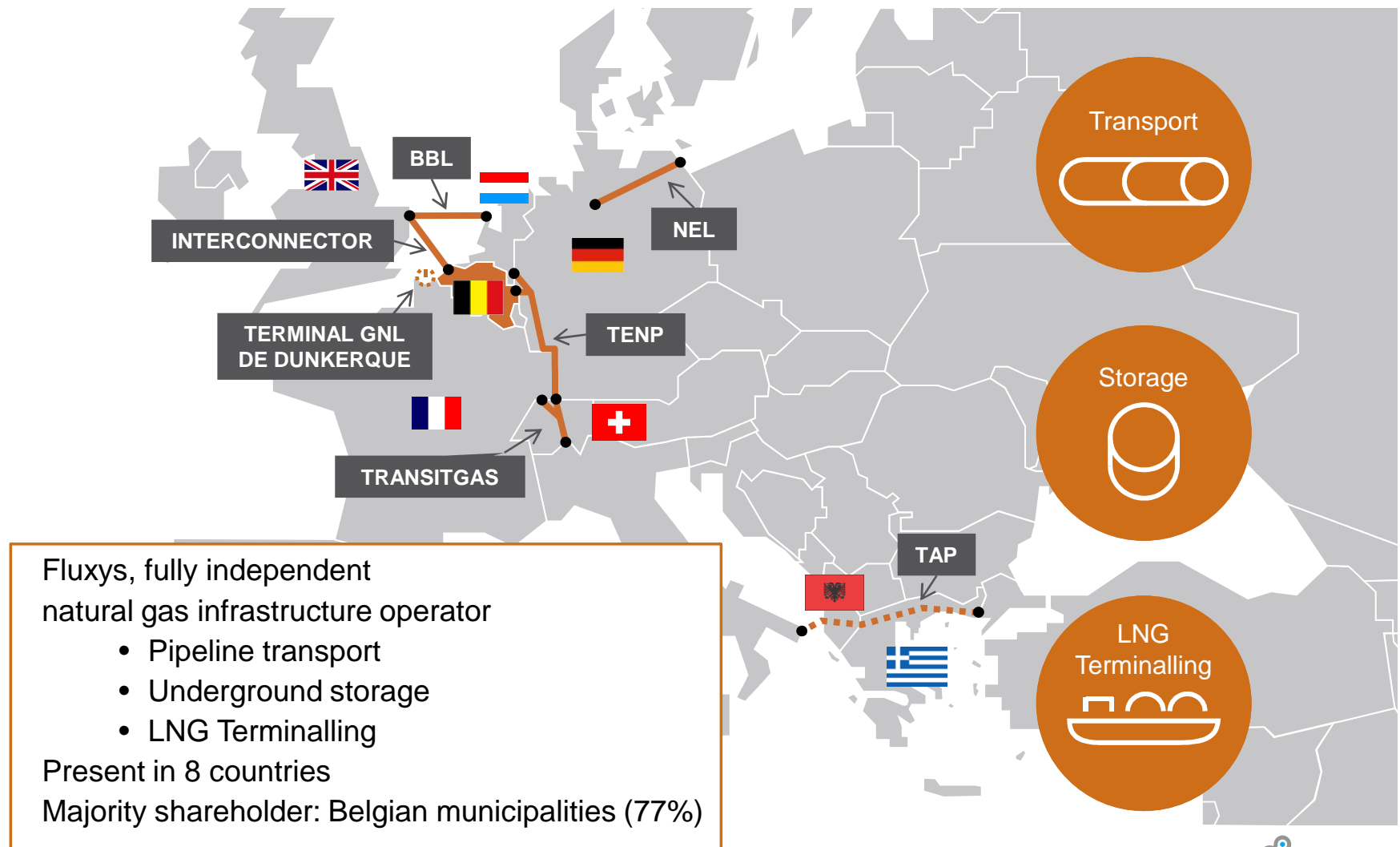




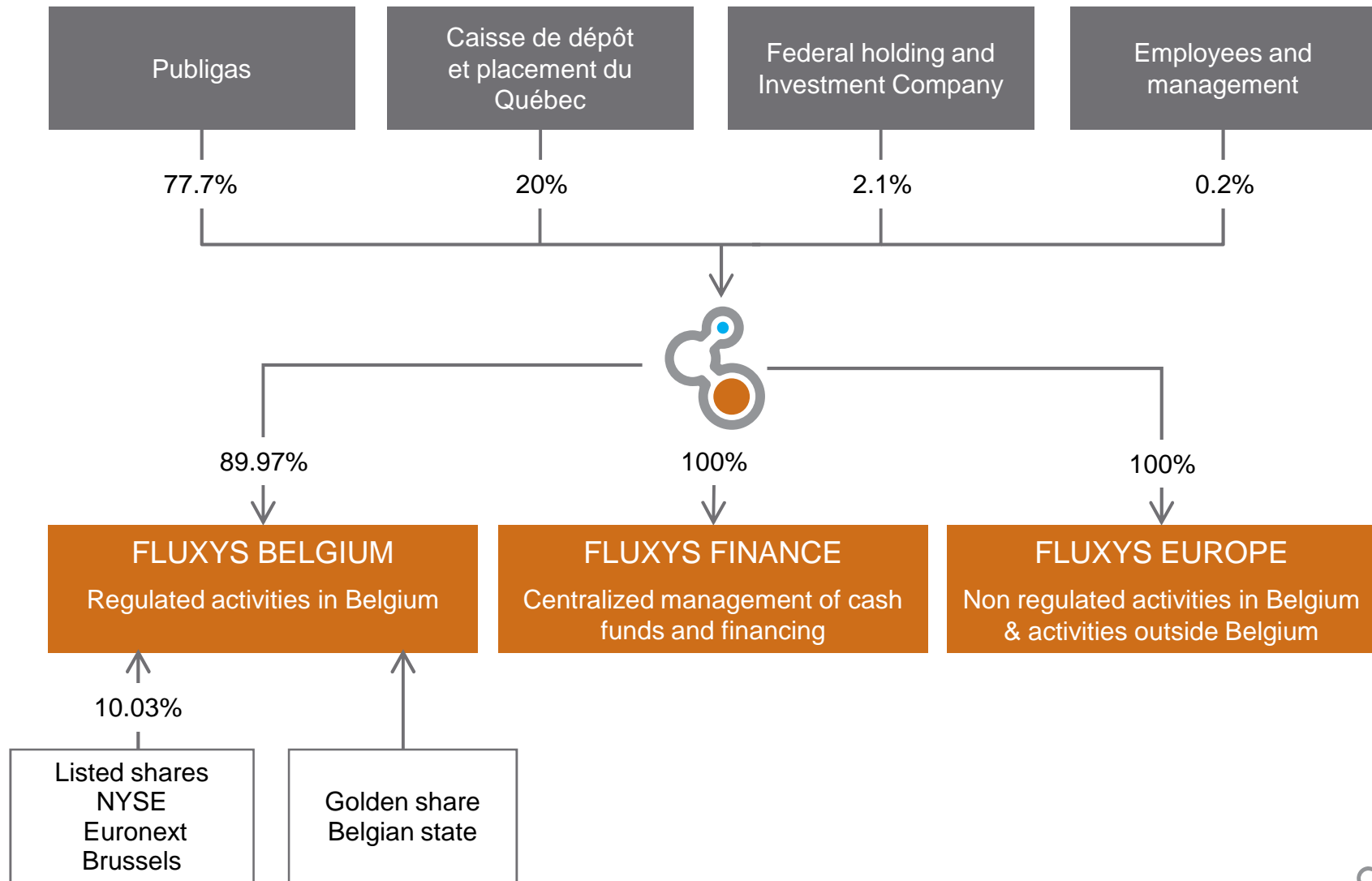
FLUXYS  
