DIOMIS Conference

The actions taken by Infrastructure Managers

Gerard Dalton
UIC Infrastructure Department Director,

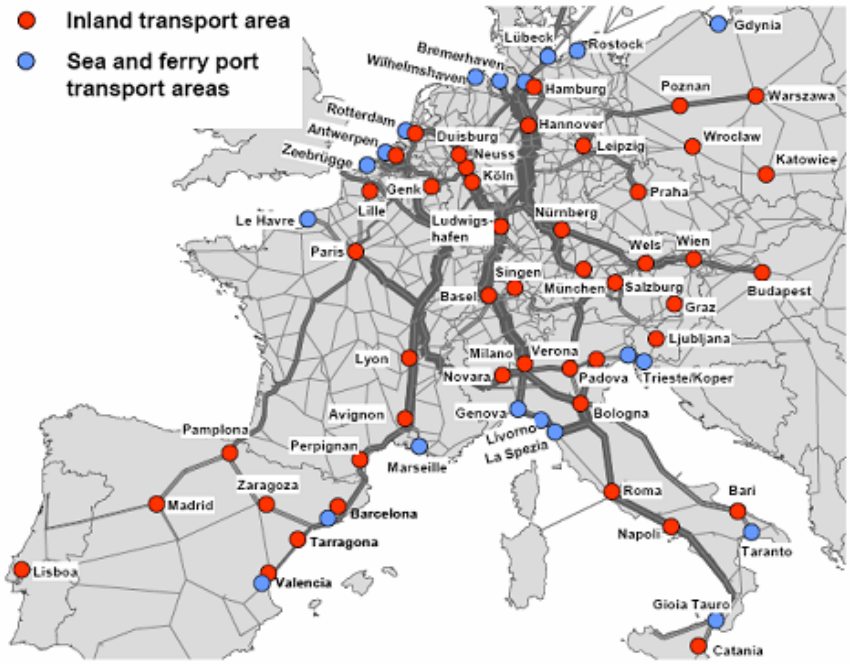
Paris, April 17th 2008

Main issues of Agenda 2015 for CT

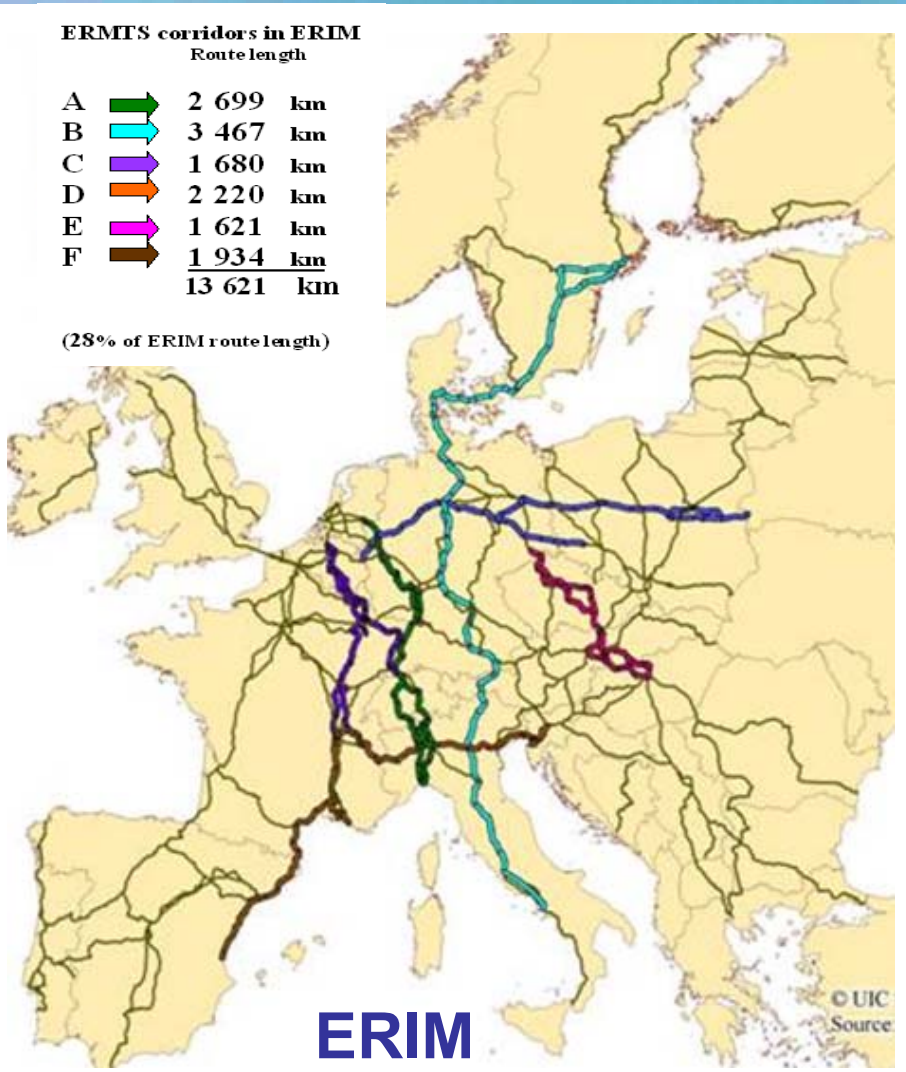
- **Prerequisites for Traffic Growth**
  - Efficient **employment** of network infrastructure
  - Infrastructure **investments**
  - International **coordination**
- Growth Potential of CT
- Stakeholder Involvement

