

The Fehmarnbelt Fixed Link

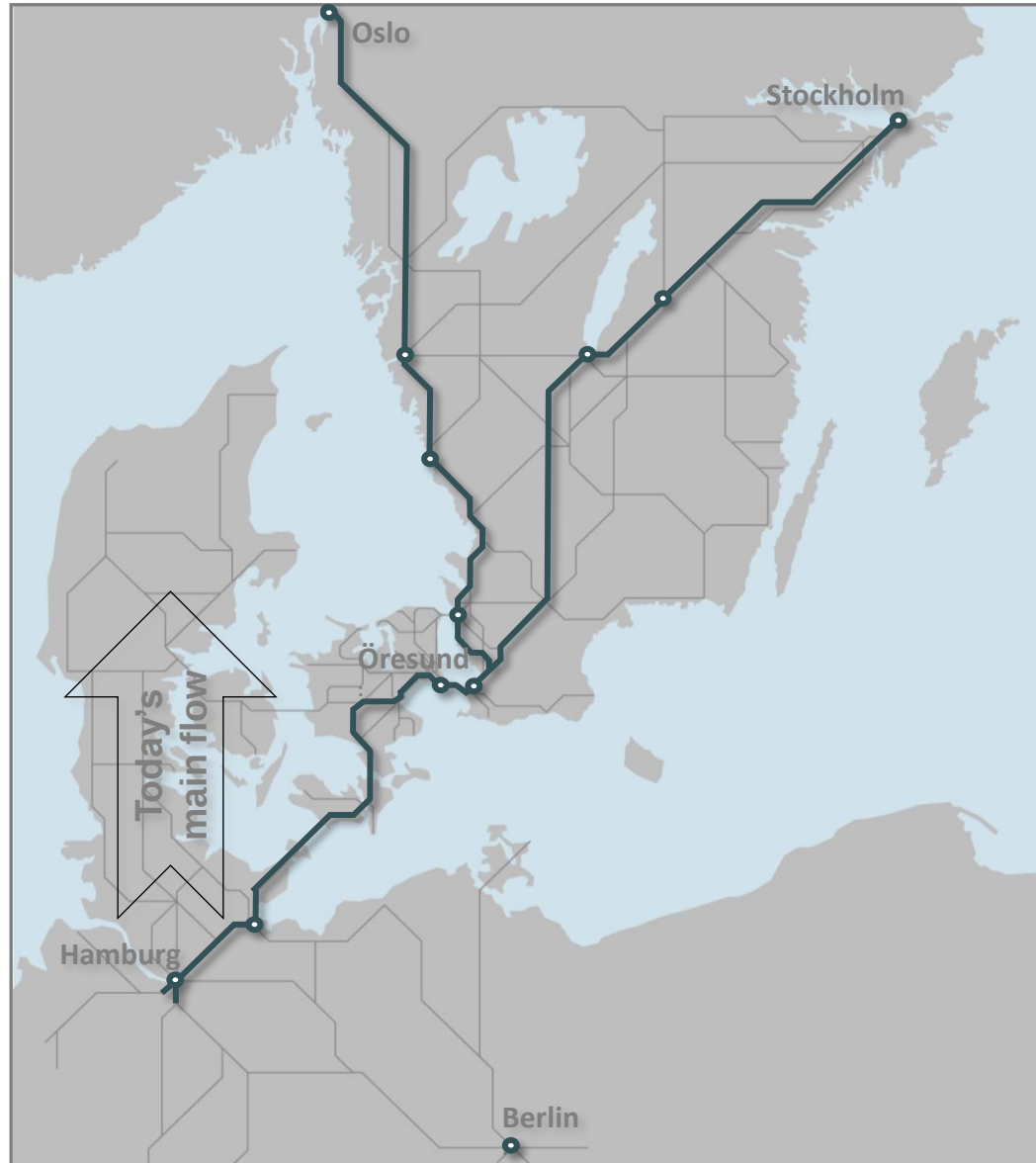
Market opportunities in logistics

Henrik Sylvan
5 October 2011

An aerial photograph of the Fehmarn Belt, a narrow body of water between the islands of Fehmarn and Bornholm. The water is a deep blue, and the surrounding land is visible on both sides. The sky is a clear, light blue with some wispy clouds. The horizon is visible in the distance.

