

The Logistics Observatory

Indicators of competitiveness for the Catalan
Logistics system (10th edition)

+ Advanced data for 2015

July 2015



Index

1. Introduction
2. Socioeconomic context
3. Supply and demand
4. Infrastructure supply
5. Logistics real estate market
6. Efficiency

Introduction

The Logistics Observatory is:

- ✓ A tool for the **continuous evaluation of the needs of the sectors of the economy in relation to the infrastructure systems and logistics services.**
- ✓ A **meeting point for the companies and key agents** that enables the needs of the business sectors of the economy to be integrated with planning and management of infrastructures and services.

The objectives of the Indicators of Competitiveness of the logistics system

- ✓ To create a **reference framework that is stable over time**, based on real parameters and objective observation.
- ✓ **To monitor the most relevant data** from the logistics system and **analyze their evolution** by contrasting the derived information with experts in each specific area.
- ✓ To become a **tool that provides information for the planning and management of the logistics system.**

Introduction

DOCUMENT STRUCTURE

This work is divided into **two main parts**:

- ✓ The document itself: 36 indicators.
- ✓ The statistical annex: more than 60 complementary statistical data.

The document is organised in the following sections:

- 1.- Socioeconomic context
- 2.- Infrastructure supply
- 3.- Supply and demand
- 4.- Logistics real estate market
- 5.- Efficiency
- 6.- Summary table of indicators

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Introduction

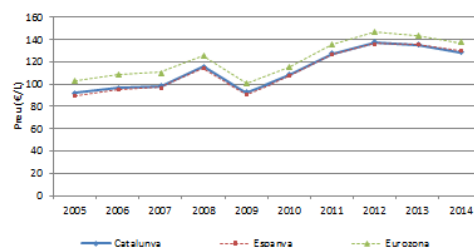
INDICADOR 17. PREU MITJÀ DEL GASOIL A LES GASOLINERES CATALANES

1.- MOTIVACIÓ: Conèixer el preu de mitjà del litre de gasoil a les gasolineres catalanes, espanyoles i europees, amb l'objectiu d'establir una comparativa entre les diferents unitats territorials.

2.- DEFINICIÓ: Preu mitjà del litre de gasoil d'automoció a Catalunya.

3.- EVOLUCIÓ:

INDICADOR 17 Preu del gasoil a Catalunya (€/l)	2005	2007	2009	2011	2013	2014	Δ 13-14	Δ Interanual
	91,9	96,3	92,5	127,3	135,2	128,9	-4,7%	3,8%



Dades complementàries	2005	2007	2009	2011	2012	2013	2014	Δ 12-13	Δ Interanual
Preu del gasoil a Espanya (€/l)	90,0	97,0	91,2	126,7	136,5	136,1	130,3	-4,3%	3,4%
Preu del gasoil a l'Eurozona (€/l)	103,5	110,0	100,5	135,5	147,3	143,1	137,3	-4,1%	3,9%

59

Indicador de competitivitat del sistema logístic Català.

60

Indicador de competitivitat del sistema logístic Català.

4.- RELLEVÀNCIA I ANÀLISI DE TENDÈNCIA:

L'anàlisi de la sèrie 2005-2014 mostra un increment interanual mitjà del 3,8% del preu mitjà del litre de gasoil a Catalunya. No obstant, entre 2012 i 2014 el preu ha disminuït un 6,1%, trencant la tendència a l'alça iniciada a partir de 2009.

Pel que fa a la resta d'unitats territorials, es constata un decrement de preus durant l'últim bienni analitzat. Addicionalment, es constata que al conjunt de l'Estat el preu mitjà d'aquest carburant es situa 1,4 cèntims per sobre que a Catalunya, mentre que a l'Eurozona el preu és 8,4 cèntims d'euro superior. No obstant, la diferència de preus entre Catalunya i l'Eurozona ha disminuït a ritme del 3,5% anual entre 2005 i 2014.

5.- METODOLOGIA

La informació per a la construcció d'aquest indicador s'ha extret dels informes anuals de preus dels carburants publicats pel Ministeri d'Indústria, Comerç i Turisme, prenent com a referència els preus amb impostos del gasoil d'automoció.

Pel que fa al preu corresponent a l'Eurozona, es considera la mitjana ponderada dels països pertanyents a la zona Euro, indicats en cada cas en els informes anuals consultats.

6.- FONTS:

- Precios de carburantes y combustibles (Ministeri d'Indústria, Comerç i Turisme).

7.- INFORMACIÓ ESTADÍSTICA DE REFERÈNCIA RECOLLIDA A L'ANNEX:

- I.11.- Composició del preu mitjà del litre de gasoil

Introduction

INFORMATION SEARCH PROCESS:

More than 30 sources of information used

- **More than 30 sources of information used**
 - Statistical Institute of Catalonia
 - National Statistics Institute
 - Eurostat
 - ...
- **For finding specific sectorial data:**
 - Permanent survey of road freight transport (Spanish Ministry for Development).
 - Freight transport databases: from the rail sector RENFE, ADIF and FGC.
 - Statistical reports from the Ports.
 - Statistical data from the Spanish air authorities Aena and Clasa.
 - Data of average daily intensity (Catalan Transit Service).
 - Census data from sectorial magazines and logistics platforms (Alimarket).
 - ...
- **Secondary sources: contrasting the primary results with experts from the various specialized areas within the sector.**

PUBLIC SECTOR



PRIVATE SECTOR



Introduction: OBSERVATORY NEWS FOR THE 2015 EDITION

OBJECTIVES

- ✓ **Study, analyze and define new** indicators, improving the necessary ones in order to offer a **global picture of the Catalan logistics sector**.
- ✓ **Speed up the publishing** of the indicators aimed at improving the service that the Observatory offers to the demand.

NEW LINES OF STUDY



Number of active logistic undertakings.



Share of road transport empty travelled distance.



Port taxes.



Trans-Pyrenean rail transport.



Ground transportation share.



Uncoupling between the price of a barrel of Brent and the sale price of the automotive diesel.

+ ADVANCED DATA FOR 2015

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Socioeconomic context: CONCLUSIONS



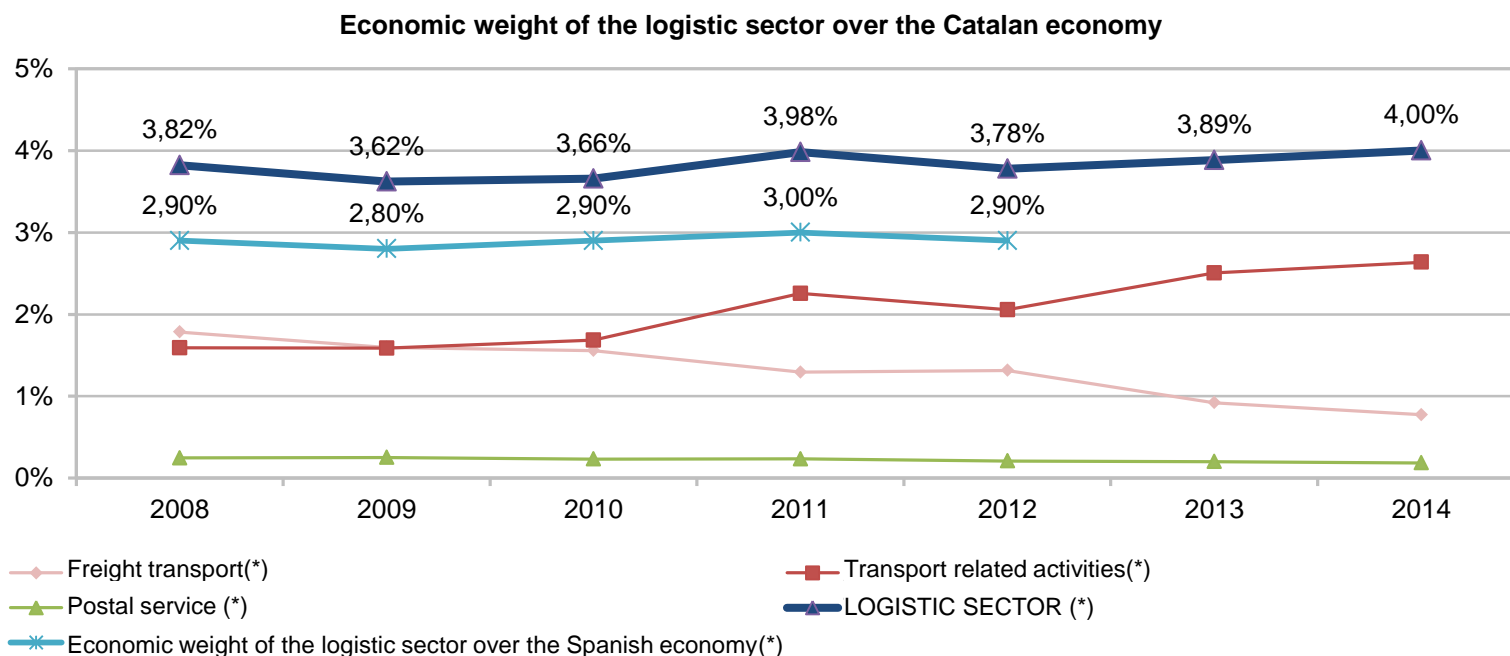
- In accordance with the growth trend of the last two years, and despite the reduction of the economical extent of freight transport, **the economic weight of the logistic sector over the overall economy stands above 4%**. The economic weight of the logistic sector within the entire state stands on point below the Catalan rate.
- During 2014, the **number of persons employed in the logistic sector and the number of active companies** have decreased 1.9% and 4.5% respectively over the previous year.
- During 2014, the upturn of the **domestic demand has contributed** to the change in the trend of the Catalan trade balance. As consequence, throughout 2014 the economic value of the **imports has grown by 7%** while the **exports one has grown by 2.1%**.
- During the period 2009-2014, the economic value of the Catalan exports to the **rest of the world has grown by 45.2%**. On the other hand, during the same period, the economic value of the exports towards the **rest of Spain has decreased by 18.3%**.

Socioeconomic context: Economic weight



Following the growing trend of the last 4 years, the logistics sector accounts for over 4% of the overall economy.

- The economic weight of the logistic sector over the Spanish economy is about 3%.



Source: Elaborated from data from the Statistical Institute of Catalonia

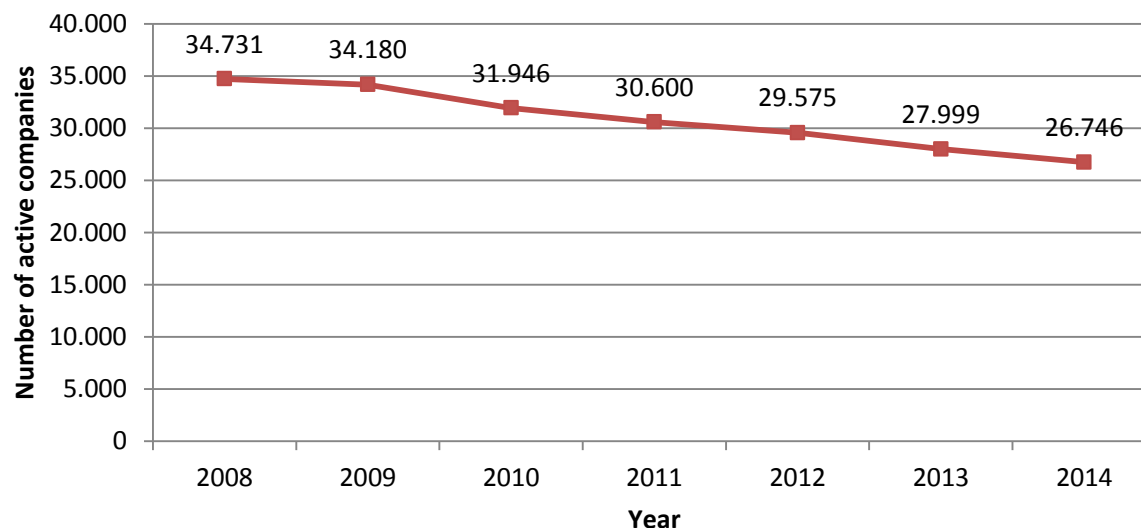
(*) The data for 2013 and 2014 are provisional and have been calculated from indicators of productivity and sectorial activity. These data will be updated as and when the annual services surveys are published

New Evolution of the number of active logistic companies

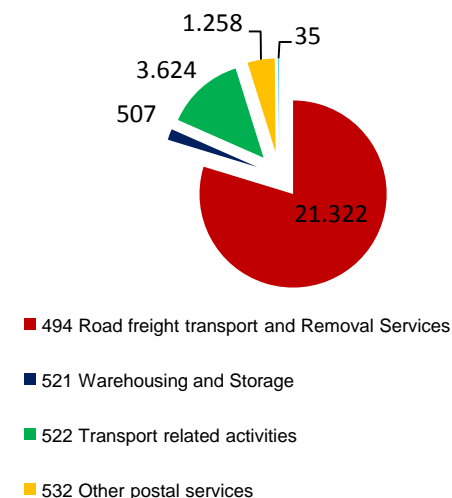


The number of active logistic companies in Catalonia has suffered a **year-on-year decrease of 4.3%** during the **2008-2014** period.

Evolution of the number of active logistic companies in Catalonia



Distribution of the logistic companies in Catalonia



Source: Institut Cerdà (2015), from the National Statistical Institute of Spain (2015)

CNAE categories :

- 492 Rail freight transport
- 494 Ground freight transport and Removal services
- 495 Pipeline transport
- 502 Maritime freight transport

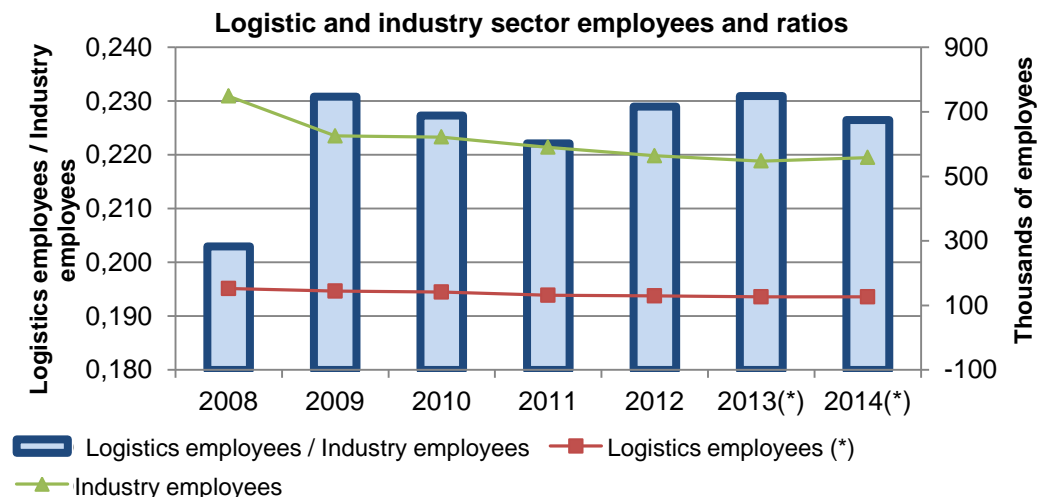
- 504 Inland freight transport
- 512 Air freight transport and Spatial transport
- 521 Warehousing and Storage
- 522 Transport related activities
- 531 Postal services submitted to the obligation of universal service
- 532 Other postal services

Socioeconomic context : Employment generation



The ratio between the employees of the logistic sector and the industrial sector remains stable during the period 2009-2014.

- During **2014**, the **number of employees** of the **logistic sector** has **decreased by 1.9%** compared to 2013.
- Nonetheless, the **number of unemployed people** in the transport and storage sector **has also decreased by 10.4%**.
- The **reduction of unemployed people** in the **transport and storage sector** (-10.4% in the period 2013-2014) implies a **reduction above the Catalan average** in the same period (-6.9%).



Source: Idescat, elaborated from data in the annual services survey

(*) The data for 2012 and 2013 have been calculated from data from the active population survey (INE)

Advanced data for 2015

During the **1st quarter of 2015**, the **number of employees** in the transport and storage sector **has grown by 2.7%** compared to the **1st quarter of 2014**.

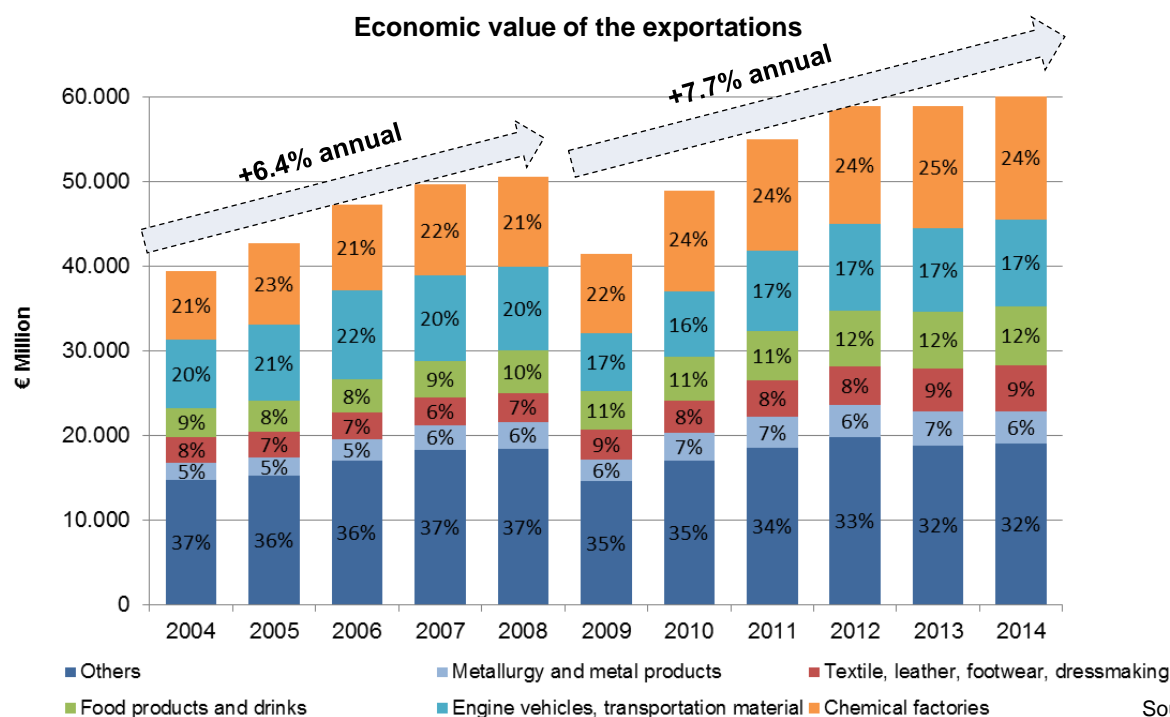
Source: Observatori empresa i ocupació

Socioeconomic context : Economic value of the exportations (I)



In spite of the **deep fall of the year 2009** (-18% compared to 2008), the annual **growth of the economic value of exports** has been **4.3%** during the period **2004-2014**.