The main transport corridors are identified

DIOMIS has identified 18 transport axes which are mainly in ERIM Network



DIOMIS



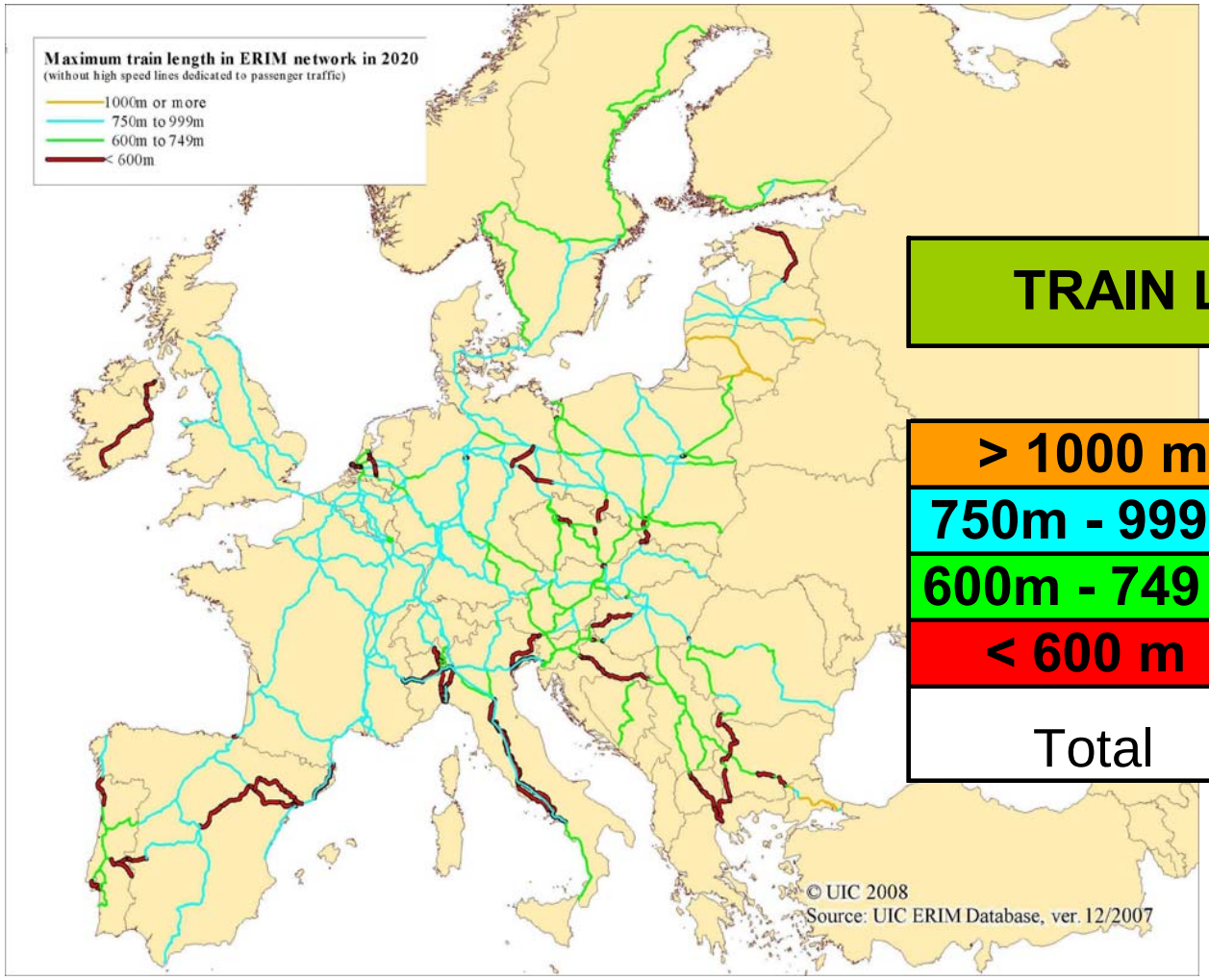
ERIM

The current and planned infrastructure provision are identified in ERIM Network

	2007	2020
Double track of more	75%	82%
GB gauge or more	83%	84%
Train length **750 m** or more	39%	57%
Freight Speed **120 km/h** or more	37%	57%
Axle load **22,5 t / axle** or more	84%	91%
Train load **1 500 t** or more	72%	73%
