MARKET INSIGHT

INLAND NAVIGATION IN EUROPE

FALL 2016

CCNR

CENTRAL COMMISSION
FOR THE NAVIGATION OF THE RHINE

LIABILITY DISCLAIMER

October 2016

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ECONOMIC CONTEXT

ECONOMIC SITUATION IN EUROZONE AND RHINE COUNTRIES

RATE OF CHANGE IN REAL GROSS DOMESTIC PRODUCT IN THE EUROZONE (IN %)

	2012	2013	2014	2015	2016 (e)	2017 (e)
Eurozone	-0.9	-0.3	1.0	1.6	1.6	1.7

Source: OECD Economic Outlook (June 2016)
(e: expectations)

RATE OF CHANGE IN REAL GROSS DOMESTIC PRODUCT IN THE RHINE COUNTRIES (IN %)

	2012	2013	2014	2015	2016 (e)	2017 (e)
Germany	0.6	0.4	1.6	1.4	1.6	1.7
Belgium	0.2	0.0	1.3	1.4	1.2	1.5
France	0.2	0.6	0.6	1.2	1.4	1.5
Netherlands	-1.1	-0.4	1.0	2.0	1.7	2.1
Switzerland	1.1	1.8	1.9	0.9	1.2	1.7
Luxembourg	-0.8	4.4	4.1	4.9	3.7	3.8

Source: OECD Economic Outlook (June 2016)
(e: expectations)

-1.6%

DECREASE IN WORLD TRADE DURING THE FIRST FIVE MONTHS OF 2016

- OECD June 2016 forecasts are lower than OECD November 2015 forecasts for Rhine countries.
- New forecasts for Germany, Belgium, France, the Netherlands and the eurozone are on average 0.2 percentage points lower than those of November 2015.
- On the other hand, the June 2016 forecasts for Switzerland and Luxembourg are respectively 0.1 and 0.9 percentage points higher.
- According to the IMF, a decline in world trade and a drop in industrial output explain this downward revision in GDP forecasts.
- Slowdown in China is impacting world trade and industrial output in Europe and the United States.

ECONOMIC SITUATION IN DANUBE COUNTRIES

RATE OF CHANGE IN REAL GROSS DOMESTIC PRODUCT IN THE DANUBE COUNTRIES (IN %)

	2012	2013	2014	2015	2016 (e)	2017 (e)
Austria	0.7	0.3	0.5	0.8	1.3	1.6
Hungary	-1.7	2.0	3.6	3.0	1.6	3.1
Slovakia	1.5	1.4	2.5	3.6	3.1	3.2
Romania	0.6	3.5	3.0	3.7	4.2	3.6
Bulgaria	0.2	1.3	1.5	3.0	2.3	2.3
Croatia	-2.2	-1.1	-0.4	1.6	1.9	2.1

Sources: OECD Economic Outlook (June 2016) and IMF World Economic Outlook (April 2016) (e: expectations)

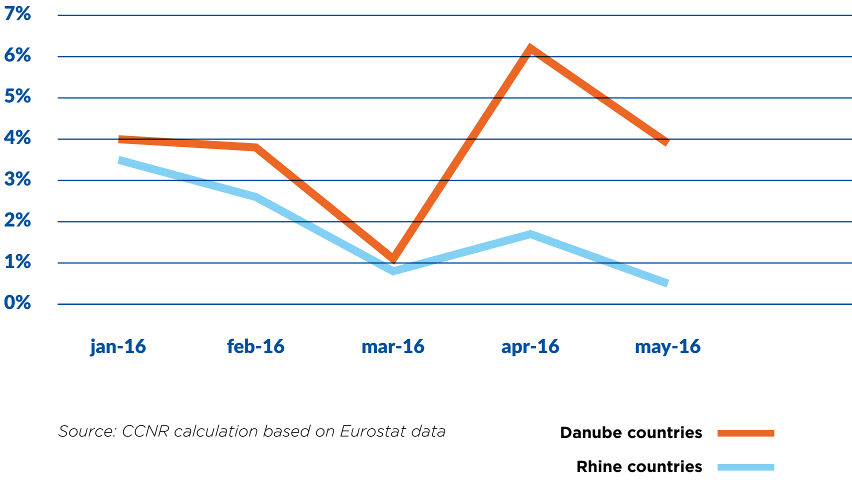
+0.4%

AVERAGE GROWTH RATE OF INDUSTRIAL PRODUCTION
IN THE MANUFACTURING SECTOR IN RHINE COUNTRIES FOR THE PERIOD 2005-2015

+3.1%

AVERAGE GROWTH RATE OF INDUSTRIAL PRODUCTION
IN THE MANUFACTURING SECTOR IN DANUBE COUNTRIES FOR THE PERIOD 2005-2015

MONTHLY GROWTH RATE OF INDUSTRIAL OUTPUT IN THE MANUFACTURING SECTOR: COMPARISON OF 2015 AND 2016



Source: CCNR calculation based on Eurostat data

- Expected economic growth is higher for Danube countries than for Rhine countries.
- Expected GDP growth in Rhine countries in 2016 is between 1.2% and 1.7%.
- Expected GDP growth in Danube countries in 2016 is between 1.3% and 4.2%.
- Catch-up phenomenon has propelled Danube countries for several years.
- Their increasing industrial output derives in part from relocations of Chinese activities and direct investments in a number of eastern and south-eastern European countries.

