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*Transport Consultants*  
Hans-Paul Kienzler

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# Developing Infrastructure and Operating Models for Intermodal Shift (DIOMIS)



Paris – 1 February 2007



# Session 2: Impact of the evolution of combined transport in Europe by 2015 on infrastructure



**Hans-Paul Kienzler**

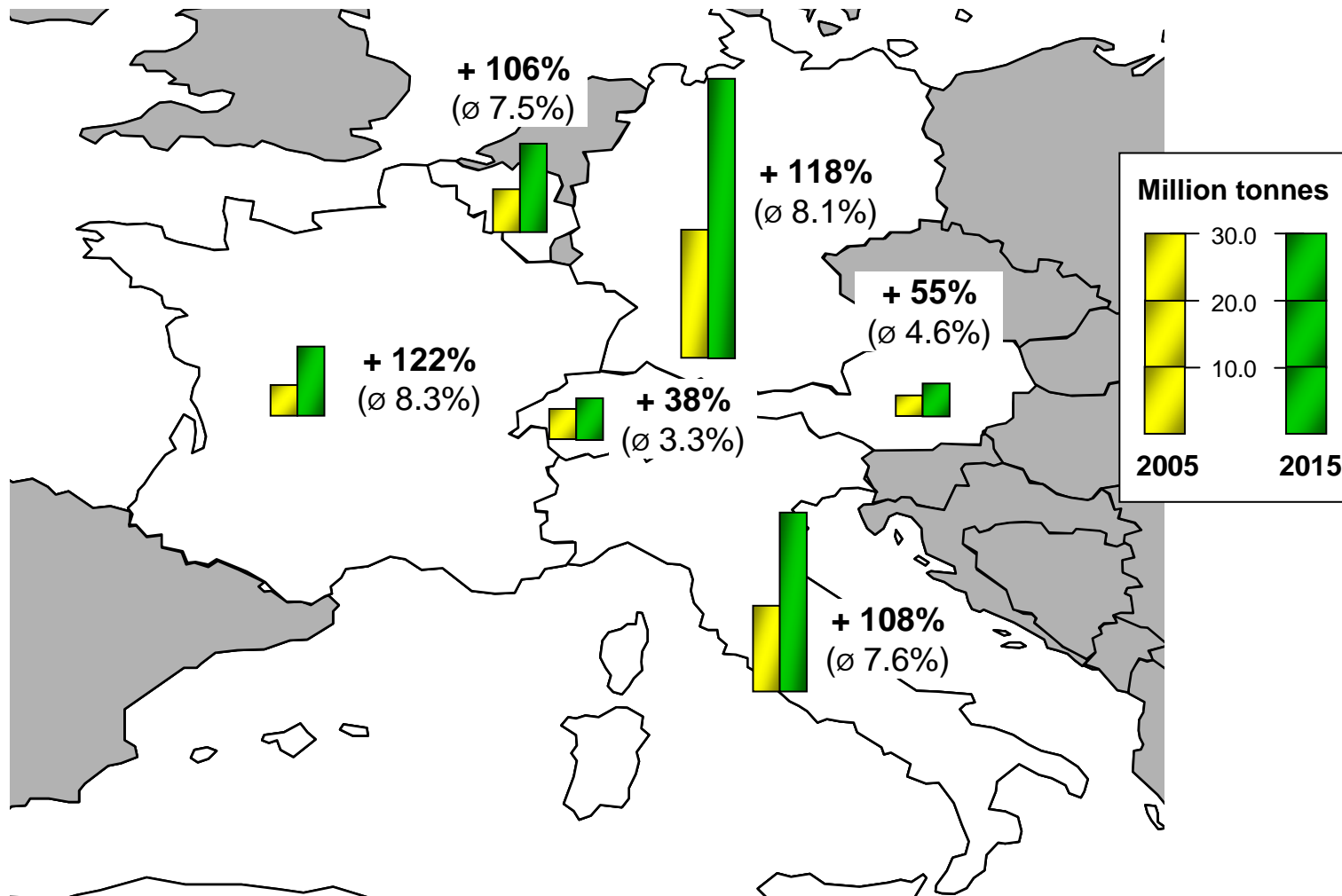
**Managing Director K+P Transport Consultants**