- After a slight stagnation during 2003 (growth by 0.3%), during **2014 a recovery of the exportations above 2% is observed**.



Advanced data for 2015

The data corresponding to the first trimester of **2015** show a **positive beginning of the year**, with an **accumulated growth of 5.9%**.

Source: Idescat

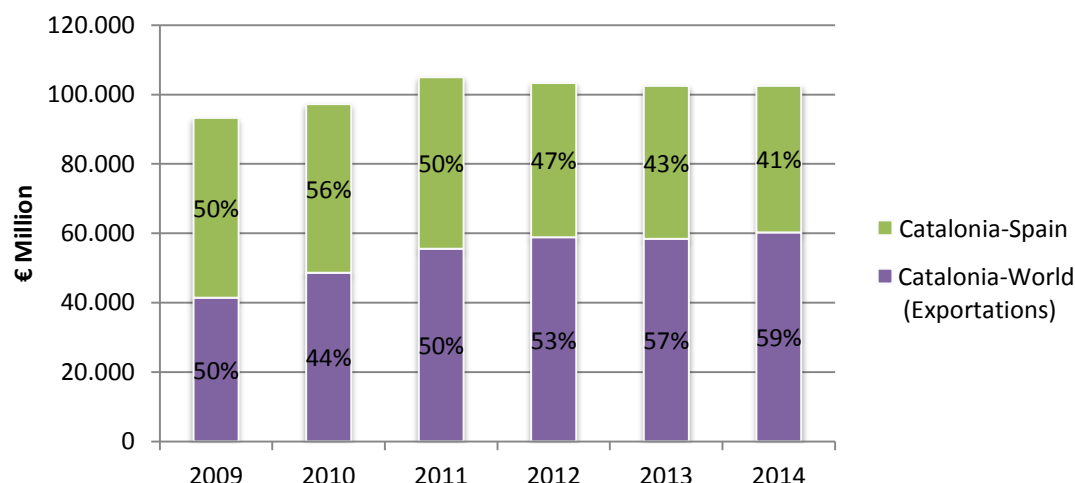
Socioeconomic context : Economic value of the exportations (II)



Internationalization of trade exchanges

In the period 2009-2014, the **economic value of Catalan exports to the rest of the world** has increased by **45.2%**. However, the value of the exports to the **rest of the Spanish State** has fallen by **18.3%**.

Economic value of Catalan exports by geographical area



Economic value of the exportations. Accumulated evolution 2009 - 2014

Catalonia-rest of the Spanish State	-18.3%
Catalonia-rest of the world	+45.2%

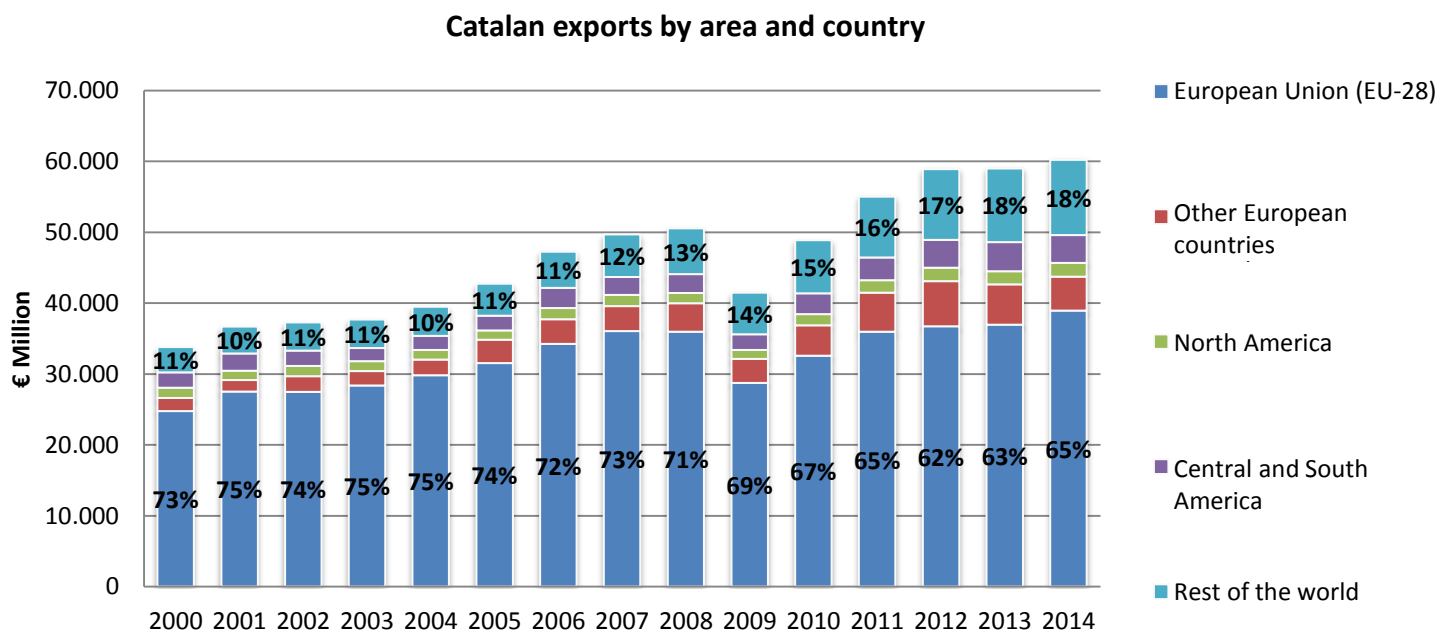
Source: Elaborated from data from *Informe Trimestral sobre el comercio interregional en España*, CEPREDE

Socioeconomic context: Economic value of exports(III)



Destination of exports

The **European Union** keeps on **concentrating** the most part of the **Catalan exports**. However, in the **last years** the **EU** has **lost influence** to **other parts of the world**.



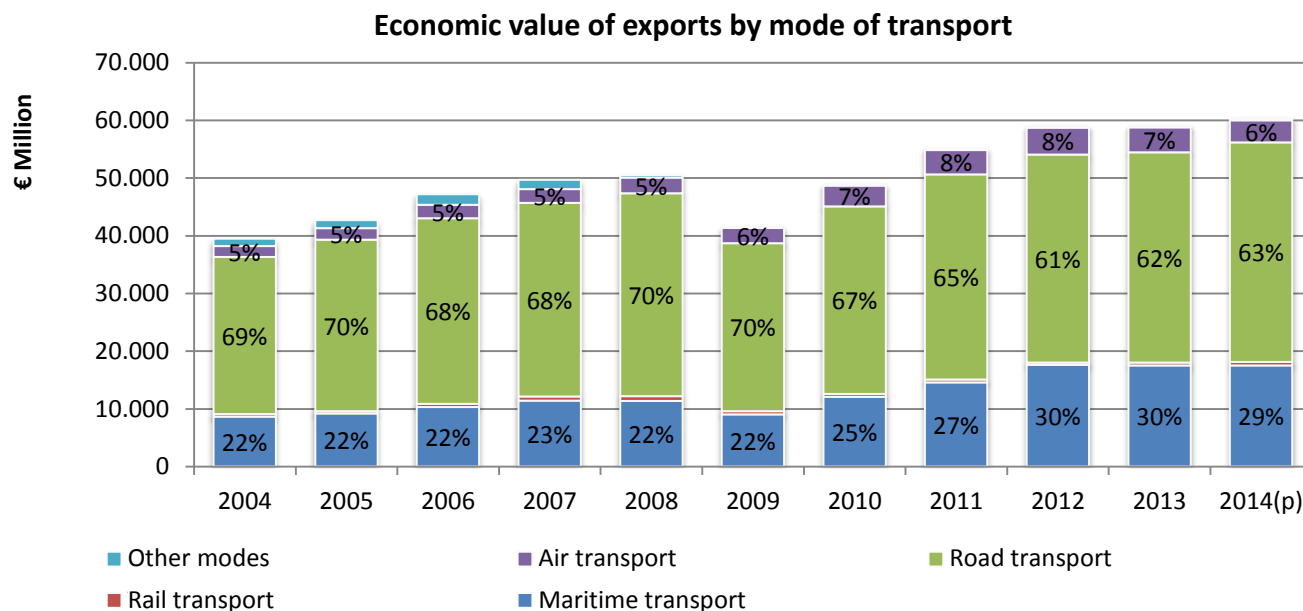
Source: Elaboration from data from the Catalan Institute of Statistics

Socioeconomic context: Economic value of exports (IV)



Exports by mode of transport

No relevant changes can be seen on the distribution of the value of exports by mode of transport. It can be stated that **road transport accounts for more than 60% of the economic value of the Catalan exports**, while **sea transport consolidates its importance**.



Source: Elaborated from data from the Catalan Institute of Statistics

Socioeconomic context: Statistical annex



I. SOCIOECONOMIC CONTEXT

- I.1. Population growth of Catalonia.
- I.2. Growth of GDP of Catalonia per sector in actual prices.
- I.3. Growth of GDP of Catalonia in fixed prices (referenced to 2008)
- I.4. Growth of GDP of Spain in fixed prices (referenced to 2008)
- I.5. Estimation of logistics and transport sector growth
- I.6. Number of employees per sector in Catalonia
- I.7. Consumer price index of Catalonia and Spain over time
- I.8. Catalonia's balance of trade
- I.9. Spain's balance of trade
- I.10. Crude oil price (Brent barrel) over time
- I.11. Average price formation of a liter of Diesel

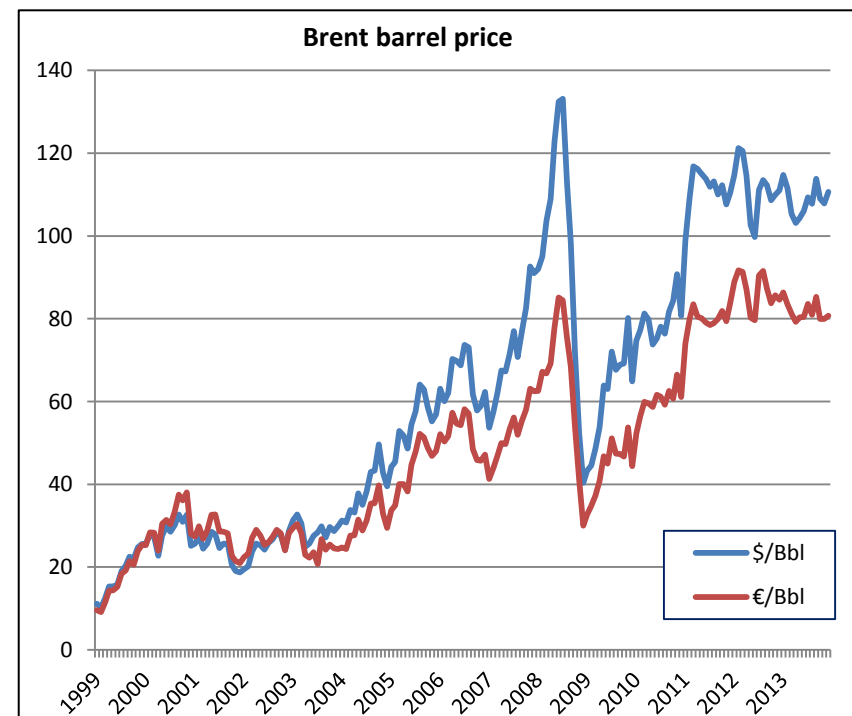


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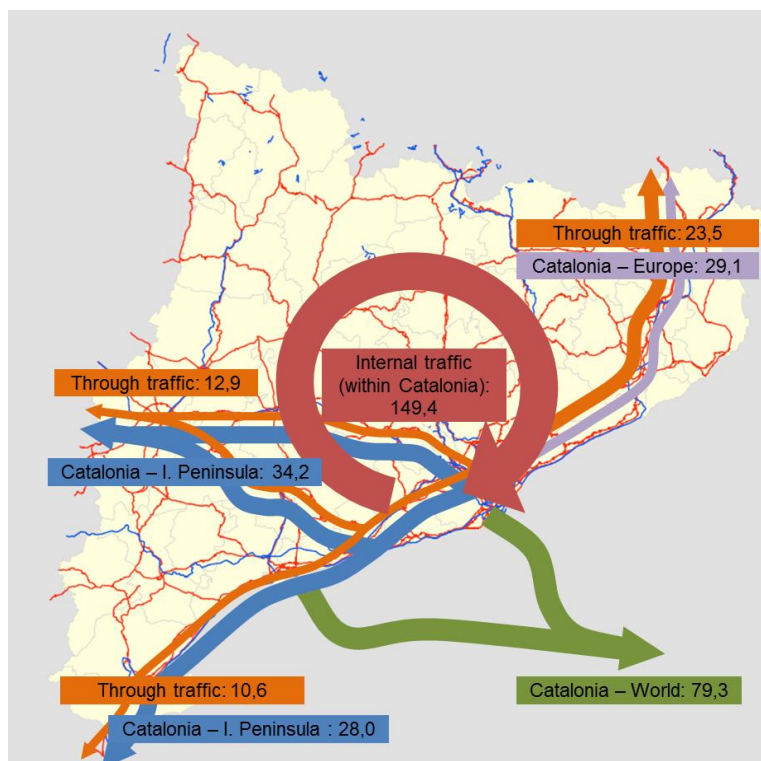
Supply and demand: CONCLUSIONS



- During 2014 the **Catalan logistics system managed 343 millions de tonnes, which represents a 7.5% less** than in the previous year. In this way, a turning point in the **decline tendency of the last 6 years** is observed.
- In contrast with the period 2007-2013, in which the road flow suffered an accumulated decrease of 47%, **the 2014 data shows a turning point in the road flow**, having grown by 6.3% with respect to 2013. This increase is leaded by the **internal demand and international transport**.
- In the last analysed biennium, the **weight of fuel costs within total costs of transport** in Catalonia has decreased by **5.5%**.
- The total of the **tonnes transported by the rail mode** has **grown by 4,9% during the period 2013-2014**, reaching a **5.9% contribution (in tn-km) in the ground logistic chains**. Additionally, the relevancy of **intermodal ground transport** is **consolidated** over the last years.
- **The freight maritime transport increases by 12.1%**. Furthermore, the **exporter role** of the **Catalan Ports** has been **reinforced**, specially on **container cargo**.
- In the analysed year **the volume of freight** transported by the **Catalan airport system** has **grown more than 2%**, stressing **the increment** of the volume **managed** from the **Barcelona airport** to North America, Asia and Pacific.

Supply and demand: Overall volume (I)

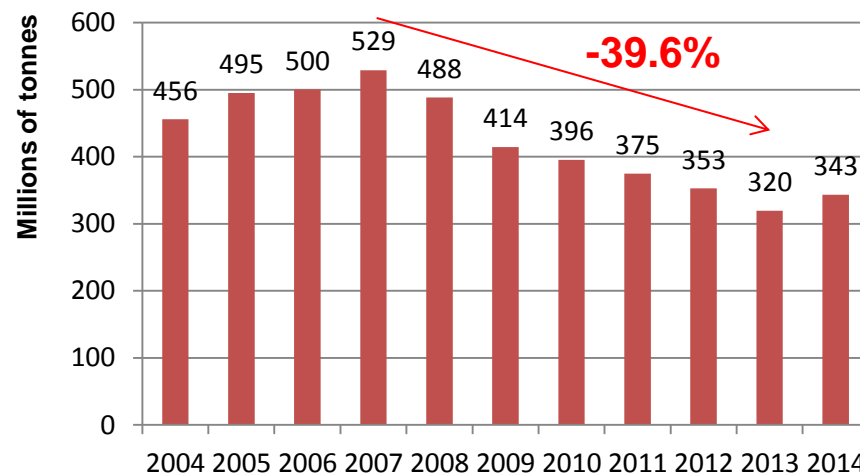
After a 6 year-long decreasing tendency **implying a reduction of 40% of the activity**, a turning point in the evolution of the overall freight volume, including an **increment of +7.5%** with respect to 2013, has been observed **during 2014**.