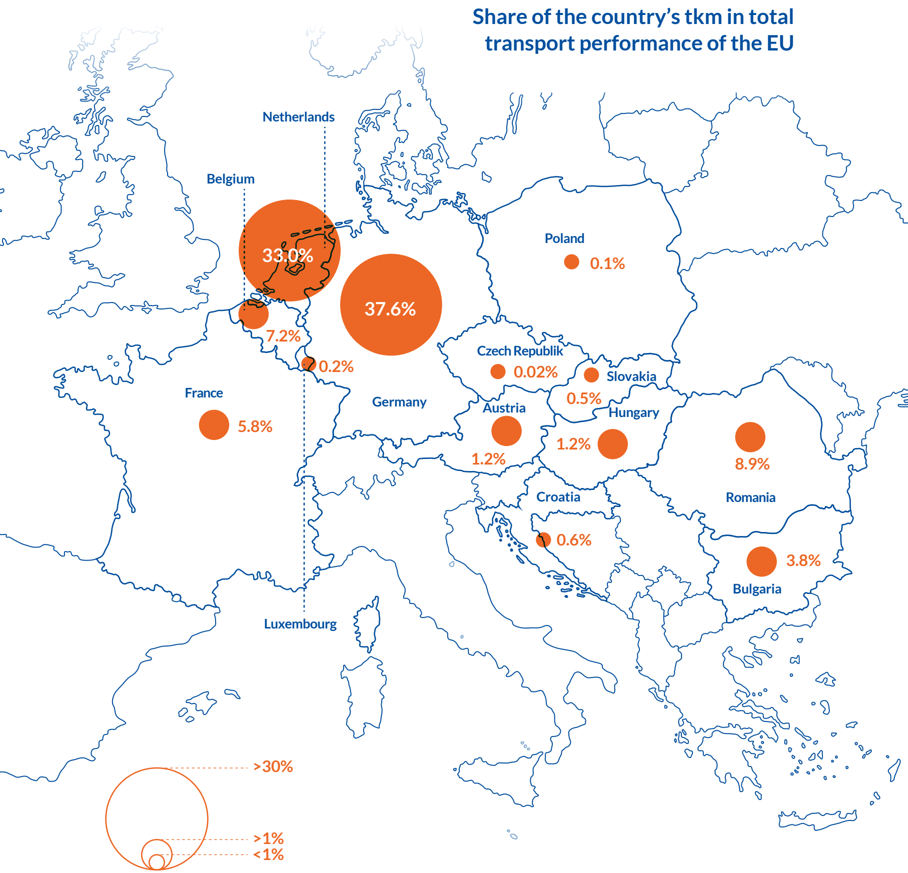

IRISL

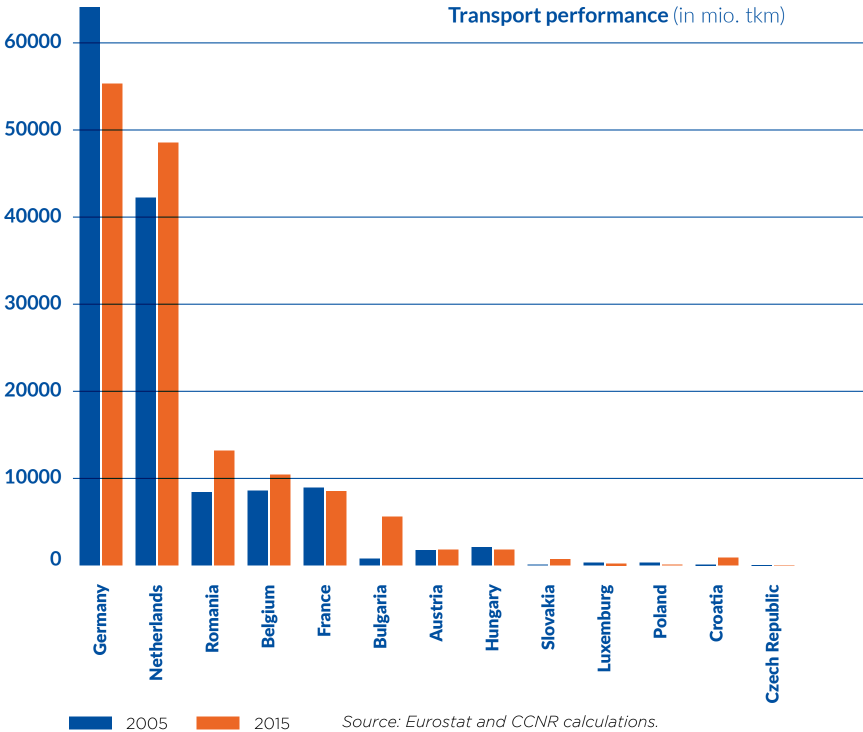
02

DEMAND FOR INLAND WATERWAYS TRANSPORT

TRANSPORT PERFORMANCE IN EUROPEAN UNION BY COUNTRY

TRANSPORT PERFORMANCE IN IWT IN THE NATIONAL TERRITORY OF EACH COUNTRY IN THE EUROPEAN UNION



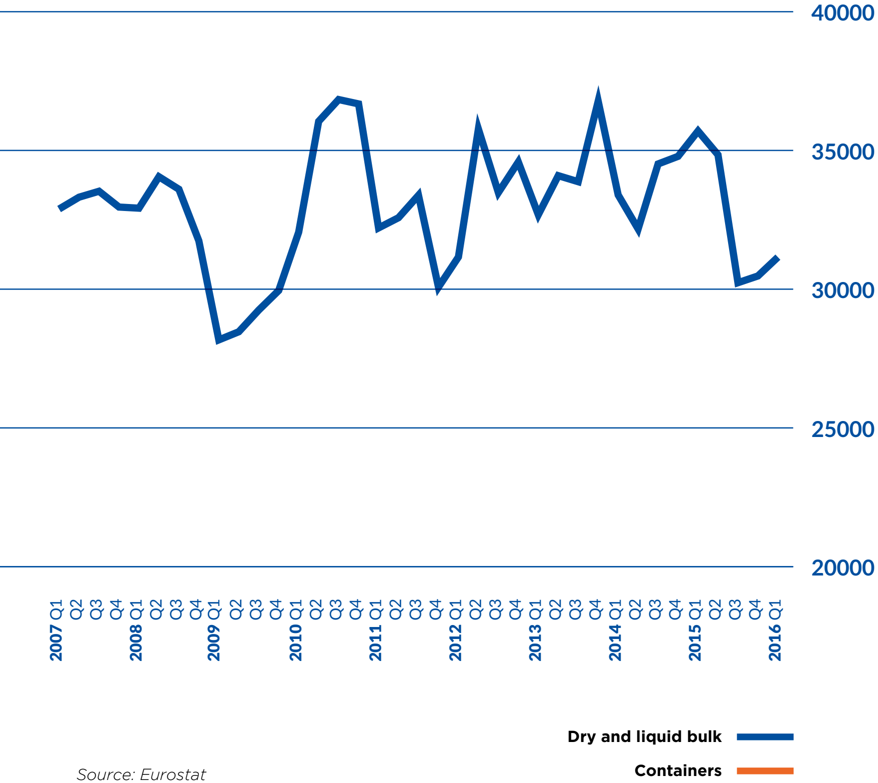


Source: Eurostat and CCNR calculations.