**Email: [hp.kienzler@kp-transport-consultants.com](mailto:hp.kienzler@kp-transport-consultants.com)**

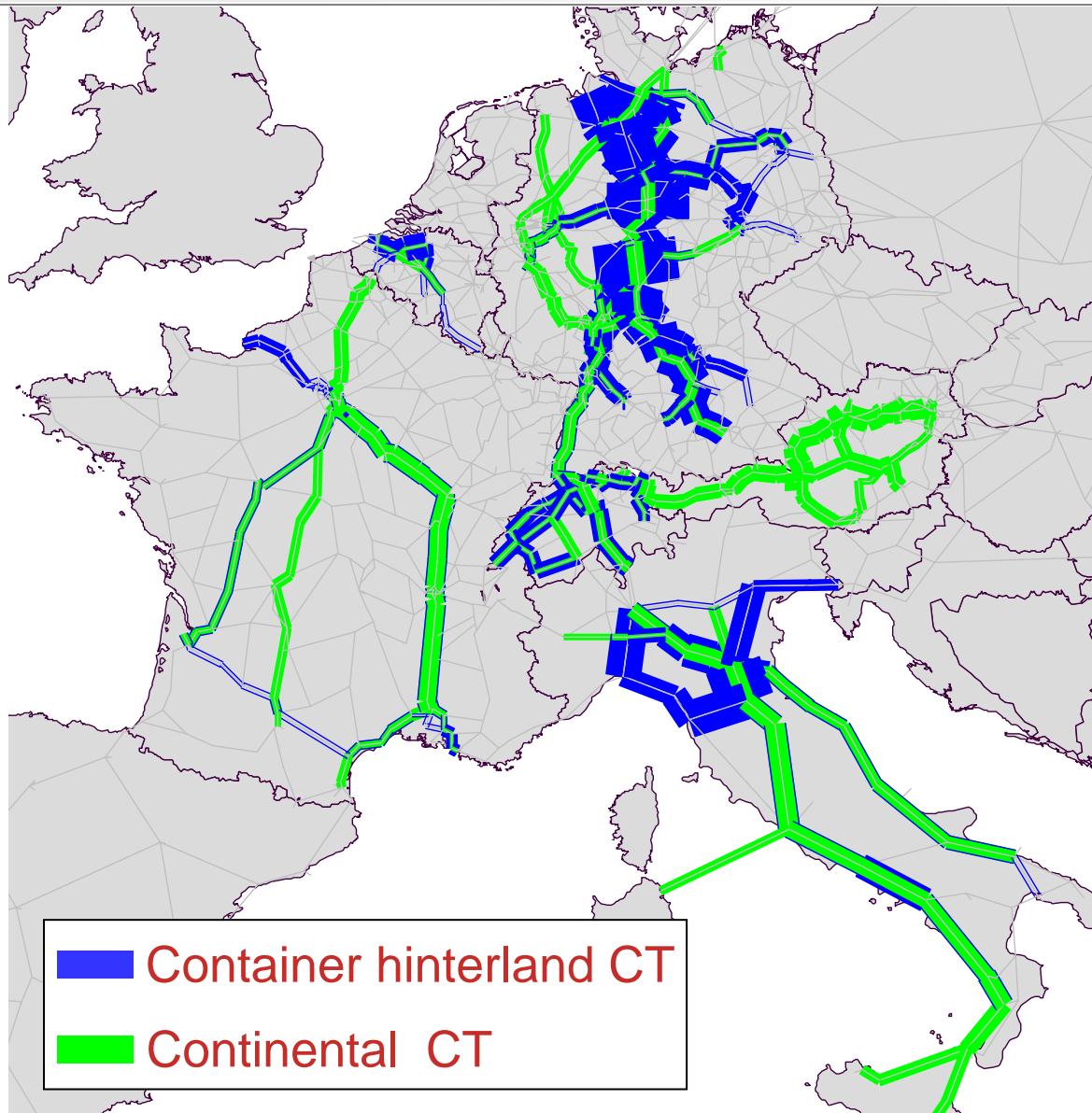
- Domestic combined transport
- Impact on the European rail network
- European dimension of capacity bottlenecks
- Terminal handling capacity required

