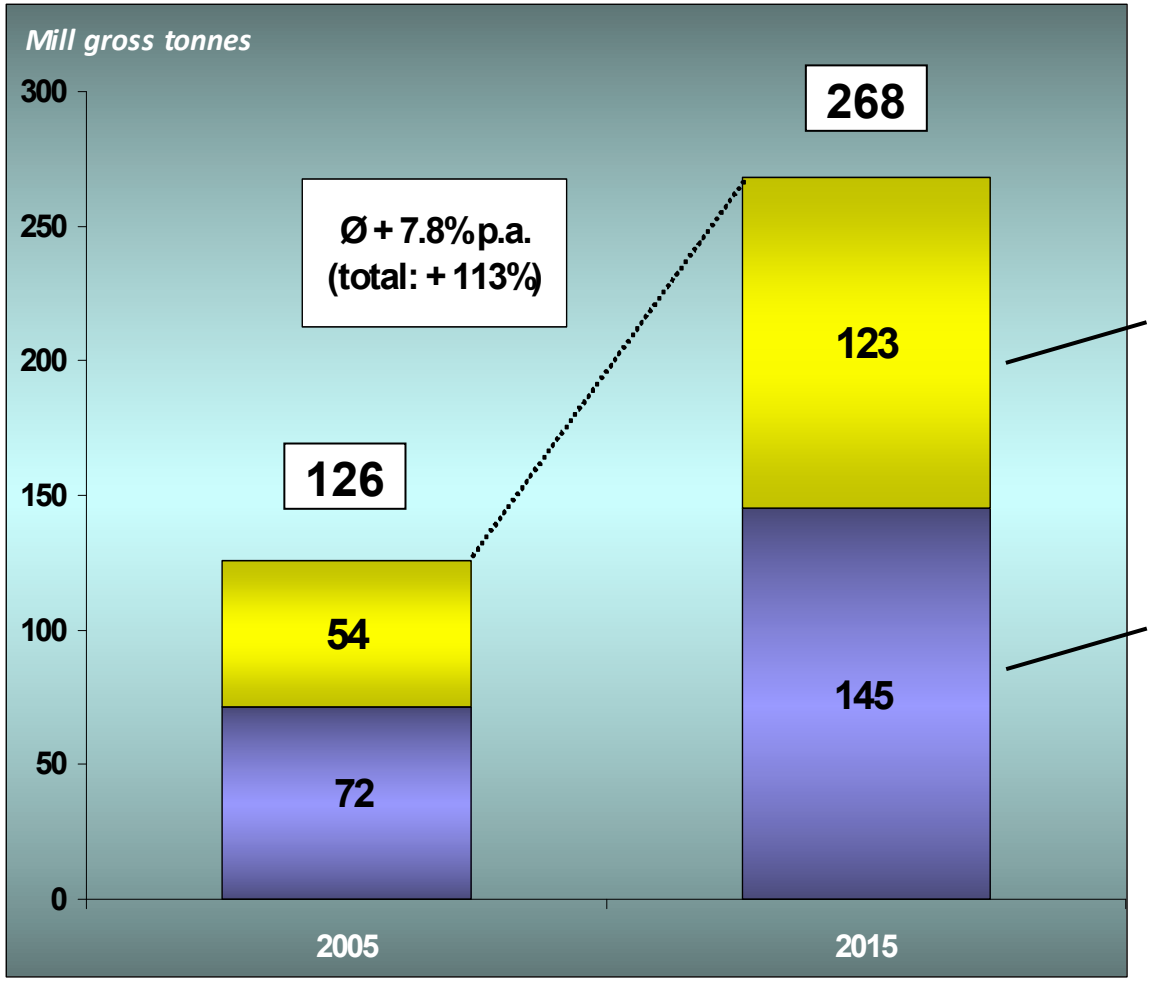
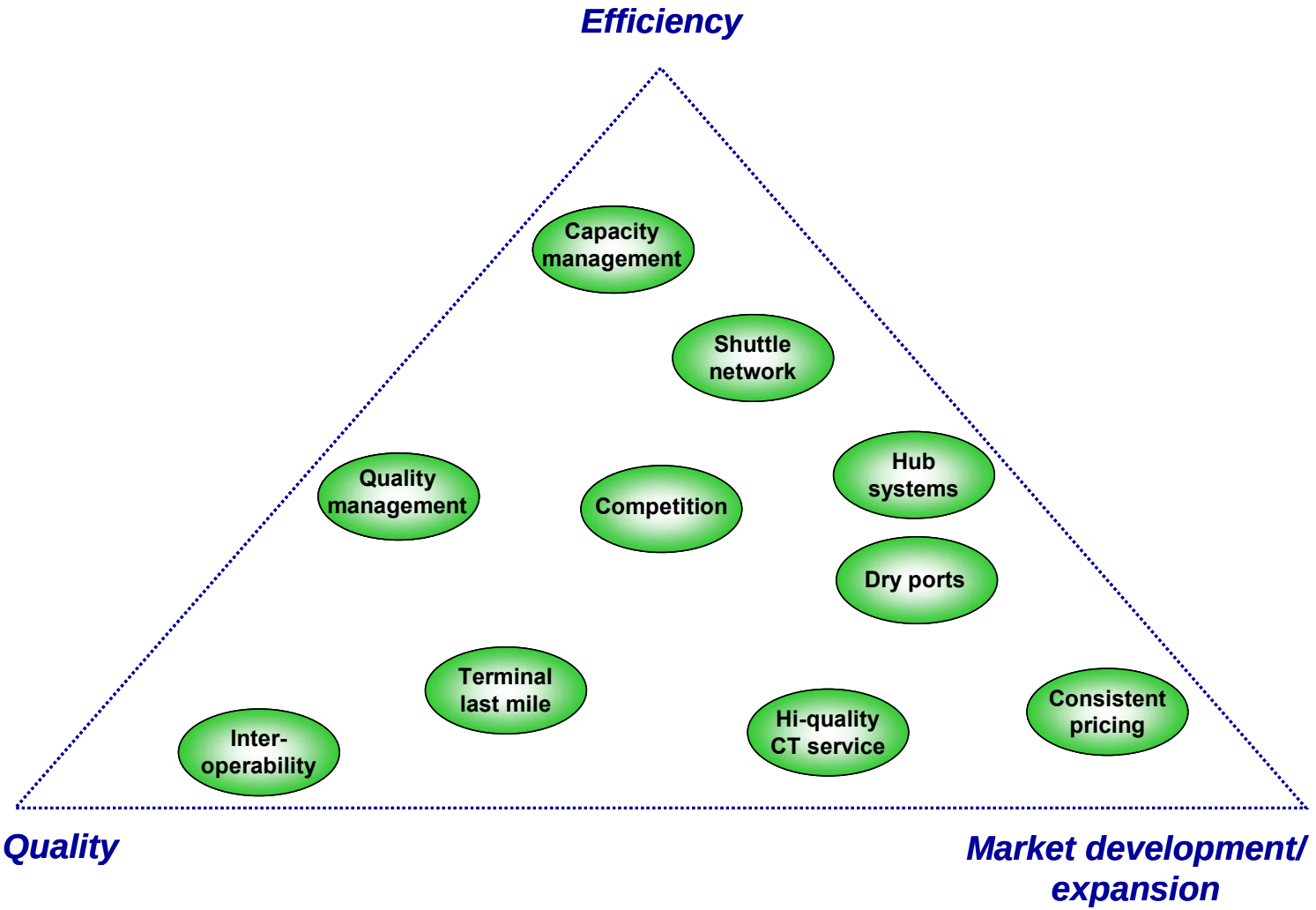
Combined transport in Europe 2005-2015