LNG TERMINAL  
ZEEBRUGGE

New services offered in LNG terminals  
Pieterjan Renier - Fluxys

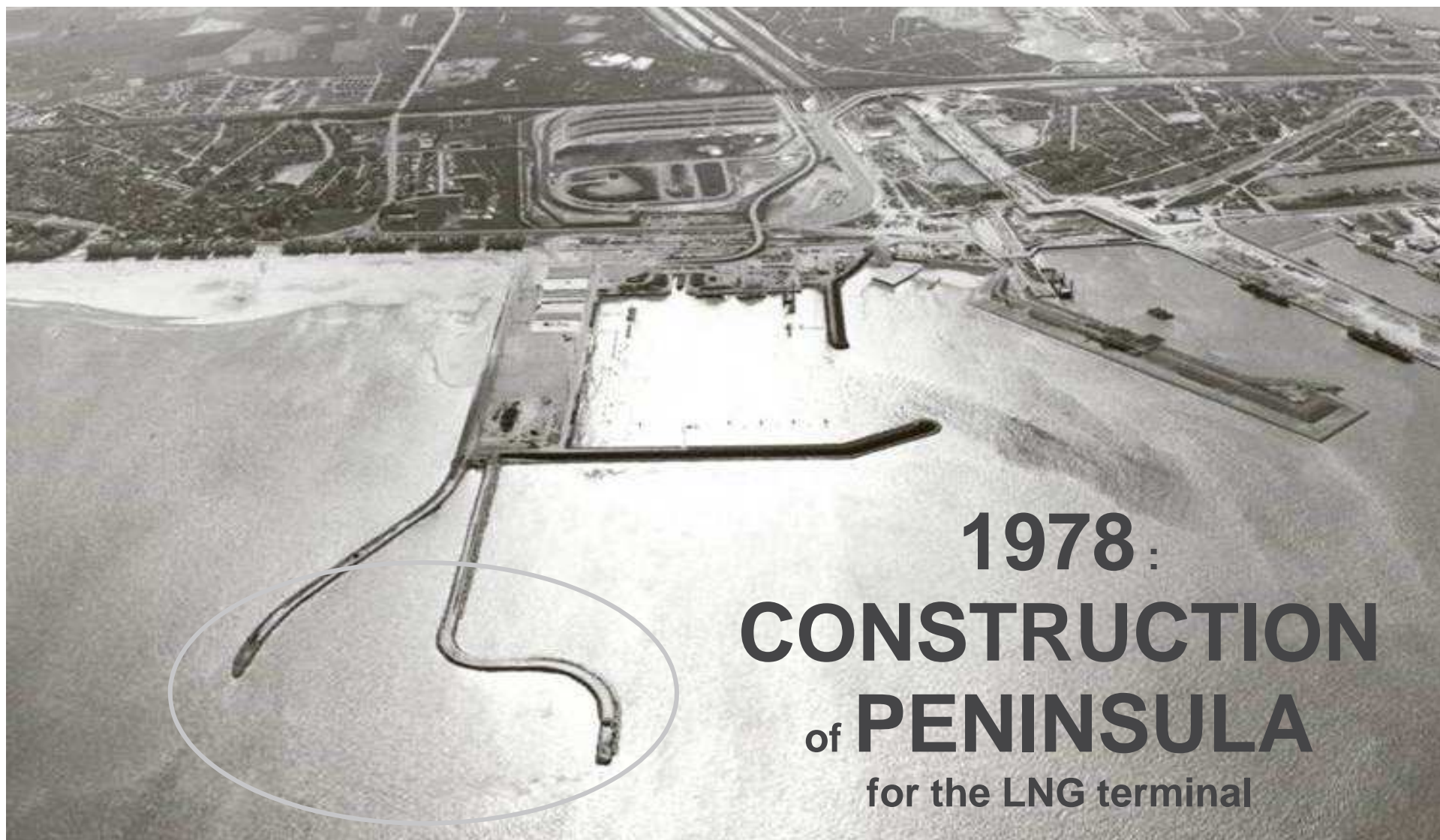
# FLUXYS: GAS INFRASTRUCTURE COMPANY FOR EUROPE