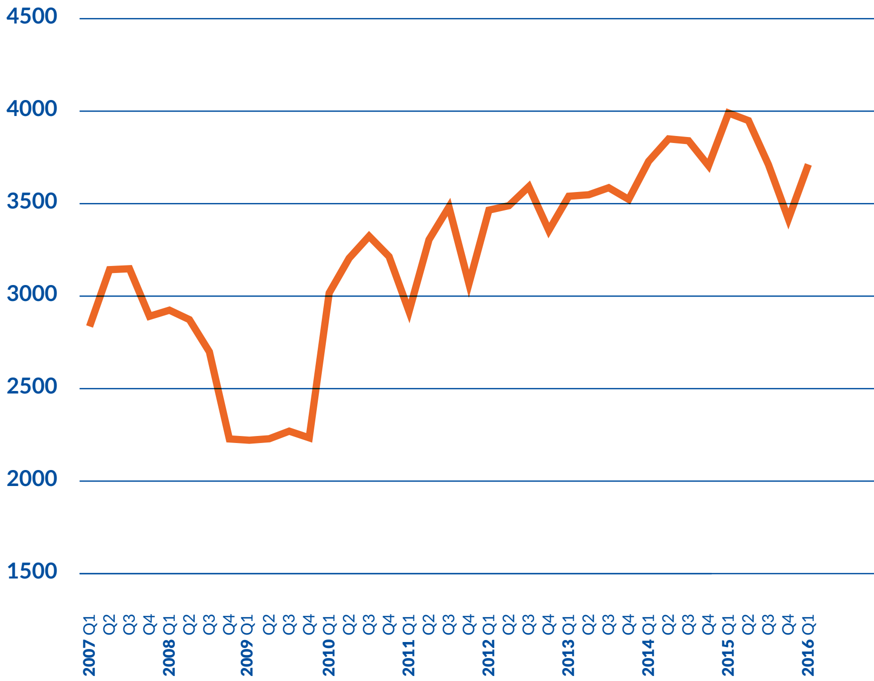
- Share of Germany and Netherlands in European Union IWT transport performance in 2015: 71%.
- Danube countries have increased their share in EU inland navigation from 9% to 16% over the last 10 years.
- Slight upward trend in European IWT: between 2005 and 2015, the overall IWT transport performance in the EU increased by around 7%.

TRANSPORT PERFORMANCE IN EUROPEAN UNION BY TRANSPORT TYPE

INLAND SHIPPING TRANSPORT PERFORMANCE IN THE EU
(QUARTERLY DATA - M TKM)



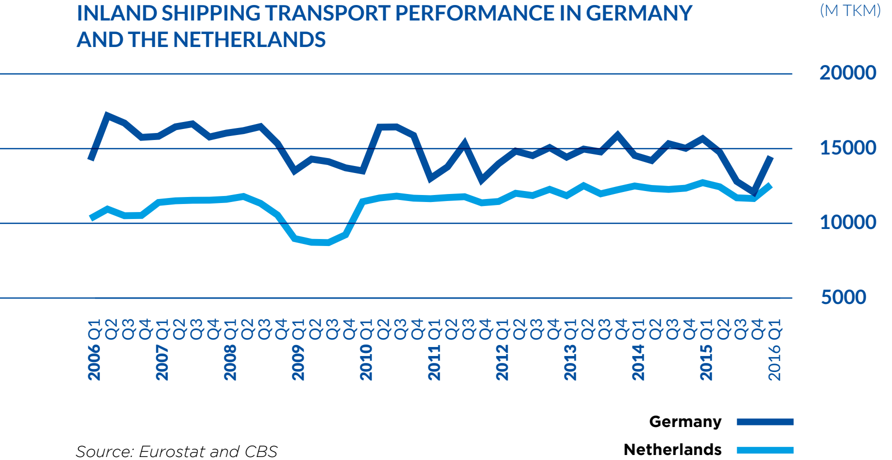
Source: Eurostat



- Share of container transport within the EU has increased slowly but steadily, reaching 10.3% in 2015 in inland navigation transport performance.
- The proportion is even higher in some countries: 14.7% in Belgium, 13.7% in the Netherlands, 11% in Germany.
- In all Danube countries, however, container transport still plays a minor role, due to bottlenecks in the transport infrastructure, a lower demographic and industrial density and the lack of a mainport for container handling.

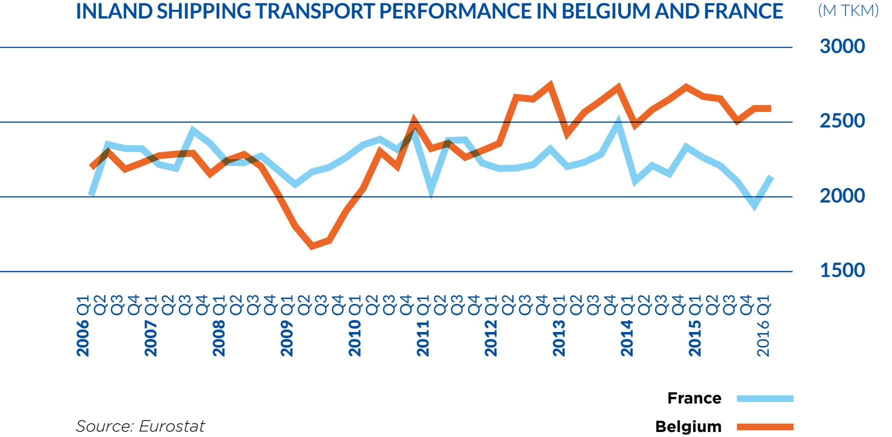
DEMAND FOR TRANSPORT IN MAIN IWT COUNTRIES – RHINE COUNTRIES

INLAND SHIPPING TRANSPORT PERFORMANCE IN GERMANY AND THE NETHERLANDS



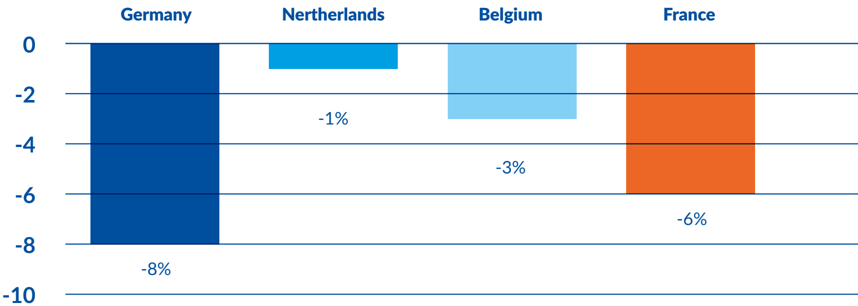
Source: Eurostat and CBS

INLAND SHIPPING TRANSPORT PERFORMANCE IN BELGIUM AND FRANCE



Source: Eurostat

RATE OF CHANGE IN INLAND SHIPPING TRANSPORT PERFORMANCE
(Q1 2016 COMPARED WITH Q1 2015)