Overall freight volume:

- Year 2013: 319.6 Million of Tonnes
- Year 2014: 343.5 Million of Tonnes

Volume managed by the logistic system (Millions of tonnes)



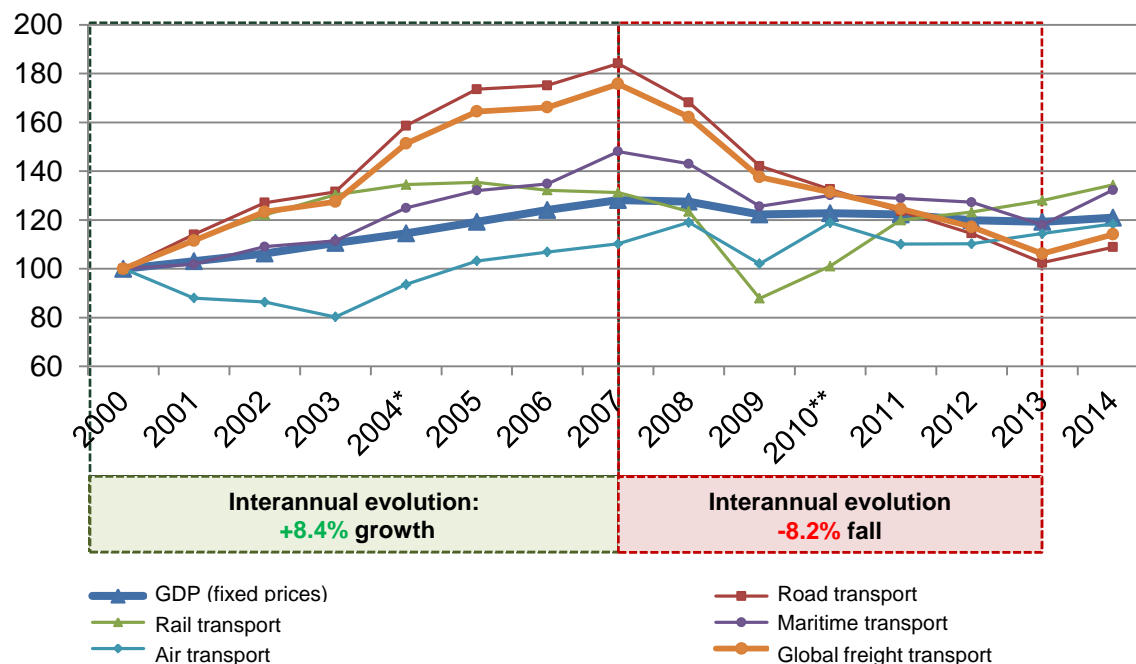
Source: Elaborated from data of the Spanish Ministry of Public Works and Transport, Renfe, FGC, the Spanish Ports, Aena (Millions of tonnes)

Supply and demand: Overall volume (II)



In the **last years**, the analysis of the transported freight volume with respect to the GDP of Catalonia **two** clearly differentiated **trends**.

Evolution of GDP and evolution of freight transport by mode in Catalonia



Source: Elaborated from data of the Spanish Ministry of Public Works and Transport, Idescat, Renfe, FGC, private rail operators, Spanish State Harbours *Since 2004 road through traffic is included ** Since 2010 private rail operators are included. Data from Comsa corresponding to 2010-2011 is still waiting for confirmation

Evolution of transported freight (tonnes) 2013 - 2014

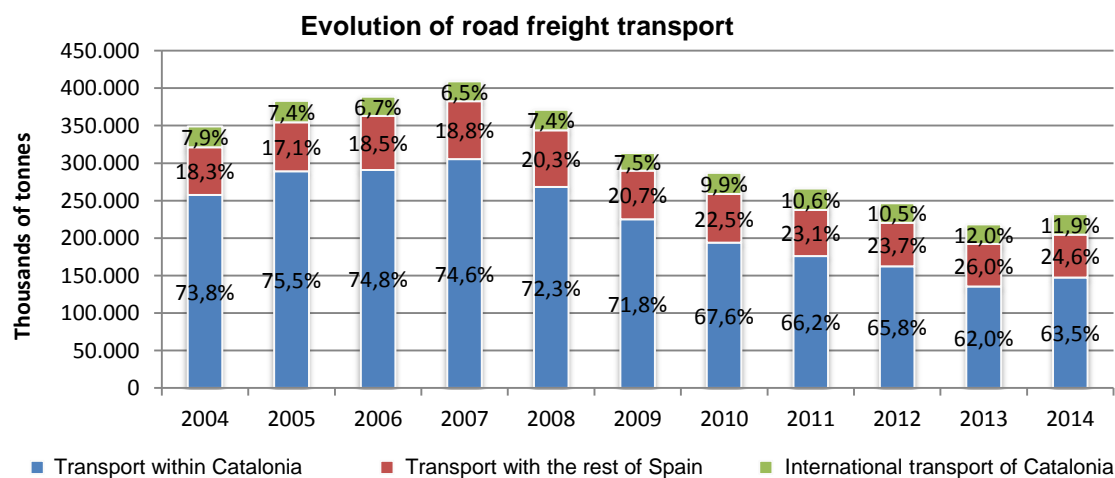
GDP (fixed prices)	+1.5%
Road	+6.3%
Rail	+4.9%
Maritime	+12.1%
Air	+3.4%
TOTAL	+7.5%

Road transport mode: Flow types



After 6 years of continuous, the data from **2014** shows a **turning point of road transport flow (+6.3%),** **lead**ed by the **rise of the internal demand.**

- **Internal flows** register an **increment of 9%** during the last analysed biennium.
- **Exchanges** with the rest of **Spain** **grow by 0.5%** in absolute terms between **2013 and 2014**, although their share within total road transport is reduced from 26.0% to 24.6%.
- **International operations** **increase by 5.2%** in absolute terms, maintaining their **share within total road transport** with respect to 2013.



Source: Elaborated from data of the Spanish Ministry of Public Works and Transport

Advanced data for 2015

With an **increment of 9.9%**, the **1st trimester of 2015** registers the **higher trimestral growth rate since 2007.**

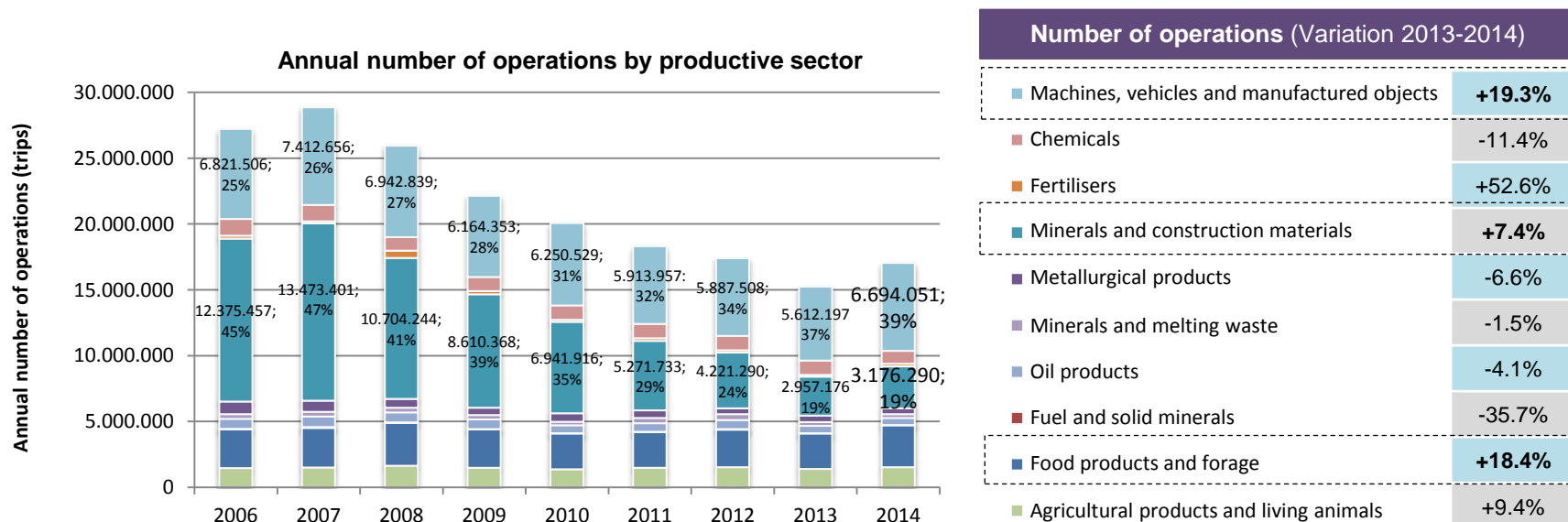
Source: EPTMC

Road transport mode: Operations by productive sector



2014 marks a change in trends of the annual number of transport operations within Catalonia

- The pronounced **fall of transport operations between 2007 and 2013** has been **caused** mainly by the decrease of the related activities with **the construction sector (-78% accumulated)**.
- Nonetheless, 2014 was the first year in which **the construction sector reverses the decreasing trend in the number of operations, increasing by 7.4%** with respect to 2013.

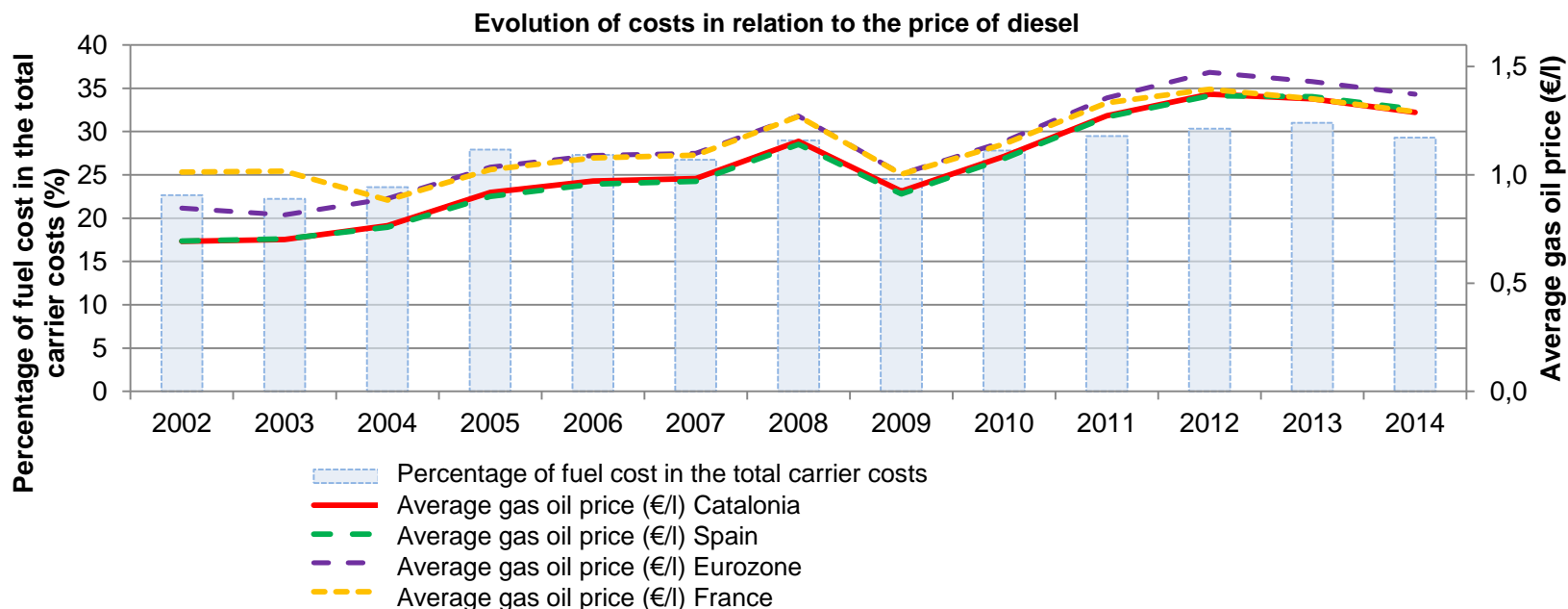


Source: Elaborated from data of the Spanish Ministry of Public Works and Transport

Road transport: Evolution of costs in relation to the price of diesel

In the **last year analysed**, the weight of the fuel cost in the total carrier costs in **Catalonia** has decreased by a 5.5% with respect to 2013.

- During **2014** the **cost per liter** in the **Eurozone** is **8 euro cents higher** in comparison to Catalonia.
- The historical comparative with France shows a progressive reduction of the **divergence in the price of diesel**.



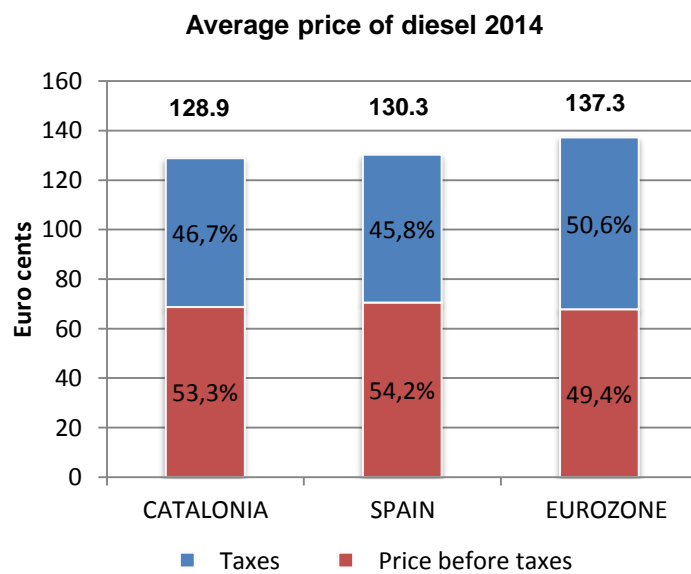
Source: Elaborated from data provided by the Ministry of Industry, Commerce and Tourism and the Observatory of road freight transport costs

Road transport: Average price formation of a litre of diesel



In **Catalonia**, a **47%** of the **diesel** price consists of **taxes** while in the **Eurozone** this percentage corresponds to **51%**.

- Along this series of study, the weight of taxes in the cost of a litre of diesel in Catalonia and the one in Spain have progressively converged.



Taxes (cts € /L). Comparative		
Year	Catalonia-Spain	Catalonia-Eurozone
2005	2.1	-12.4
2006	1.7	-12.8
2007	1.6	-12.6
2008	1.7	-12.8
2009	0.7	-10.2
2010	1.5	-8.4
2011	1.0	-9.6
2012	1.2	-10.7
2013	0.8	-8.7
2014	0.5	-9.3

Advanced data for 2015

During the period **January-May 2015** the average **price** of a **litre** of **diesel** is:

Catalonia: 114.3 c€

Spain: 115.1 c€

Eurozone: 122.2 c€

Source: Elaborated from data of the Ministry of Industry, Energy and Tourism

New

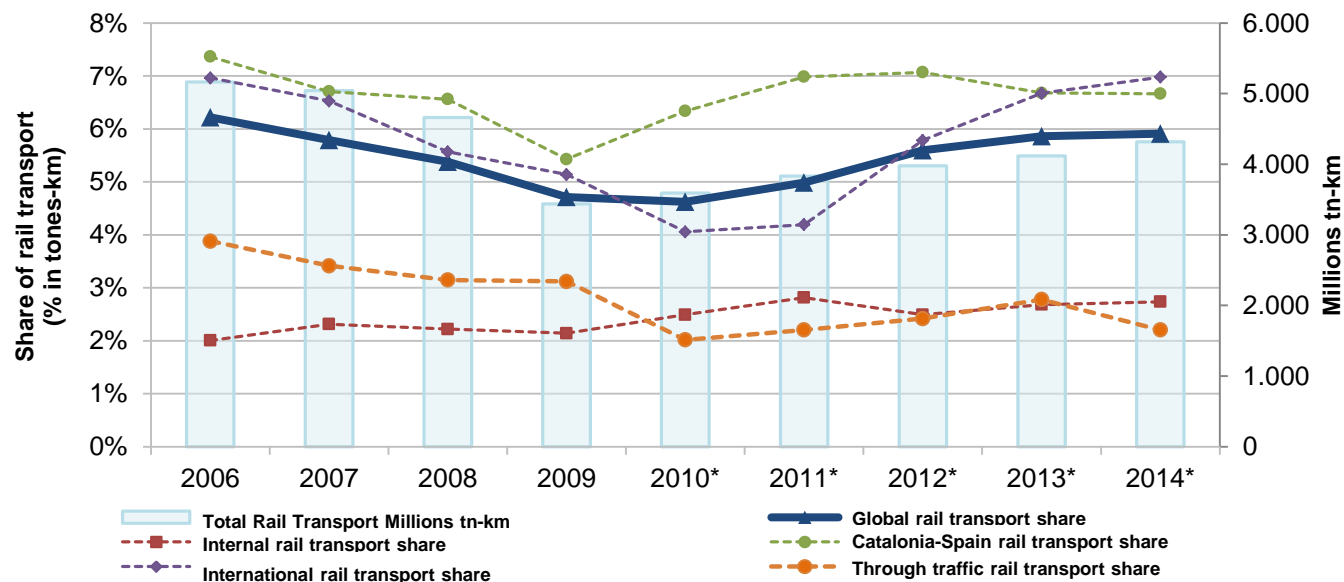
Rail transport mode: Rail freight share



During 2014, rail transport has increased by 4.9% compared to the previous year.

- The **stake of rail transport** in the Catalan **logistic chains** continues to follow the increasing trend started in **2010**, accounting now for a **5.9% share** (in tn-km).

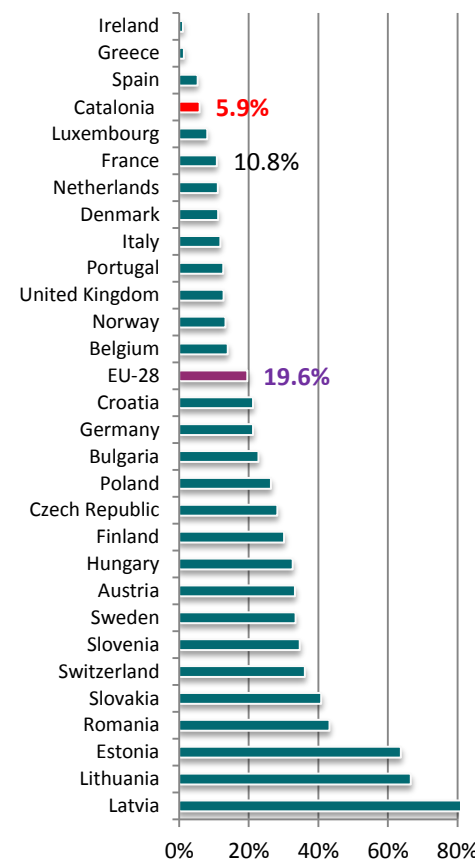
Rail freight share of total ground transportation (% tn-km)



Observations: For through traffic the distance covered by road and rail freight traffic is estimated.