# Domestic combined transport in countries selected

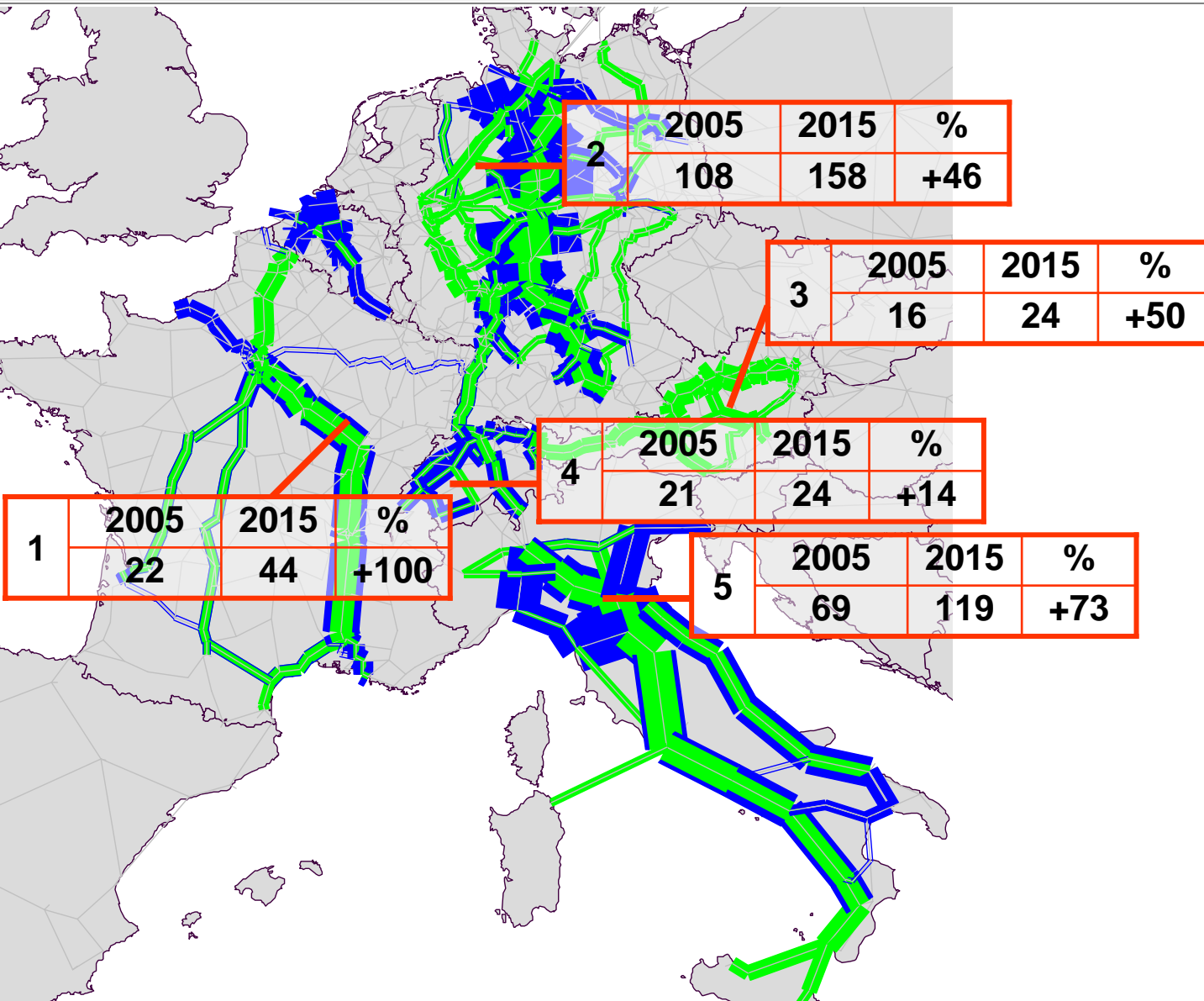
## Total domestic CT volume: 2005/2015



# Domestic CT 2005 in selected countries



# Domestic CT 2015 in selected countries



# Domestic CT 2005 in Germany



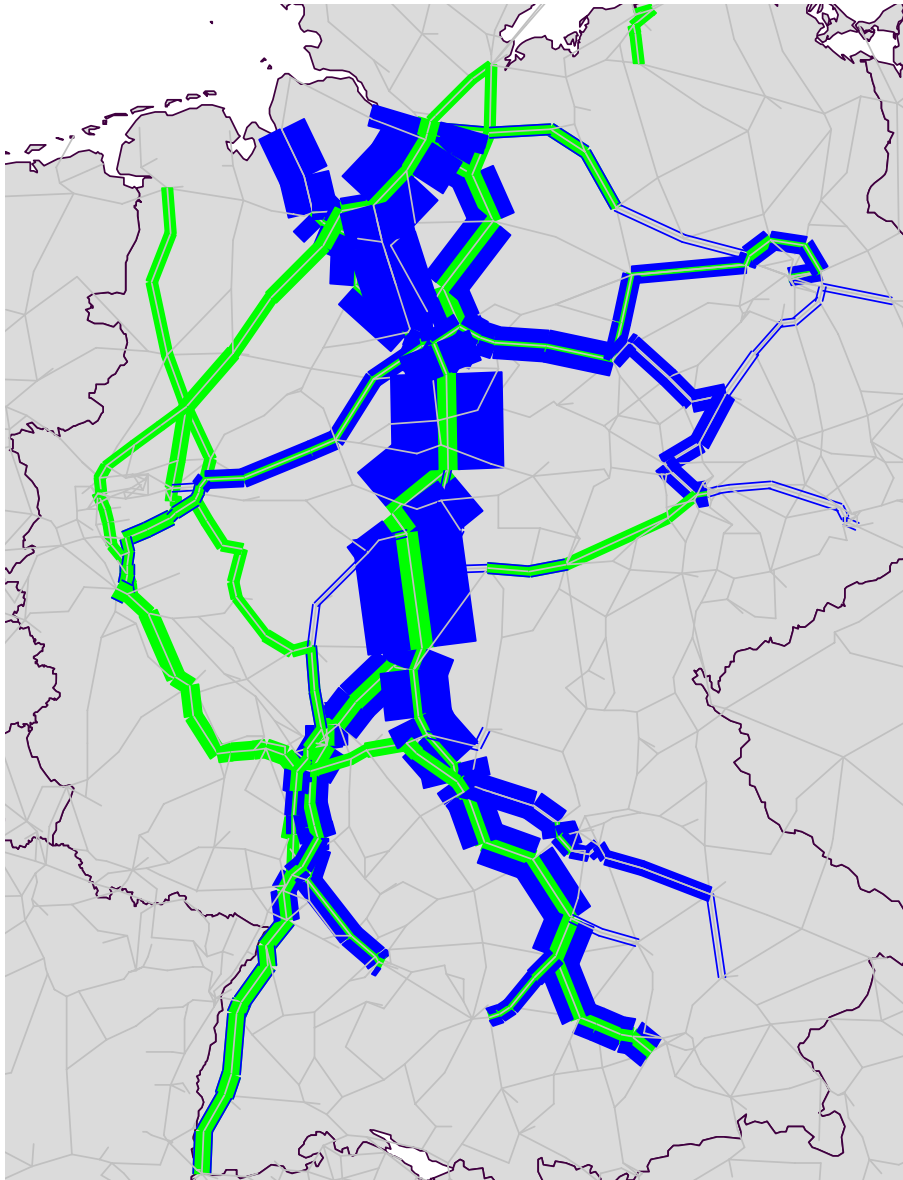
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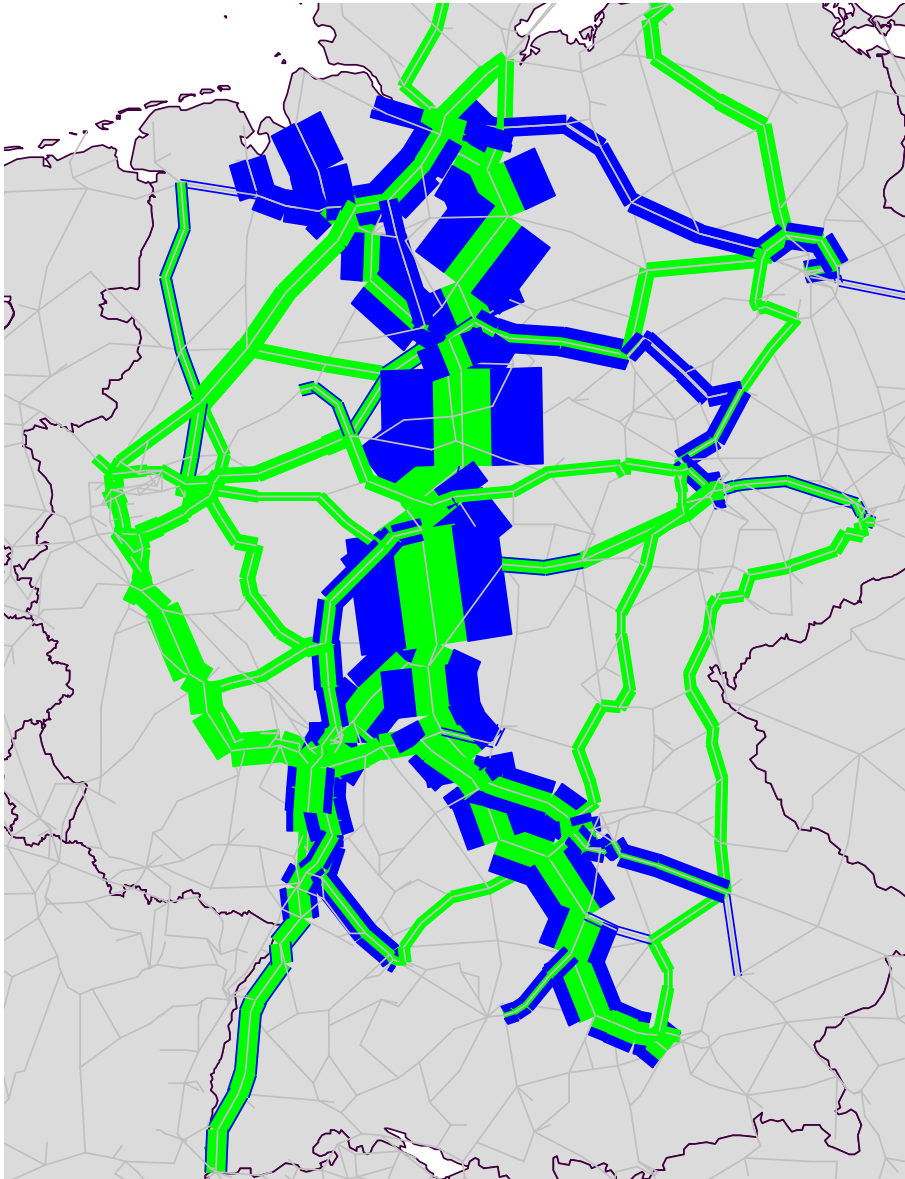