Femern
Sund $\approx$ Bælt

Changing geography in time and space



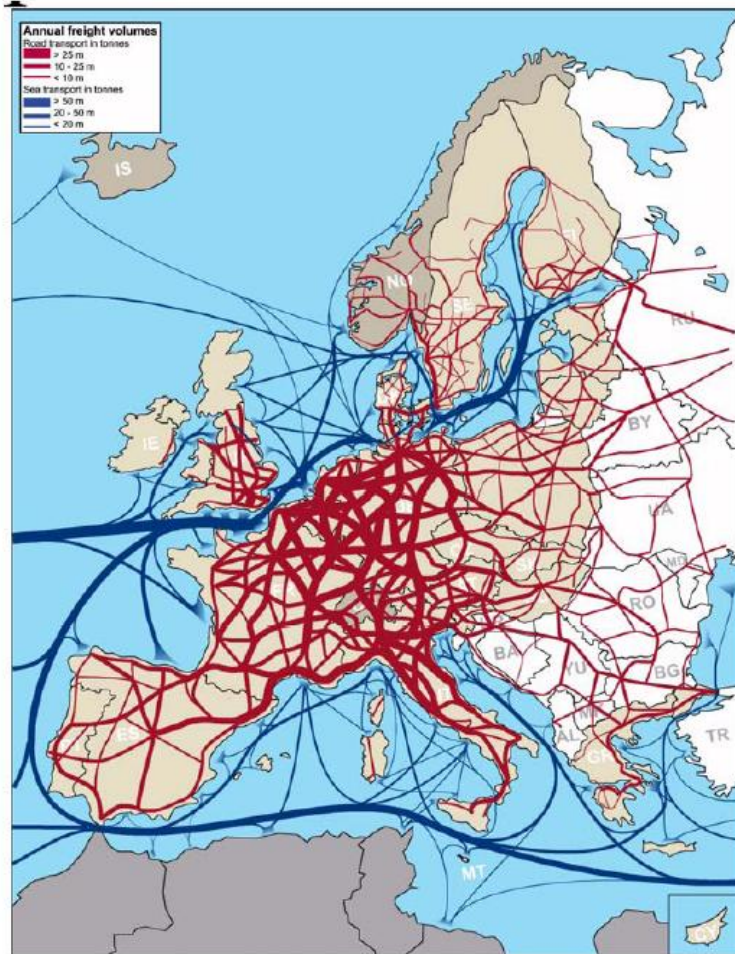


Femern
Sund $\approx$ Bælt



Femern
Sund ≈ Bælt

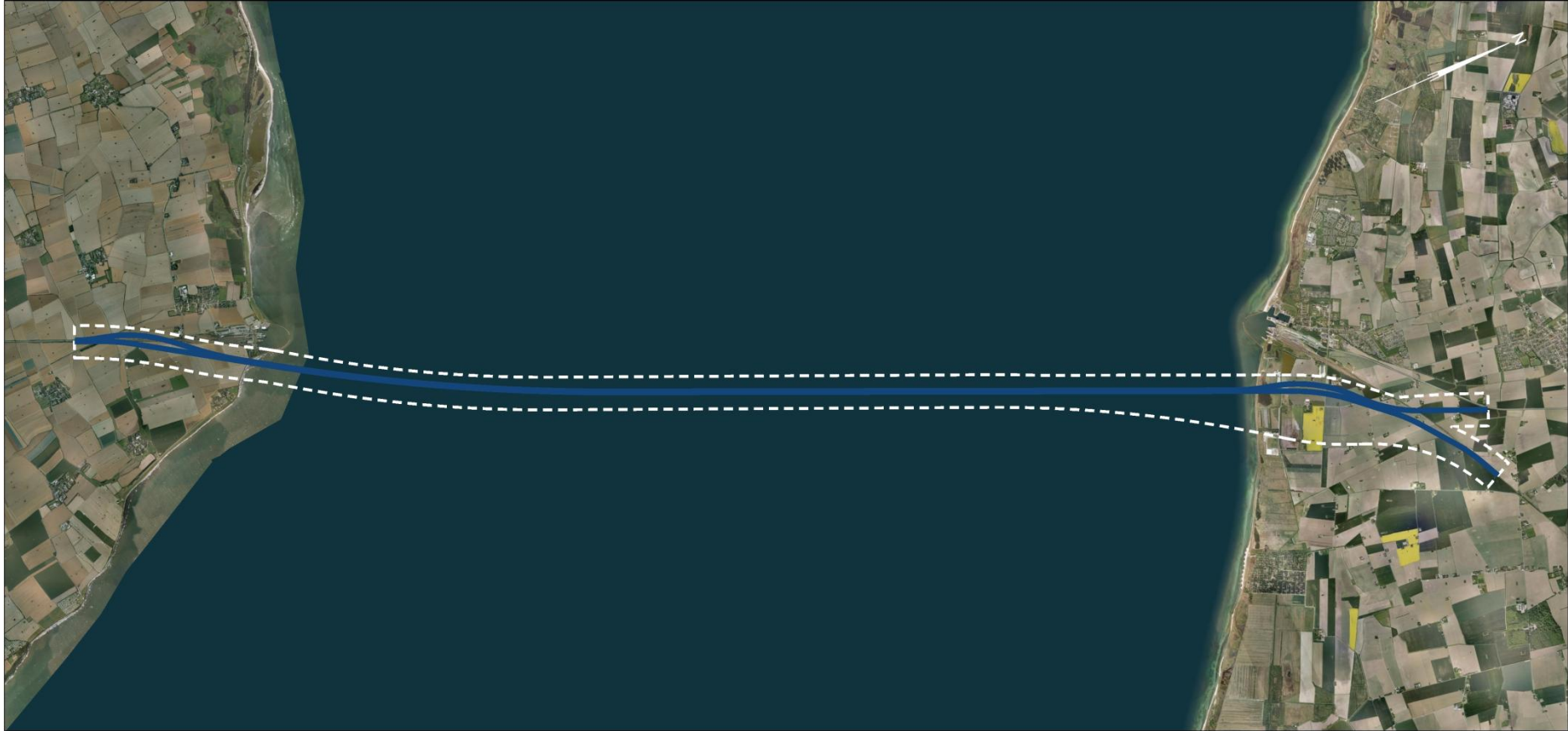
The influential logistic clusters



Size of logistic sector:

- Øresund region:
20 bill €/year
>70.000 empl.
Zealand 62% ▷ 57%
Scania 38% ▷ 43%
- Hamburg region:
80 bill €/year
>300.000 empl.
Hamburg H ▷ Brunsbüttel, Kiel,
Lübeck, Cuxhaven,
Stade

The coming fixed link



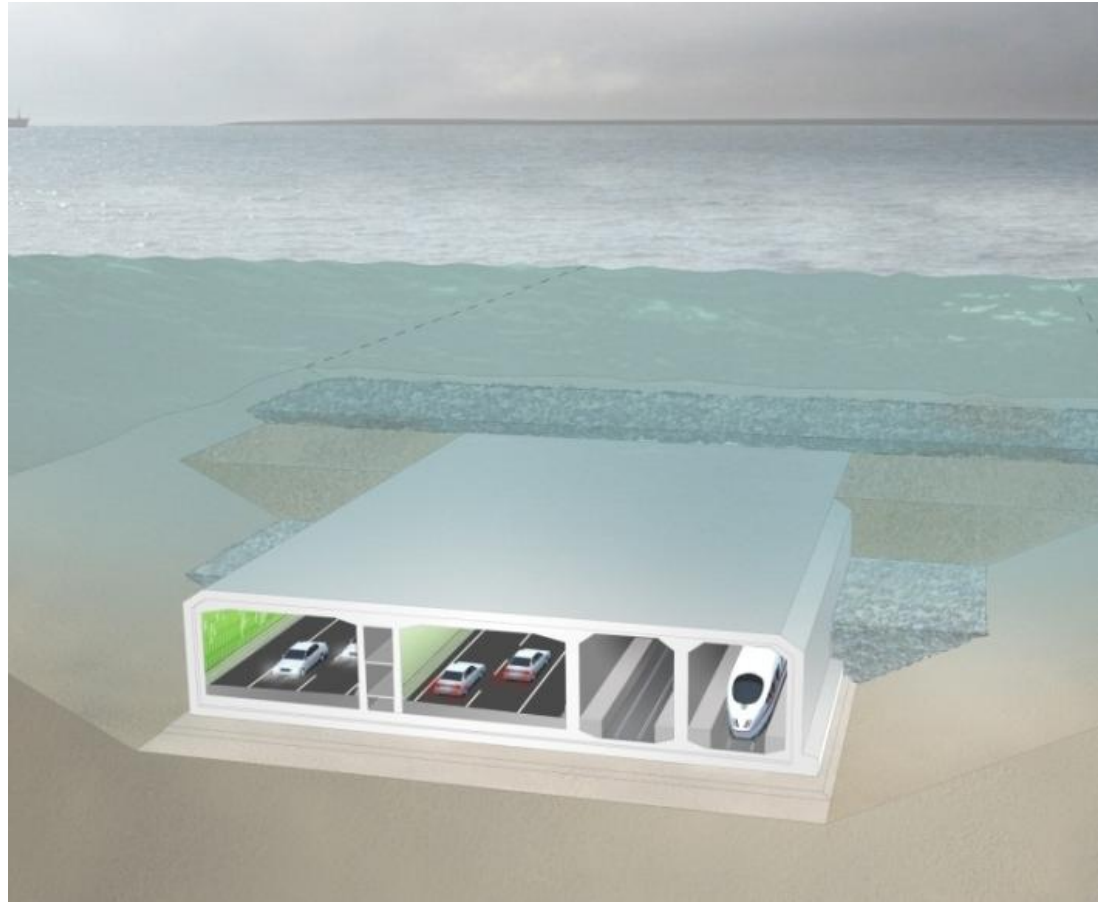
Femern
Sund $\approx$ Bælt

Femern A/S

- A private organisation, 100 % owned by the Danish state
- Until 2013 Femern A/S is responsible for:
 - Economy
 - Planning
 - Approval of the project
- It is assumed that Femern A/S, in consent with the Danish authorities, will be responsible for:
 - Construction of the fixed link (2014-2020)
 - Operation and maintenance (from 2020)
- Main office in Copenhagen, 70 employees (2011)
- Experience from the Great Belt Bridge and the Øresund Link

The preferred technical solution

- An immersed tunnel under the seabed
- The world's longest (17,6 kilometres)
- Dimension of each tunnel element:
Length: 217 m
Width: 42 m
Height: 9 m
They each weigh:
73.500 tonnes