Equiped with **ETCS**	4%	72%
Equiped with **GSM-R**	18%	87%

For other infrastructure parameters, see ERIM Atlas 2007

The current and planned infrastructure provision are identified in ERIM Network



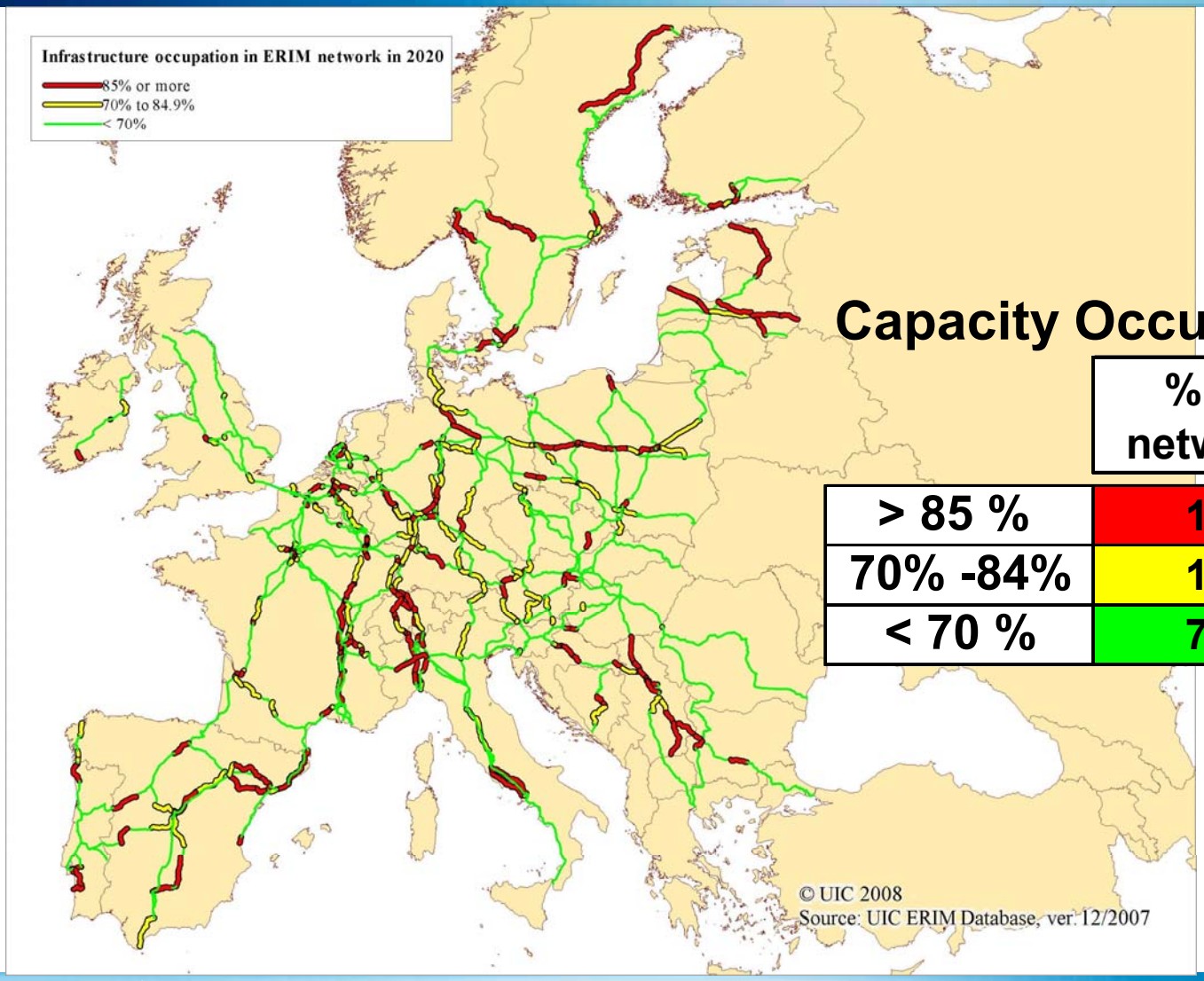
TRAIN LENGTH IN 2020	Km	%
> 1000 m	952	2%
750m - 999m	28 612	56%
600m - 749 m	14 570	29%
< 600 m	6 408	13%
Total	50 542	100%

Harmonisation of Infrastructure provision within the ERIM Network

Recommendations have been done for **network** and **corridor** harmonisation.