# SHAREHOLDING & GROUP STRUCTURE



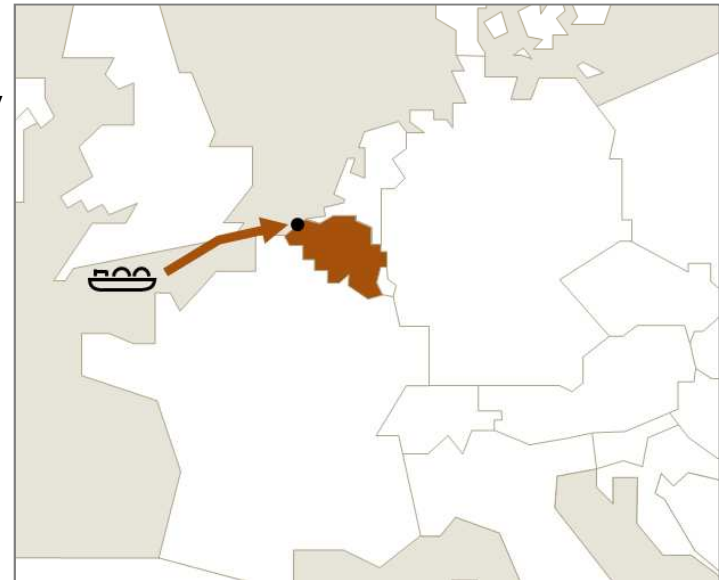
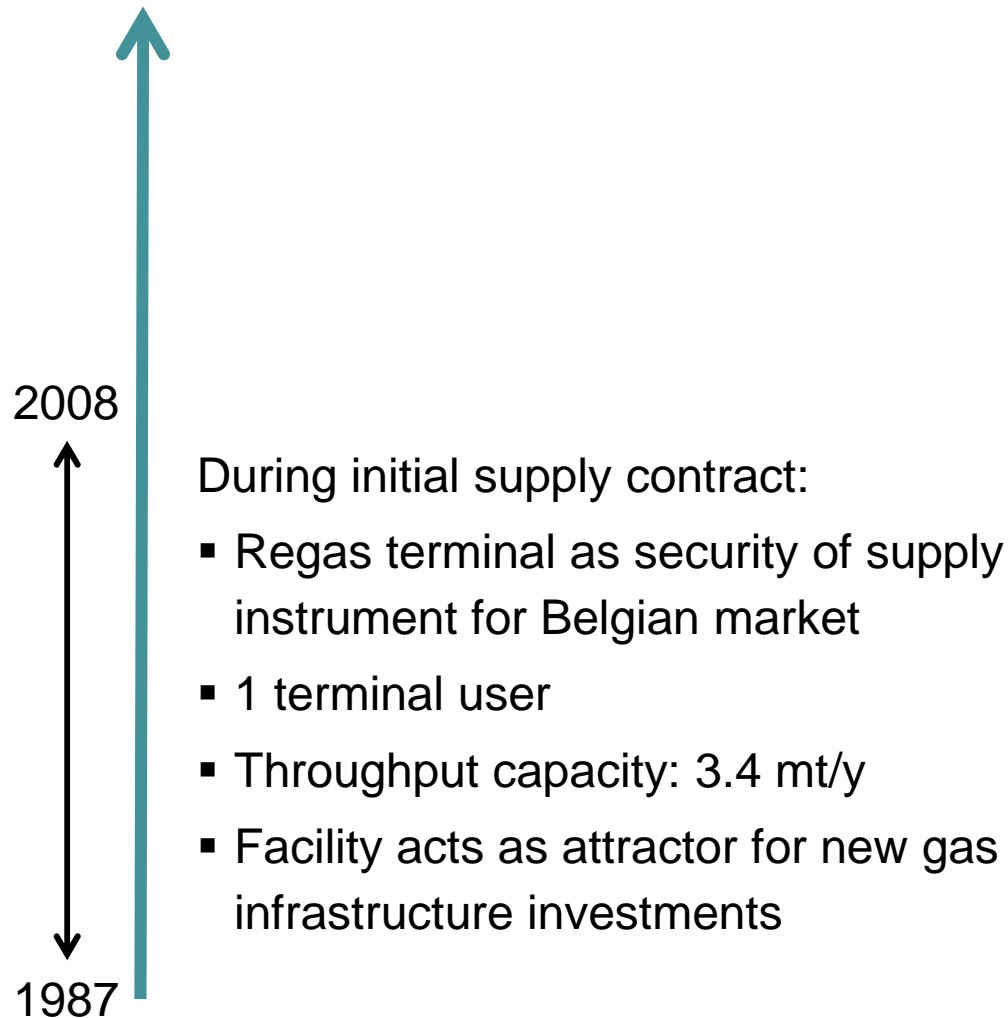