Source: Elaborated from data of the Spanish Ministry of Public Works and Transport, Renfe, FGC, private rail operators, Spanish State Harbours
* Since 2010 private rail operators are included. Data from Comsa corresponding to 2010-2011 is still waiting for confirmation

Rail freight share of total ground transportation (% tn-km) year 2013

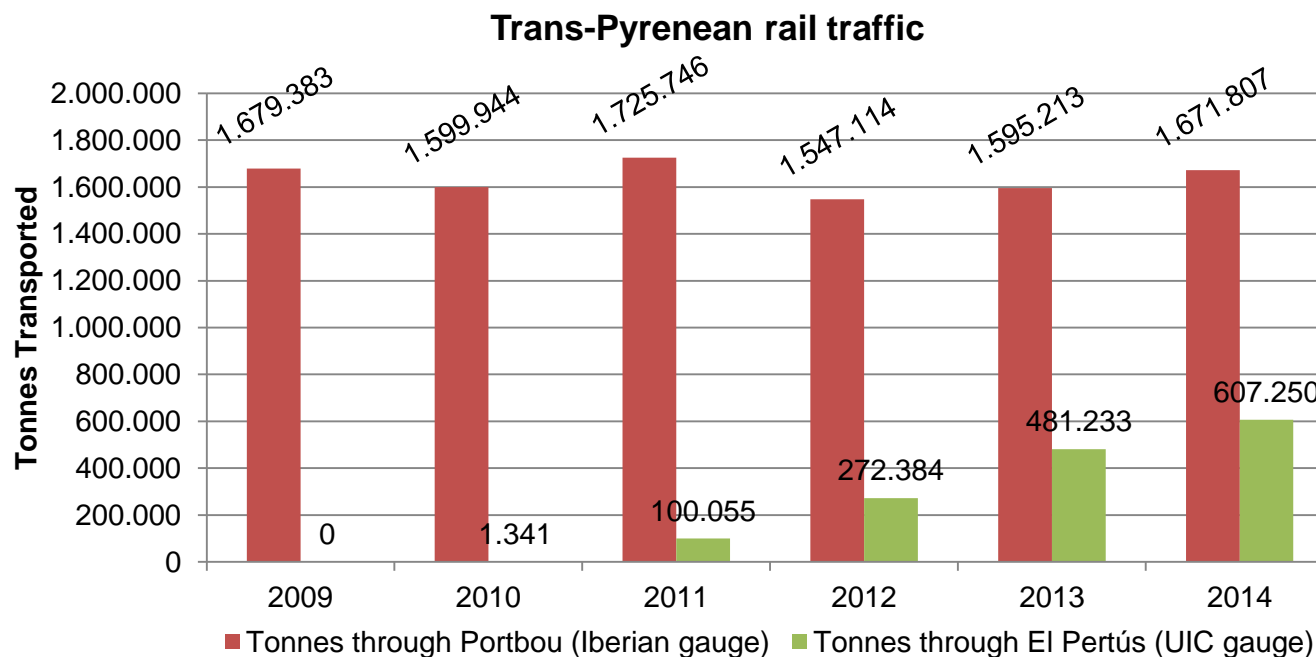


New

Rail transport mode: Trans-Pyrenean rail traffic



Since the **cross-border connection with UIC gauge** has been **operative** by the end of 2010, it has been observed a **sustained increase in the volume of tonnes transported by Renfe** through the **international gauge**.



Source: Institut Cerdà (2015), from the Renfe databases (2009-2014)

New

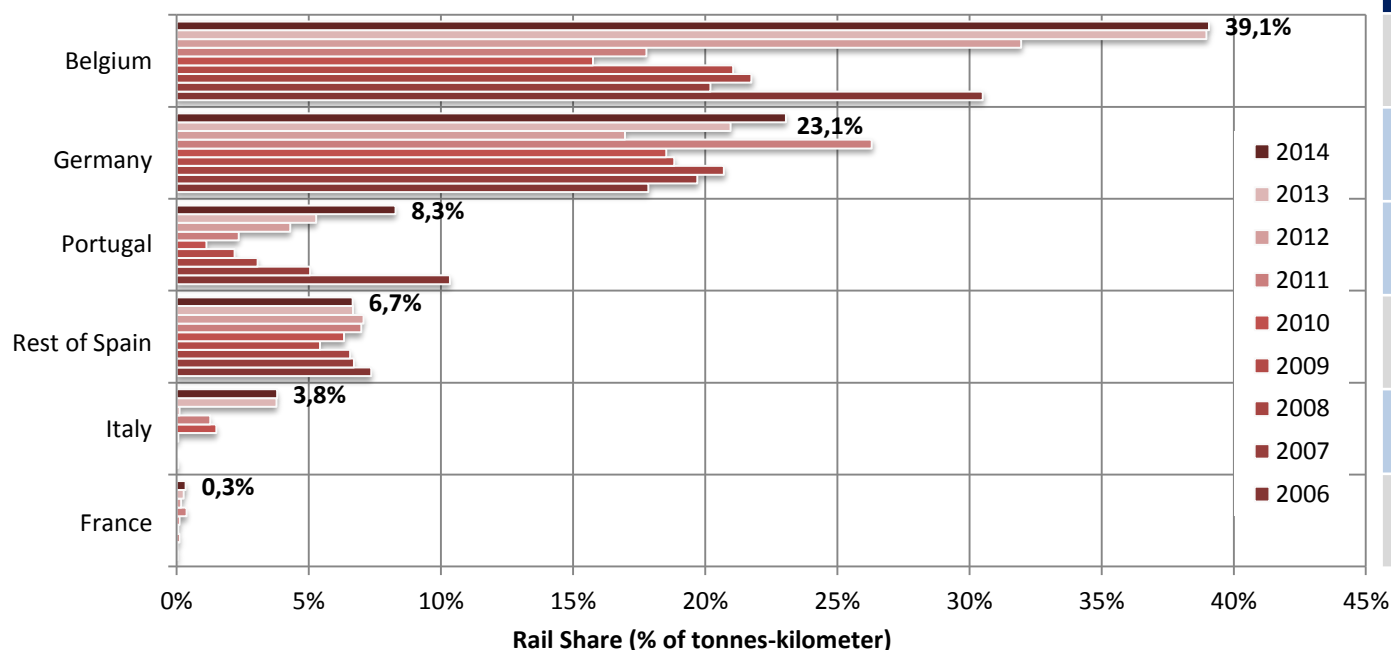
Rail transport mode: Rail freight share by countries



The **greater competitiveness** of rail transport in long distances is reflected.

- The elevated **rail modal shares** of the transport with **Belgium and Germany (39.1% and 23.1% respectively)** contrast with the residual share of the exchanges with **France (0.3%)**.

Rail share of ground exchanges with Catalonia
(in tonnes-kilometre, by country)



Freight volume by
ground transport 2014
(millions of tonnes-kilometre)

Belgium	2.225
Germany	5.733
Portugal	726
Rest of Spain	28.245
Italy	2.992
France	9.720

Source: Elaborated from Renfe, private operators and the Spanish Ministry of Public Works and Transport databases including hypothesis regarding the weight of foreign vehicles

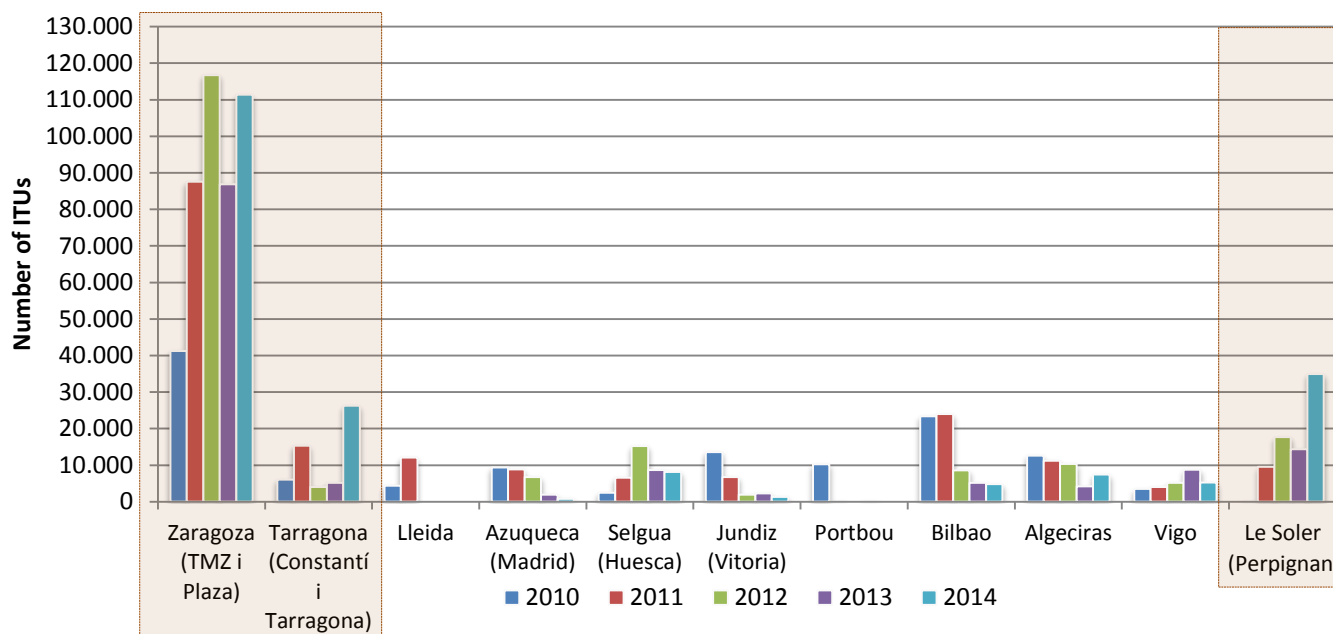
Rail transport mode: Destinations from the Port of Barcelona



Zaragoza is the origin / destination of 45% of the ITUs sent from or received by rail by the Port of Barcelona, operated by Renfe.

- During the last biennium analysed it stands out the increment of the ITU transported from the Port of Barcelona to Tarragona and the Le Soler (Perpignan) terminal.

Number of containers sent / received by the Port of Barcelona (RENFE)



Evolution 2010-2014

Terminal	Δ 13-14	Δ inter annual
Zaragoza	28%	28%
Tarragona	414%	44%
Lleida		-100%
Madrid	-58%	-46%
Huesca	-6%	35%
Vitoria	-42%	-45%
Portbou	-100%	-100%
Bilbao	-7%	-33%
Algeciras	76%	-12%
Vigo	-40%	11%
Perpignan	143%	284%

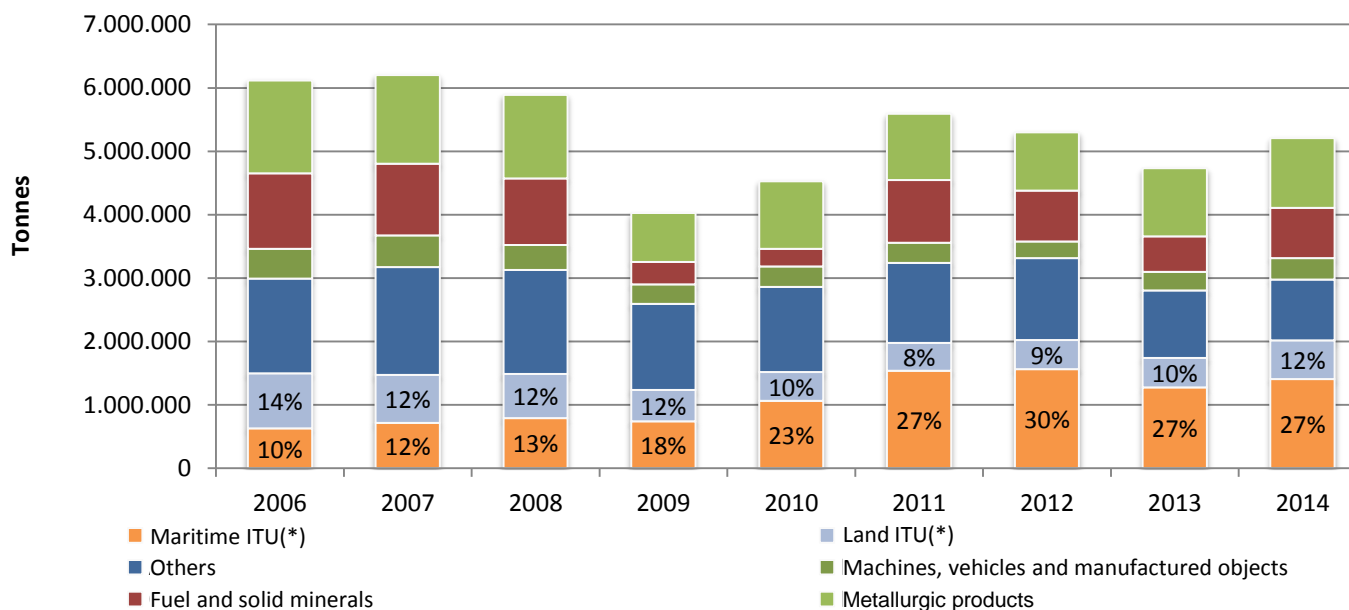
Source: Institut Cerdà (2015), from the Renfe's database (2014)

Rail transport mode: Typology of transported freight



Since 2007 the intern intermodal transport has displayed an increasing trend which reinforced the importance in the entire railway transport.

RENFE rail transport by type of good (internal and Catalonia-Spain flows)



Weight of intern intermodal transport

2006	25%
2007	24%
2008	25%
2009	31%
2010	34%
2011	35%
2012	38%
2013	37%
2014	39%

(*) ITU: Intermodal Transport Unit

Source: Elaborated from RENFE database.

Rail transport mode: Railway private operators activity



During the last years, **private rail operators** have **increased** their **importance** in **rail freight transport**.

- In the last analysed year, the percentage of **tonnes transported** by **private rail operators** in **Catalonia** grows by **16.7%**, implying an **increment above of 70% with respect 2012**.



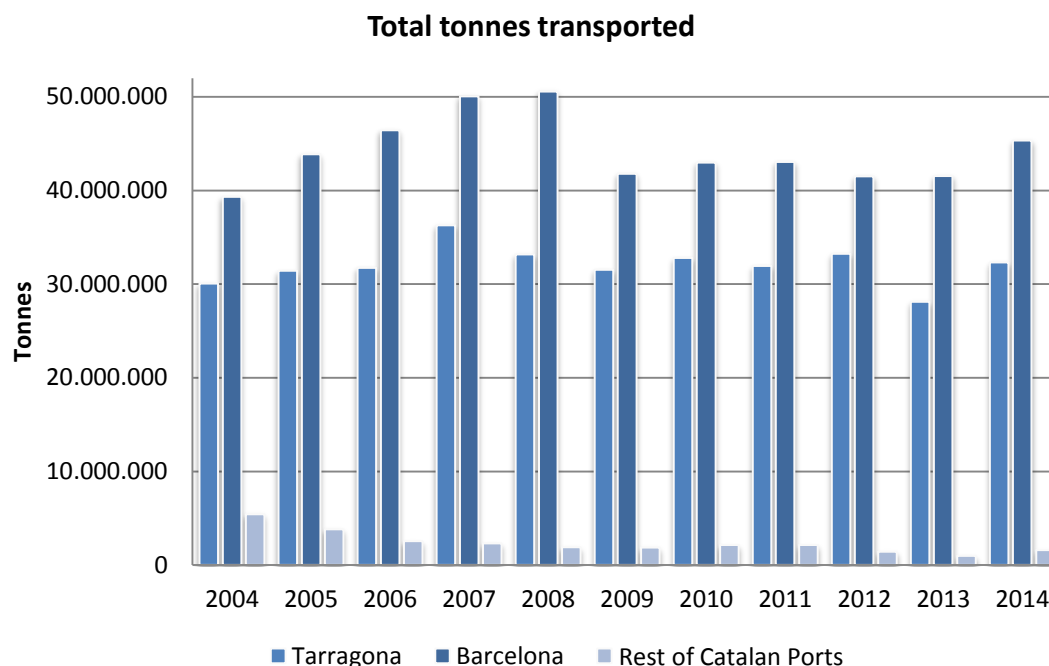
Source: Elaborated from Renfe, private operators and FGC databases

*Private operators are included since 2010. Data from Comsa corresponding to 2010-2011 is still waiting for resolution

Maritime transport mode: Overall freight volume



During the period 2013-2014, the overall volume of freight transported by the Catalan ports has increased by 12.1%.



Source: Elaborated from data supplied by Ports of Barcelona, Tarragona and Catalan Ports

Advanced data for 2015

During the first 5 months of **2015**, compared with the same period of 2014, the ports present two different trends:

Port of Tarragona: +6.0%

Port of Barcelona: -0.23%

Source: Ports of Barcelona and Tarragona

Evolution between Jan-May 2014 → Jan-May 2015

Port of Tarragona	Global	+6.0%
	TEU	-45.6%
Port of Barcelona	Global	-0.23%
	TEU	+9.4%

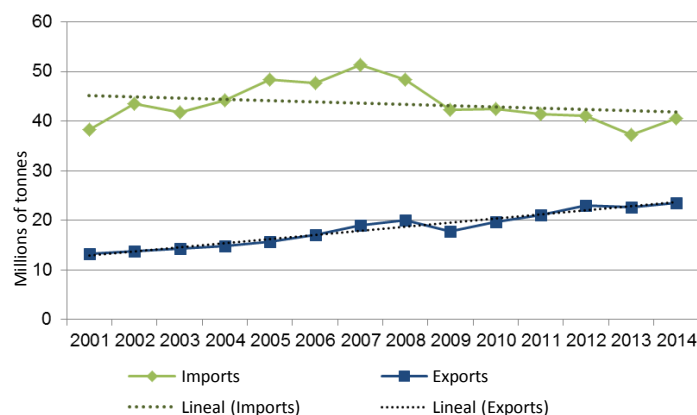
Maritime transport mode: Exports vs. imports



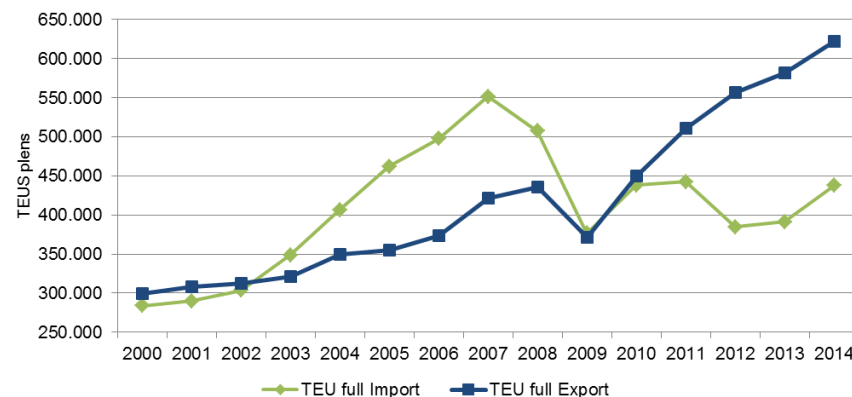
The **difference** between the **volume of goods imported and exported** through the **ports** is **reducing**

- Particularly, the **exporter role** of the Catalan ports in containerized freight.
- With regard to the Port of Barcelona, during the **last 8 years**, full **containerized exports** have gone from being **25% less than the imports** to being **42% more than the imports**.