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Chart 7





# Domestic CT 2015 in Germany



- Concentration on main axis
- Aggravate the risk of capacity bottlenecks
  - Combined trains
  - Conventional freight trains
  - Passenger trains



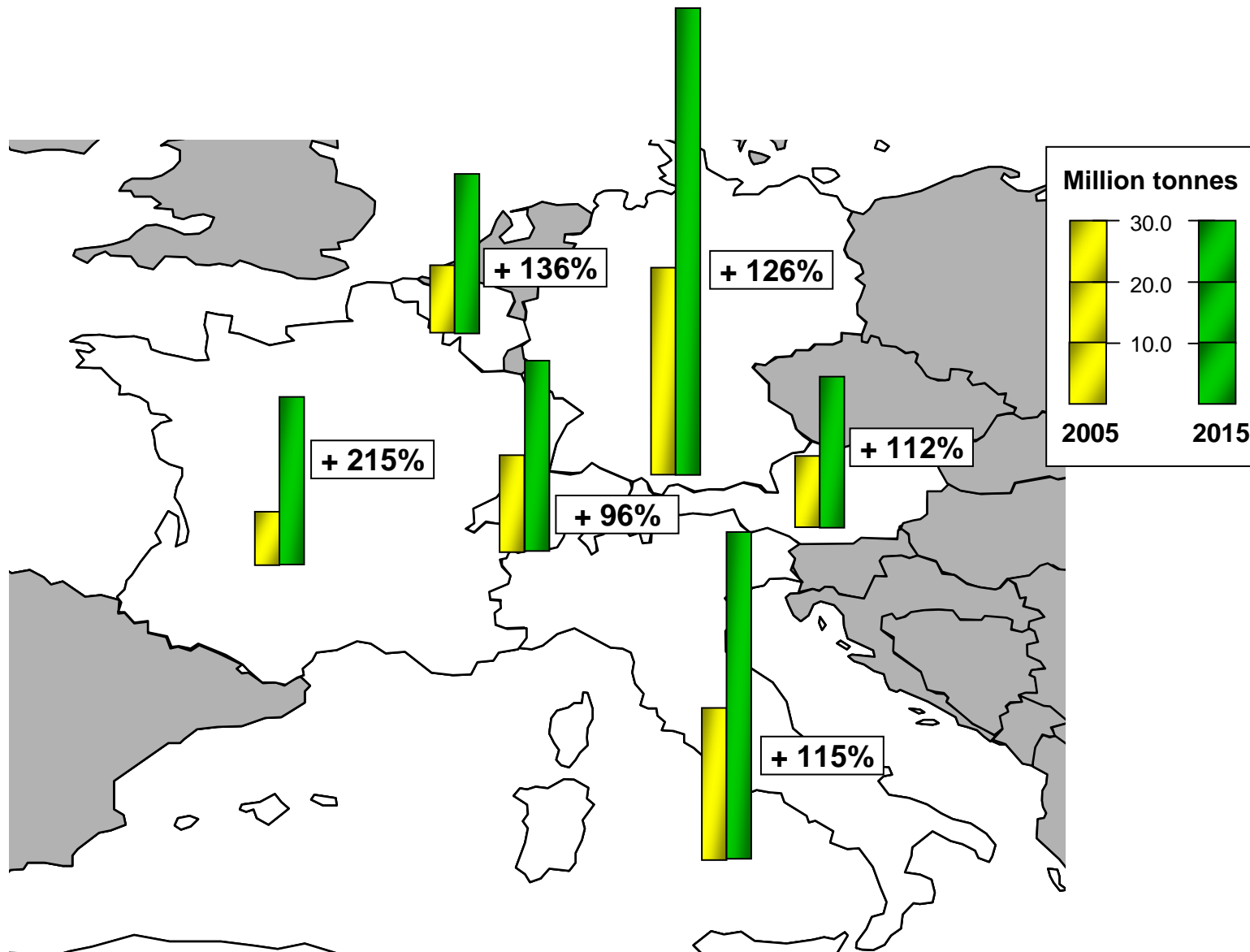
# Total unaccompanied CT volumes: 2005/2015



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Chart 9

**Total network capacity requirement per corridor 2015  
(daily average n° of trains) and identification of  
capacity bottlenecks based on following values for a  
two-track electrified railway line**

	DIOMIS	DIOMIS	ERIM
	2005	2015	
	Number of daily trains one way		
>100%	>144	>173	>144
85 - 100%	122 - 144	145-173	
70 - 85%	100 - 122	121 - 144	
<70%	<100	<122	<100