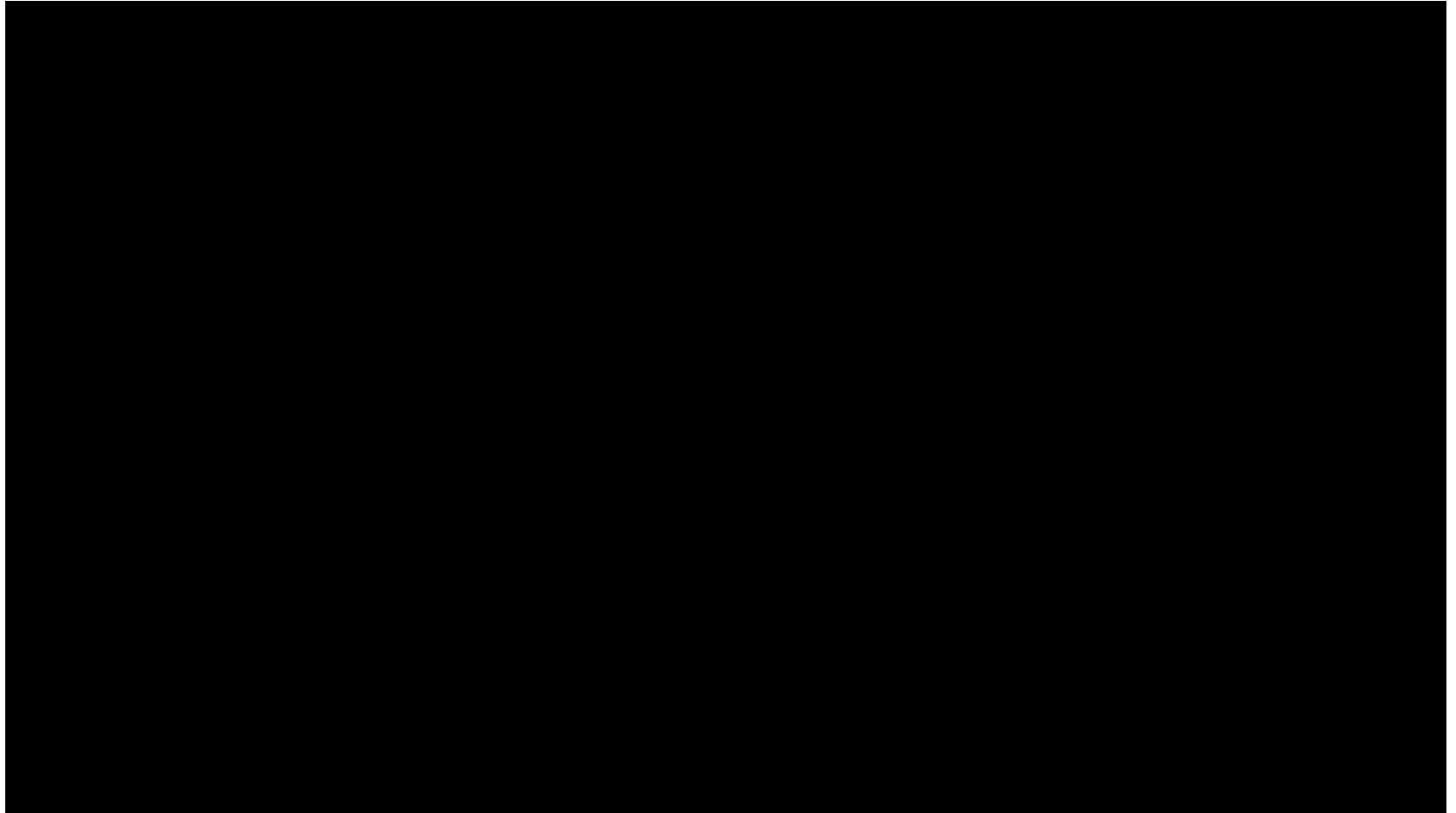




**Production site for
tunnel elements**



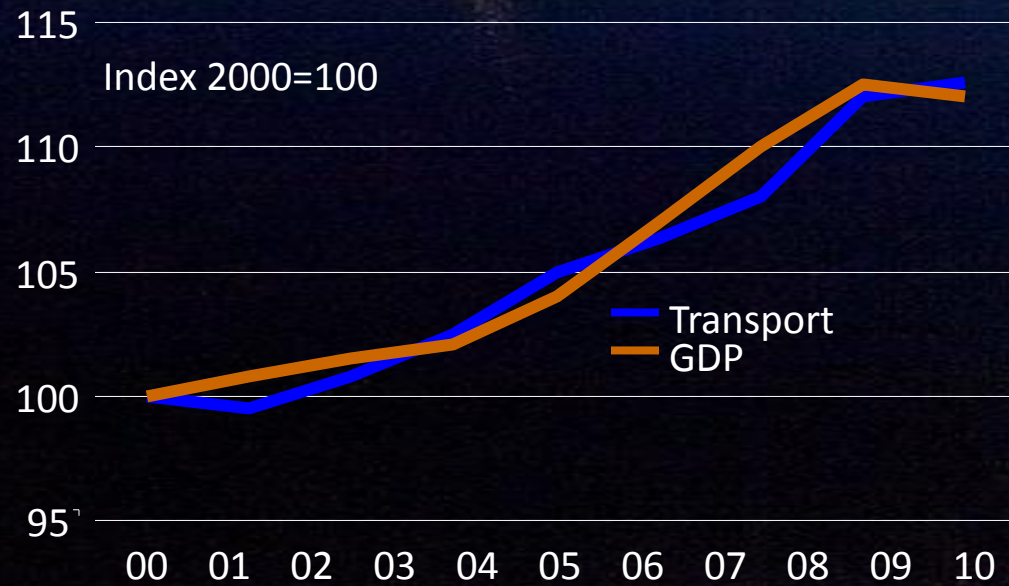
The fixed link - status



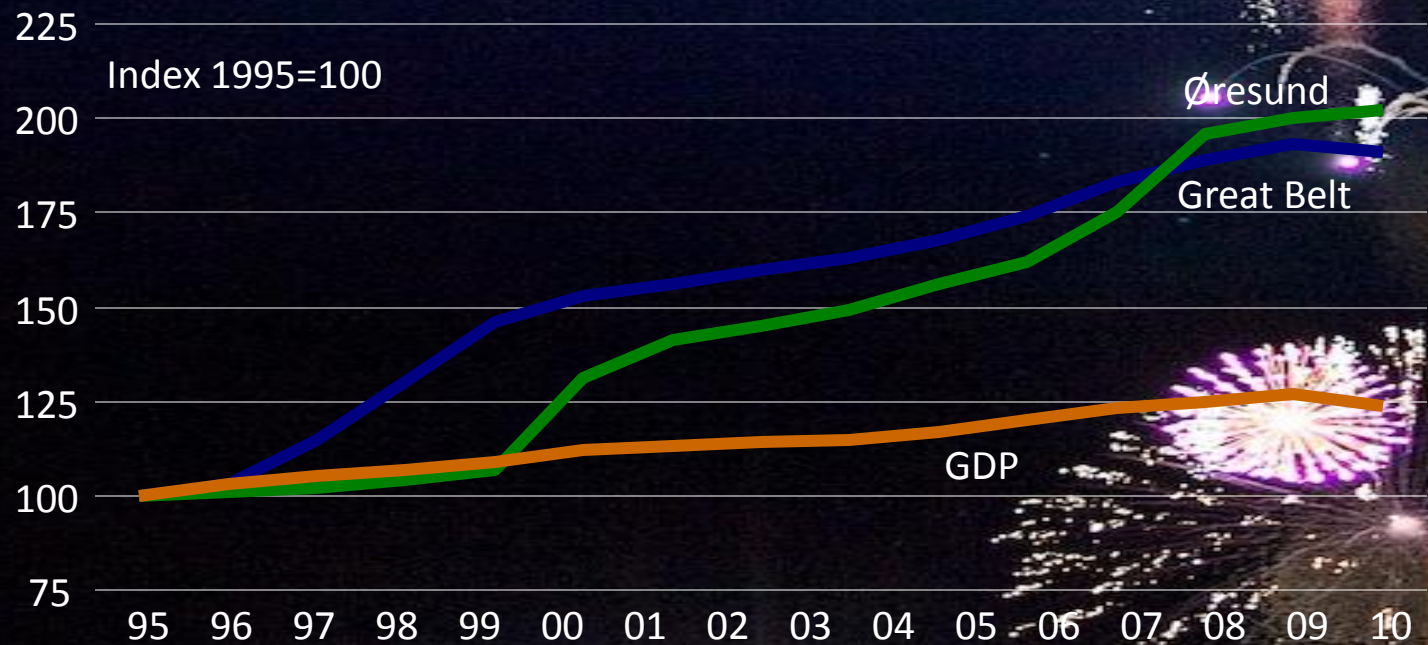
The fixed link - status

- Currently: working hard on finalising our *Environmental Impact Assessment report*.
- 2012: Construction work put out to tender
- 2013: Construction Act draft is expected to be presented to the Danish parliament
- 2014: Construction begins
- Construction period, incl. preparation of manufacturing plant in Rødbyhavn (approx. 6½ years)
- The aim is for the fixed link across Fehmarnbelt to open to traffic in 2020