Traffic evolution. Ports of Barcelona and Tarragona



Full container traffic in the Port of Barcelona



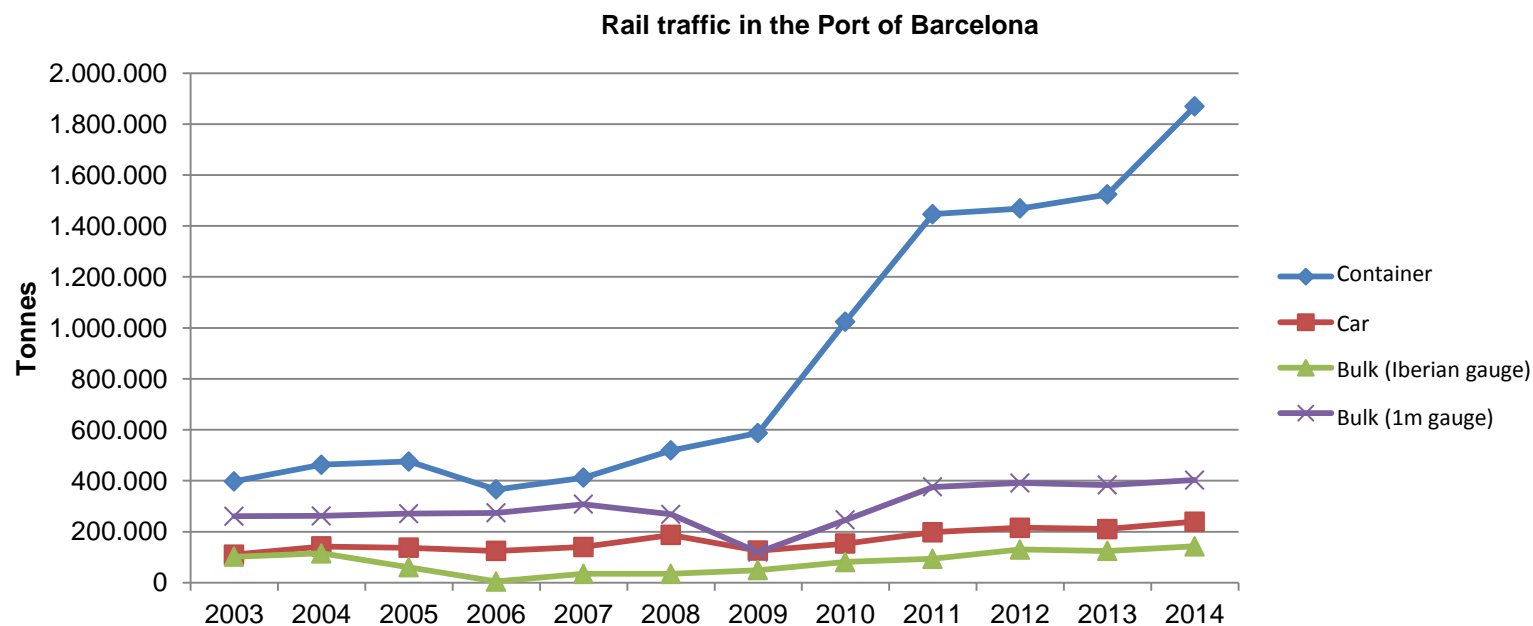
Source: Elaborated from information supplied by the Ports of Barcelona and Tarragona and National Ports

Maritime transport mode: Rail traffic in the Port of Barcelona



In the last 5 years, the total containerised freight handled in the Port of Barcelona has risen by a factor of 3.

- Despite the economic crisis, the **volume of freight** transported by **rail** to the **Port of Barcelona** has **grown** at the rate of **24% annually** between **2007** and **2014**.



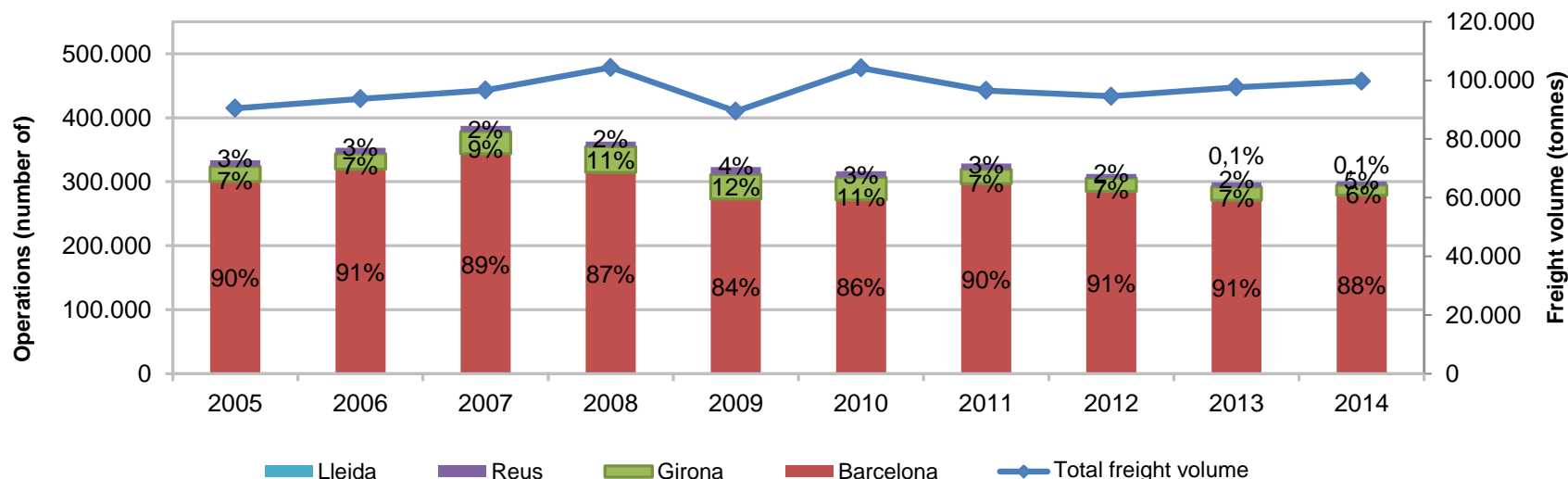
Source: Elaborated from information provided by the Port of Barcelona

Air transport mode: Catalan air traffic



The number of operations made by Catalan airports has increased by **0.5%** during the period 2013-2014.

- During the last period analysed, the volume of freight transported through the Catalan airports has increased above 2% while at state level it has increased by 7.2%.



Source: Elaborated from data provided by AENA's Statistics department, Idescat and the Catalan Airports

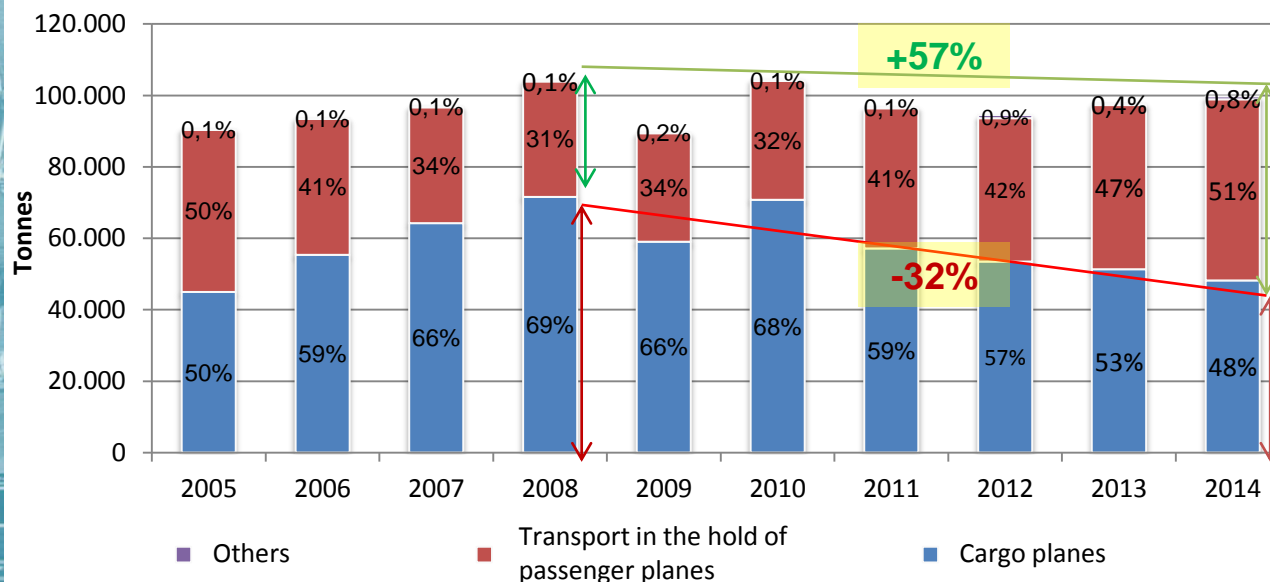
Air transport mode: Air traffic by plane type



During the **last biennium analysed**, the total **volume of freight transported by air mode** has **remained quite stable**, with an increase above 2%.

- During the **period 2008-2014** the **share of each type of transport** has been **redistributed**: the tonnes transported in the **hold of passenger planes** have increased by **57%**, which contrasts with the tonnes transported by **cargo planes**, which have **fallen by 32%**.

Air traffic in Barcelona by plane type



Source: Elaborated from data of AENA and CLASA Statistics departments (Data referred to the Barcelona airport)

Advance data for 2015

Between **January-June 2015** the airport of Barcelona shows a relevant increment of activity

Madrid: +4.7%

Barcelona: +10.2%

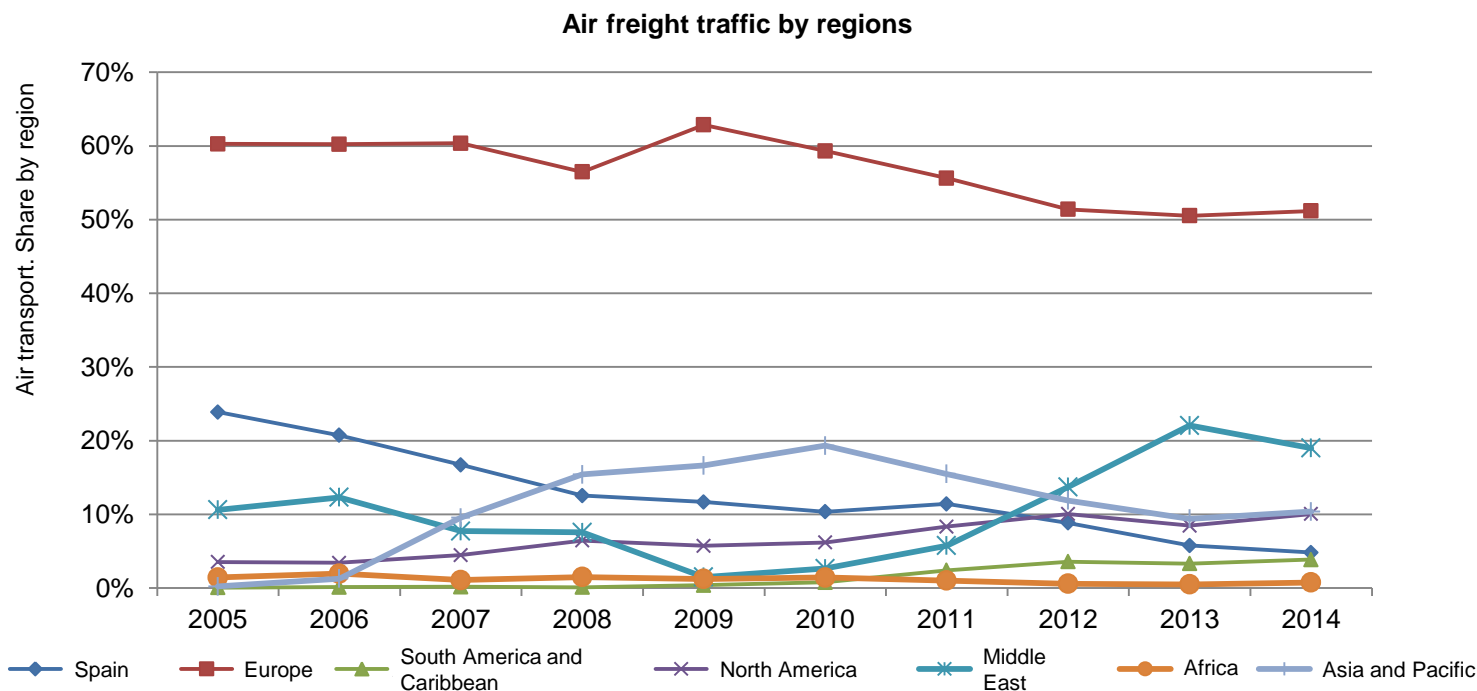
Zaragoza: -4.3%

Overall Spain: +3.1

Air transport mode: Air freight traffic by regions



The volume handled in the Barcelona airport remains stable between 2013 and 2014, with an increment above 2%. In this period it is demonstrated the consolidation of the Middle East market and the recovery of the exchanges with Europe (+1.3%).



Source: Elaborated from data of AENA Statistics department

Air transport mode: Statistical annex



III. SUPPLY AND DEMAND

GENERAL DATA

- III.1. Volume of goods distributed by transport mode and flow type
- III.2. Imports and exports of Catalonia by areas and countries
- III.3. Imports and exports of Spain by areas and countries
- III.4. Imports and exports of Catalonia by sectors
- III.5. Imports and exports of Catalonia by mode

ROAD TRANSPORT

- III.6. Number of employees per company in European countries
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RAIL TRANSPORT

- III.10. General transport data for rail freight in Spain
- III.11. Scheduled and special train convoys: number of journeys made (Spain)
- III.12. Scheduled and special train convoys: number of journeys made (Catalonia and Aragon)
- III.13. Scheduled train convoys : number of journeys programmed and completed (Spain)
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- III.15. Rail terminals in Catalonia: evolution of the number of TEUs
- III.16. International rail border crossing

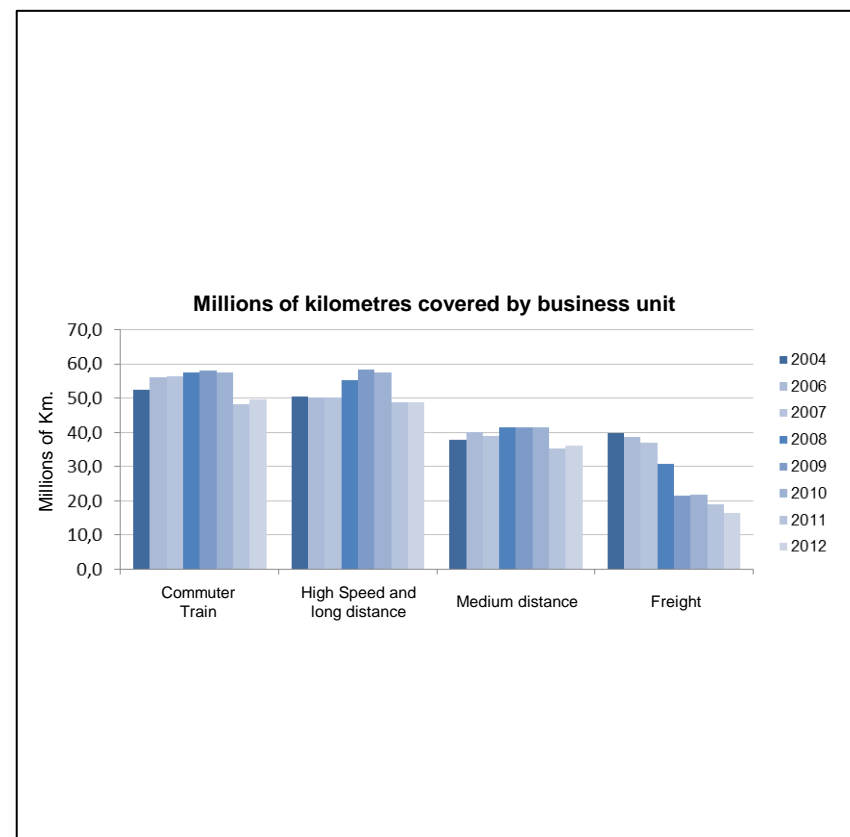


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Infrastructure supply: CONCLUSIONS



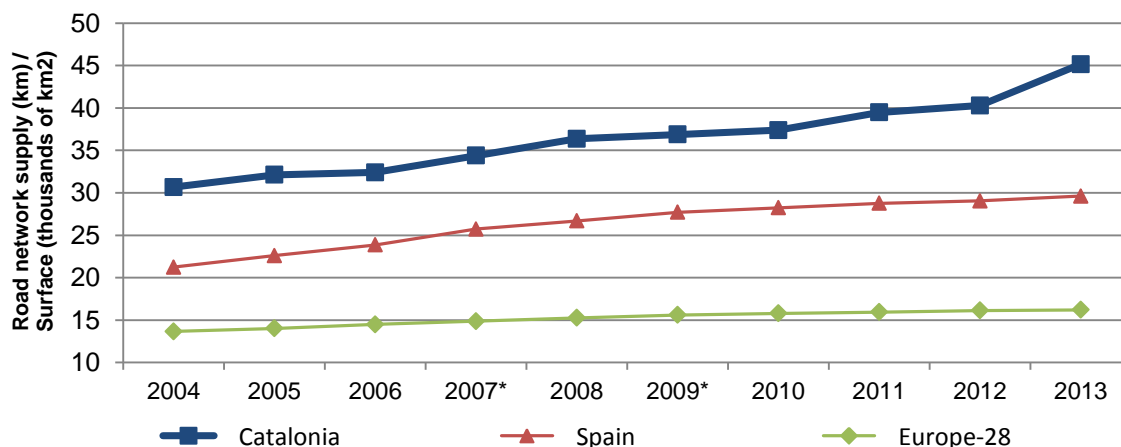
- In the last years the Spanish annual **road infrastructure** growth has been higher than the Catalan one. However, during 2014 the growth of such infrastructures **in Catalonia has been higher than in Spain**.
- During **2013**, the **involvement of heavy vehicles in traffic accidents with human casualties has decreased in Catalonia and within the Spanish**. The accident rate involving heavy vehicles in the Catalan roads accumulates **27% reduction in the period 2008-2013**.
- The **provision of railway infrastructure has grown by a yearly rate of 0.7%** during the period 2002-2013. With regard to population, the ratio of kilometres of railway infrastructure **per million of inhabitants of Catalonia** is lower than the **Spanish and European** ones. On the other hand, Catalonia remains as the **territory with more railway infrastructure per surface unit**.
- Between **2007 and 2013**, the **rail share** in the accesses to the **Port of Barcelona** has **increased fourfold**, while the one corresponding to the **Port of Tarragona** has **fallen by 11%**.