**+20% productivity gain by 2015**

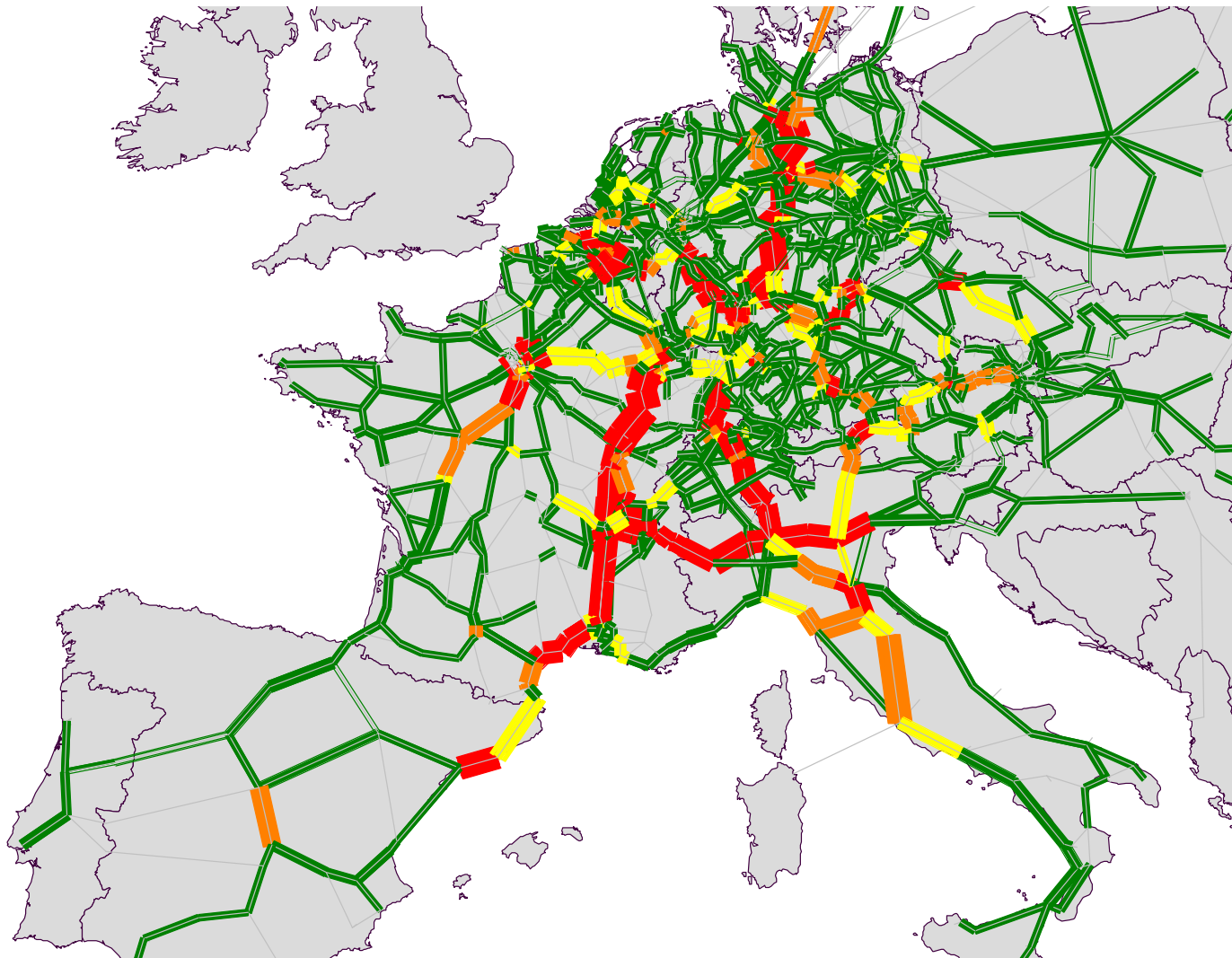
# Capacity utilisation 2015 disregarding enlargement investments



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Chart 11

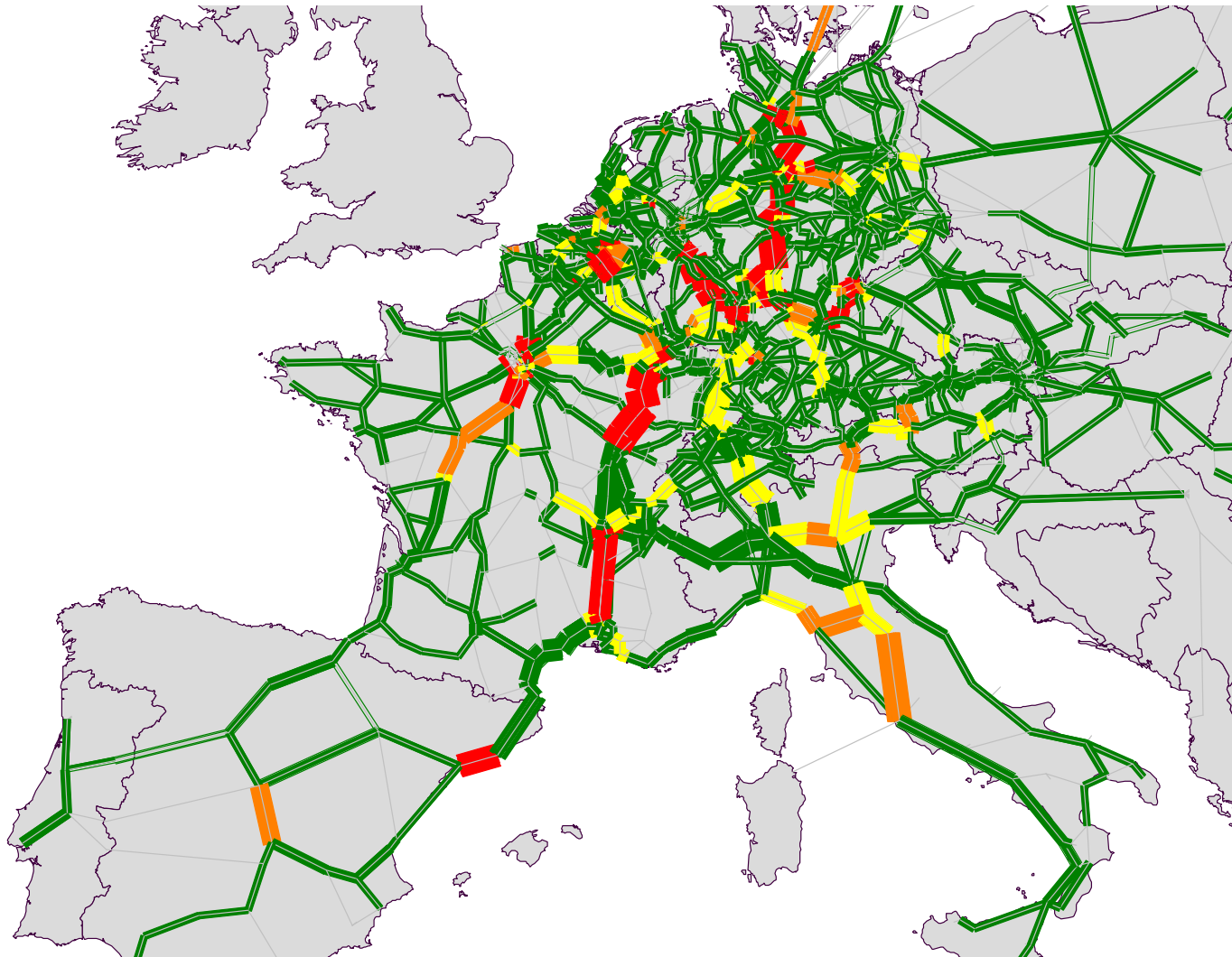
# Capacity utilisation 2015 considering enlargement investments