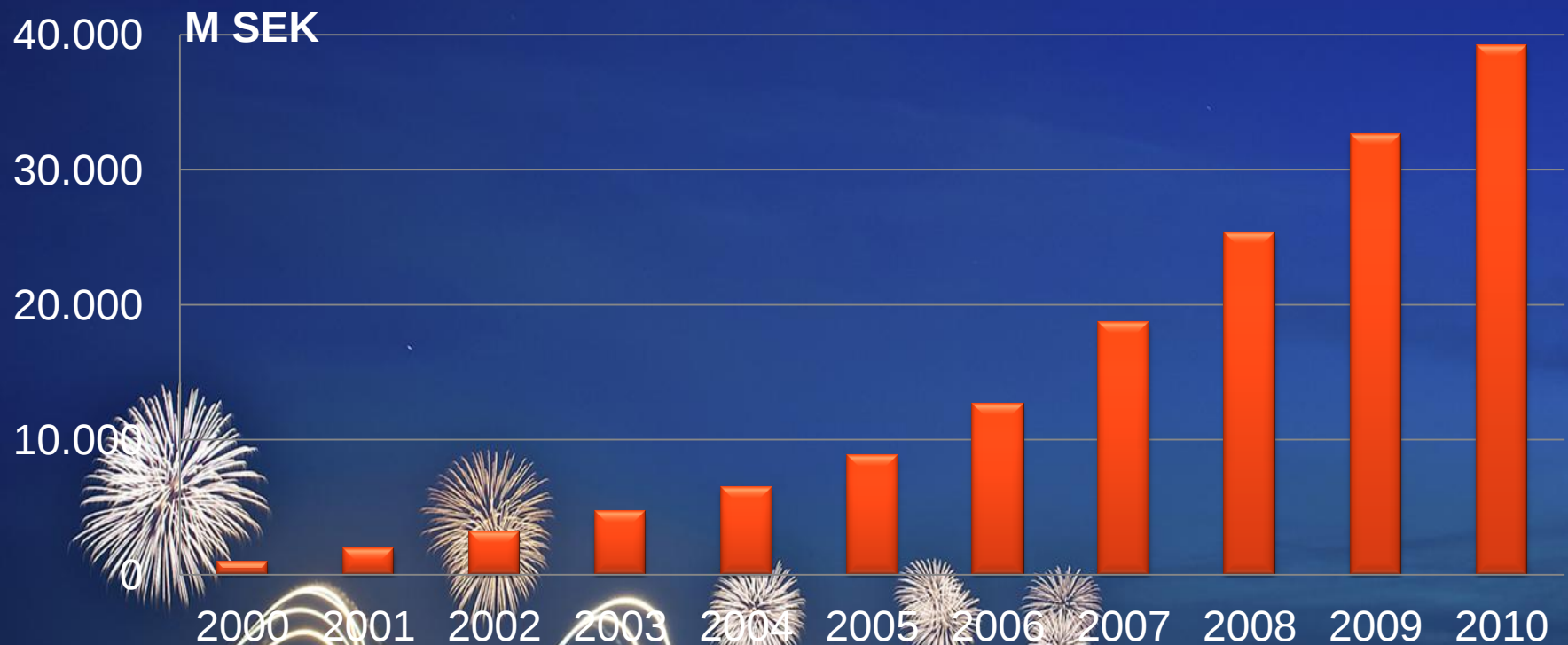
Transport and economic growth



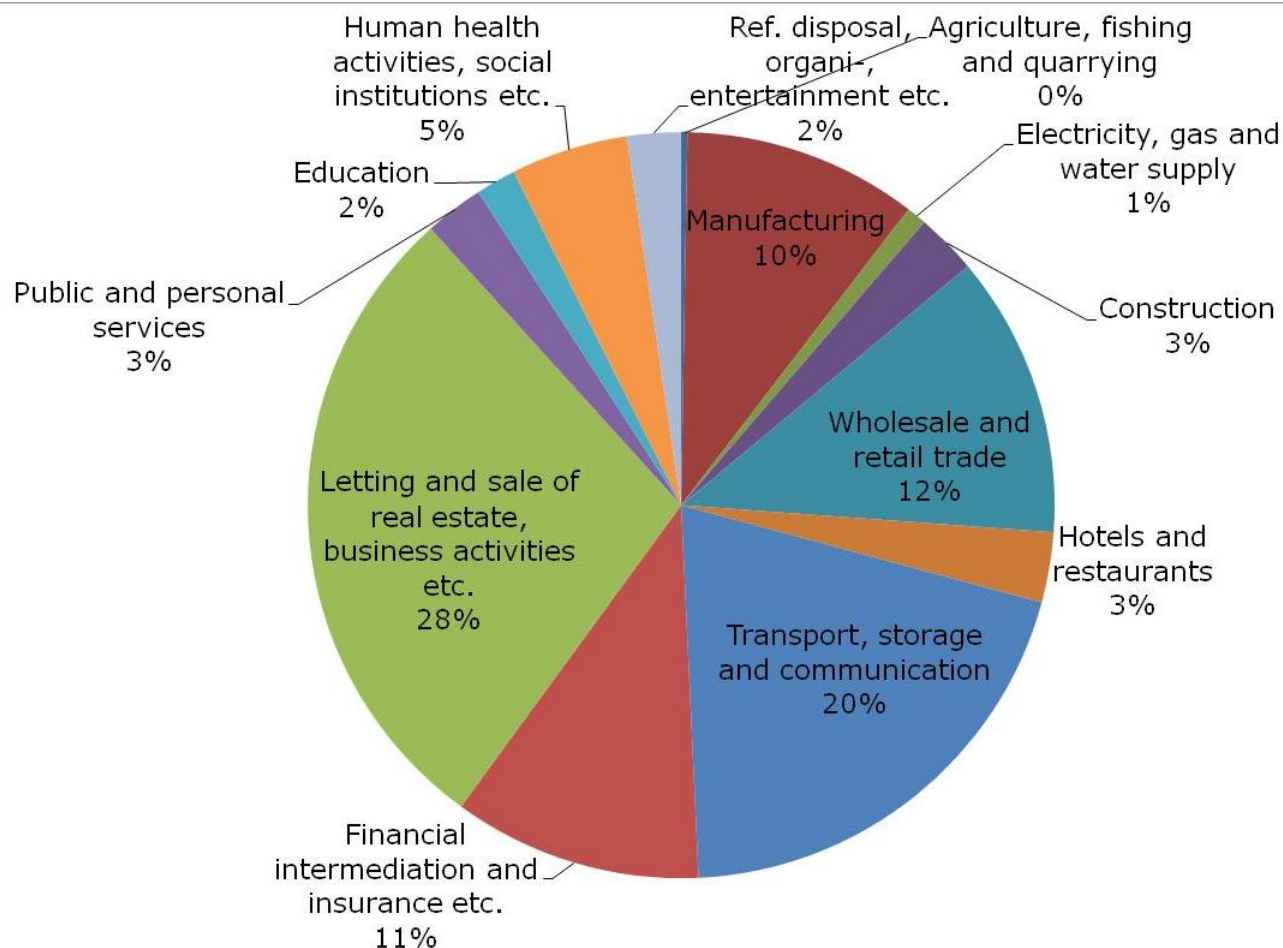
Mega infrastructures as locomotives



Economic impact of Øresund Link

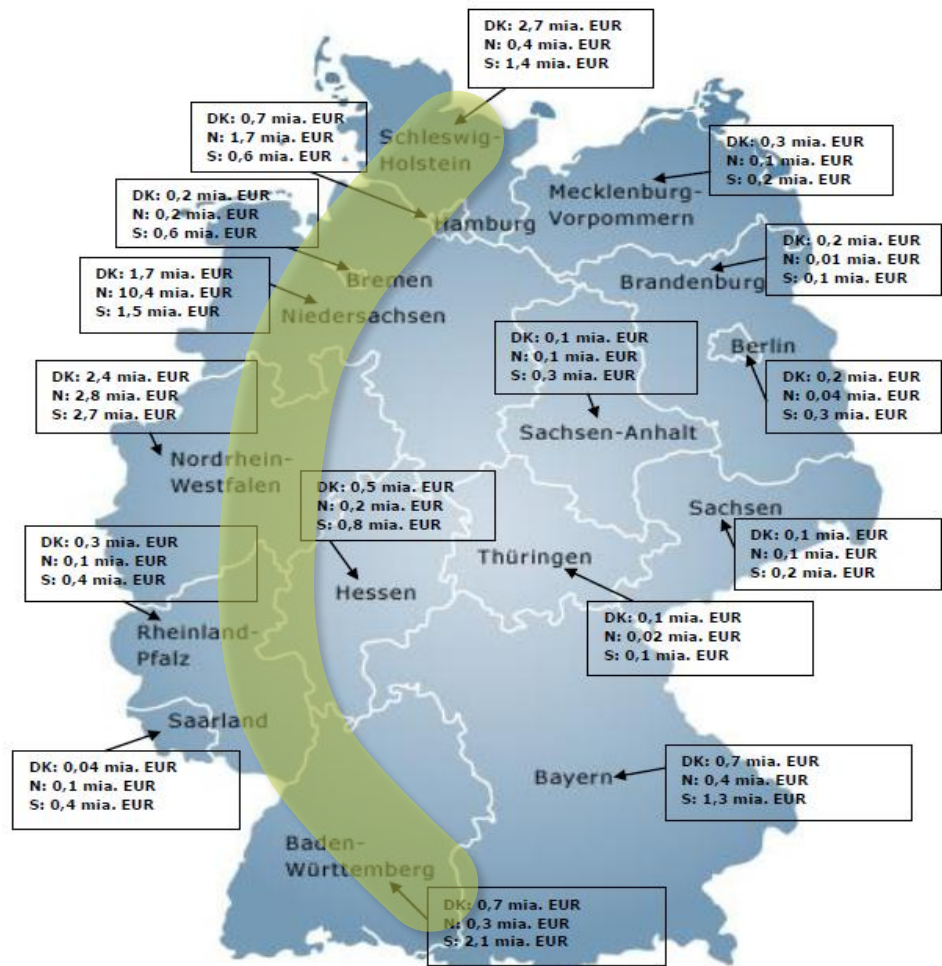


Added value per sector due to the fixed link

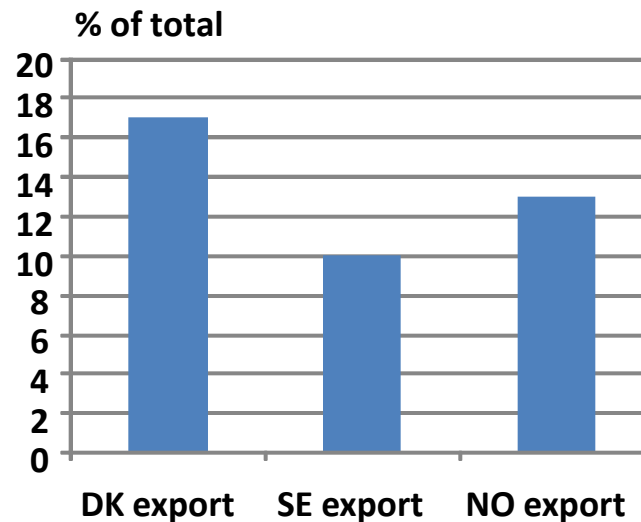