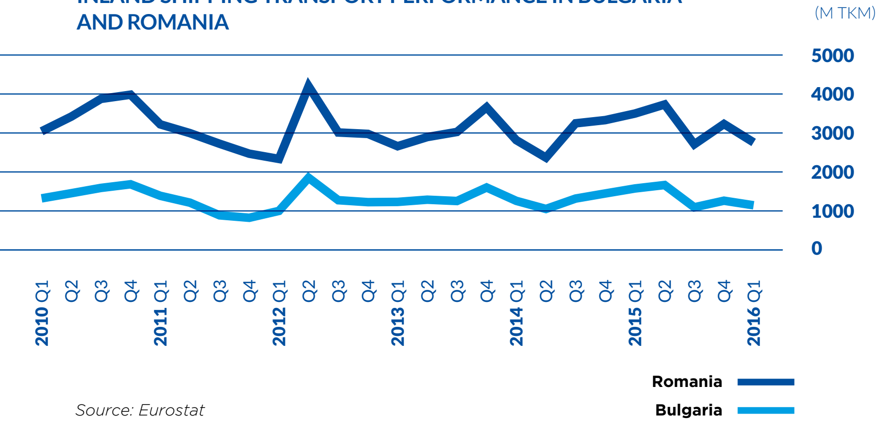


Source: Eurostat and CBS

- Transport performance in Rhine countries was higher during the first quarter of 2016 than during the last quarter of 2015 (mainly because of rebound following period of low water levels), but transport performance has not yet reached the performance level observed during the first quarter of 2015; recovery is ongoing.
- Decrease between Q1 2015 and Q1 2016 is mainly explained by decrease in transport of steel industry related products (iron ore, coal, metals).
- Despite a decrease for the overall transport performance, some segments have experienced growth during the first quarter of 2016 (compared with Q1 2015): mineral oil and chemical products in Germany and the Netherlands, building materials in France.
- Sand, gravel and construction material transport increased by 13% during the first quarter of 2016 in France.
- Chemical products transport increased by 14% during the first quarter of 2016 in the Netherlands.

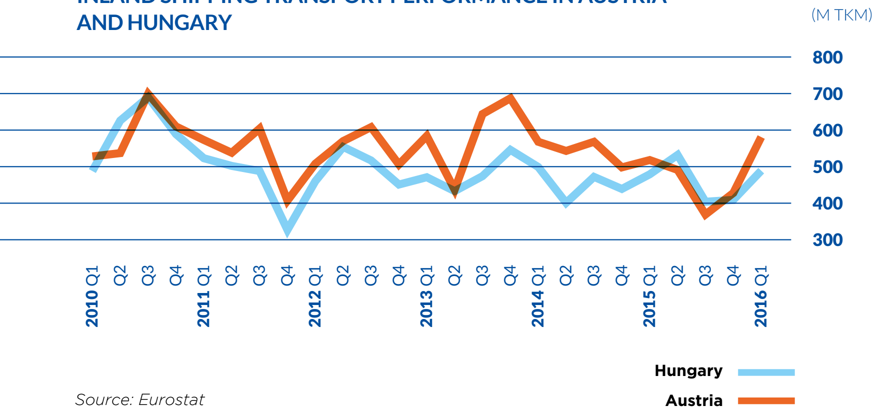
DEMAND FOR TRANSPORT IN MAIN IWT COUNTRIES – DANUBE COUNTRIES

INLAND SHIPPING TRANSPORT PERFORMANCE IN BULGARIA AND ROMANIA



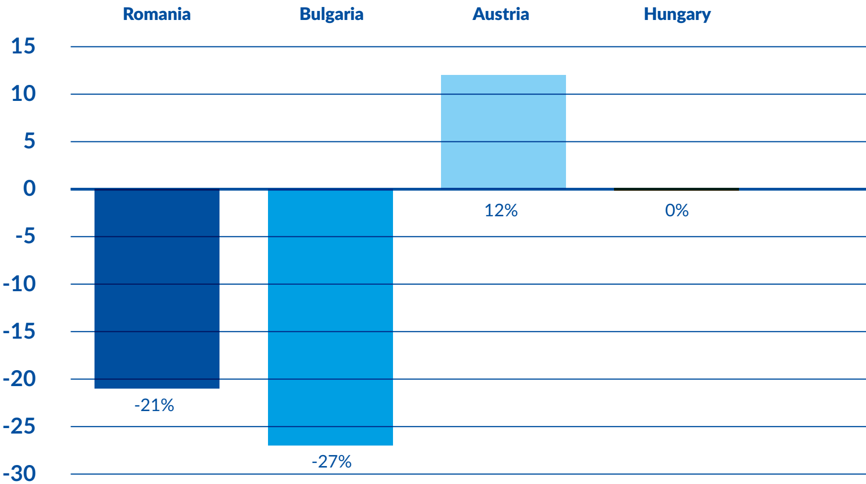
Source: Eurostat

INLAND SHIPPING TRANSPORT PERFORMANCE IN AUSTRIA AND HUNGARY



Source: Eurostat

RATE OF CHANGE IN INLAND SHIPPING TRANSPORT PERFORMANCE (Q1 2016 COMPARED WITH Q1 2015)

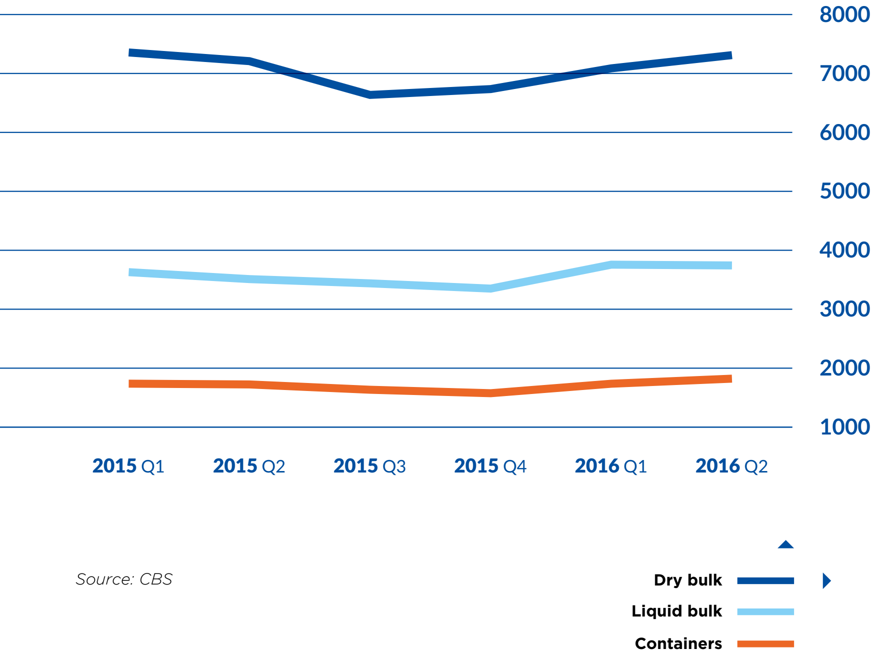


Source: Eurostat

- Both the Upper Danube (Austria) and the Lower Danube (Romania and Bulgaria) experienced different results during the first quarter of 2016.The Lower and Middle Danube have been strongly impacted by bad harvest results in 2015.
- Grain transport on the Lower Danube was divided by 5 during the first quarter of 2016 (compared to first quarter of 2015).
- 12% transport performance increase in Austria was strongly driven by an increase in transportation of iron ores and metals.