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Chart 12

# Capacity utilisation 2015 on a selected cross section



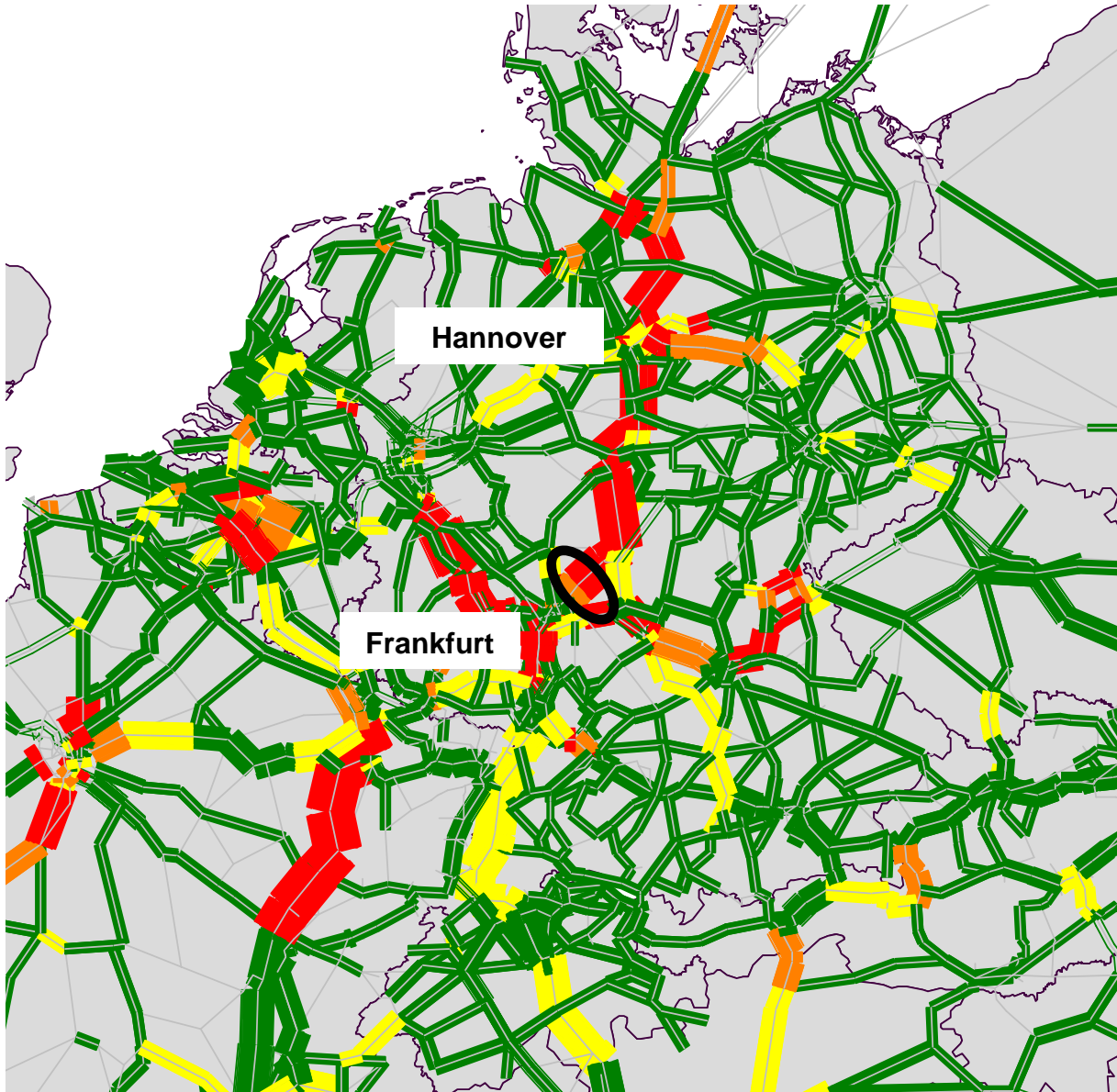
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Chart 13