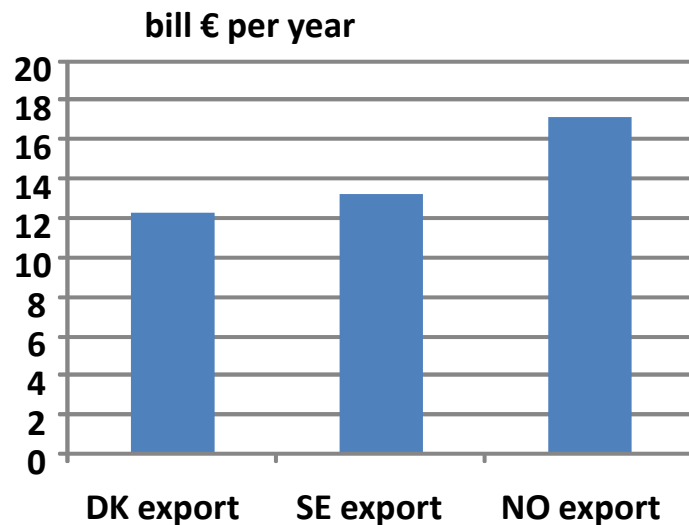


Trade Scandinavia-Germany

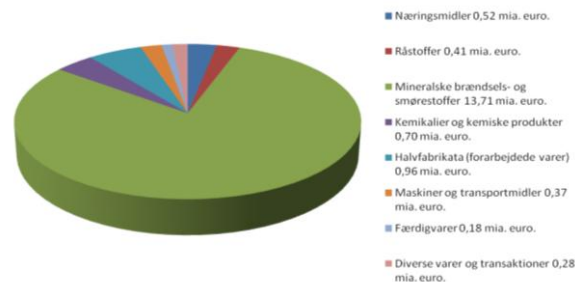
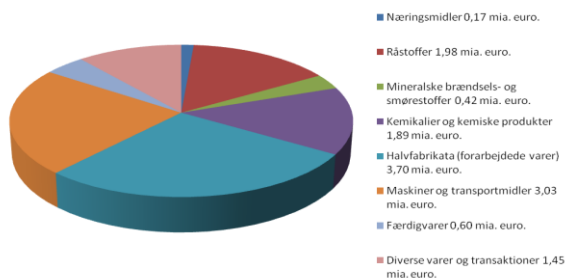
- Germany as the economic engine of Europe
- German import value: 800 bill €
- German export value 950 bill €
- Import from Scandinavia = 5,1% of total
- Scandinavia as the 10th largest market