Unaccompanied total CT: goods moved 2005/2015

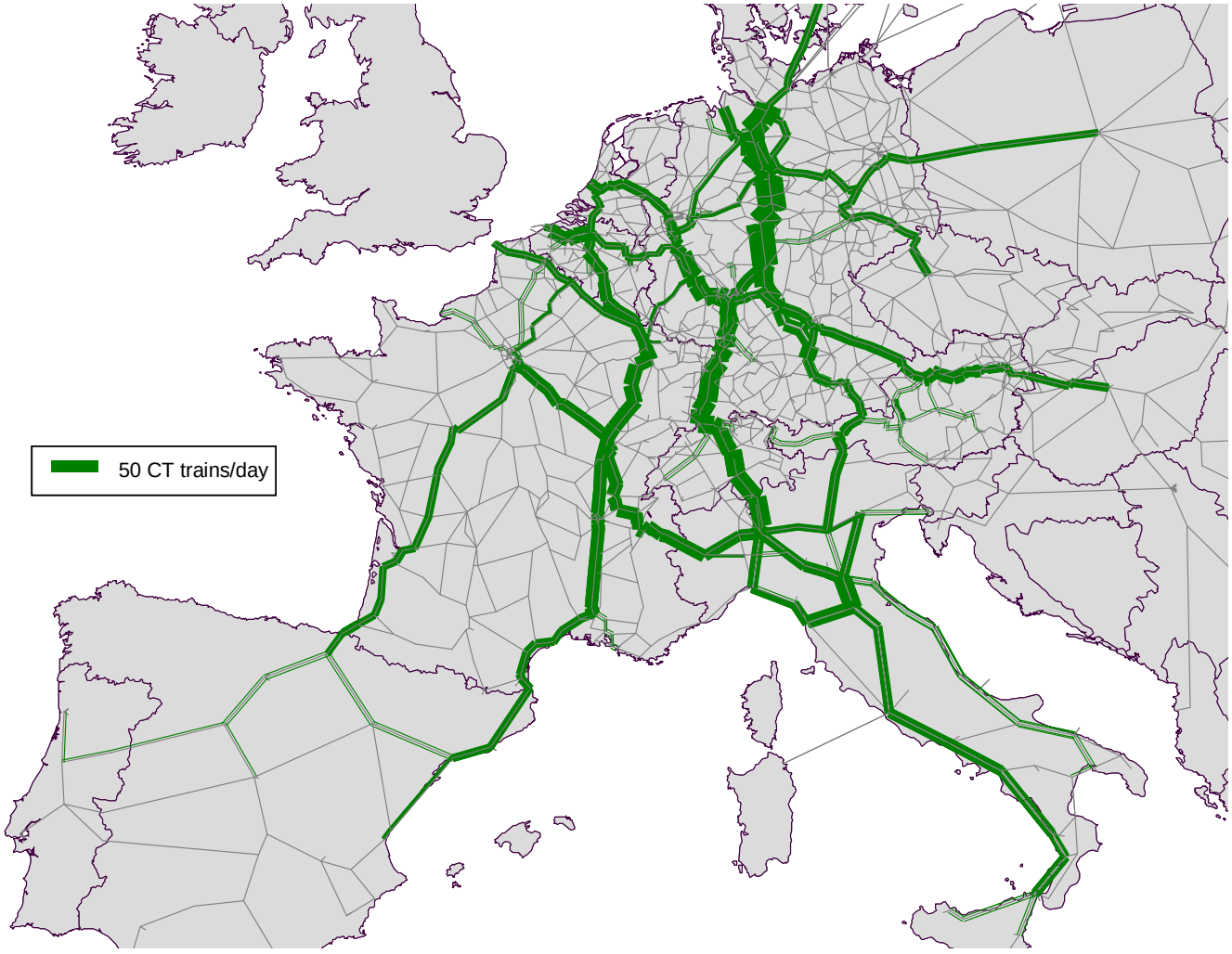


Key industry-inherent drivers of CT growth by 2015



Combined transport in Europe 2005-2015

Domestic & international CT trains on rail network: 2015



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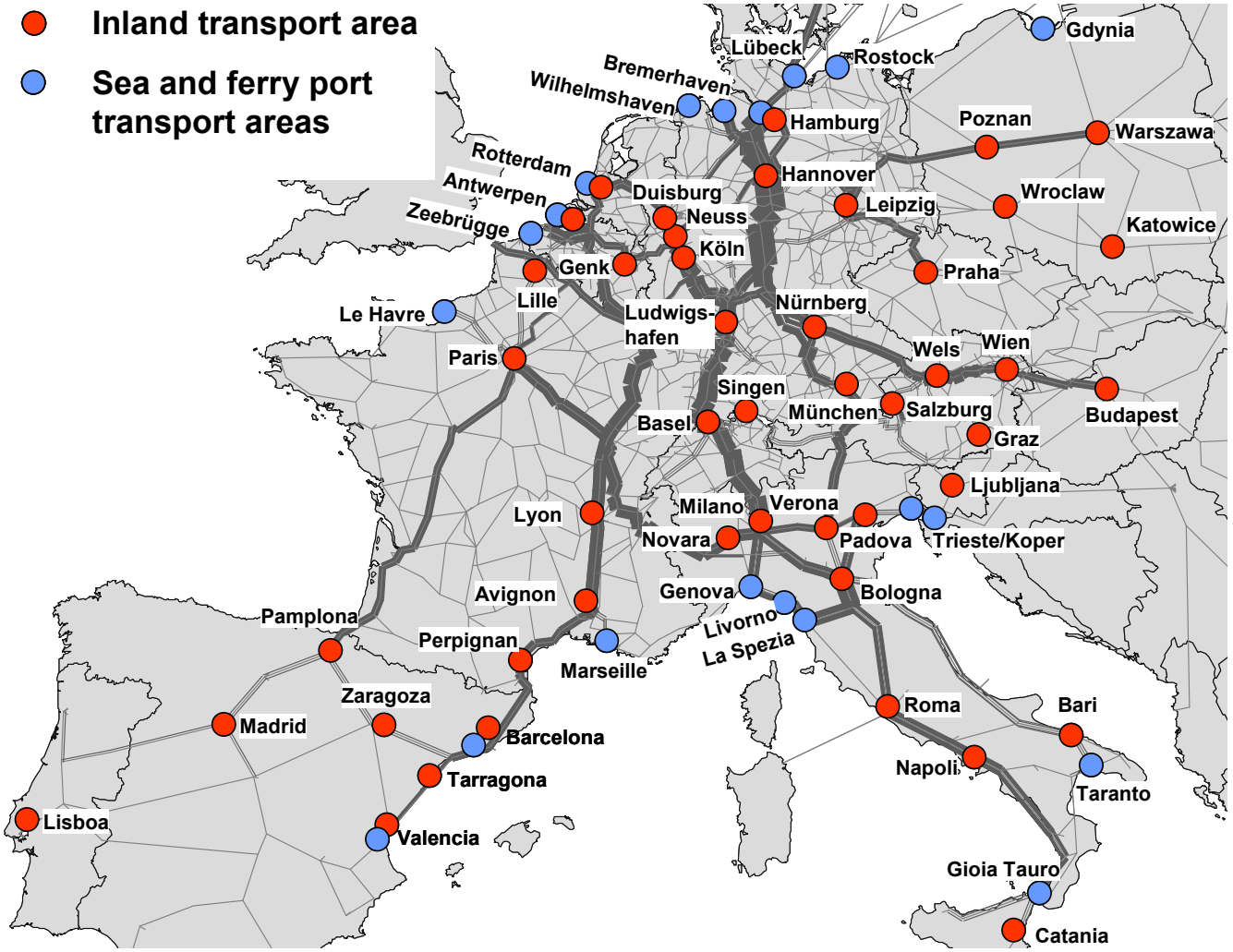
Combined transport in Europe 2005-2015

Key transport areas of international CT goods: 2015



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AGENDA 2015 fields of action

AGENDA 2015 fields of action

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More efficient use of rail network and terminal infrastructure

More efficient use of rail infrastructure

Action	Impact		
	Low	Medium	High
Comprehensive employment of train path saving rail production systems			
Incentives in infrastructure access tariffs to induce resource-saving production systems			
Improvement of the performance of services			
Enhanced process organization of rail traction services			
Implementation of advanced train and network capacity management systems			
Enforcement of longer and/or heavier trains including minor infrastructure adaptations			
Increased wagon axle loads			

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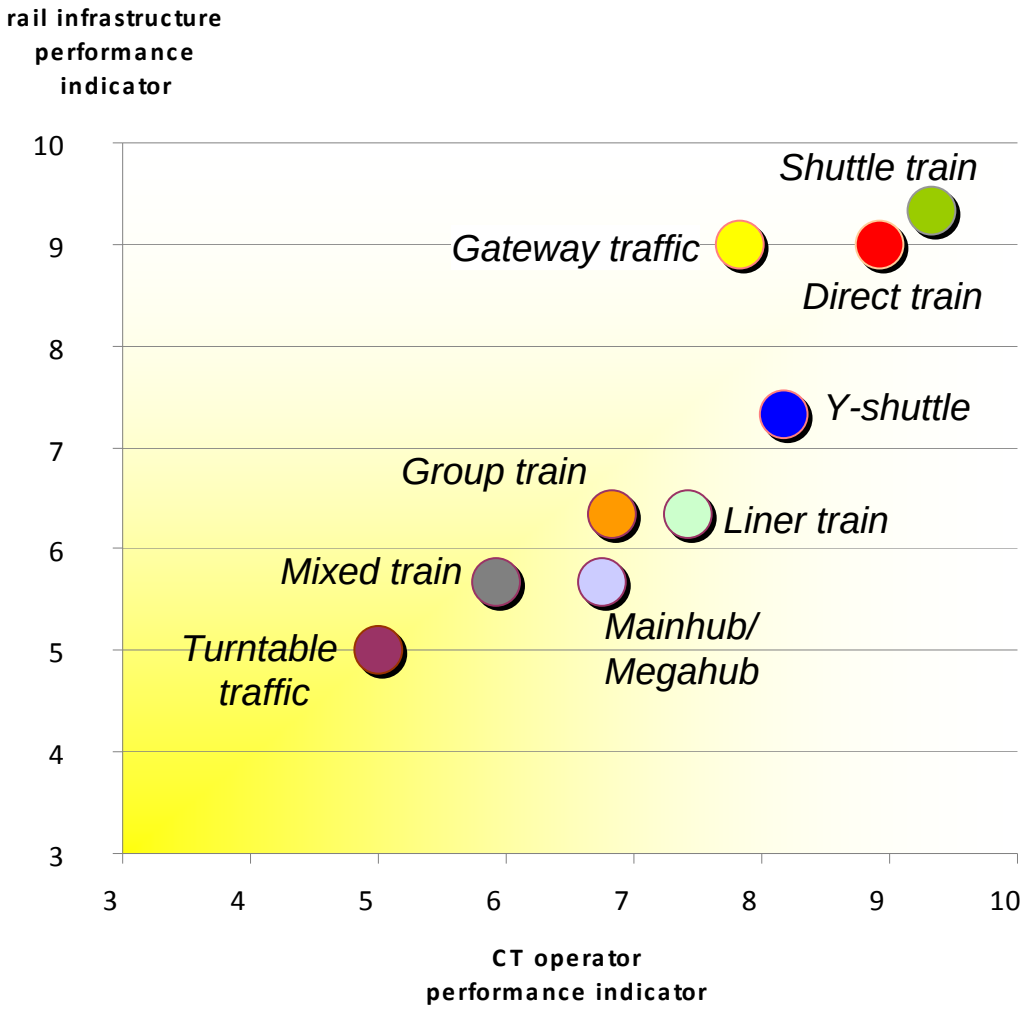
Evaluation of CT production systems