Infrastructure supply: Road infrastructure provision



With the entry into service of the Transversal axis (C-25), **Catalonia reinforces its leadership** in the road infrastructure provision with 4 or more lanes per surface.

- The evolution over the whole study series (2004-2013), shows that **yearly Catalan increment is higher than the State one** (5.3% and 4.4%, respectively).
- The **growth** in road infrastructure in the **last analysed period** is due to the entry into service of the **Transversal axis (C-25)**.



Km/population	2013
Catalonia	191,9
Spain	311,9
Europe-28	140,5

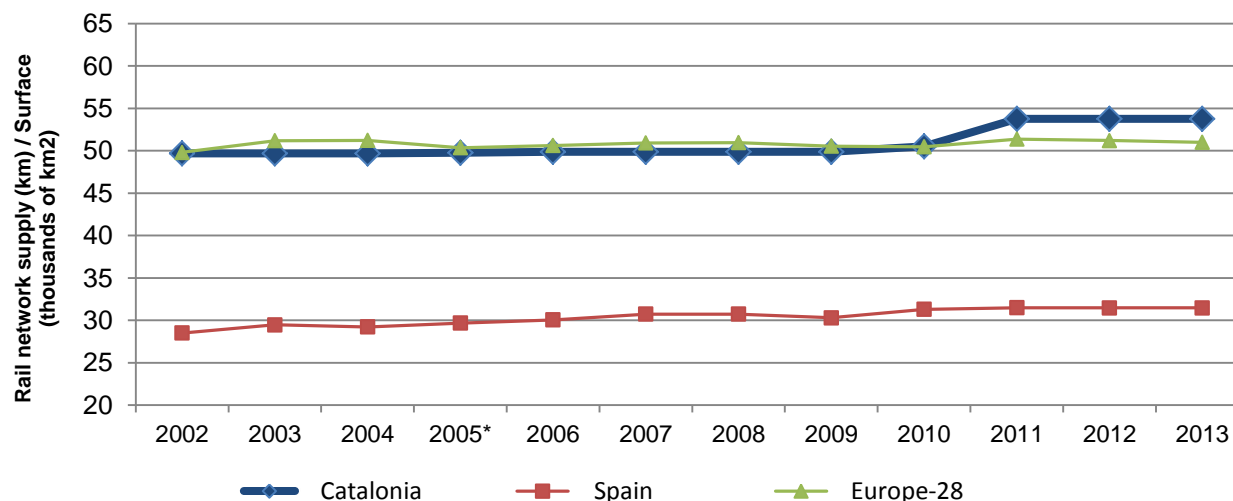
Source: Elaborated from data of the annual statistics of the Spanish Ministry of Public Works and Transport, INE and Eurostat

Infrastructure supply: Railway infrastructure provision



In relative terms, the **rail infrastructure provision** in **Catalonia** is **significantly better than in Spain** in the whole study series. **Europe** maintains its **close position to Catalonia**, although **since 2011 Catalonia takes distance** thanks to the inauguration of the **high speed line**.

- With regard to **population**, in **2013 Catalonia** had a rate of 228.4 km railway line per million of inhabitant, which implies a growth of **0.2% in comparison with the previous year**.
- It is demonstrated that the **comparative by population reverses the Catalan position**.



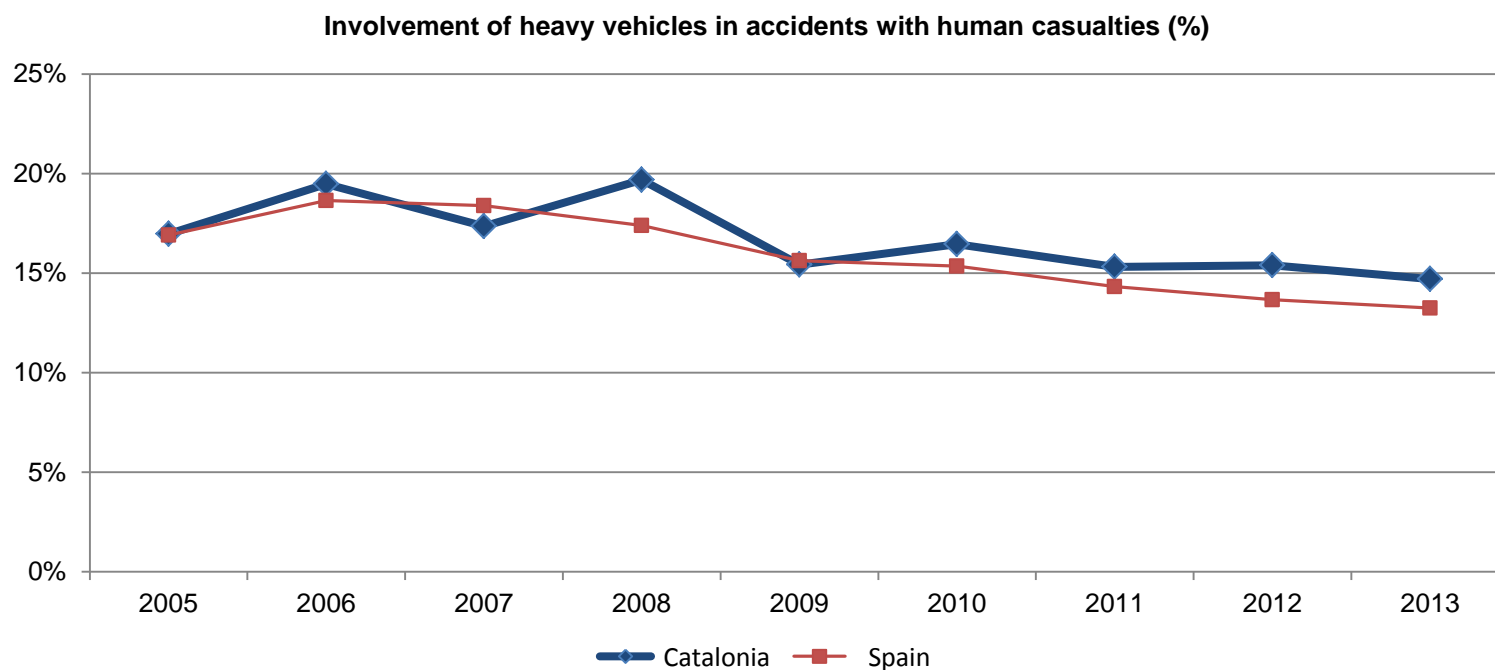
Km/population	2013
Catalonia	228.4
Spain	337.8
Europe-28	436.6

Source: Elaborated from data of the annual statistics of the Spanish Ministry of Public Works and Transport, INE and Eurostat

Infrastructure supply: Evolution of accident rates



The involvement of heavy vehicles in the total number of accidents with human casualties has fallen in Catalonia and within the State. The accident rate of the Catalan roads with the involvement of heavy vehicles has an accumulated decrease of 27% in the period 2008-2013.



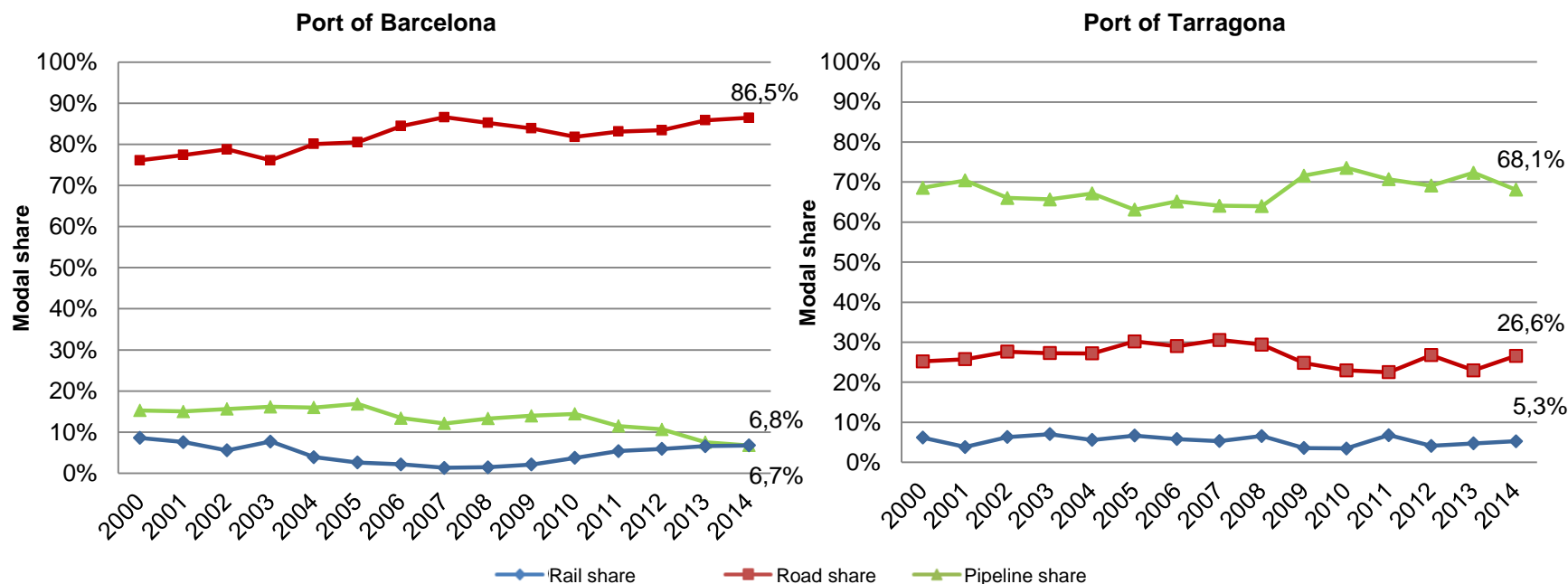
Source: Elaborated from data of the annual accident statistics of the National Traffic Department (DGT) and the Catalan Government

Infrastructure supply: Share of Port access by mode



La reality observed during **2014** reaffirms the **growing** trend of the **railway share of port access for the ports of Barcelona and Tarragona**, with an **increment of 2.6% and 12.0% respectively**.

- During the period **2007-2014**, the **railway share of port access** in the **Port of Barcelona** has **increased fivefold**, while in the **Port of Tarragona** has **maintained stable**.



Font: Elaborated from Ports and National Ports information

Infrastructure supply: Statistical annex



II. INFRASTRUCTURE SUPPLY

ROAD INFRASTRUCTURE

- II.1. Average daily intensity of heavy lorries at the borders
- II.2. Percentage of heavy lorries compared to the average daily intensity at the borders
- II.3. Traffic accident rate in Catalonia and Spain over time

RAIL INFRASTRUCTURE

- II.4. Late arrivals

MARITIME INFRASTRUCTURE

- II.5. Port of Barcelona border control point

AIR TRANSPORT

- II.6. Growth of the number of border crossing inspections (PIF) at Barcelona airport

LOGISTIC LAND

- II.7. Logistics platforms in Catalonia
- II.8. Surface area for storage in Spain
- II.9. Surface area for storage in Catalonia

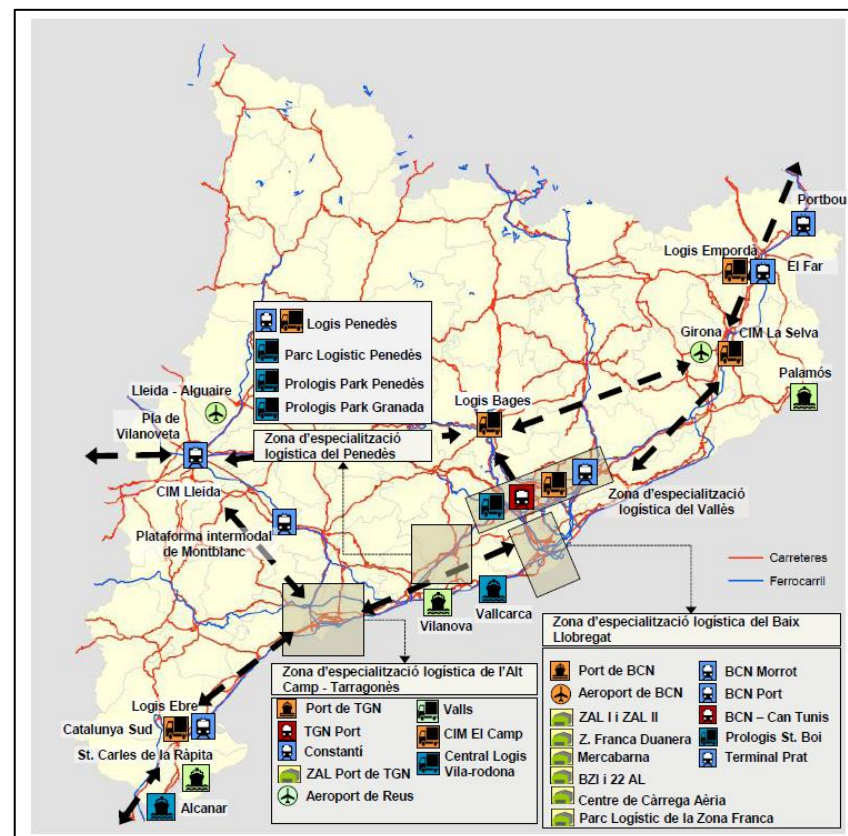


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Logistics real estate market: CONCLUSIONS



- **Catalonia reinforces its leadership** within the **Spanish State** on the **offer of storage surface area**, with almost **24% of the total** offered surface, and **0.4% growth** between **2013-2014**.
- During the **last analysed biennium**, the **fall** in the **logistics warehouse rental price** has been **3.7%**, being now in **3.6€/m²/month**, **slightly lower than the European average (5.6€/m²/month)**.
- Due to a consumption, industrial and logistics privileged scene, the Delta logistic platform **leads the price list within the Spanish State (5.6€/m²/month)**, **being close to the European average**.

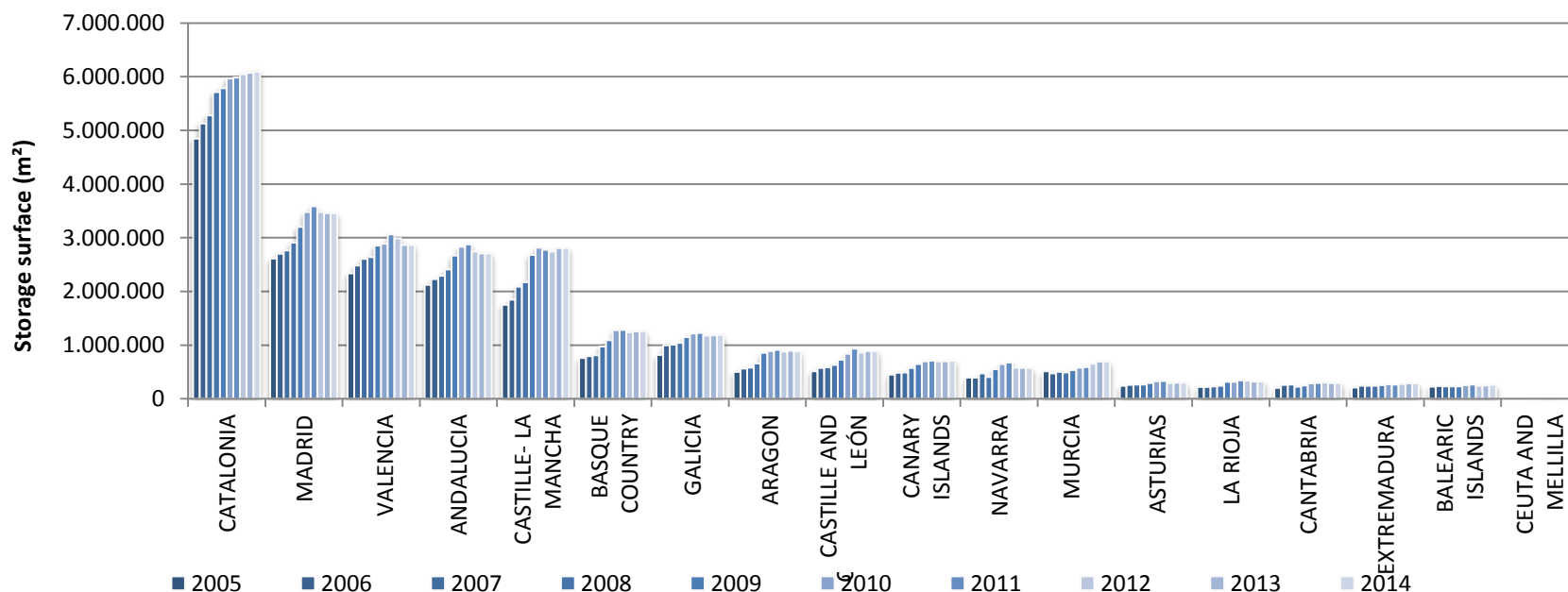
Logistics real estate market: provision of logistics area



The total **Spanish logistics storage surface** supply is over **25.6 million m²**.