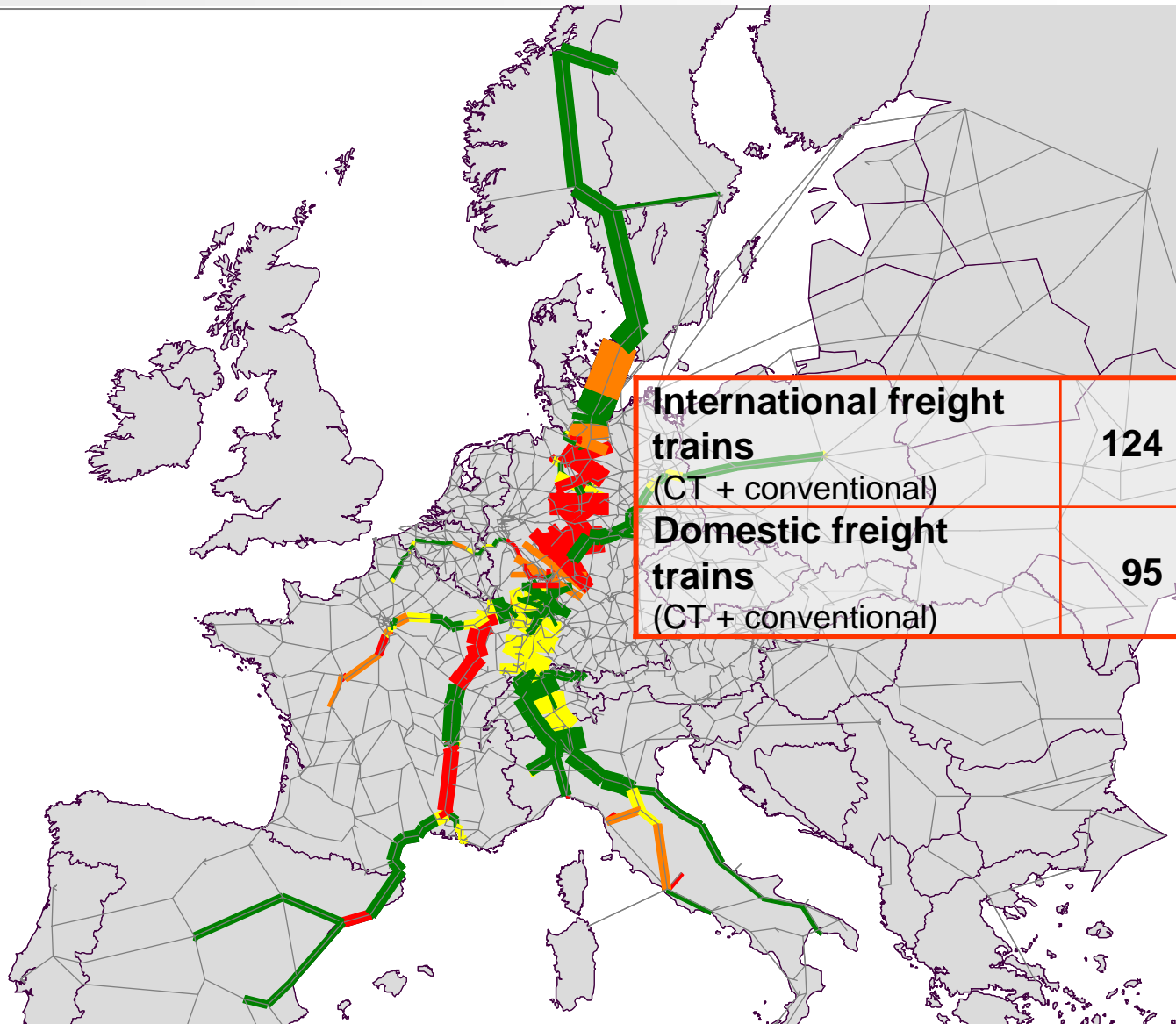
# Traffic 2015 considered by the capacity bottleneck



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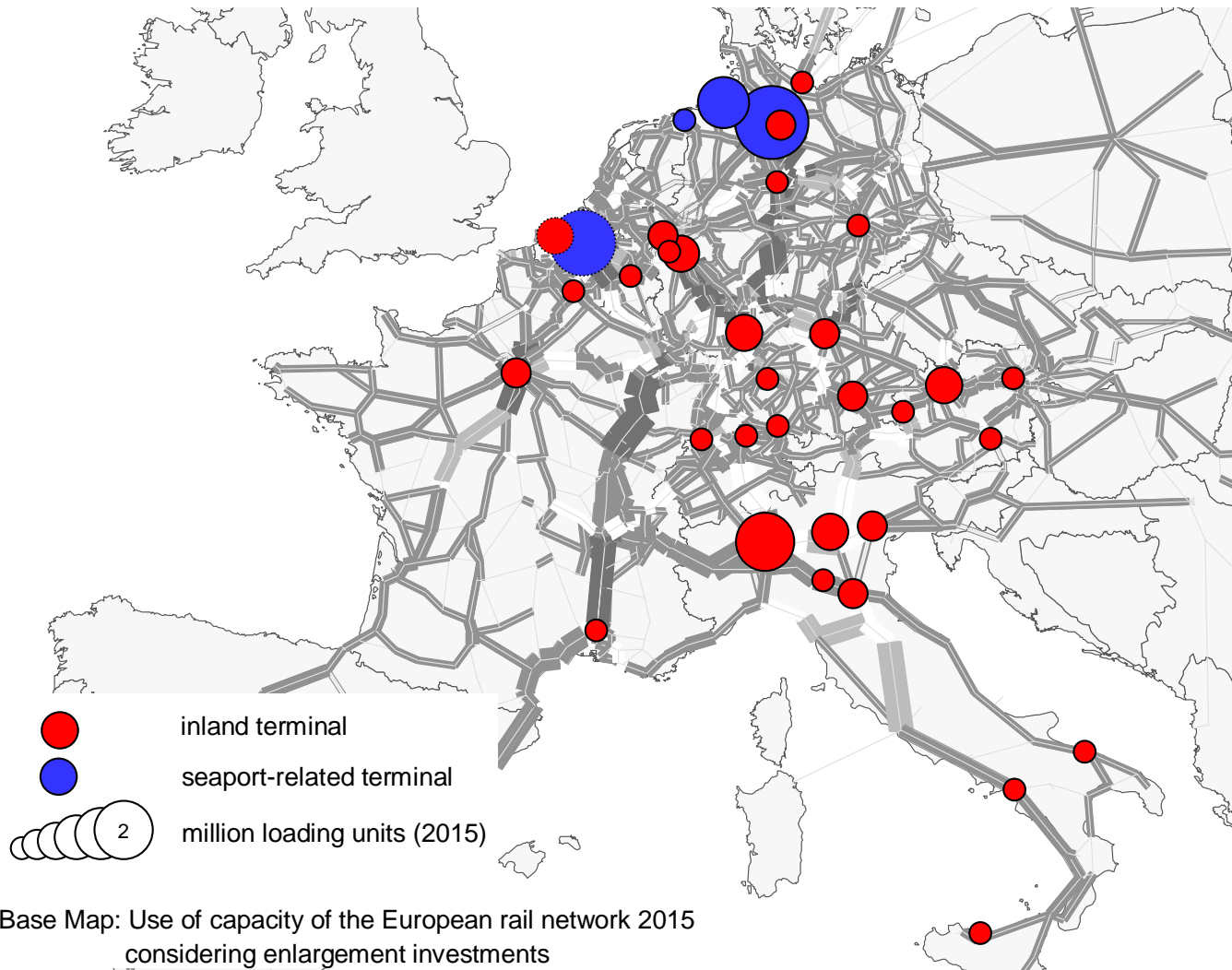
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Chart 14