Trade Scandinavia-Germany

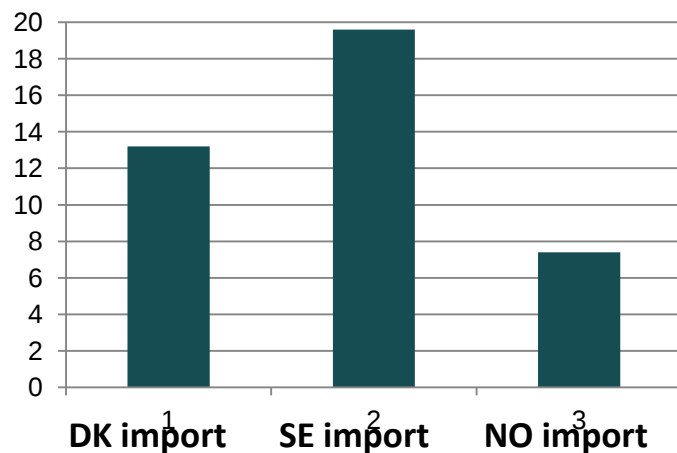


Total volume: 76.8 mill tonnes

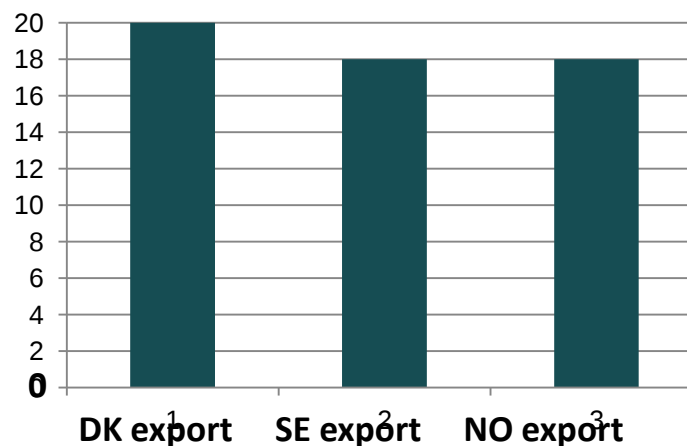


Trade Germany-Scandinavia

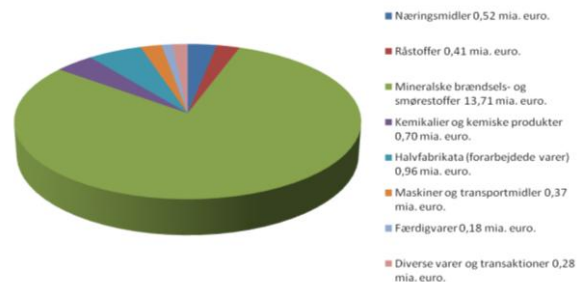
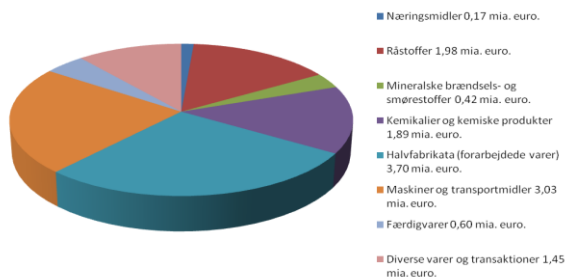
bill € per year,