	Minimum targets for the ERIM Network	New installations, Major upgradings or Specific Corridors
Train Length	600 m	750 m
Loading Gauge	GB	GC
Axle Load	22,5 t	25 t
Train Load	1 500 t	3 000 t
Freight Speed	100 km /h	120 km/h

Identification of potential bottlenecks in 2020



Capacity Occupation in 2020

	% of network	Route - Km
> 85 %	10	4 897
70% -84%	14	6 576
< 70 %	76	35 837

The (minimum) investment needs are estimated

Costs of investments for hamonisation and capacity relieve (Millions €)

Corridor	Gauge	Train length	Axle load	Train load	Freight speed	Capacity relieve	TOTAL costs
ERTMS **A**	411	166	17	88	141	15 226	16 049
ERTMS **B**	152	301	57	205	0	21 841	22 555
ERTMS **C**	42	45	0	33	97	6 031	6 247
ERTMS **D**	970	737	377	764	929	3 529	7 307
ERTMS **E**	0	229	87	440	343	2 384	3 482
ERTMS **F**	0	106	78	29	253	3 976	4 441
Total ERTMS	**1 574**	**1 583**	**616**	**1 559**	**1 763**	**52 986**	**60 081**
Total others	9 514	3 638	5 018	6 747	11 669	96 865	133 451
Total ERIM Network	**11 088**	**5 221**	**5 633**	**8 306**	**13 432**	**149 851**	**193 531**

Source: © UIC ERIM Database 2007

ERIM 2007 Report, Table 26

IM Input to the international coordination

Based on IM input

Overview regarding investments by budgeting status

ESTIMATES

EUR billions, 2007 - 2020

( ) Unbudgeted

	Corridors						
	A	B+-	C / D+	D+-	E+	F-	Total*
1 Infrastructure parameters	0.5 (0.5)	0.6 (0.6)	1.9 (1.9)	0.6 (0.3)	1.2 (0.7)	0.4 (0.4)	**5.1 (4.3)**
2 Bottlenecks	29.0 (18.5)	25.5 (17.5)	22.3 (19.6)	19.3 (10.7)	16.2 (12.9)	8.2 (7.1)	**120.5 (86.5)**
3 Terminals	0.1 (0.1)	0.4 (0.4)	0.7 (0.4)	0.5 (0.3)	0.4 (0.4)	0.3 (0.3)	**2.4 (1.7)**
4 ERTMS	1.4 (1.4)	3.3 (3.3)	1.7 (1.7)	0.3 (0.3)	5.2 (5.2)	5.5 (5.5)	**17.4 (17.4)**
Total*	**30.9 (20.4)**	**29.8 (21.9)**	**26.7 (23.6)**	**20.7 (11.6)**	**23.0 (19.1)**	**14.3 (13.3)**	**145.4 (109.9)**

* Due to rounding, totals might not add up

Source: UIC ERIM; UIC Diomis; ERTMS; CER corridor project

CER *The Voice of European Railways*

29

Main issues of Agenda 2015 for CT

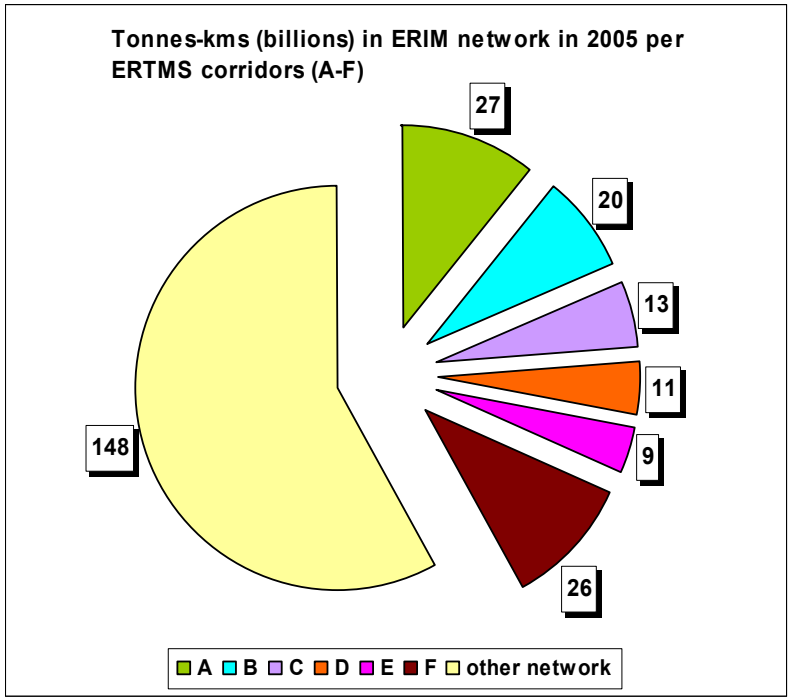
- Prerequisites for Traffic Growth
  - Efficient employment of network infrastructure
  - Infrastructure investments
  - International coordination
- **Growth Potential of CT**
- Stakeholder Involvement