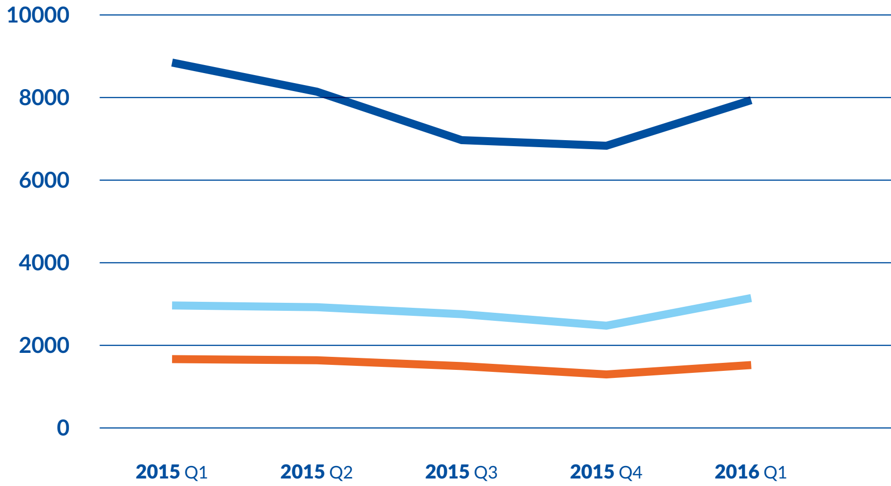
DRY BULK, LIQUID BULK AND CONTAINER TRANSPORT

QUARTERLY EVOLUTION OF TRANSPORT PERFORMANCE FOR DRY BULK, LIQUID BULK AND CONTAINERS IN THE NETHERLANDS (IN M TKM)



Source: CBS

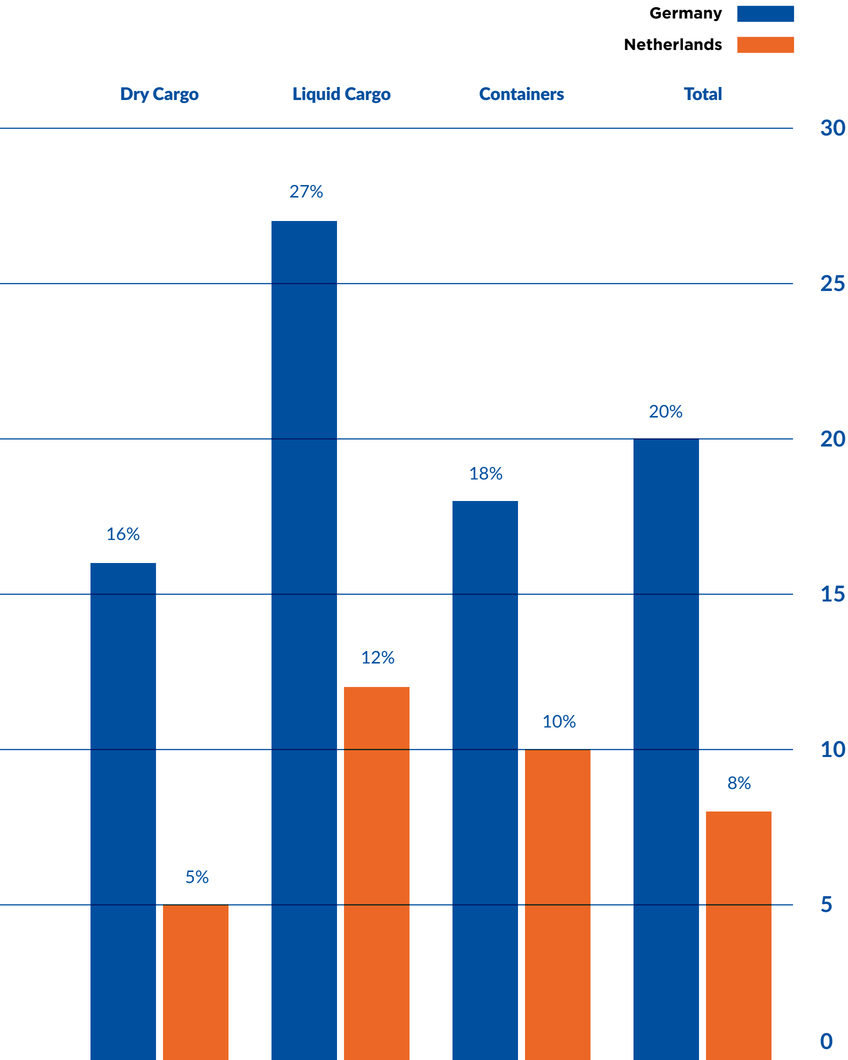
QUARTERLY EVOLUTION OF THE TRANSPORT PERFORMANCE FOR DRY BULK, LIQUID BULK AND CONTAINERS IN GERMANY (IN M TKM)



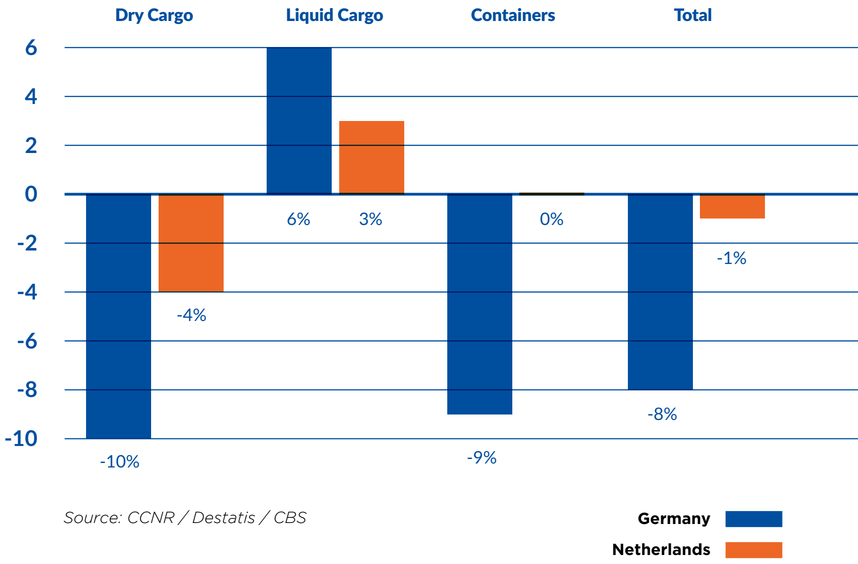
Source: destatis

- Germany and the Netherlands account for 86% of European liquid bulk transport performance, and for 66% of dry bulk transport performance.
- For Germany, the Netherlands, and the Rhine in general, the liquid cargo segment has recovered more quickly from the losses in autumn 2015 than the dry cargo segment.
- The dry cargo segment experienced severe losses in autumn 2015, which were not fully compensated for at the beginning of 2016 in Germany and on the traditional Rhine.
- Container transport was also heavily impacted by the low water period, and was starting to recover at the beginning of 2016.