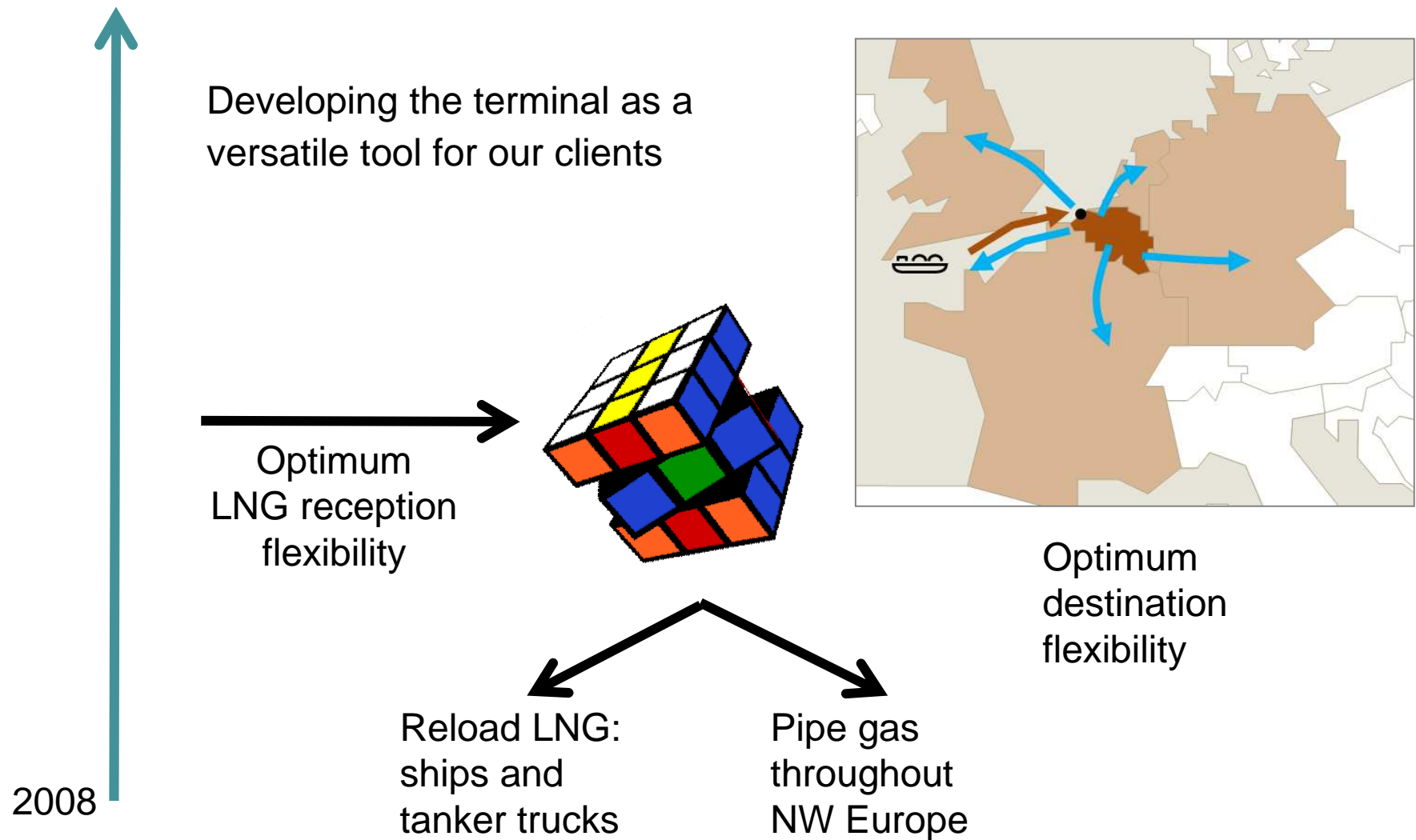
Commissioning  
**1987**

## AT FIRST: REGAS TERMINAL FOR THE BELGIAN MARKET ...





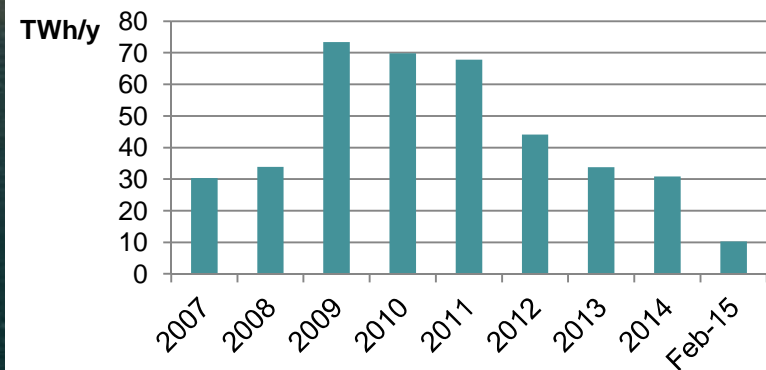
## SINCE 2008: AN LNG HUB FOR NW EUROPE



## Zeebrugge LNG terminal – unloading