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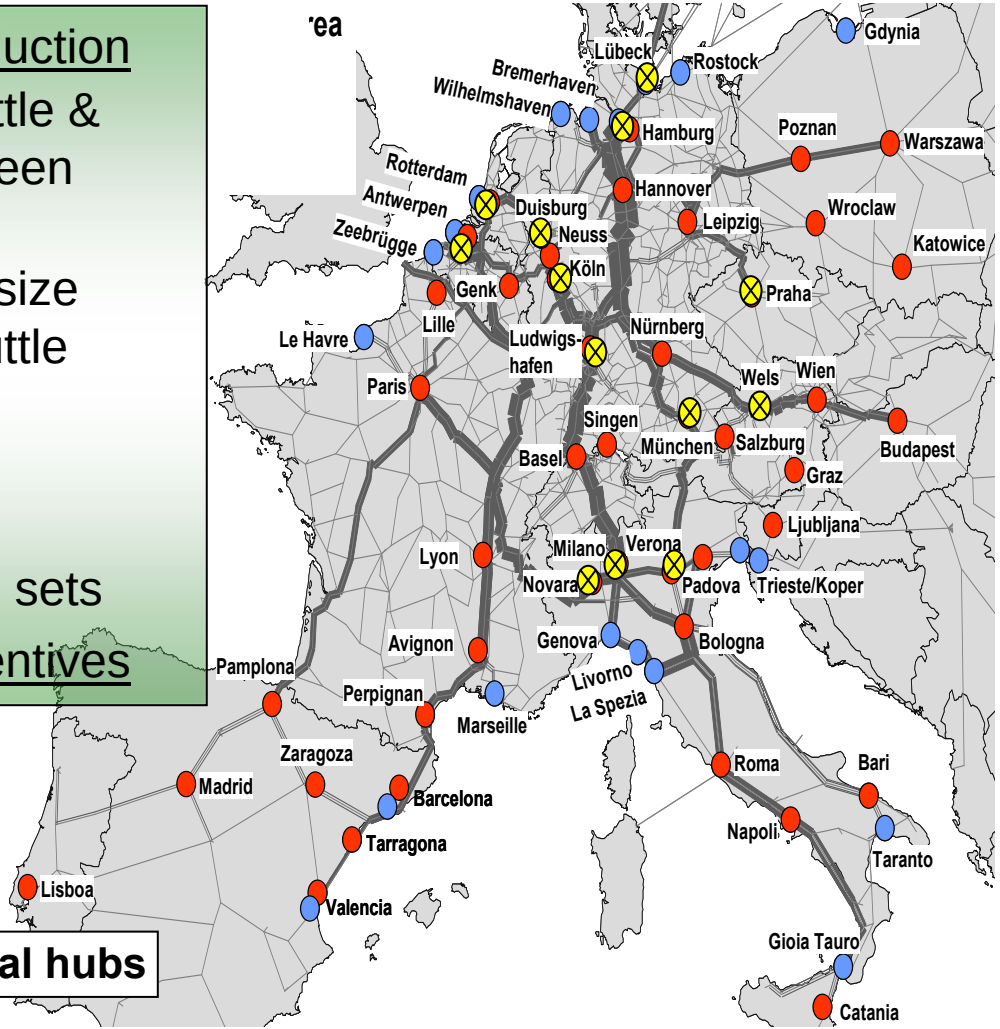
More efficient use of rail infrastructure

Building an infra- & operator-efficient CT network

Industrialized CT production

- multi-frequency shuttle & direct services between key economic areas
- small- and medium-size areas served by shuttle via gateway/hub
- high level of inter-connectivity at hubs
- standardized wagon sets

Train path pricing incentives



⊗ **Existent international hubs**

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More efficient use of rail infrastructure

Enhanced process organization of rail services

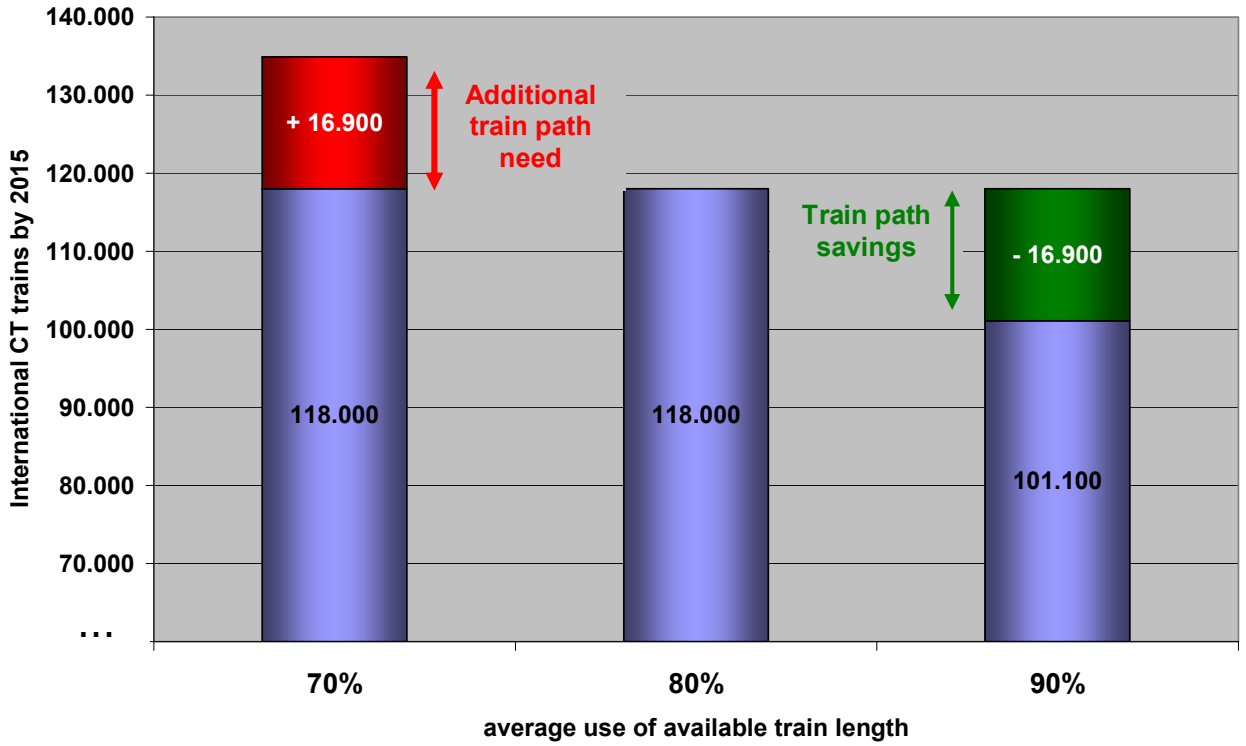
- Change of locomotive and/or loco-driver at places or nodes, which minimize the loss or consumption of train paths
- Homogenization of freight train – and regional passenger train – speed; “blocking” of freight trains
- Expansion of interoperable cross-border traction services …
  … to ensure efficiency requires for:
- Improved co-operation between actors to avoid stops at border crossings not operationally required
  - RU - RU
  - IM - RU
  - IM - IM

Advanced capacity management systems

- Application of enhanced IT-based train and network capacity management systems enabling to raise capacity load factor of intermodal trains and entire network of services
- Components:
  - booking of shipments including priority features
  - control of interconnected gateway/hub services
  - through-booking of gateway shipments
  - optimization of train set by deploying wagons that are most suitable for pattern of goods and loading units

More efficient use of rail infrastructure

Advanced capacity management systems



- ≤ 10 percentage-points increase of capacity load factor
- ≤ 15% less train paths
- 12 mill tonnes more carried with same number of trains