Freight traffic in ERIM network and per ERTMS corridors

2005 :

ERIM network: **255** billion tonnes-kms

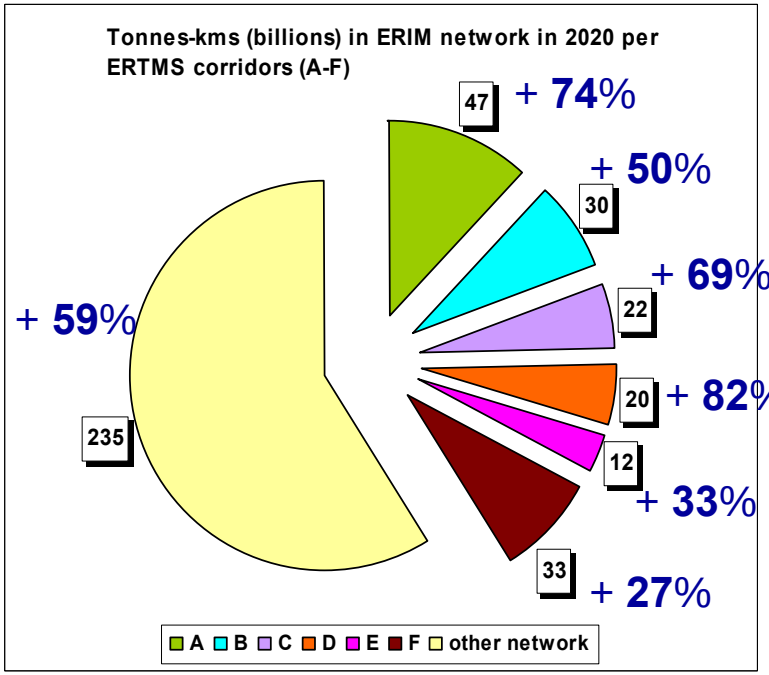
ERTMS corridors: **106** billion tonnes-kms (42% of ERIM traffic)



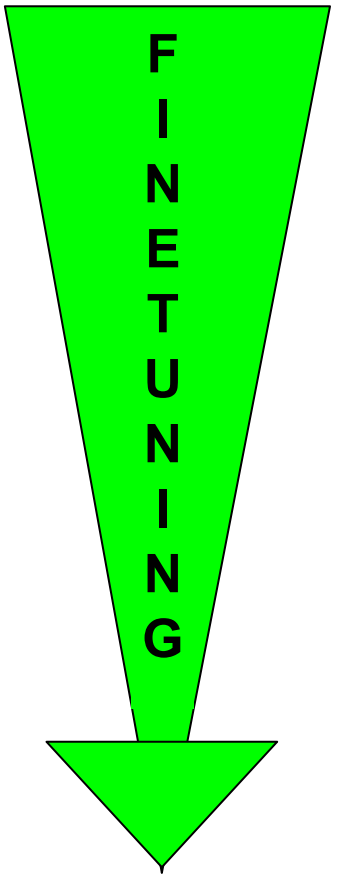
2020 estimation :

ERIM network: **398** billion tonnes-kms (growth **+ 56%**)

ERTMS corridors : **163** billions tonnes-kms (growth **+ 54%)**



Growth forecast for CT is needed (DIOMIS) for more efficient infrastructure planning



FORECAST FOR TRAFFIC GROWTH IN ERIM NETWORK 2006-2020

	Total Growth	Annual Growth
National Freight	51%	2,90%
International Freight	60%	3,50%