LNG

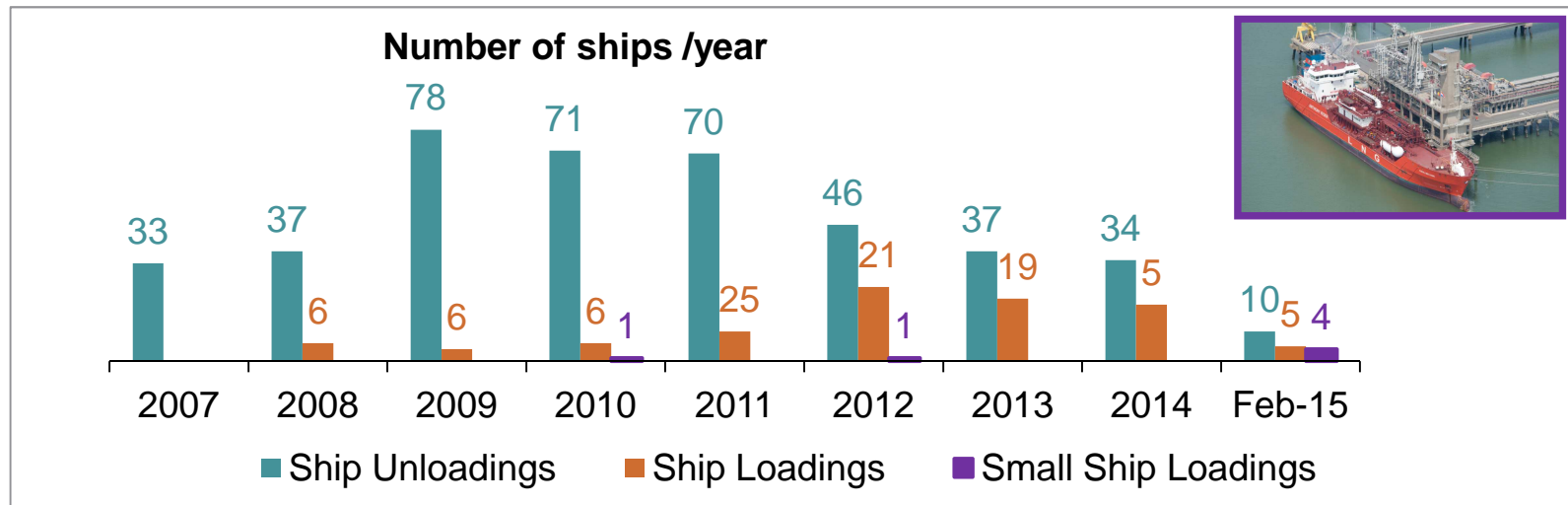
- 28 years in operation
- LNG carriers up to 1.8 TWh of LNG
- 2.5 TWh LNG storage capacity
- 0.5 TWh/day regasification capacity
- ~100 TWh/y capacity: able to supply +50% of the Belgian natural gas demand