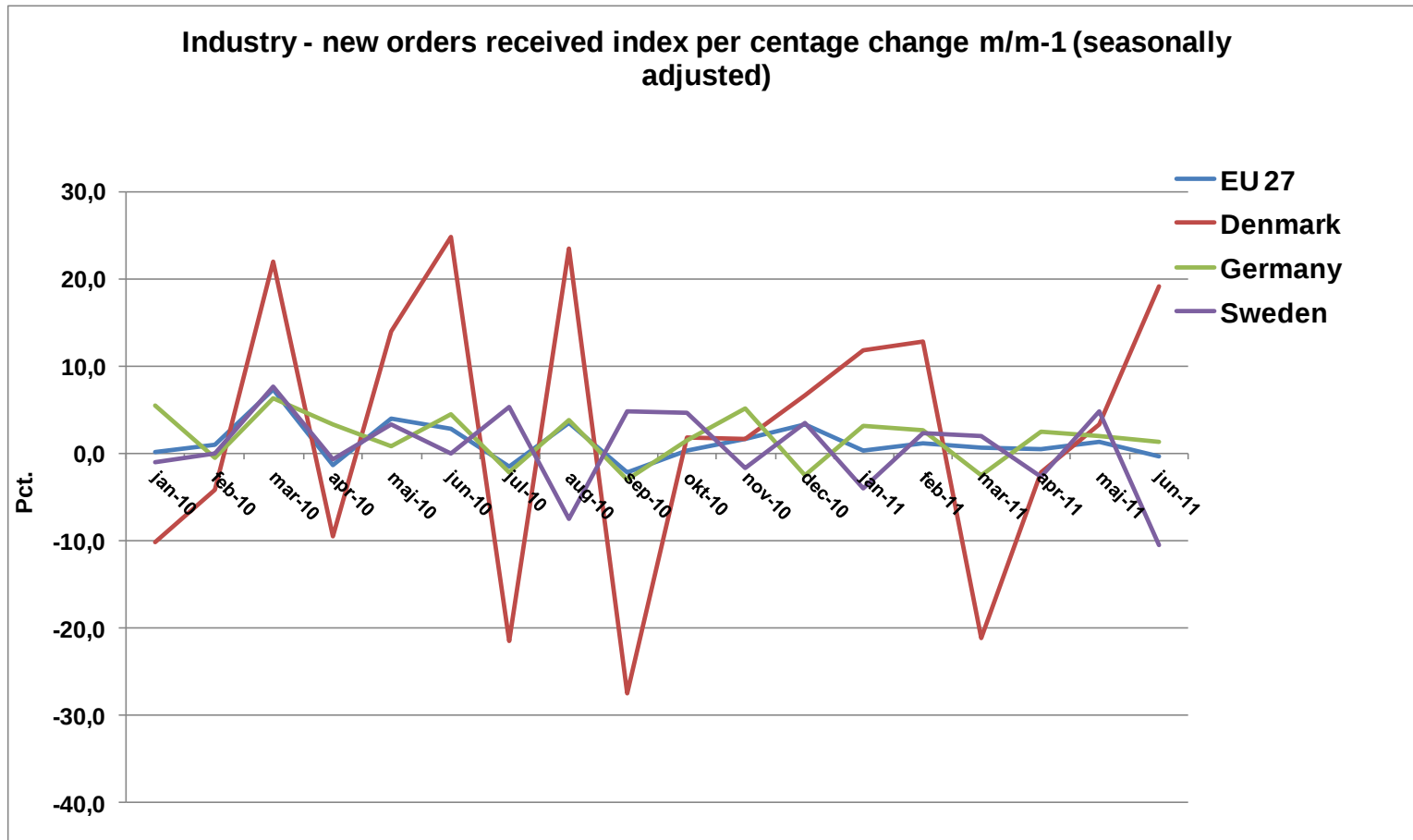
% of total



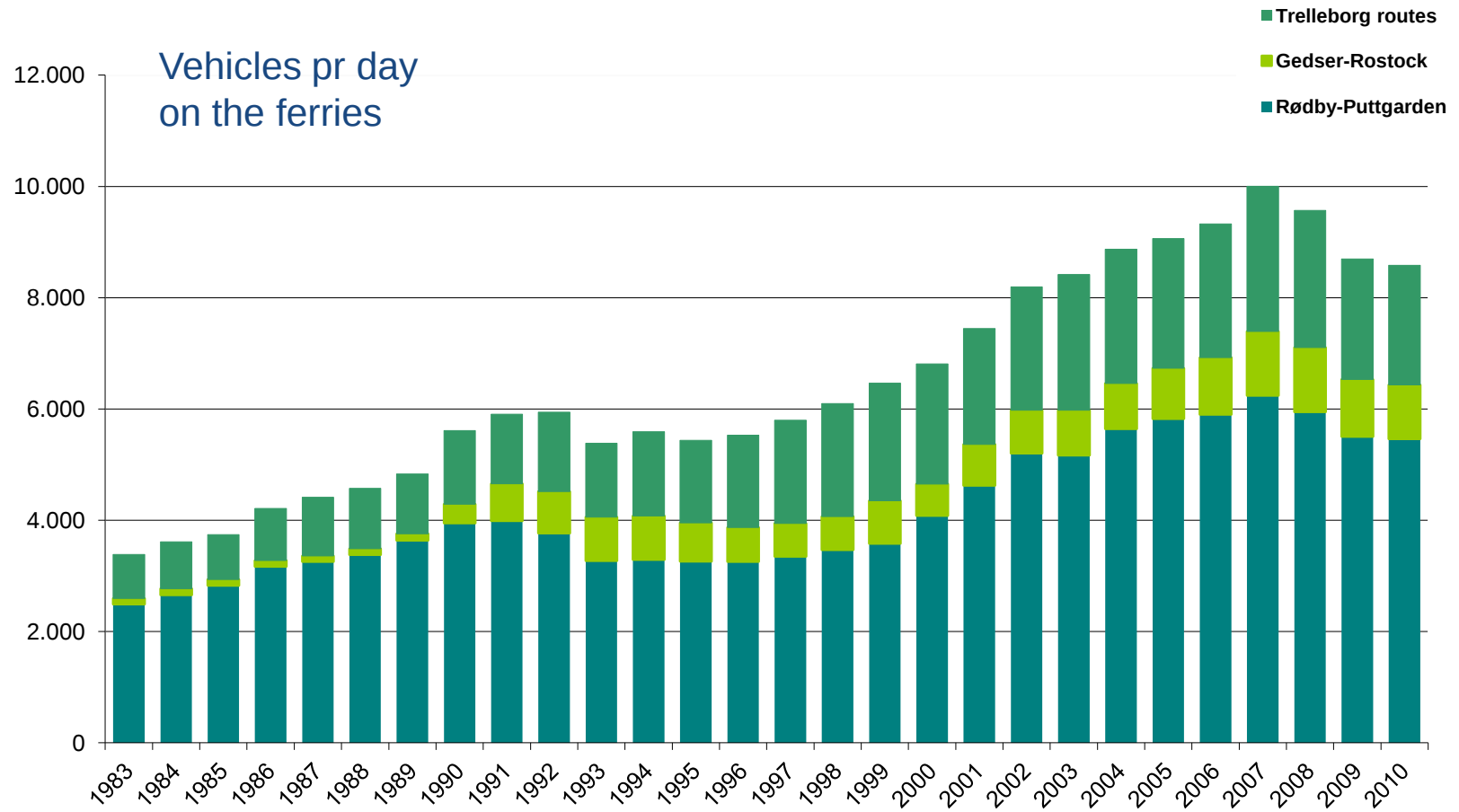
Total volume: 18.8 mill tonnes



Economic indicators

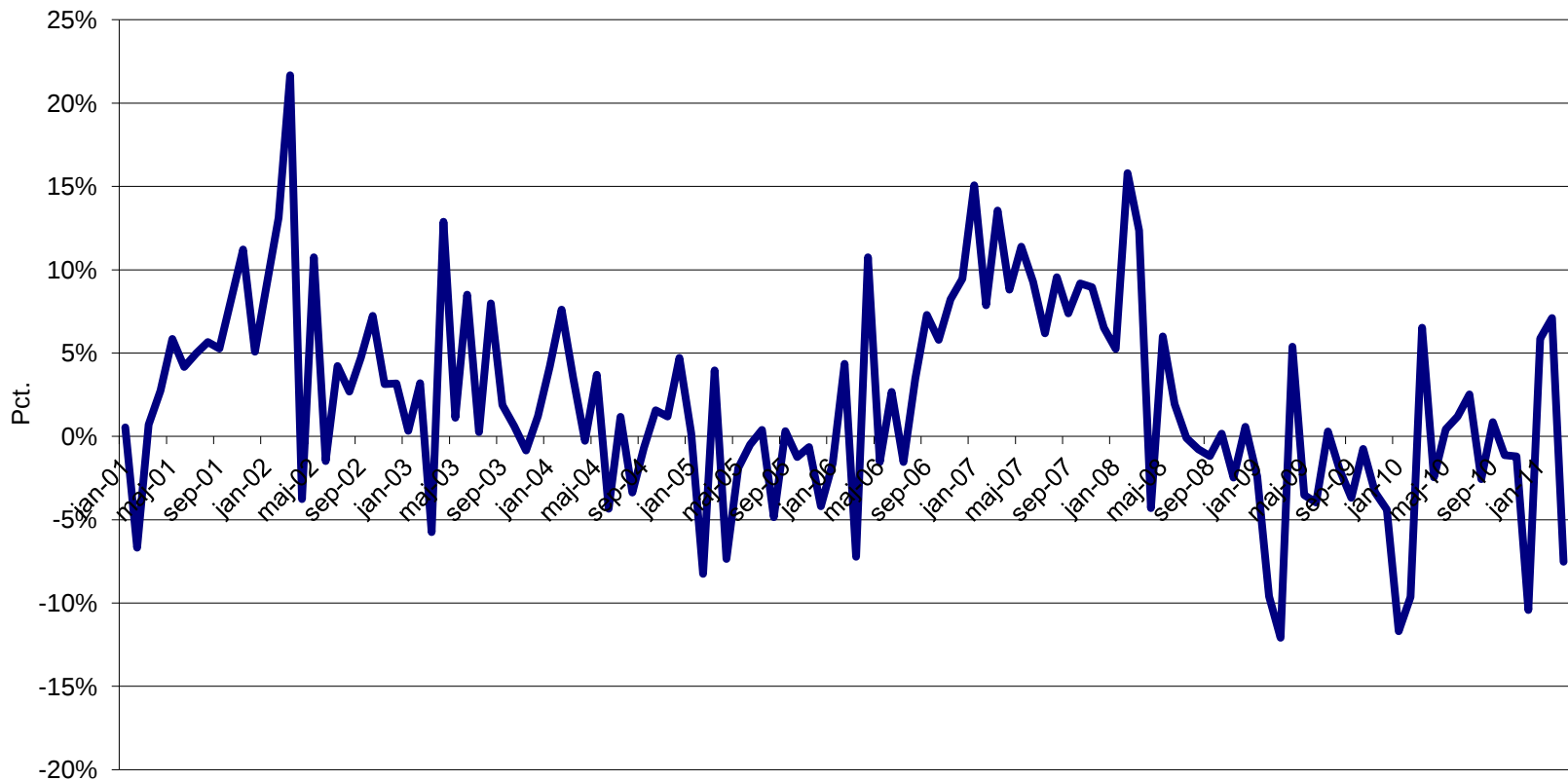


Main ferry crossings Germany-Scandinavia

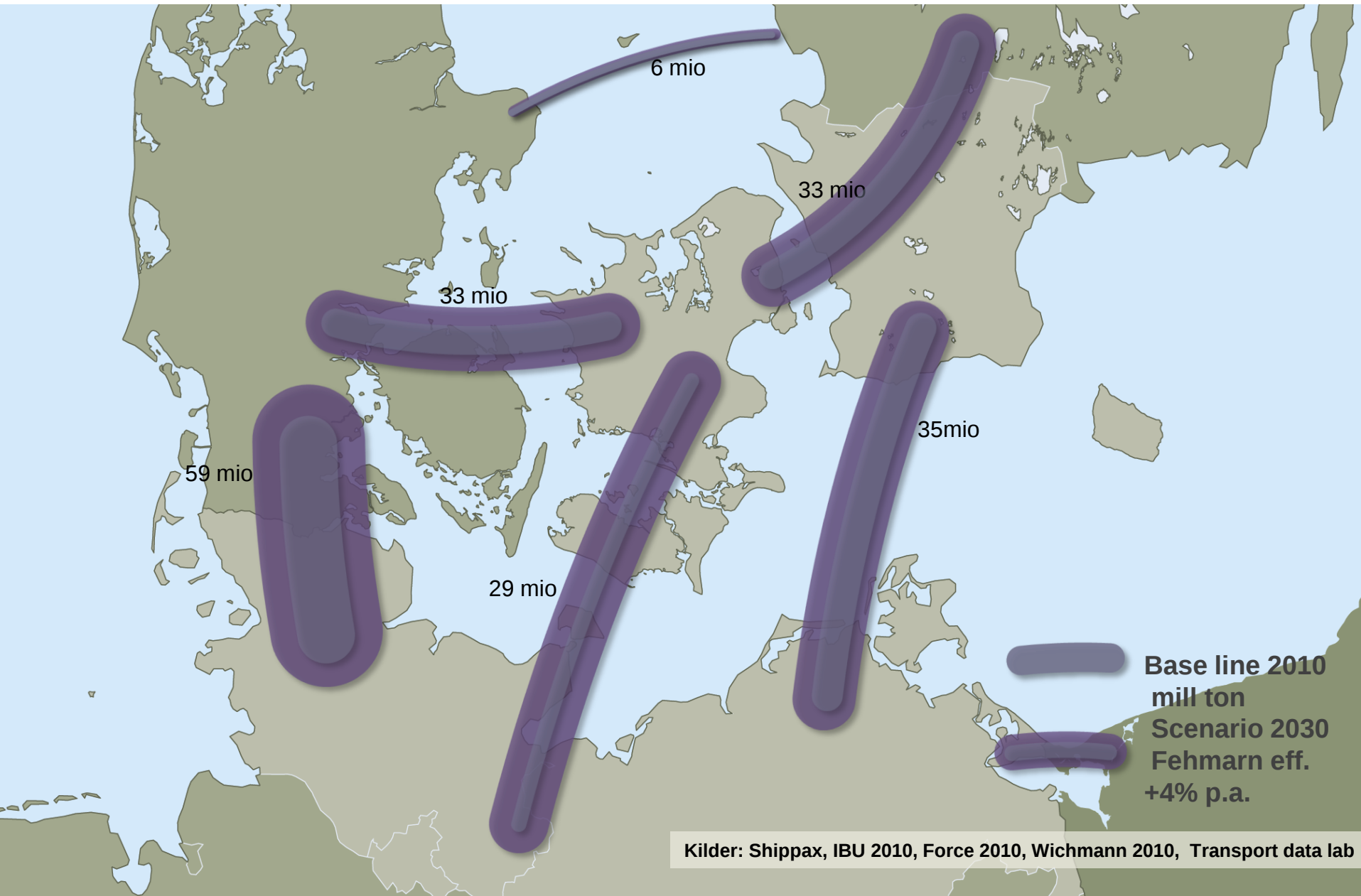


Growth rates Scandinavia–Germany total

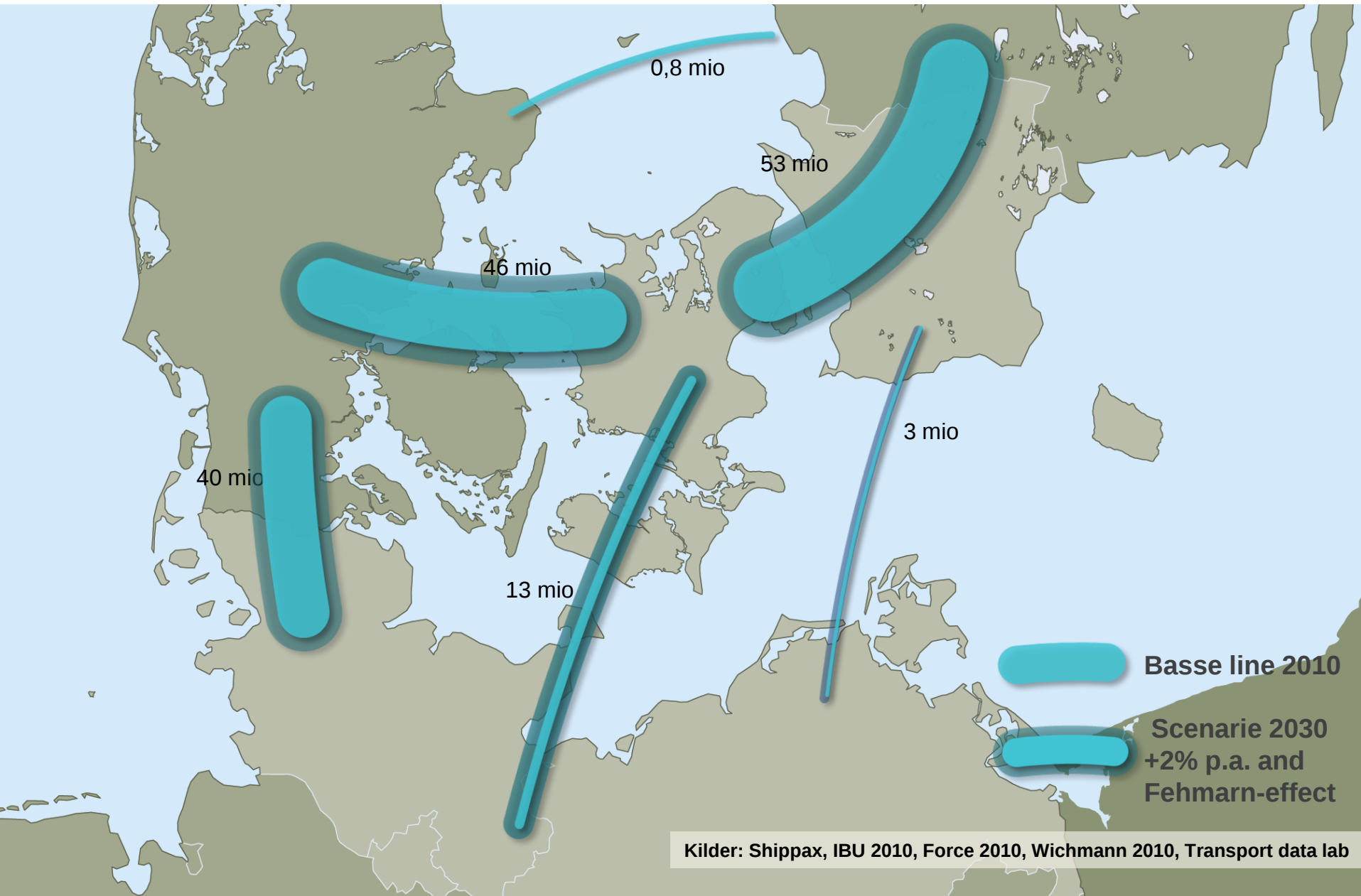
(Rødby-Puttgarden, Gedser-Rostock, Trelleborg routes, Border Jylland)



Freight flows Scandinavia-Germany



Travel flows Scandinavia-Germany



Faster railway connection

Today:

Copenhagen-Hamburg: >4½ hours

Stockholm-Hamburg: 10 hours

After Femern:

Copenhagen-Hamburg: <3 hours

Stockholm-Hamburg: 8 hours

"North Europe Corridor":

Copenhagen-Hamburg: 2 hours

Stockholm-Hamburg: 4½ hours





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JOURNEY

www.femern.dk