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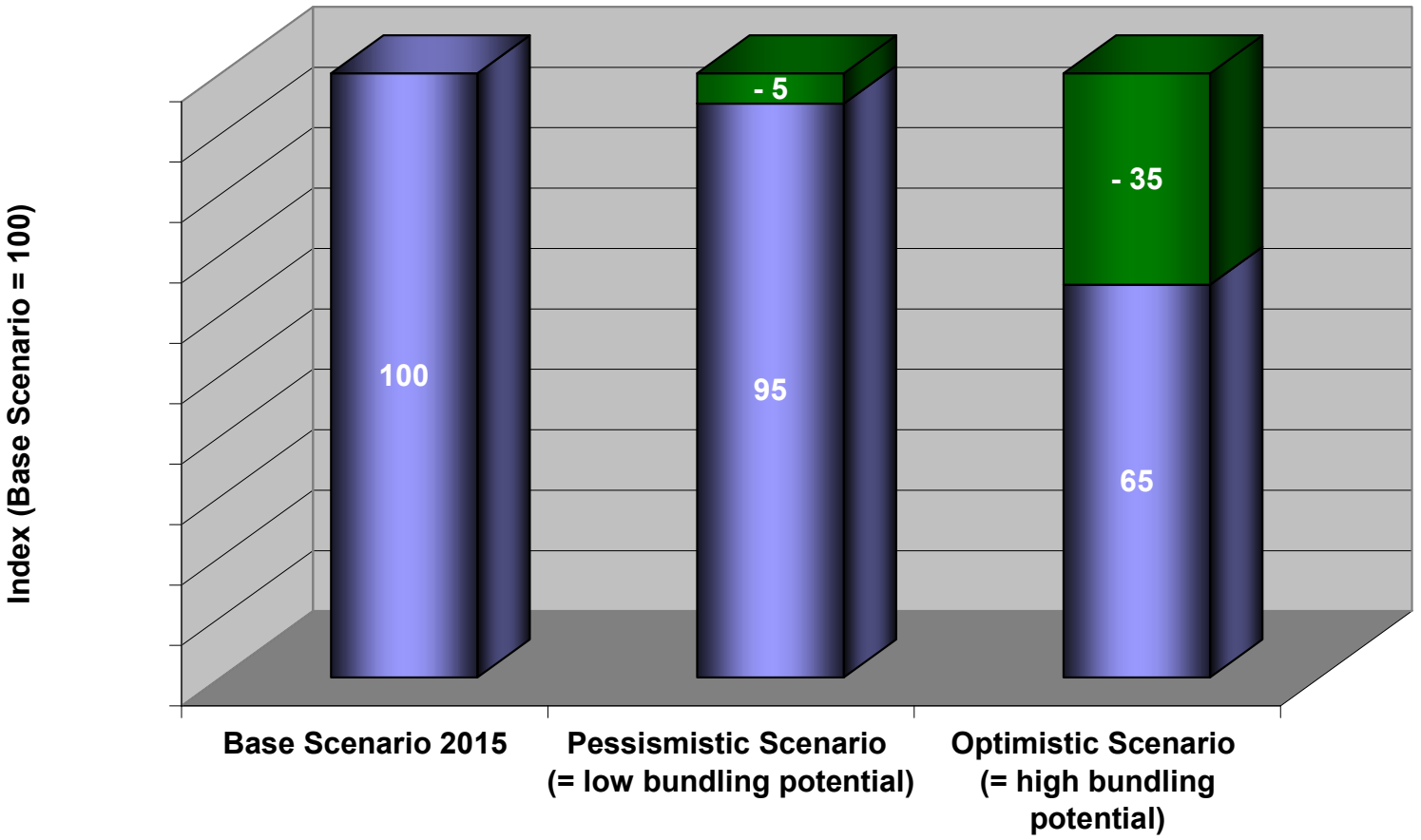
Employment of longer and/or heavier trains

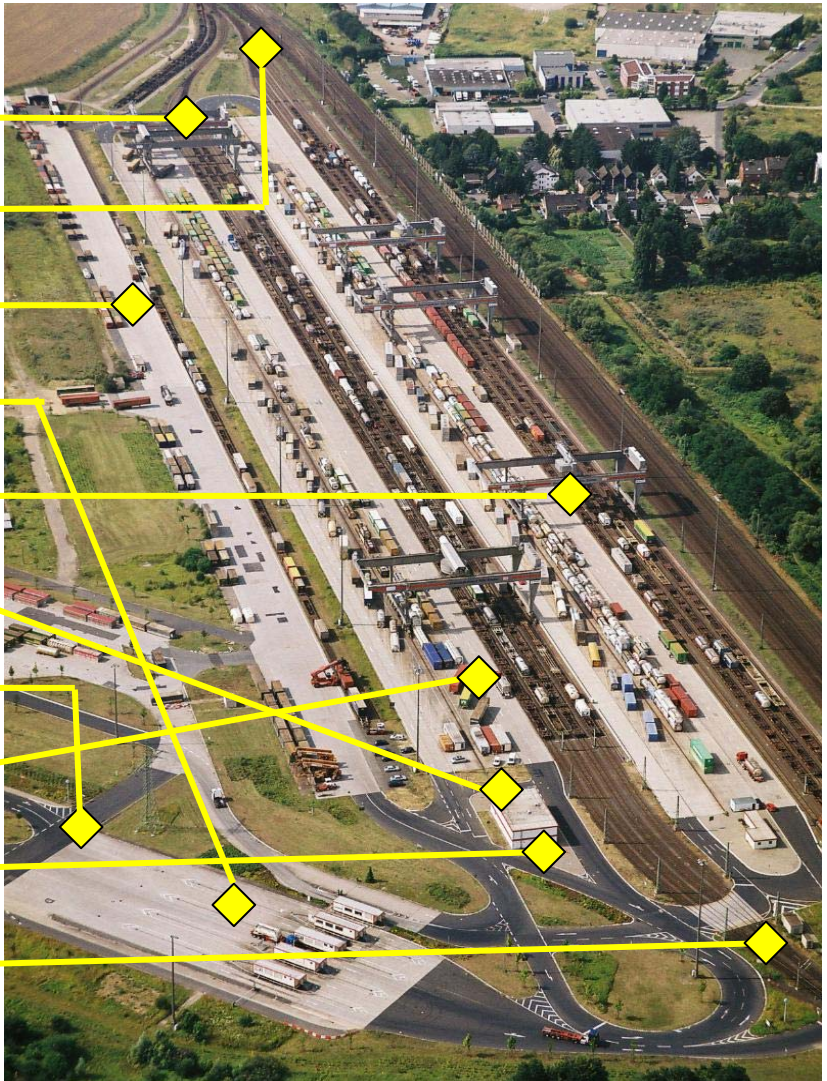
Train kilometer savings on selected corridors by operating longer trains



More efficient use of terminal infrastructure

Best practices of terminal management

- Flow factor
- Last rail mile logistics
- Road trucking services
- Opening hours
- Infrastructure use pricing
- Capacity management system
- Automated identification
- Separated rail and road handling
- Task management
- Punctual rail services



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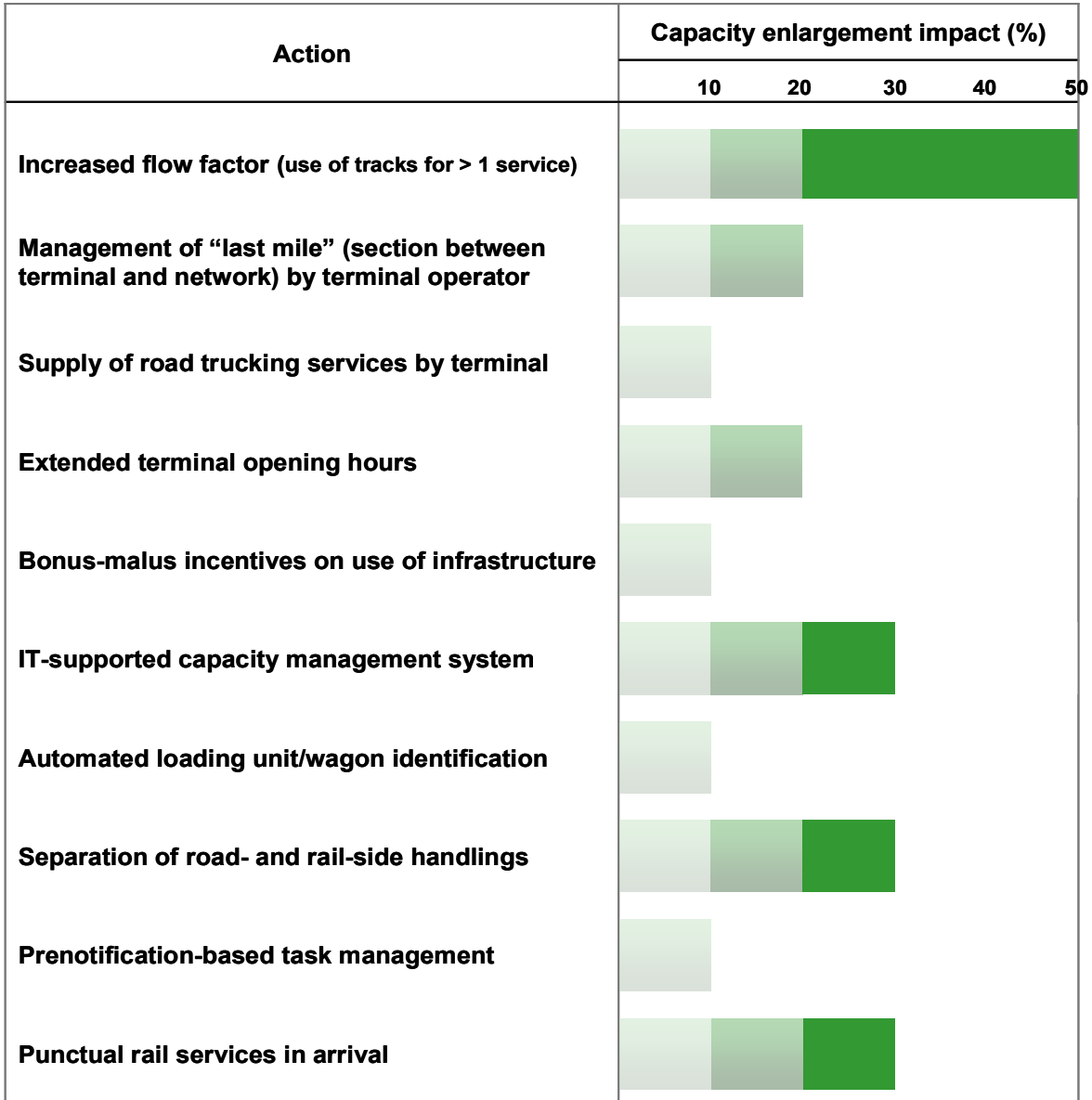
More efficient use of terminal infrastructure