- **Catalonia, with over 6 million m²**, keeps on leading this supply with **23.7% of the total**.
- **Catalonia keeps on leading this supply**, with almost **24% of the overall surface**, and **0.4% growth** between **2013-2014**, which contrasts with the **stagnation** of the **rest of Spain**.

Spanish logistics storage surface by autonomous communities



Font: Elaborated from Alimarket's warehouses and logistics platforms census

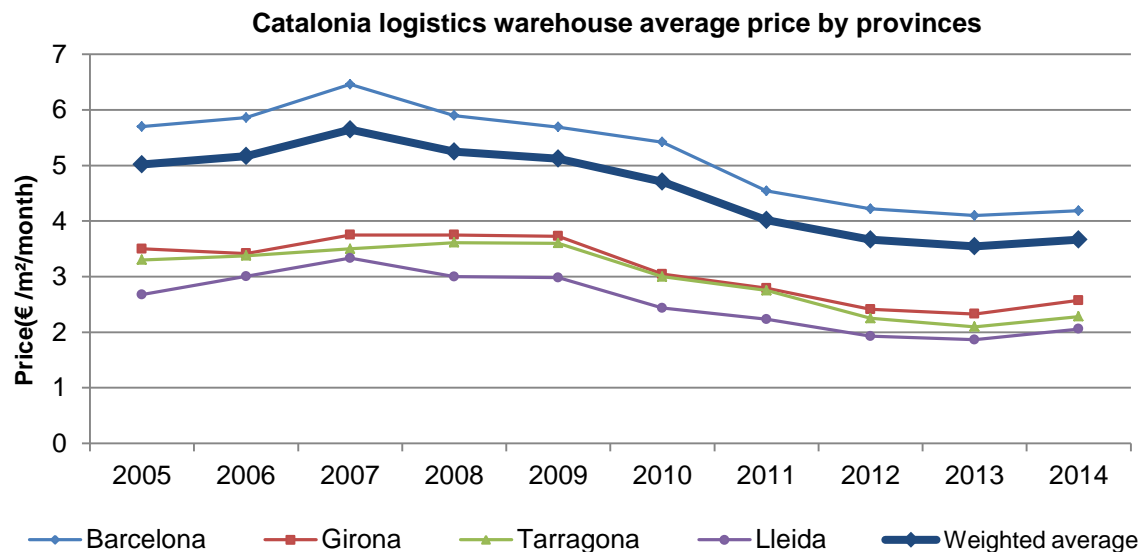
Logistics real estate market: Logistics warehouse price (I)



Catalonia

During 2014 the fall of the average **logistics warehouse rental price** stabilizes. With an increment of 3.4%, the average price is 3.66€/m²/month.

- Since 2007 the average price in Catalonia has registered an accumulated fall of more than 35%.



Advanced data for 2015

In the first four months of **2015** it is observed a **moderate increase in the rental price and rental contracts.**

Source: Aguirre Newman

Source: Elaborated from data of Atisreal, Richard Ellis, Jones Lang LaSalle, Aguirre Newman, BNP Paribas and King Sturge

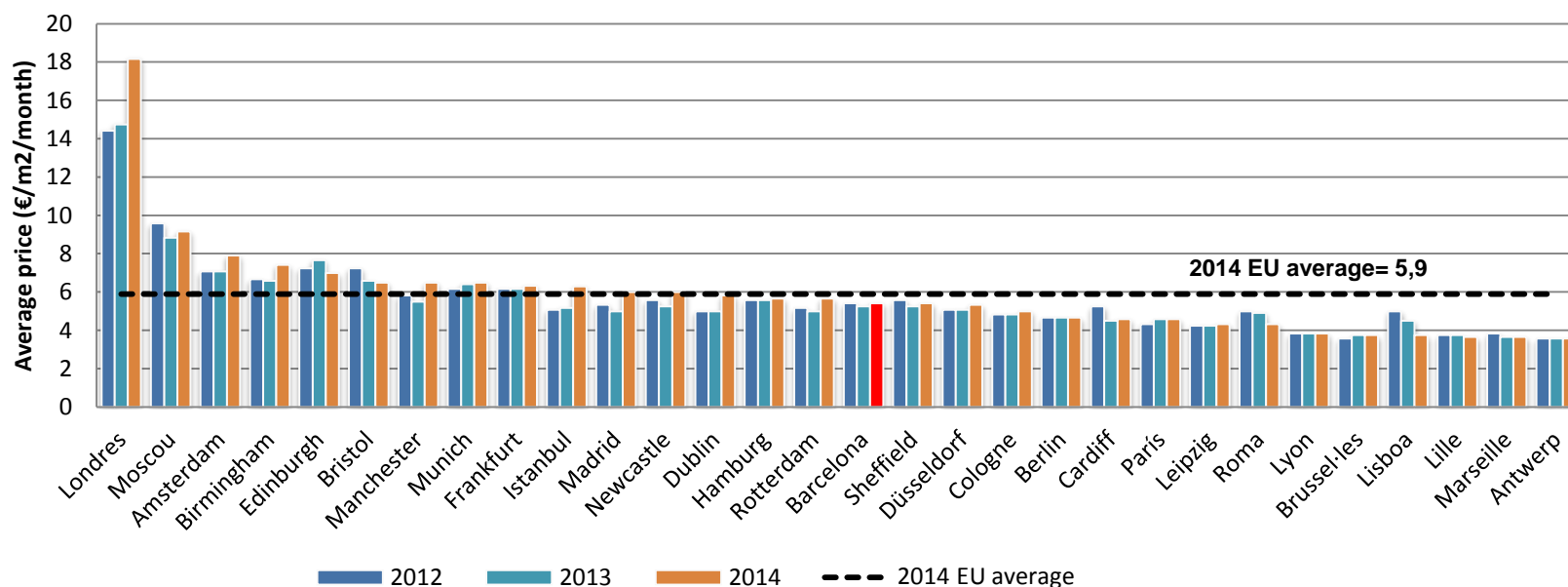
Logistics real estate market: Logistics warehouse price (II)



Europa

The average warehouse rental price in **Barcelona (5,4 €/m²/month)** is close to the **European average**.

Average price of warehouse rental in *prime zones* of major European cities (2012-2014)



Source: Elaboratded from data of BNP Paribas Estate (2013-2014)

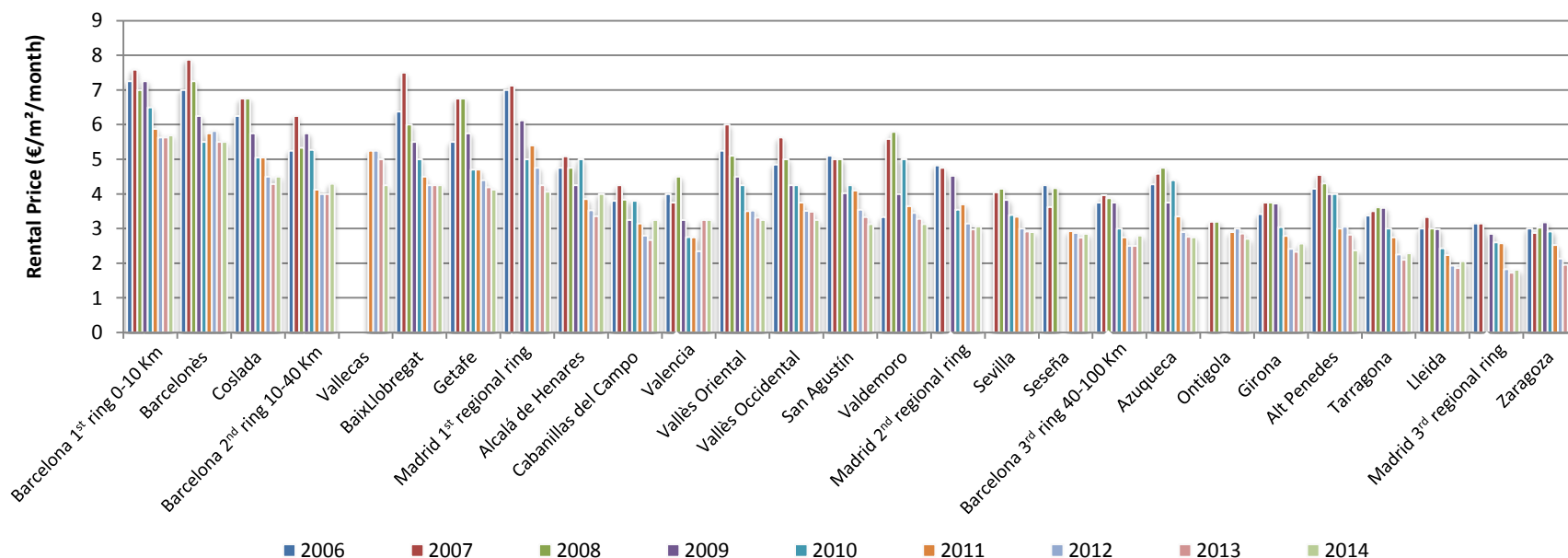
Logistics real estate market: Logistics warehouse price (III)



Spain

During 2014, the average warehouse rental price in Barcelona has behaved steadily on the overall of the Spanish cities.

- The first metropolitan ring of Barcelona keeps the first place of the ranking of rental prices, with a value of 5.7€/m²/month in the last year.



Source: Elaborated from data of BNP Paribas Real Estate, Richard Ellis, Jones Lang LaSalle, Aguirre Newman, Cushman & Wakefield and CBRE

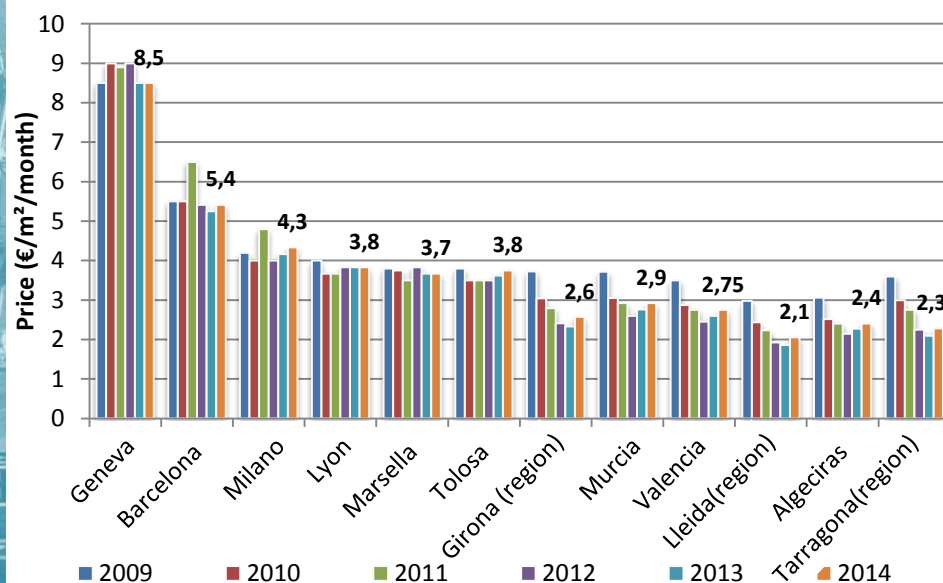
Logistics real estate market: Logistics warehouse price (IV)



Mediterranean Corridor

Barcelona holds the second position with respect to the logistics warehouse rental price, right after Geneva.

Average price of logistics warehouse in the major cities of the Mediterranean Corridor



Source: Elaborated from data of Colliers International, BNP Paribas Estate and CB Richard Ellis

Logistics real estate market: Statistical annex



IV. LOGISTICS REAL ESTATE MARKET

IV.1. Ranking of land prices for the main logistics zones in Spain

IV.2. Ranking of land prices for the main logistics zones in Europe

Dades en €/ m ² / mes	2006	2007	2008	2009	2010	2011	2012	Var 11-12	anual
Barcelona 1a Corona 0-10 km	7,1	8,0	7,1	6,8	6,0	5,8	5,6	-4,3%	-4,0%
Coslada	6,8	7,3	6,8	5,8	5,0	5,0	4,5	-10,0%	-6,6%
Torrejón-San Fernando	6,6	6,8	6,7	5,8	5,0	5,0	-	-	-5,4%
Leganés-Fuenlabrada	4,6	5,4	6,1	6,1	4,8	4,8	-	-	0,6%
Getafe	6,7	6,3	6,8	5,8	4,7	4,7	4,4	-6,4%	-6,7%
Baix Llobregat	6,4	7,5	6,0	5,5	5,0	4,5	4,3	-5,6%	-6,5%
Barcelona 2a Corona 10-40 km	5,3	6,3	5,3	5,8	5,3	4,6	4,0	-13,0%	-4,4%
Parla-Pinto-Valdemoro	4,7	5,0	5,6	5,8	3,9	3,9	3,5	-11,1%	-4,9%
Alcalá de Henares	5,0	5,1	4,8	4,3	4,1	3,9	3,5	-8,4%	-5,7%
Vallès Occidental	4,9	5,6	5,0	4,3	4,3	3,8	3,3	-12,0%	-6,2%
Vallès Oriental	5,3	6,0	5,1	4,5	4,3	3,8	3,3	-13,3%	-7,7%
Sevilla	-	4,1	4,2	3,8	3,4	3,3	3,0	-10,2%	-5,8%
Quer-Alovera-Cabanillas	3,5	4,3	4,2	3,3	3,1	3,2	2,8	-11,1%	-3,8%
Girona	3,4	3,8	3,8	3,6	3,5	3,2	3,2	0,0%	-1,3%
Alt Penedès	4,2	4,6	4,3	4,0	4,0	3,5	2,3	-35,7%	-9,7%
Tarragona	3,4	3,3	3,6	3,6	2,8	2,8	2,8	0,0%	-3,4%
Barcelona 3a Corona 40-100 Km	3,8	4,0	3,9	3,8	3,0	3,0	2,5	-16,7%	-6,5%
València	4,0	3,8	4,5	3,3	2,8	2,8	2,4	-14,5%	-8,5%
Lleida	3,2	3,3	3,0	2,9	2,8	2,7	2,6	-3,7%	-3,3%
Guadalajara-Torla	3,3	3,1	3,0	2,8	2,6	2,6	-	-	-5,2%
Zaragoza	3,9	2,9	3,4	3,2	2,9	2,5	2,1	-15,0%	-9,6%

Font: Elaboració pròpia amb dades de: BNP Paribas Real Estate, Richard Ellis, Jones Lang LaSalle, Aguirre Newman, Cushman & Wakefield i CBRE.]

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Efficiency: CONCLUSIONS

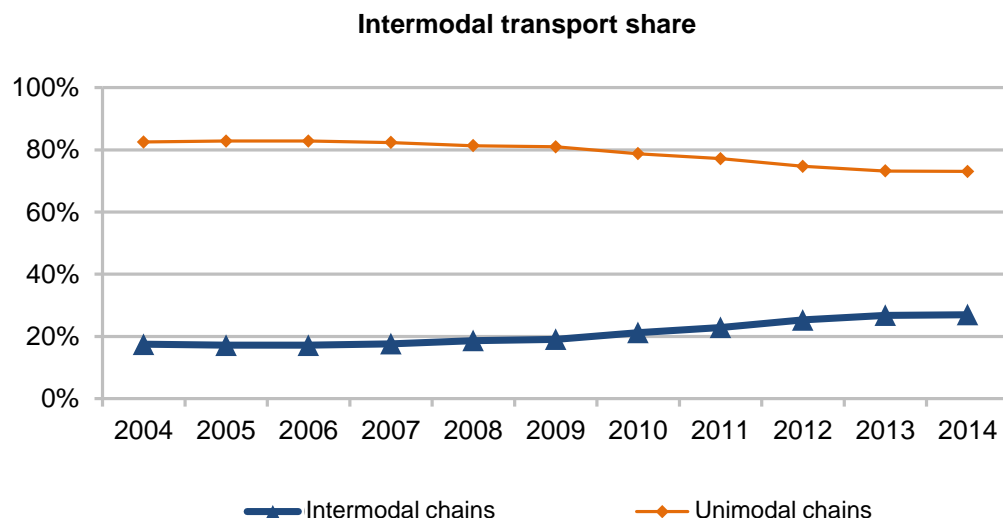


- The **intermodal transport share** has **increased since the start of the economic crisis**. During the last analysed period (2013-2014) it stands out the **increment of the relevancy of intermodal chains** based on **road-maritime (+3.7%)** and **rail-maritime (+6.7%) combinations**.
- The **percentage of empty displacements presents the lowest value of all the study series, under 40%**. This ratio has a value of 44.7% for internal operations while in with the rest of the state and for international operations the ratio is about 20%.
- **Fuel consumption** and gas and particulate **emissions** caused by the road freight transport have **fallen** between **23%** and **48%** during the period 2006-2014.
- The **LGP** importance as an **automotive fuel** continues its process of growth started in 2005.

Efficiency: Unimodality vs. Intermodality



The **intermodal transport share** has tended to **increase during the crisis**. During the last analysed period (2013-2014) it stands out the **increase of the weight of intermodal chains based road-maritime (+3.7%) and rail-maritime (+6.7%) combinations**.