DETAILED RATES OF GROWTH IN TRANSPORT PERFORMANCE BY SEGMENT IN THE NETHERLANDS AND GERMANY
(Q1 2016 COMPARED WITH Q4 2015)



DETAILED RATES OF GROWTH IN TRANSPORT PERFORMANCE BY SEGMENT IN THE NETHERLANDS AND GERMANY
(Q1 2016 COMPARED WITH Q1 2015)



Source: CCNR / Destatis / CBS

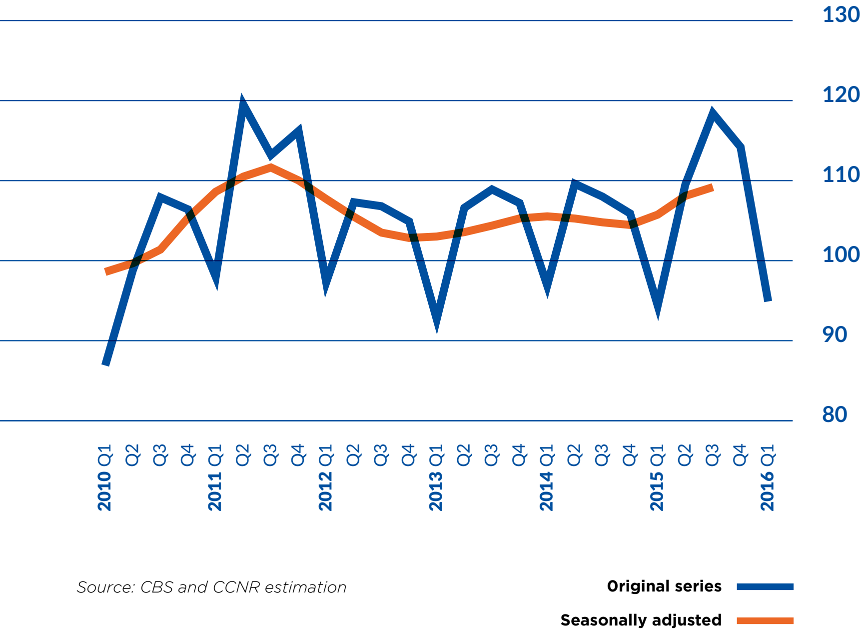
- All goods segments have witnessed growth in the first quarter of 2016, when compared to the immediate past (fourth quarter of 2015).
- In Germany, growth between Q1 2016 and Q4 2015 was stronger than in the Netherlands, reflecting mainly catch-up effects, as losses of cargo on German waterways were considerable in autumn 2015.
- Total transport performance during the first quarter of 2016 has not yet reached 2015 first-quarter levels in Netherlands and Germany (except for the liquid cargo segment), but in the Netherlands it regained this level during the second quarter.

03

OPERATING CONDITIONS

TURNOVER DEVELOPMENT IN EUROPE

TURNOVER DEVELOPMENT IN THE NETHERLANDS
(MAINLY A CARGO-TRANSPORT COUNTRY) – INDEX: 2010 = 100



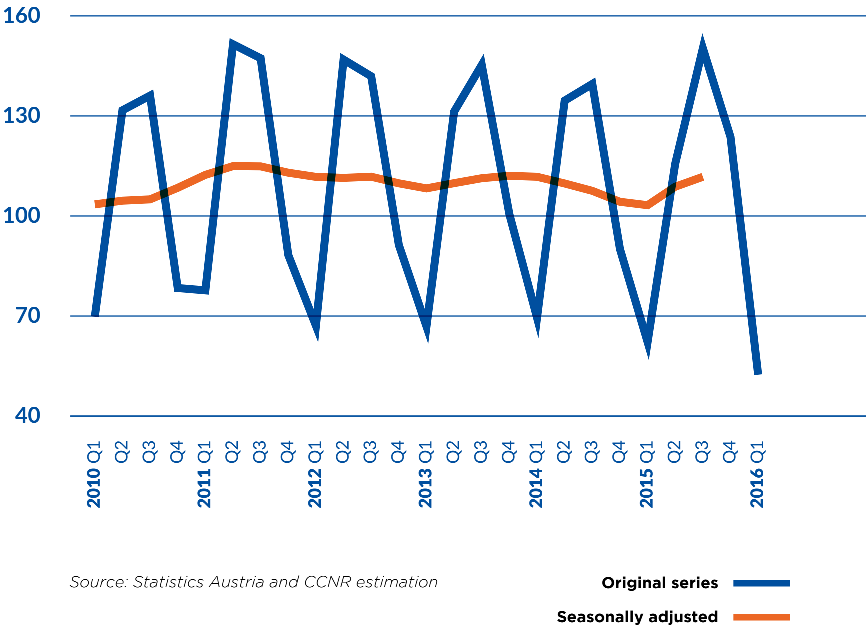
Source: CBS and CCNR estimation

TURNOVER GROWTH IN FIRST QUARTER 2016 COMPARED WITH FIRST QUARTER 2015 WAS

+0.5%

TURNOVER DEVELOPMENT IN AUSTRIA

(MAINLY A PASSENGER-TRANSPORT COUNTRY) – INDEX: 2010 = 100

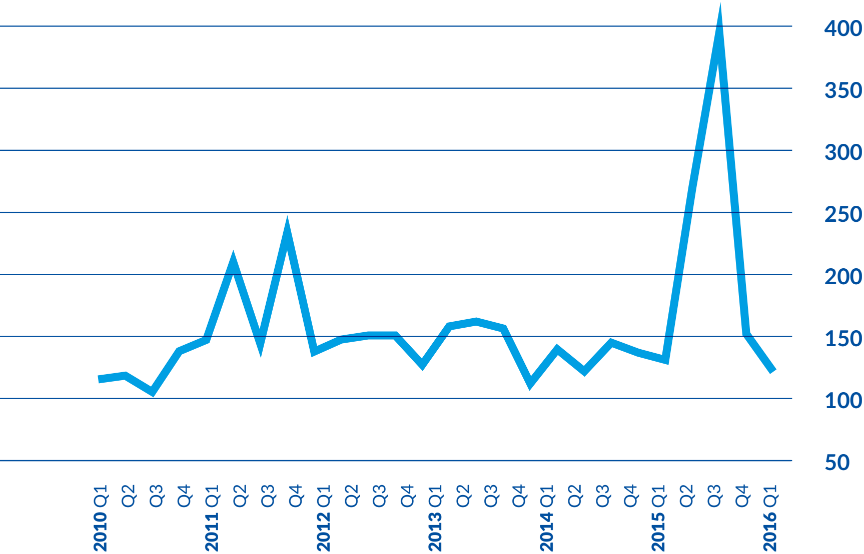


Source: Statistics Austria and CCNR estimation

- Due to low water levels and the subsequent raise of freight levels, turnover increased by almost 9% in the second half of 2015 in the Netherlands.
- IWT turnover evolution in the Danube countries is heavily impacted by the fact that they are mainly passenger transport countries.
- Immense seasonal variations are to be observed: high activity in summer and autumn, and almost no activity in winter.