Capacity impact of best practices



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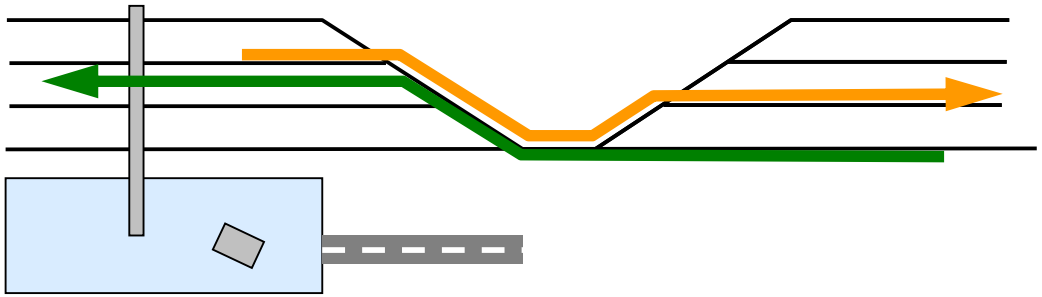
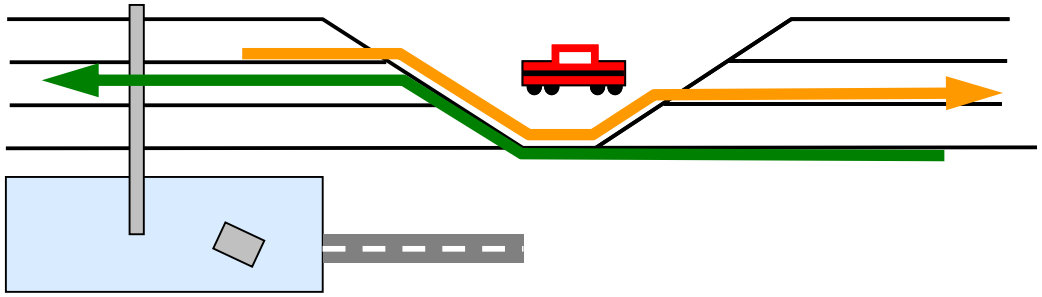
Example: increase of flow factor

Measure	**Increase of Flow Factor for use of handling tracks**
Description	Achieve a double use of at least some handling tracks, by shuttle train operation, or change of wagon sets between handling and parking tracks during the day 
Involved Parties	Terminal Operator, Railway Undertaking (Shunting Service), Intermodal Operator
Examples	Many, but still not all terminals
Capacity Impact	**+50-100% related to the transhipment tracks** (subject to sufficient number of handling equipment)

More efficient use of terminal infrastructure

Example: last rail mile logistics

Measure	**Control of shunting services by terminal operator**
Description	Disposition of shunting service, e.g. for flow factor, but also for damaged and optional wagon by terminal operator according to transhipment and pick-up and delivery needs Requires disponibility of shunting locos, - tracks and visitors 
Involved Parties	Terminal operator, railway undertaking (shunting service)
Examples	Most DUSS terminals, Bologna, Busto Arsizio., Verona Q.E., Baltic Rail Gate (Lübeck), KTL Ludwigshafen
Capacity Impact	**10-20% increase related to transhipment tracks**

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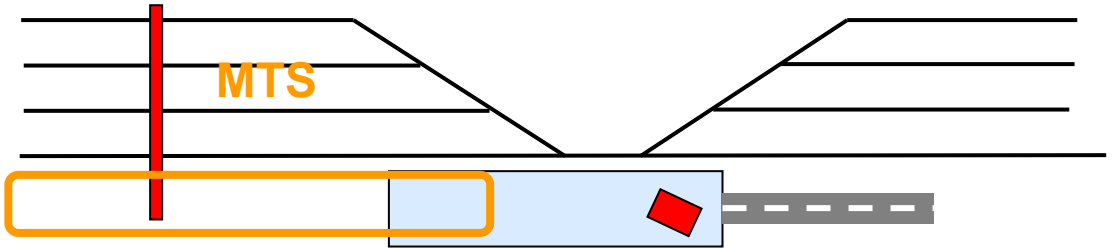
More efficient use of terminal infrastructure

Example: separation of rail- and road-side handling

Measure	Separation of rail-side and road-side handlings
Description	Dedicated areas and devices for rail- and road-side with e.g. Multi-Trailer System (MTS) for transfer for priority service according individual train and truck schedules 
Involved Parties	Terminal operator
Example	RSC Rotterdam
Capacity Impact	**20-30 %** related to rail-side gantry crane productivity

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More infrastructure investments

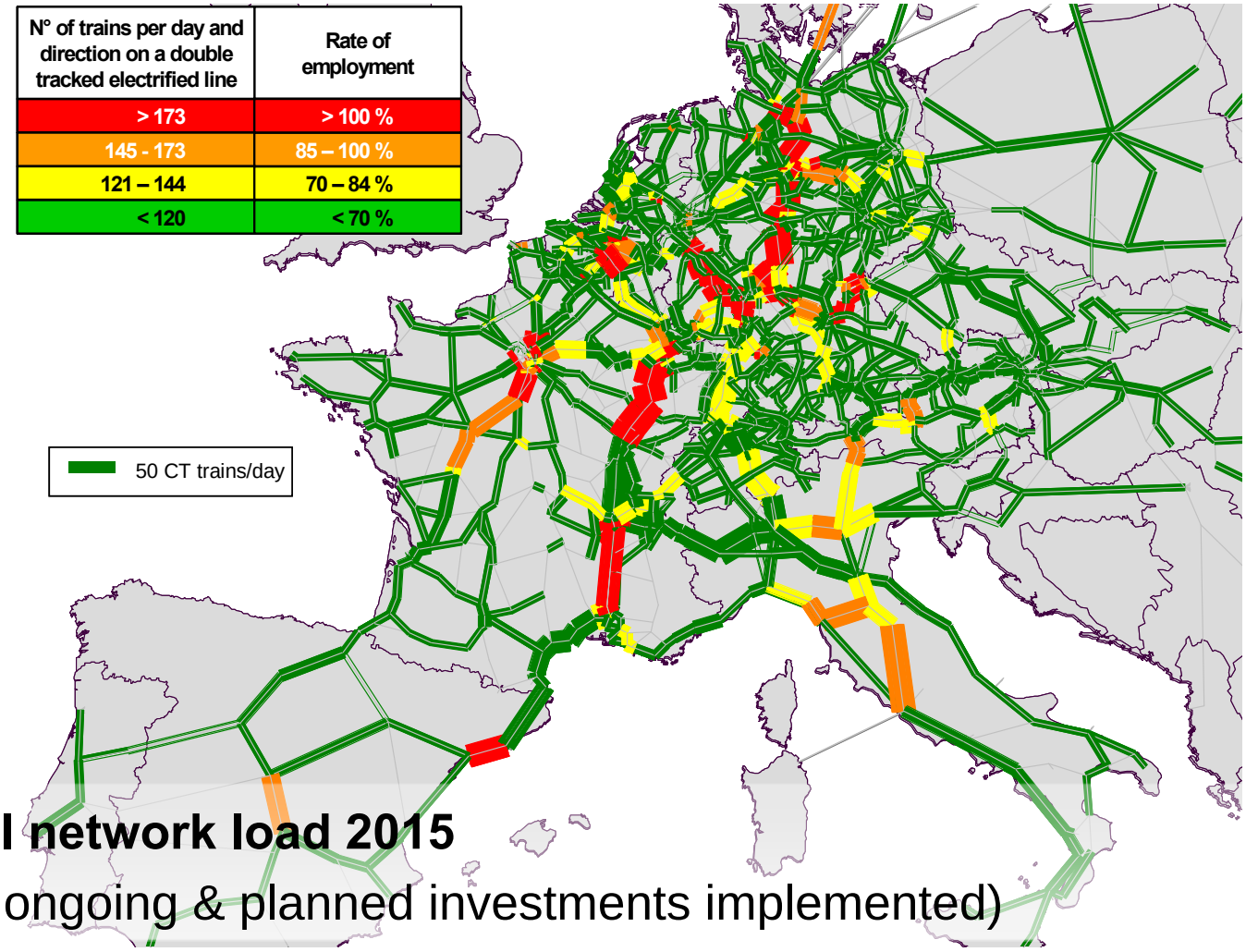
More infrastructure investments

Set of actions proposed

- Ensuring implementation of ongoing and planned rail network enlargement investments
- International agreement on removing “Achilles’ heels” (key bottlenecks) of rail network
- Realizing terminal enlargement investments; initiating an international intermodal hub programme