FORECAST FOR TRAFFIC GROWTH IN SPECIFIC COUNTRY OR CORRIDOR

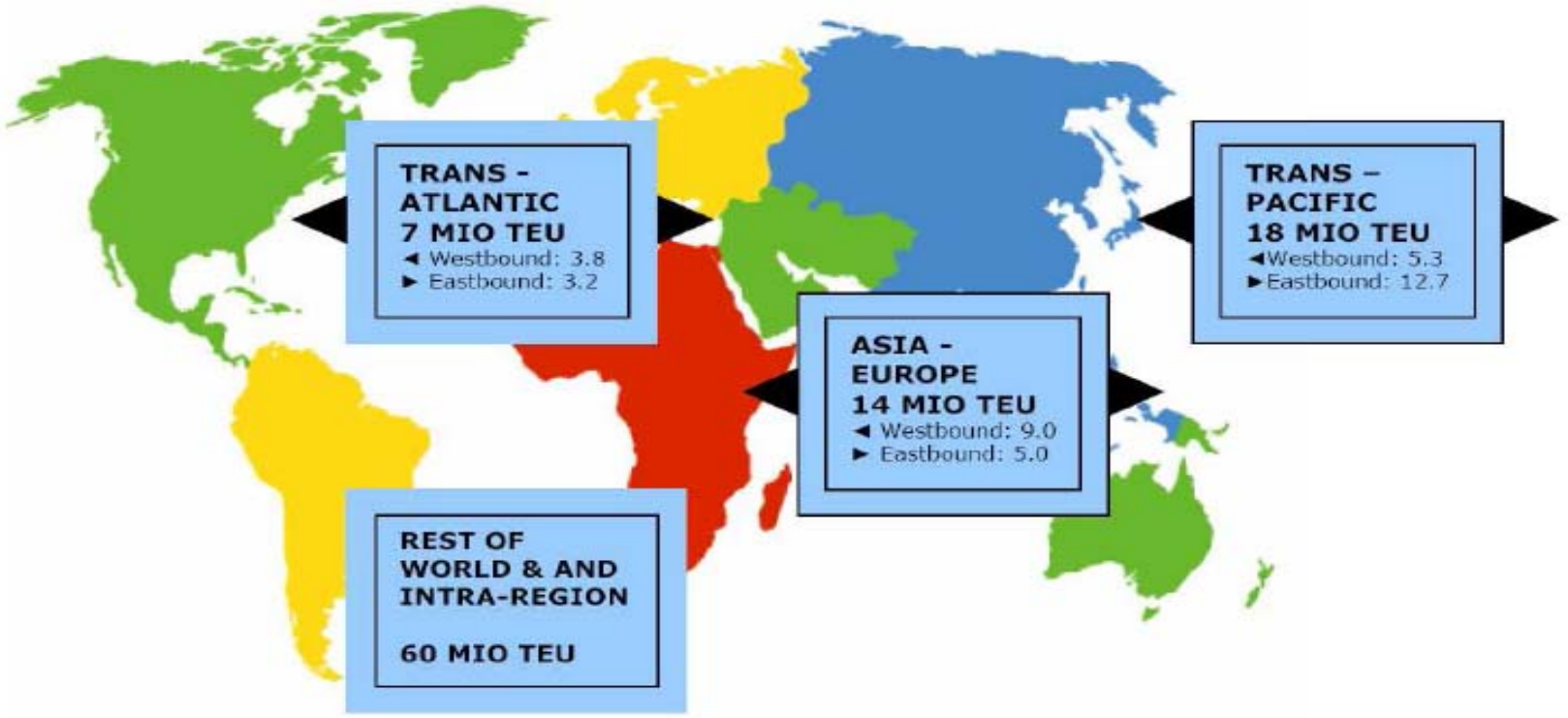
Example	% Today	Annual Growth	% in 2020
Full train	35	1-2%	≈ 30
Single wagon load	50	0-2%	≈ 40
Combined transport	15	6-8%	≈ 30

Main issues of Agenda 2015 for CT

- Prerequisites for Traffic Growth
  - Efficient employment of network infrastructure
  - Infrastructure investments
  - International coordination
- Growth Potential of CT
- **Stakeholder Involvement**

World container flow

Diagram 3-1: World Container Flow 2005 (Million Full Load Containers)



Source: Own compilations based on ECSA (European Communities Shipowners Association & Drewry Shipping Consultants Ltd).