- Intermodal chains have increased by 9% since the start of the crisis.

Share %	2004	2006	2008	2010	2012	2013	2014
Unimodal	82.5	82.8	81.3	78.7	74.7	73.2	73.0
Intermodal	17.5	17.2	18.7	21.3	25.3	26.8	27.0

Font: Elaborated from provided by the Spanish Ministry for Public Works and Transport, Renfe, FGC, National Ports and Aena

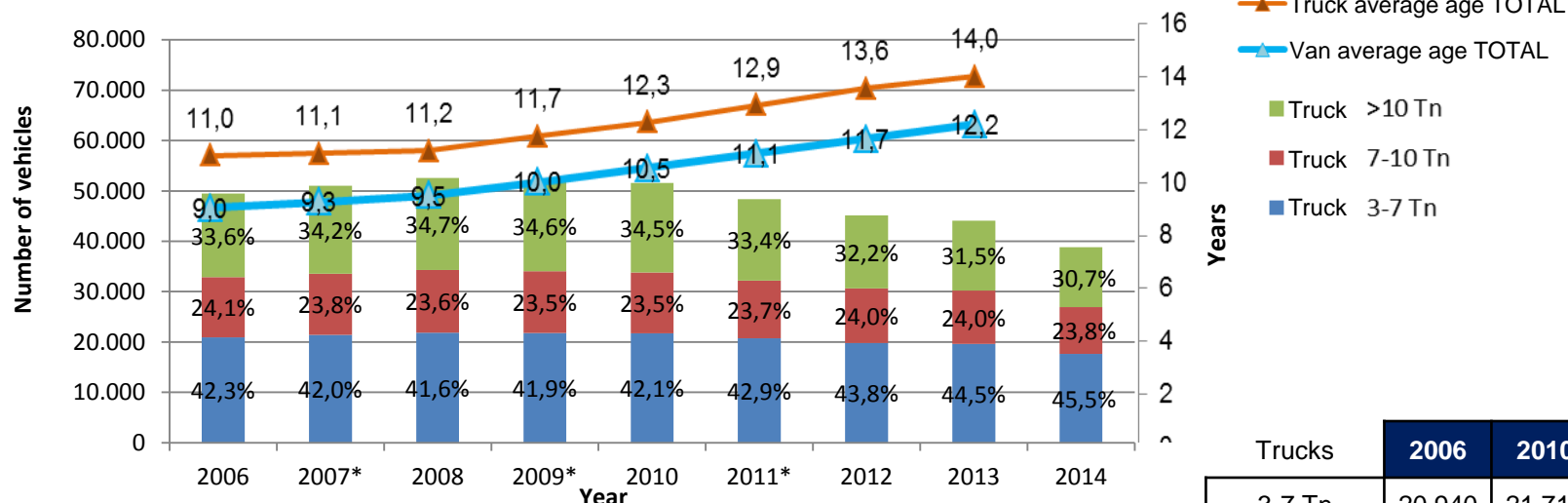
Nou

Distribution of the truck fleet in Catalonia



In the last years, it has been observed a **downward trend** with reference to the **Catalan truck fleet**, with a **yearly fall rate of -5.9% between 2008 and 2004**. At the same time, this descent is accompanied by a **greater role** for vehicles with a **load capacity inferior to 7 tonnes**, while those with a **load capacity greater than 10 tonnes lose their share**.

Truck fleet in Catalonia by its loading capacity



Source: Institut Cerdà (2015), elaborated from the data of the Directorate General of Traffic (2006, 2008, 2010, 2012, 2013 and 2014).

*Observation: interpolation between the previous and the posterior years

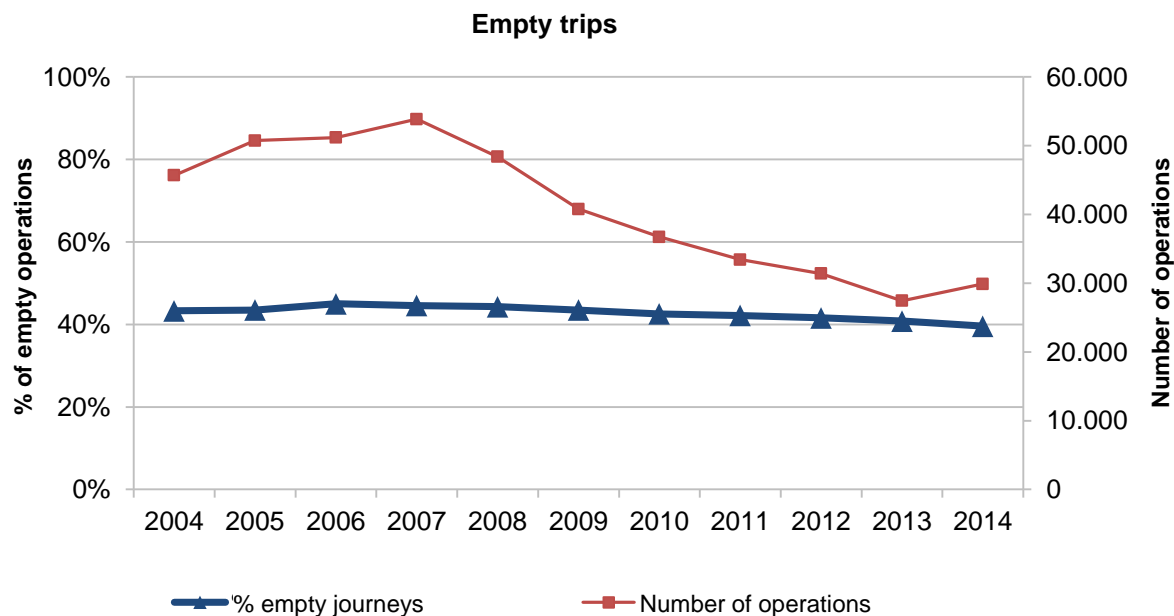
Trucks	2006	2010	2014
3-7 Tn	20.940	21.715	17.667
7-10 Tn	11.912	12.096	9.240
>10 Tn	16.650	17.770	11.934

Efficiency: empty trips



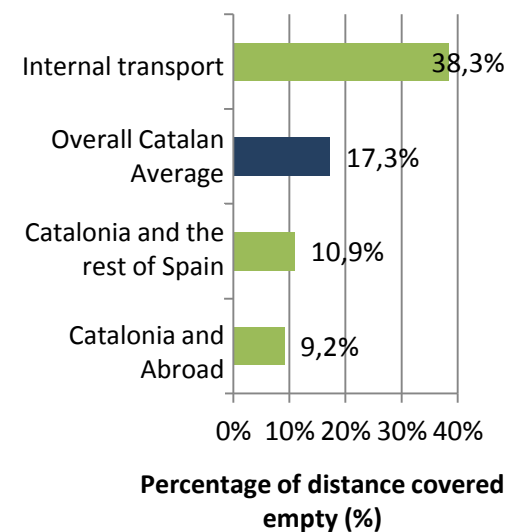
During 2014 the percentage of **empty trips** has **decreased** by an **annual rate of 3.0%**, ending up **below 40%**.

- This **ratio** is specially **relevant** in **internal transport (44.7%)**.
- For **international transport** or **trips to the rest of the State**, this ratio is around **20%**.



Source: Elaborated from EPTMC

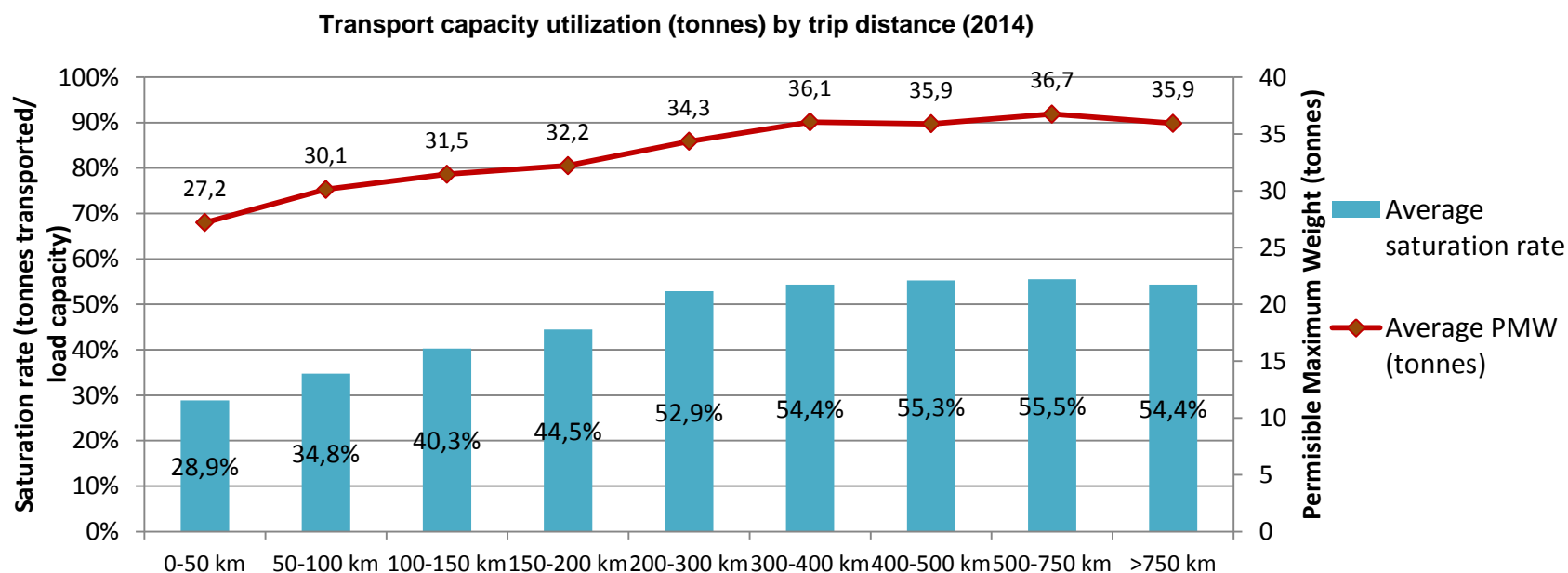
Distance covered empty (2014)



New

Road transport capacity utilization

Analysing the rate of capacity utilization of road transport, it is demonstrated an **increment** in the rate of **capacity utilization** as the **trip distance increases**.

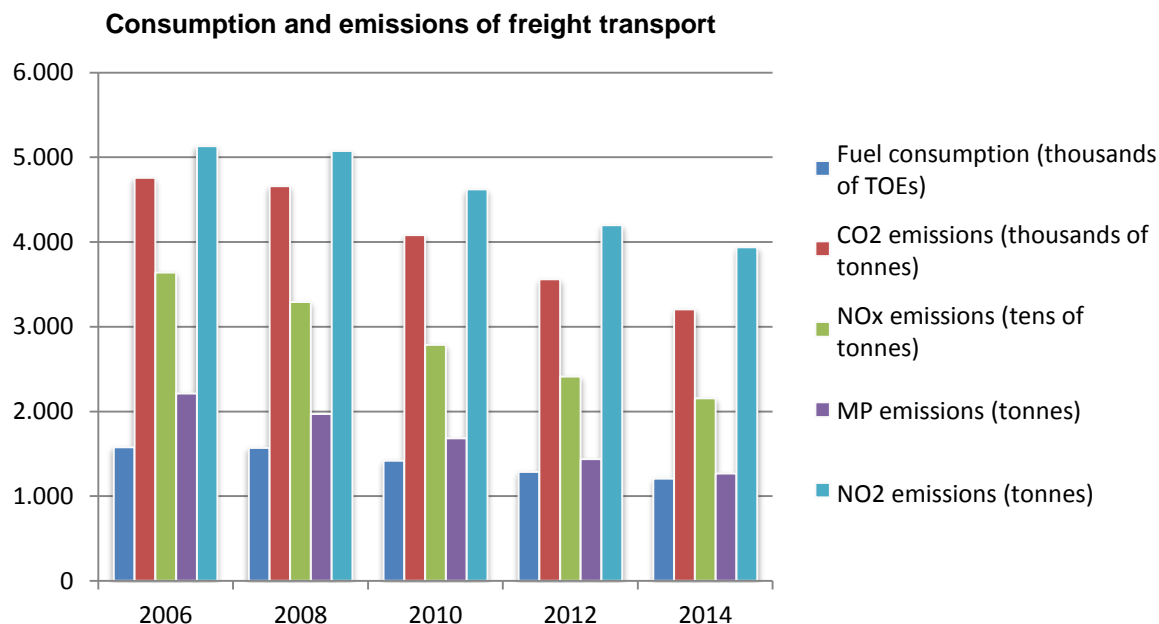


Font: Institut Cerdà (2015), from the Permanent Survey of the Freight Transport by Road (2014).

Efficiency: freight transport emissions



Fuel consumption and gas and particulate emissions caused by the road freight transport have been **reduced** during the period **2006-2014**, due to the **reduction of mobility** and **technological improvements** on vehicles.



Evolution 2006 - 2014

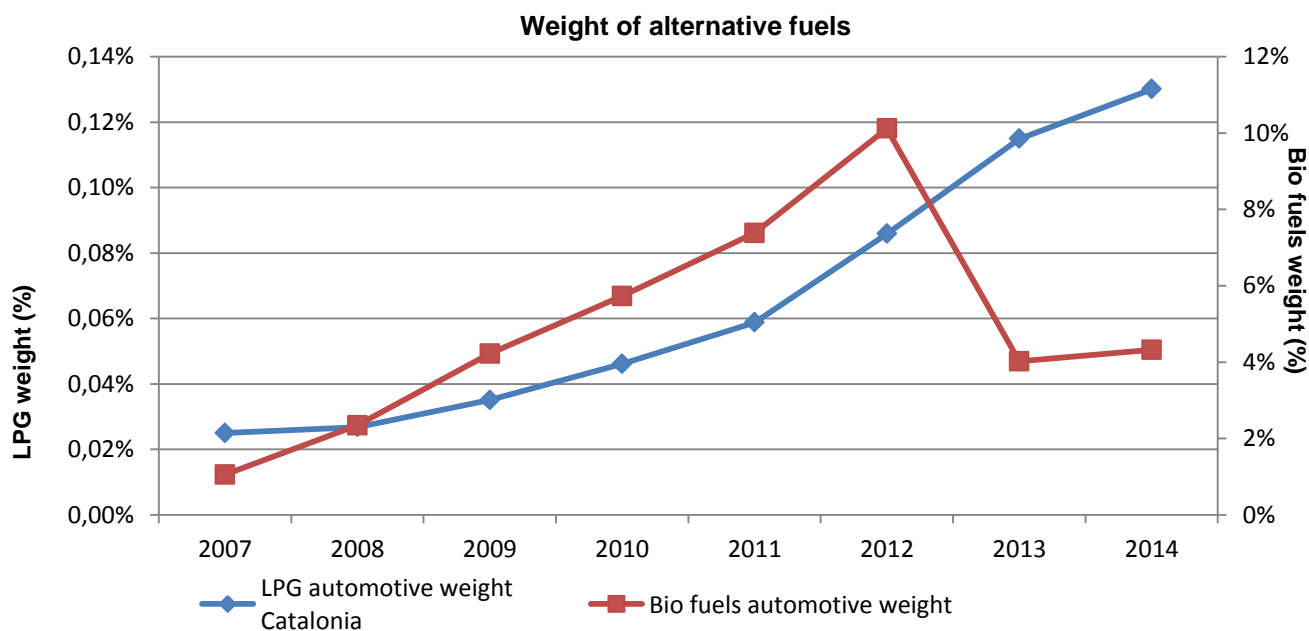
Consumption	-23%
CO2	-33%
NOx	-41%
PM	-43%
NO2	-23%

Source: Elaborated from data of EPTMC and the following reports: *Estudi de seguiment de l'evolució de la mobilitat i les emissions de gasos d'efecte hivernacle i contaminants a Catalunya per l'any 2012* (Institut Cerdà); *Avaluació de l'efectivitat en la reducció dels consums energètics i les emissions en els escenaris prospectius i subàmbits de les mesures proposades en el Pla director de mobilitat de la Regió Metropolitana* (Institut Cerdà), together with and estimation for 2014.

Efficiency: Weight of alternative fuels



In spite of still being in a preliminary stage, during the last years **LPG** has risen importance as an **automotive fuel**, with an **interannual growth** of **17%** between **2005** and **2014**.



Source: Elaborated from CORES and ICAEN data

Interannual evolution of the alternative fuels weight (2007-2014)

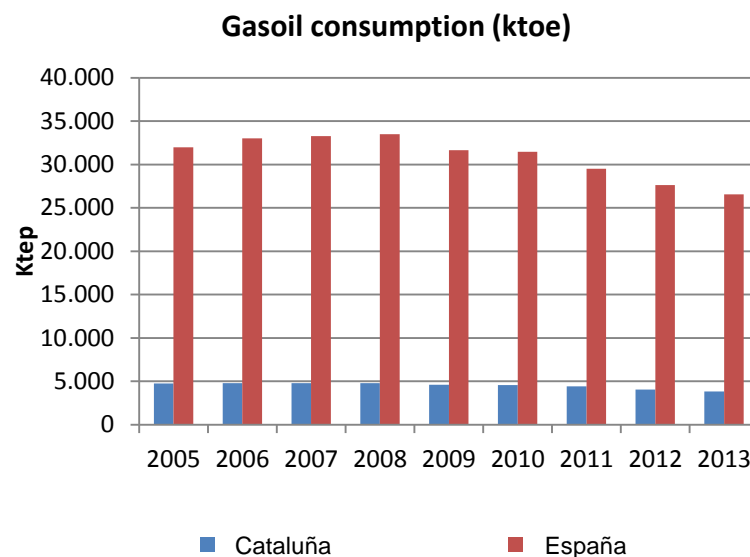
LPG	+27%
Bio fuels	+22%

Efficiency: Statistical annex



V. EFFICIENCY

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