More infrastructure investments

Domestic & international CT trains on rail network: 2015



Rail network load 2015

(all ongoing & planned investments implemented)

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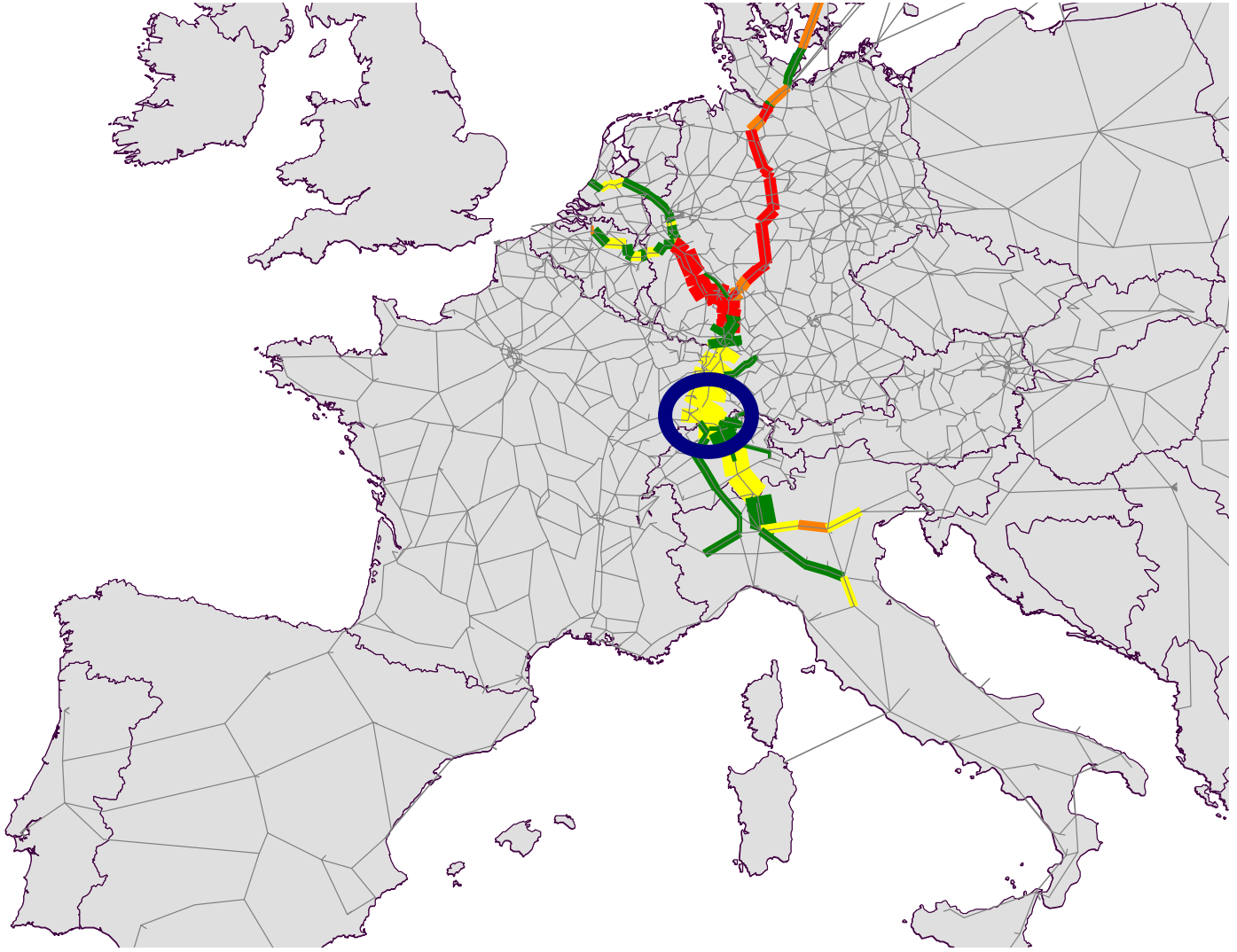
More infrastructure investments

Achilles' heel Basel area



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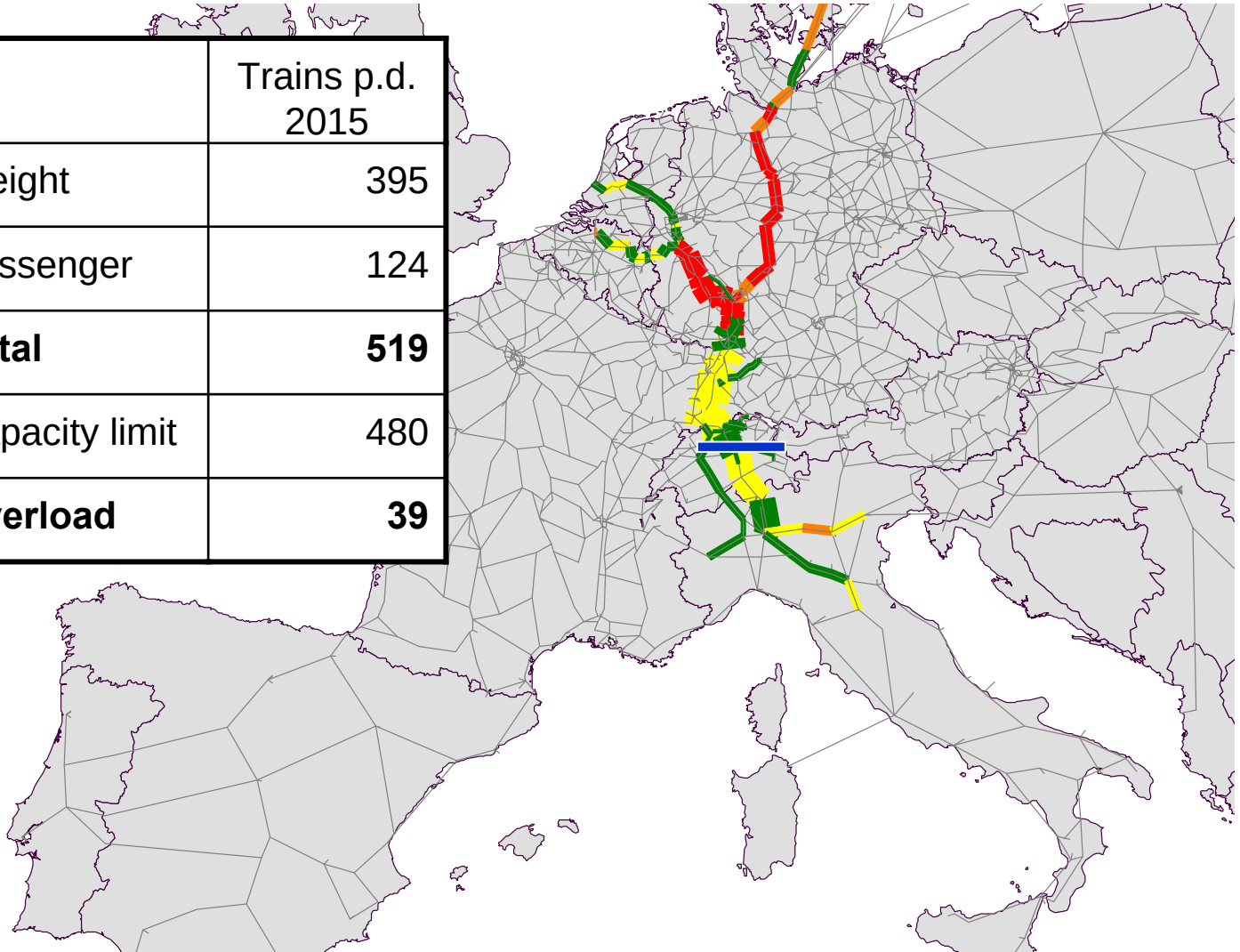
More infrastructure investments

Achilles' heel Basel area

	Trains p.d. 2015
Freight	395
Passenger	124
Total	**519**
Capacity limit	480
Overload	**39**



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Achilles' heel Basel area: IM viewpoint