Main European Container Ports

Top 5 European Container Ports (000 TEUs - 2005)

Rotterdam (Netherlands)	9,287
Hamburg (Germany)	8,088
Antwerp (Belgium)	6,488
Bremen (Germany)	3,735
Gioia Tauro (Italy)	3,161

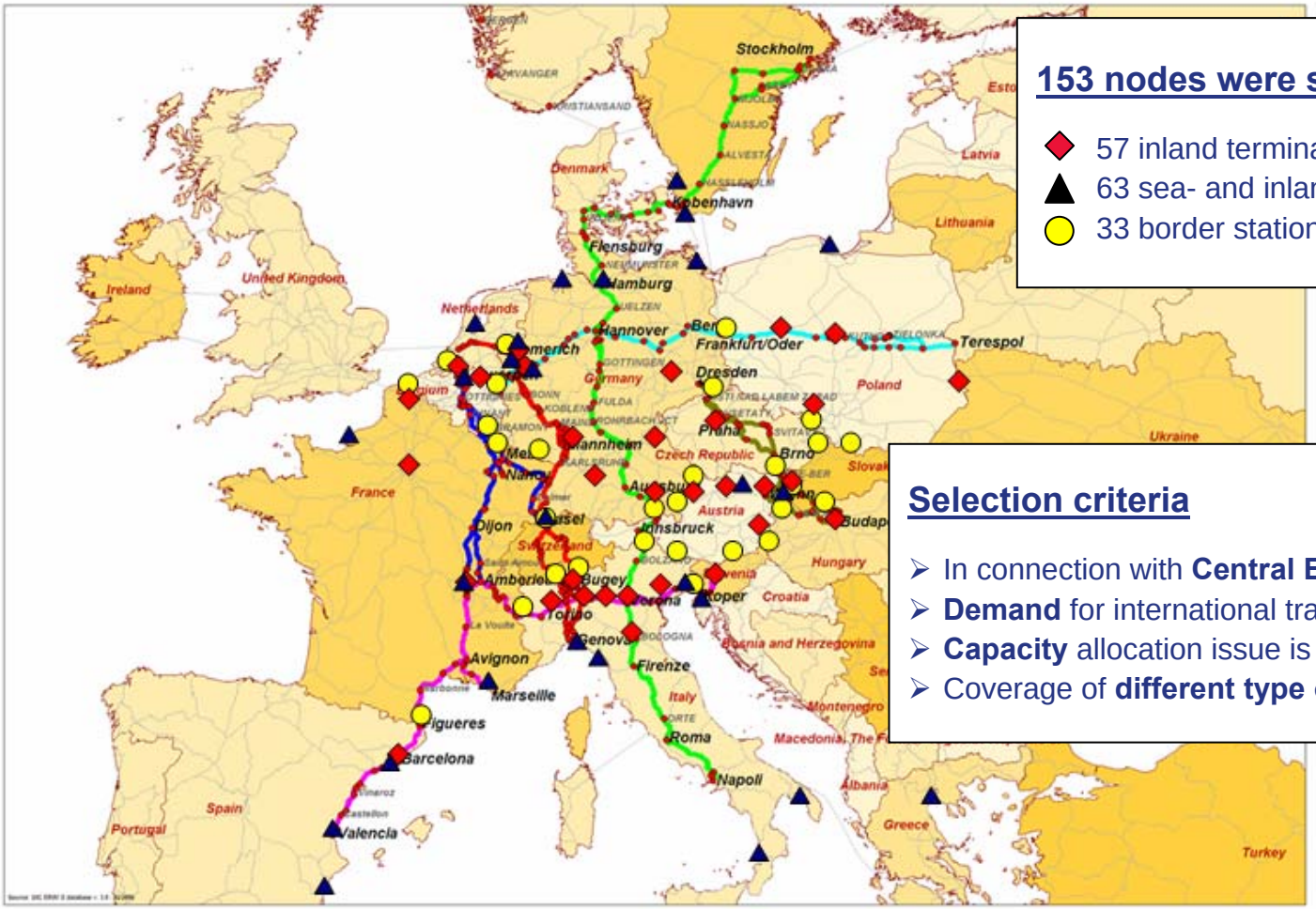
Rail connected Ports / Gateway to Europe Central Area

Rotterdam	Netherlands
Antwerp	Belgium
Hamburg / Bremerhafen	Germany
Genoa / Savona / La Spezia	Italy

Other ports

Marseille, Le Havre	France
Barcelona / Valencia	Spain
Treiste	Italy
Koper	Slovenia
Cdynia / Gdansk	Poland

Last mile infrastructure provision is partly identified (TEMA)