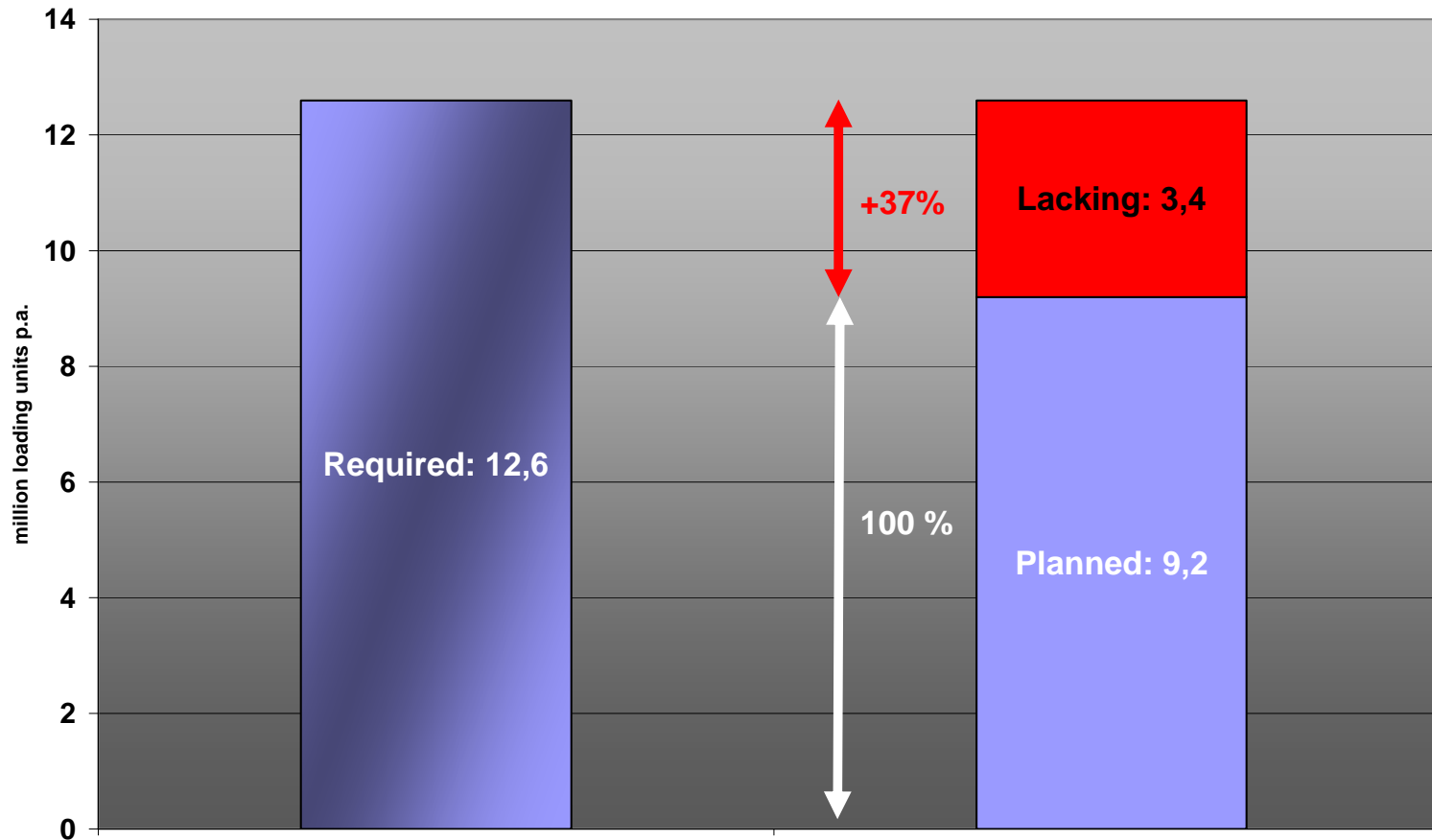
# Required terminal handling capacity of the “top 30” inland terminal areas and selected seaport terminals by 2015



Base Map: Use of capacity of the European rail network 2015  
considering enlargement investments



# Terminal handling capacity by 2015



# Capacity utilisation 2015 considering enlargement investments



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**DIOMIS**

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Chart 17



Thank you for your attention



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