- More than 25% of intermodal trains passing Basel node operate on lanes Antwerpen/Rotterdam/Köln – Milano
- Average distance: 993 km
- Owing to lack of capacity lack at Basel, in 2015, 39 trains couldn't be operated
- Assumption: Average train path price per train-km: € 3
- Non-realized revenues:
  39 trains x 993 km x 280 days x € 3 =

€ 32.5 million per year

Achilles' heel Basel area: RU viewpoint

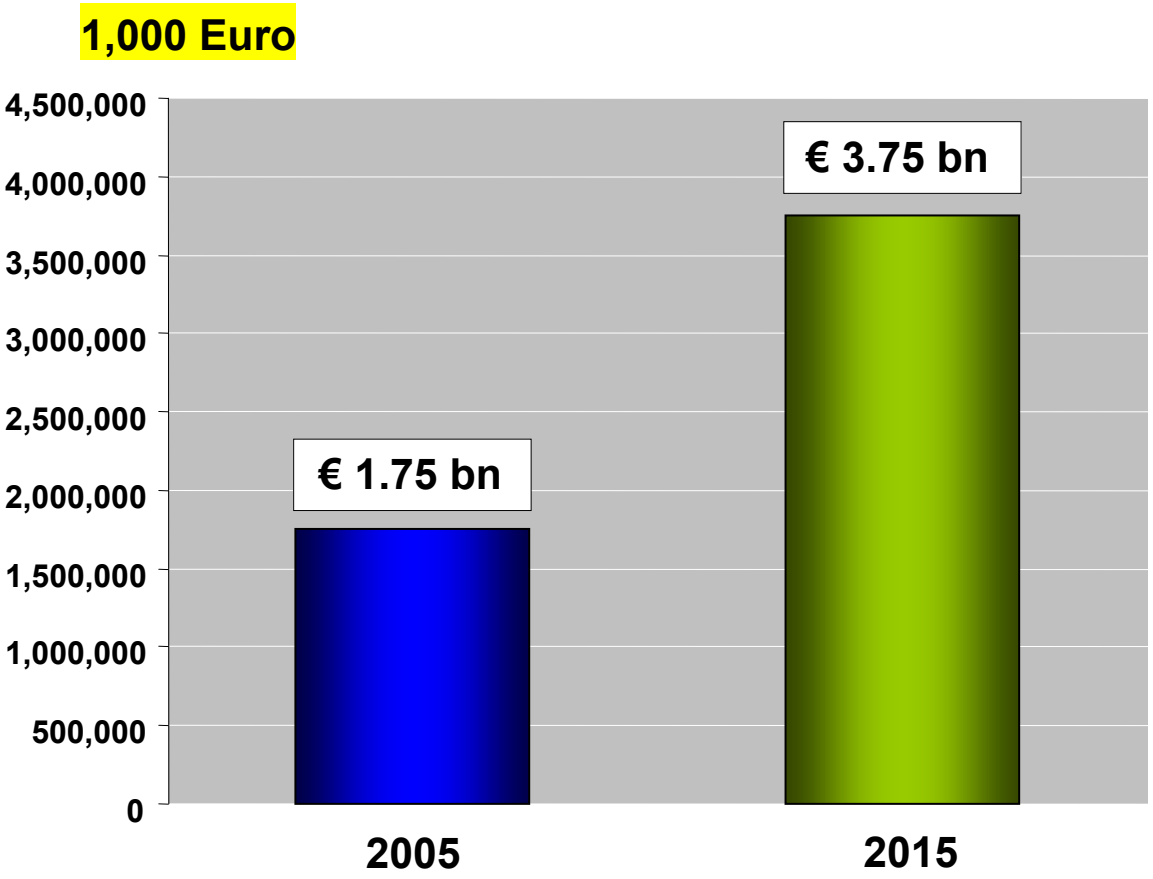
- Average distance: 993 km
- Owing to lack of capacity lack at Basel, in 2015, 39 trains couldn't be operated
- Assumptions:
  - Average traction price per train-km: € 12
  - Average train path price per train-km: € 3
- Non-realized revenues:

  39 trains x 993 km x 280 days x €(12-3) =

  € 97.6 million per year

More infrastructure investments

No budget for infrastructure investments? – Financing by savings from external benefits of CT



External benefit calculation based on Marco-Polo-Programme values for road and rail

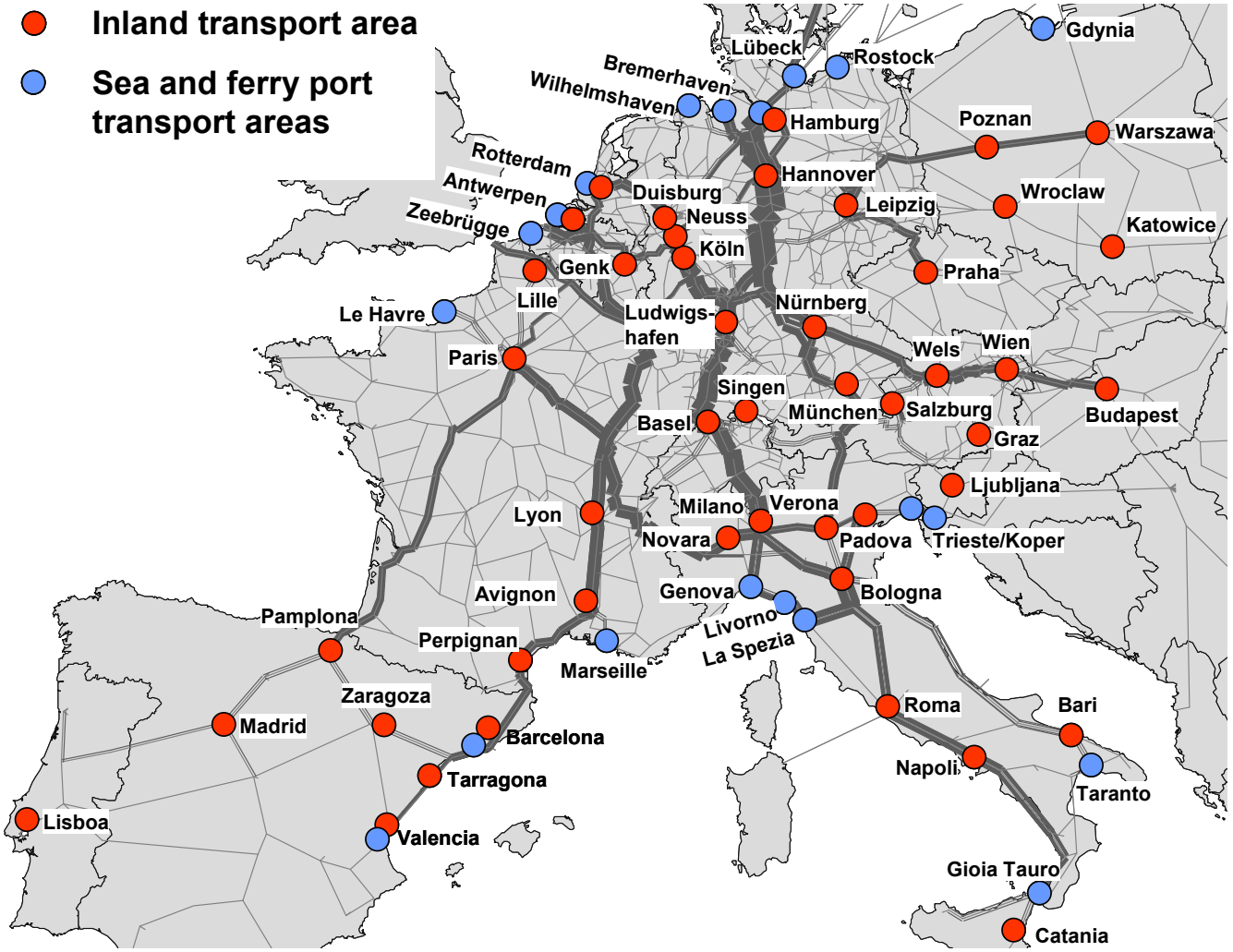
Conclusions

- Even if all ongoing and planned investments will be under operation by 2015, capacity bottlenecks will remain in European network (Achilles' heels)
- DIOMIS database allow for a calculation of the monetary effects of further investments in infrastructure
- Given the European dimension of combined transport a co-ordinated international approach is required:

  EU member states and Switzerland should initiate an international agreement on removing major bottlenecks on European backbone network