153 nodes were selected

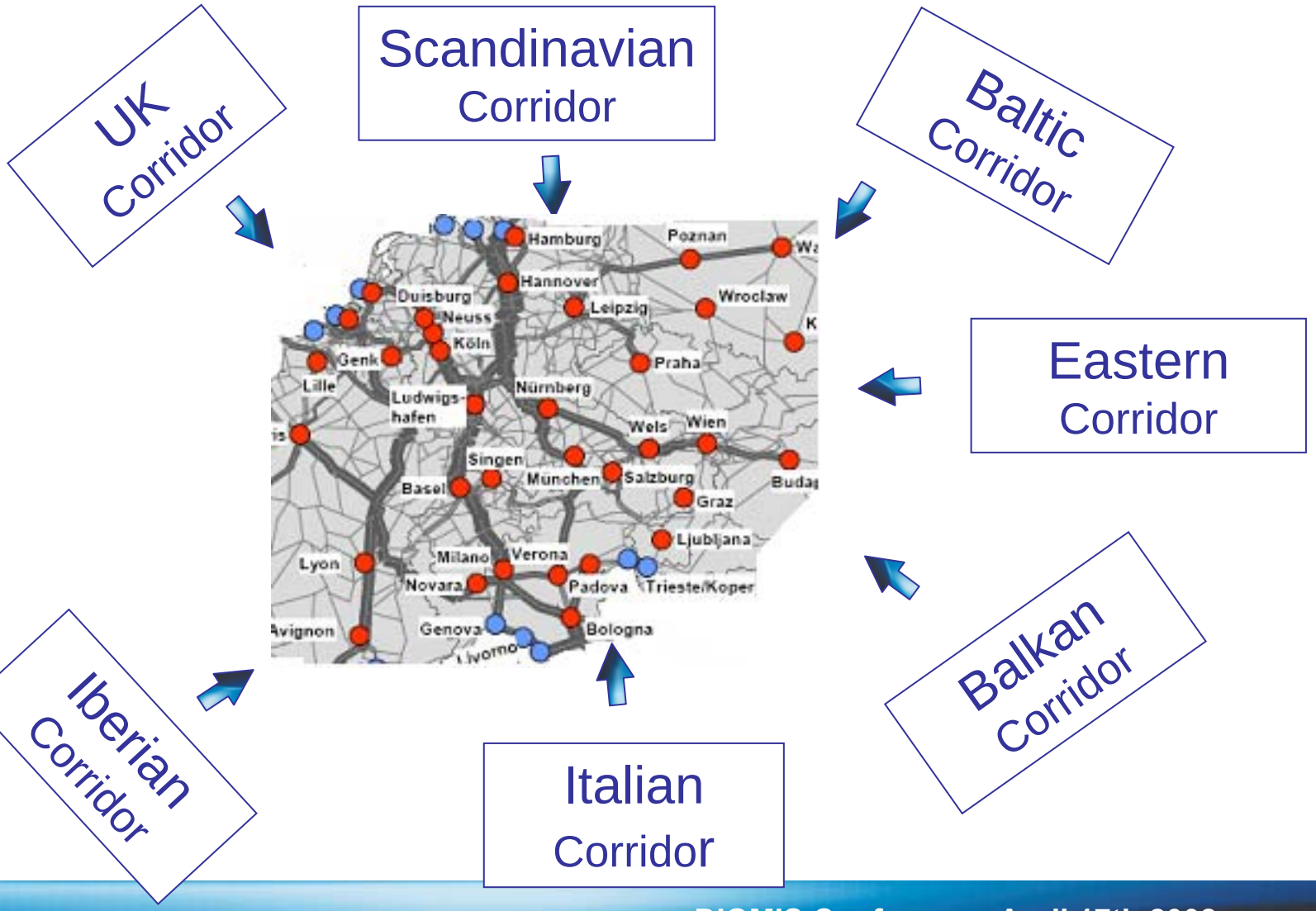
- 57 inland terminals
- 63 sea- and inland port terminals
- 33 border stations

Selection criteria

- In connection with **Central European Railway Grid**
- **Demand** for international transport (potential or existing)
- **Capacity** allocation issue is relevant
- Coverage of **different type of situations**

TEMA works closely with DIOMIS

Central European Area + Adjoining Links



IMs wish to part of an integrated business approach

- **Strong network / corridor / logistic centre commitment** to create a positive signal and help the (end)-customers to plan their transport and logistics schemes.
- **Specific corridor vocations / business opportunities / regional plans** to be developed for each corridor link connecting to the central 'kernal' as part of an integrated solution.
- Focussed and complementary **investment** by IMs and RUs (+ ports and nodes) to win business in specific markets.
- Clear **roll-out strategies for OSS,** Europtirails, and other "specific" corridors.
- Development of **new product concepts and marketing approaches** (hubs / gateways / shuttles).