FREIGHT RATES AND FUEL PRICE

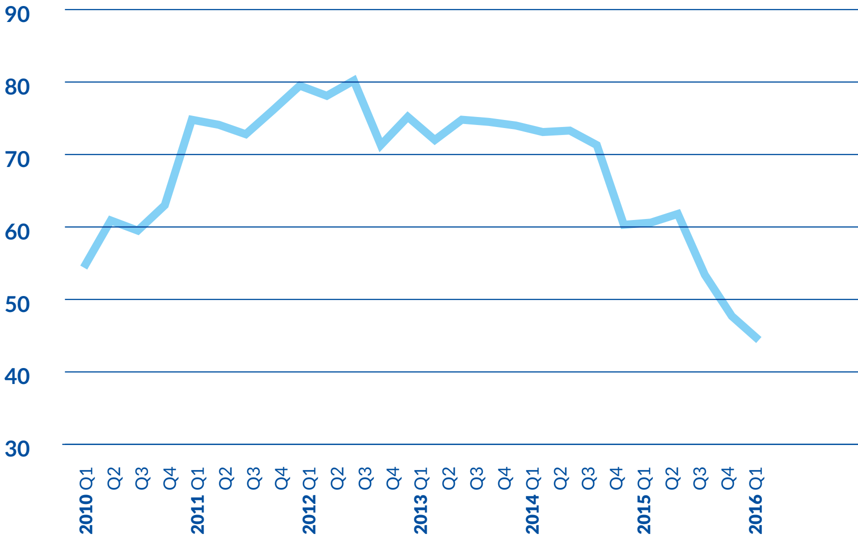
DEVELOPMENT OF FREIGHT RATES IN TANKER SHIPPING
(INDEX: 2010 = 100)



Source: CCNR calculation based on data from PJK International

- In the second half of 2015, the low water levels led to a sharp increase in transport prices. In the first half of 2016, freight rates returned to levels which can be regarded as typical or average for the time period 2012-2015.

DEVELOPMENT OF FUEL PRICES IN THE INLAND SHIPPING SECTOR
(Q1/2010-Q1/2016)



Source: CBRB

21%

FUEL PRICE DECREASE IN 2015

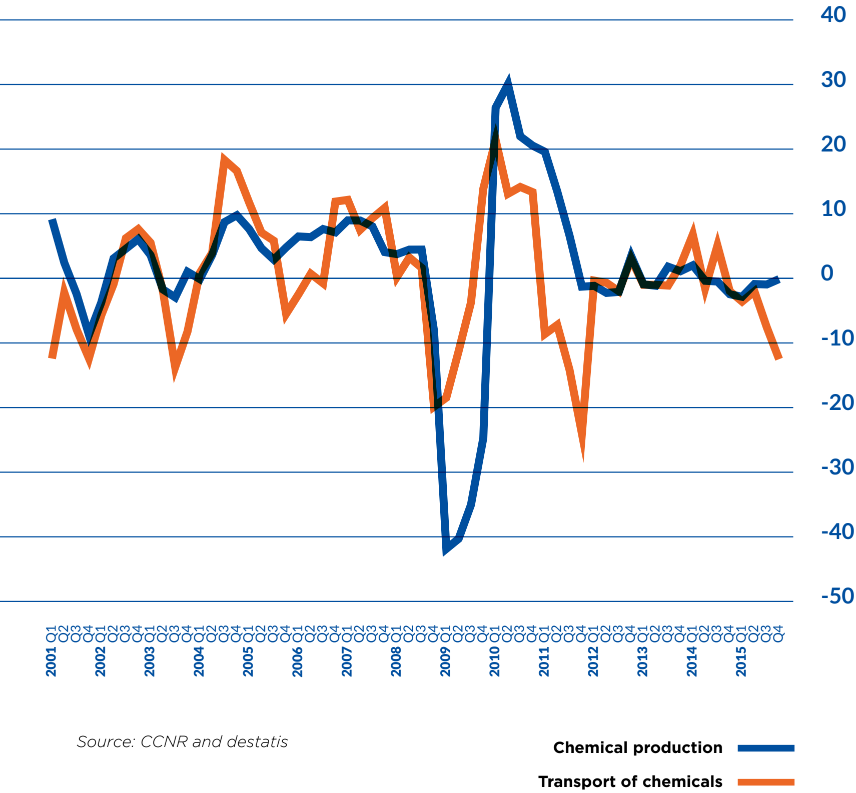
- The IWT cost situation will continue to be influenced by rather low oil prices in 2016 and 2017 because of a growing surplus of oil supply and a brake on demand for oil.

04

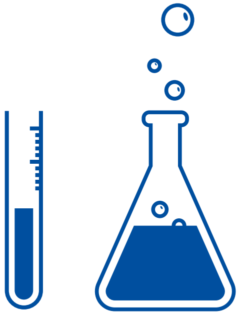
OUTLOOK

FOCUS ON CHEMICAL INDUSTRY

RATE OF CHANGE IN CHEMICAL PRODUCTION IN GERMANY AND RATE OF CHANGE IN DEMAND FOR TRANSPORT OF CHEMICALS ON THE RHINE
(YEAR-ON-YEAR CHANGE)



Source: CCNR and destatis



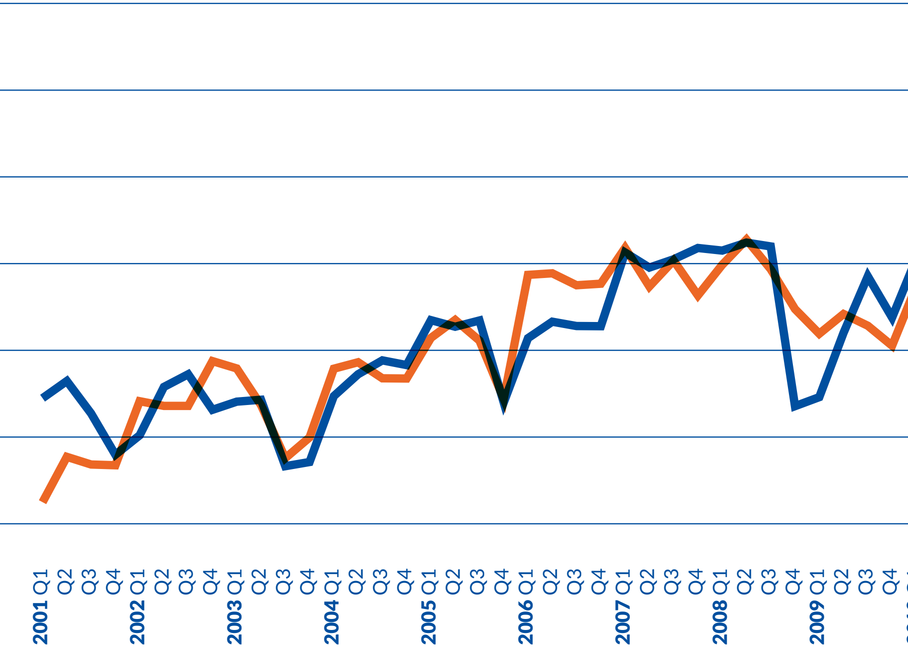
3RD

THE GERMAN CHEMICAL INDUSTRY IS THE THIRD LARGEST CHEMICAL INDUSTRY IN THE WORLD,
AFTER THE USA (RANKED 2^{ND}) AND CHINA (RANKED 1^{ST}).