More infrastructure investments

CT terminal investments required across Europe



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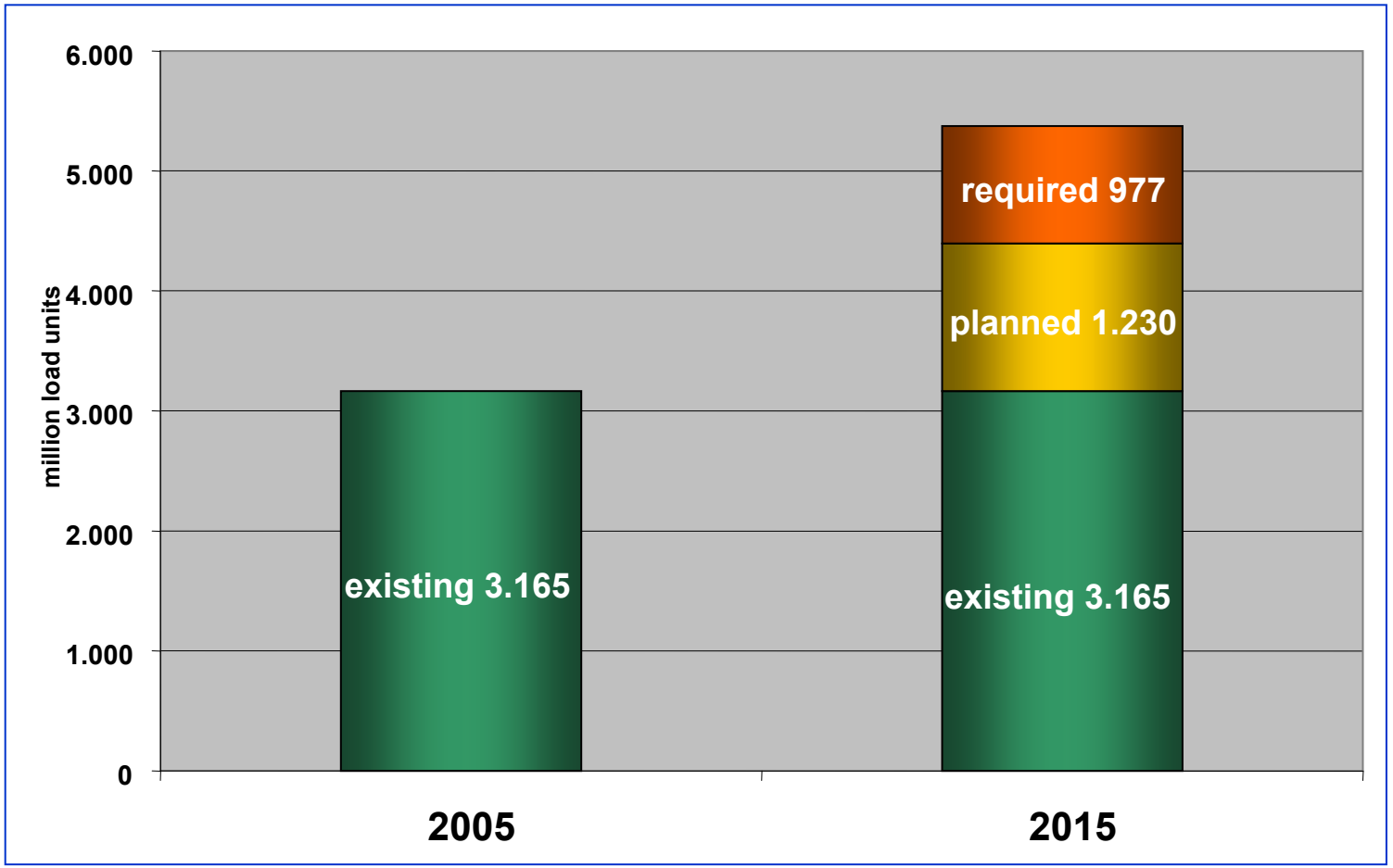
More infrastructure investments

Terminal capacity need: example Italy



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More international co-ordination

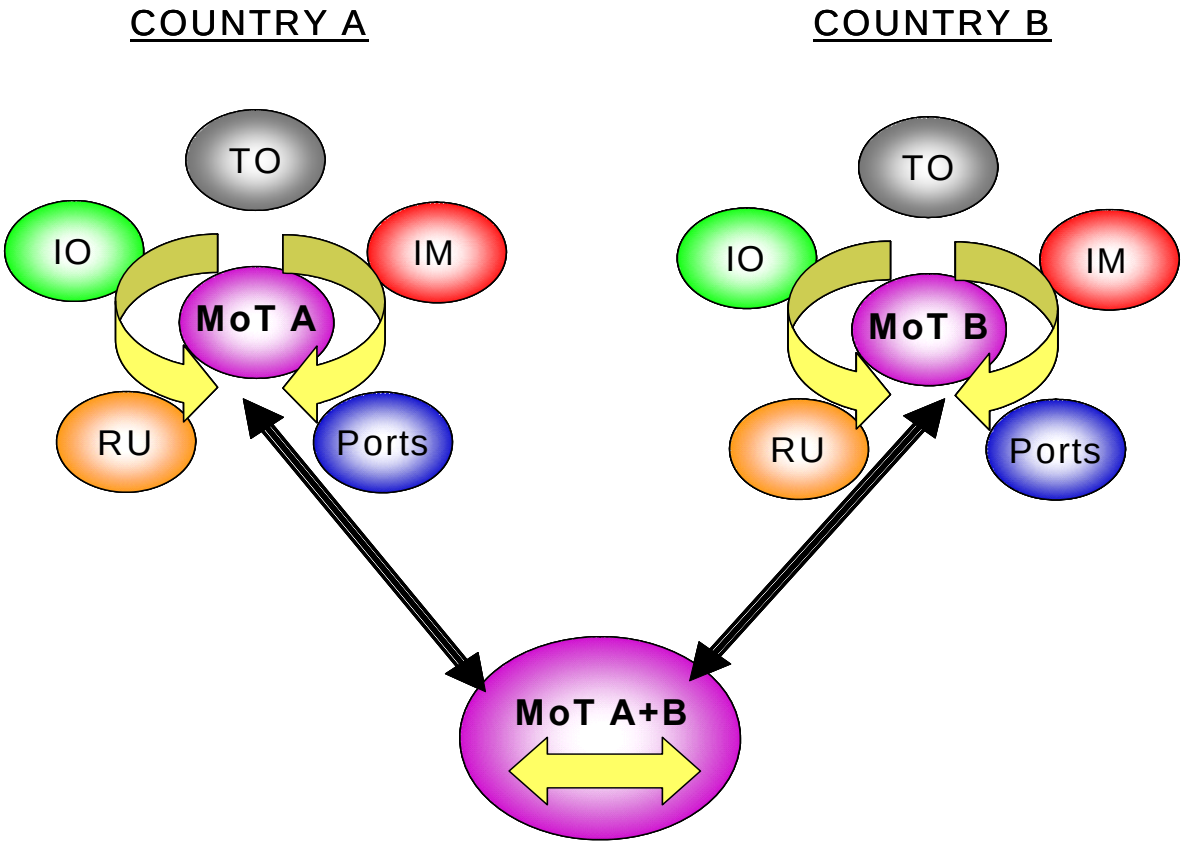
More international co-ordination

Set of actions proposed

- Cross-country synchronization of rail network enlargement investments to ensure strongest corridor/network impact
- Reinforcing exchange of best practices in terminal management:
  - Mutual learning of terminal operators
  - Enhancing co-operation between terminal operators and “users” in order to contribute to more efficient procedures
  - Initiating continuous improvement programme
- Implementing standardized process to ensure international co-ordination of terminal development

More international co-ordination

International co-ordination of terminal development



Key:

MoT	=	Ministry of Transport	IM	=	Infrastructure Manager
IO	=	Intermodal Operator	RU	=	Railway Undertaking
TO	=	Terminal Operator			

Conclusions

Strong involvement of all stakeholders required

Actions	IM	RU	IO	TO	MoT	EC	Other
More efficient use of infrastructure							
Employment of infrastructure-efficient, train path-saving rail production systems		☐	■				
Application of incentives in infrastructure access charging systems	■	☐	☐	☐			
Improvement of punctuality of rail traction services	☐	■	☐	☐			
Enhanced process organization of rail traction services	☐	■	☐				
Advanced train and network capacity management systems		☐	■	☐			
Implementation of longer and/or heavier trains including minor infrastructure adaptations	☐	■	☐				☐ 1)
Increased wagon axle loads	■	☐	☐				☐ 1)
Best practices in terminal operation and management	☐	☐	☐	■			
More infrastructure investments and international co-ordination							
Implementation of ongoing and envisaged rail network investments	■				☐	☐	
International agreement on “Achilles’ heels” removal programme	☐	☐	☐		☐	■	
Realization of ongoing and envisaged terminal investments and intermodal hub programme	☐		☐	☐	■	☐	
Standardized process for international co-ordination of CT terminal development	☐	☐	☐	☐	■		

1) Railway Industry

■ Main Actor ☐ Involved Party

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AGENDA 2015

offers intermodal stakeholders

a set of tools to improve business,

and an opportunity and a platform

to speak out as an industry in its own right

and address its needs.

The next step: DIOMIS 2

Objectives

- Complement DIOMIS 1 with “lacking” issues
- Ensure that findings of DIOMIS 1 are turned into concrete actions by key decision takers and integrated in their development strategies
- Improve general knowledge of relevant stakeholders about combined transport

The next step: DIOMIS 2

Key elements

- CT in Central and Eastern Europe
- Investigate the third parameter which constrains growth: the wagon
- Targeted communication and dissemination strategy throughout 2008
- Updating overall report on CT
- Benchmark US-Europe (business models, IT systems, rolling stock management, financing models etc.)