- 17% of the transport generated by the German chemical industry is carried by river, 23% by rail, and 60% by road.
- Strong correlation between chemical production in Germany and the transport of chemicals on the Rhine.

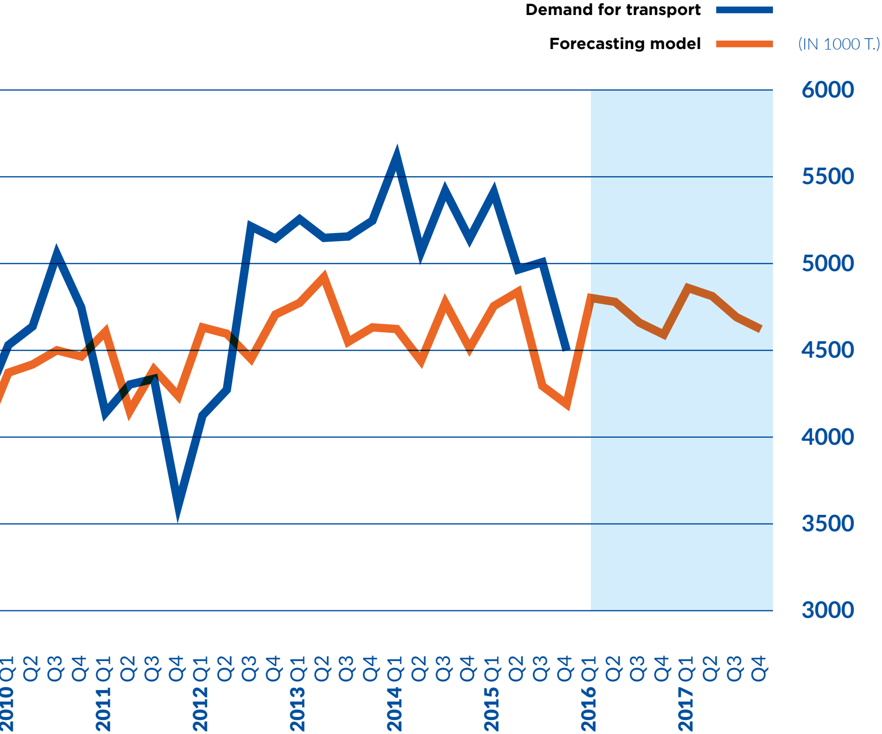
FORECAST MODEL AND RESULTS

TRANSPORTS OF CHEMICALS ON THE RHINE AND ECONOMETRIC FORECASTING MODEL



MODELS RESULTS

- Growth of chemical transport between 3.8% and 4.1% in 2016 (compared to 2015), and between 0 and 2.5% in 2017 (compared to 2016).
- Catch-up effects associated to low water levels in 2015 explain higher growth rates in 2016.



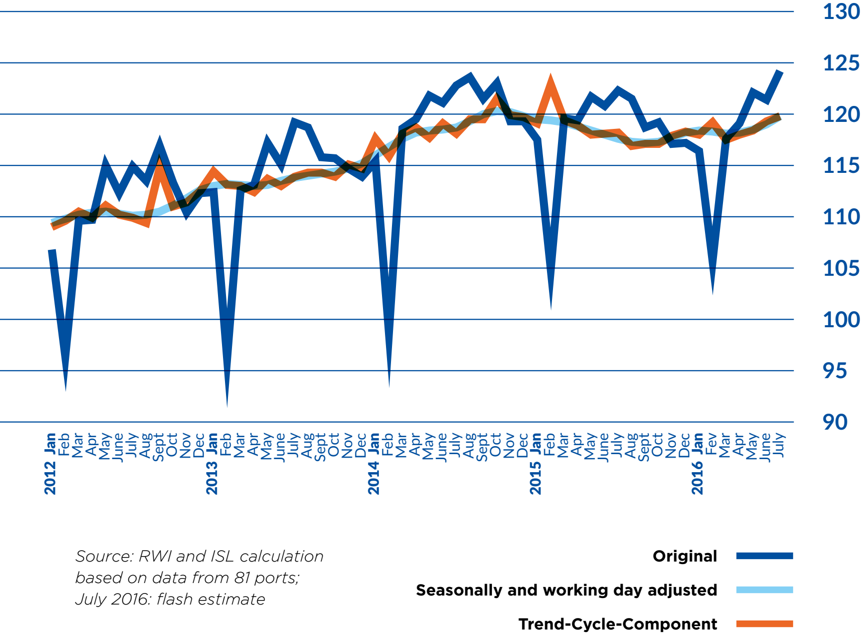
Source: CCNR

MACROECONOMIC AND NATURAL INDICATORS EXPLAINING EXPECTED GROWTH IN 2016 AND 2017

- Recovery in world trade
- Slight increase in chemical production

WORLD TRADE OUTLOOK AND TRANSPORT TRENDS

RWI/ISL CONTAINER THROUGHPUT INDEX



Source: RWI and ISL calculation based on data from 81 ports; July 2016: flash estimate

- The container throughput index is based on data from 81 world container ports covering approximately 60% of worldwide container handling.
- The throughput index is a reliable early indicator of the development of international merchandise trade and has been increasing in 2016.

TRENDS IN DEMAND FOR TRANSPORT IN 2016/2017

	Main driver(s)	Trends in demand for transport in 2016/2017
Agricultural products	Harvest results	Decrease
Iron ores	Steel production	Decrease
Metals	Steel production	Decrease
Coal	Weather & Energy policy	Decrease
Containers	World trade	Increase
Mineral oil products	Oil prices	Increase
Chemicals	Chemical production	Increase

Source: CCNR based on Eurostat, WTO, IEA, RWI, ISL, VCI, Stahl Online

Changes in trends compared with 2016 Annual Market Observation (issued in June 2016).

- Outlook for iron ores, metals and coal has changed from stable to decreasing; this is due to the worsening position of business activity in the steel industry.
- Outlook for agriculture products has changed from increasing to decreasing; this is due not to lower demand but to bad harvest results.
- Outlook for containers, mineral oil products and chemicals has remained on an upward trend.

The Market Insight of European inland navigation
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