**TWh of LNG unloaded in Zeebrugge**



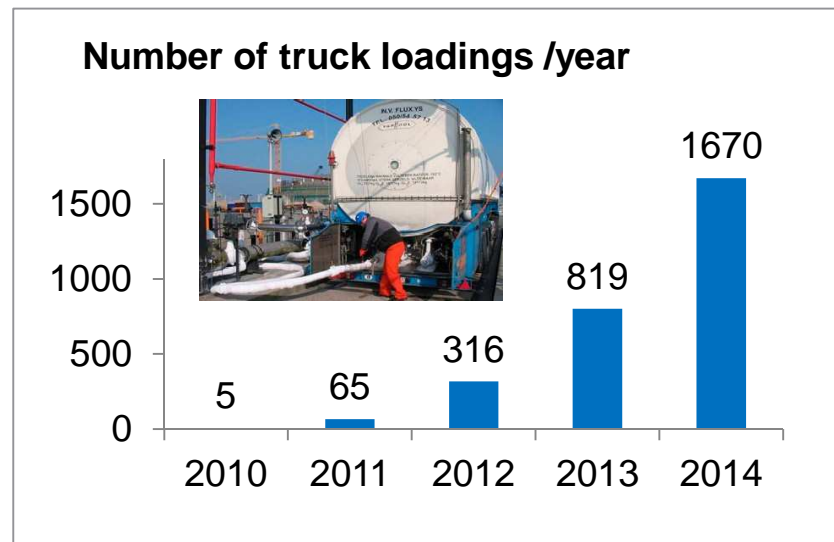


# UNLOADING AND LOADING LNG IN ZEEBRUGGE



2015 outlook:

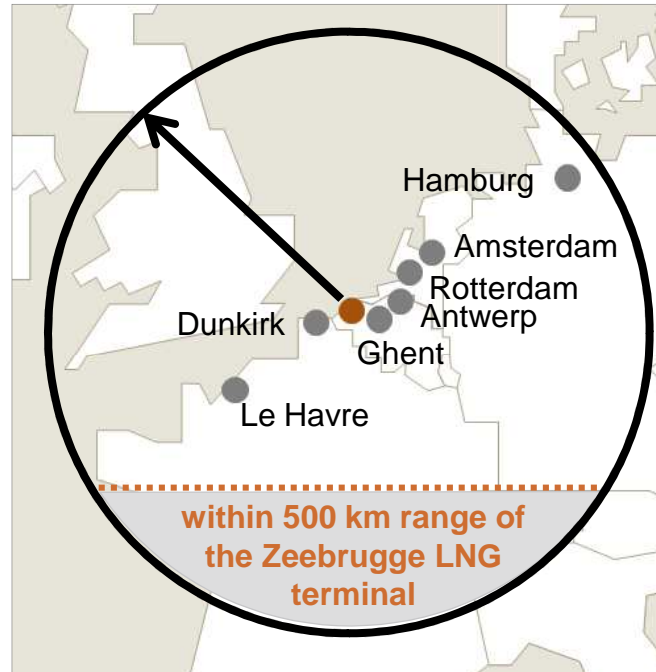
- Increase of ship unloadings
- Less large ship reloadings
- 20 small ship reloadings
- Growing number of LNG truck loadings in NW-Europe



# ZEEBRUGGE IS PERFECTLY LOCATED TO DELIVER LNG AS A FUEL FOR SHIPPING AND LONG-HAULAGE TRUCKS

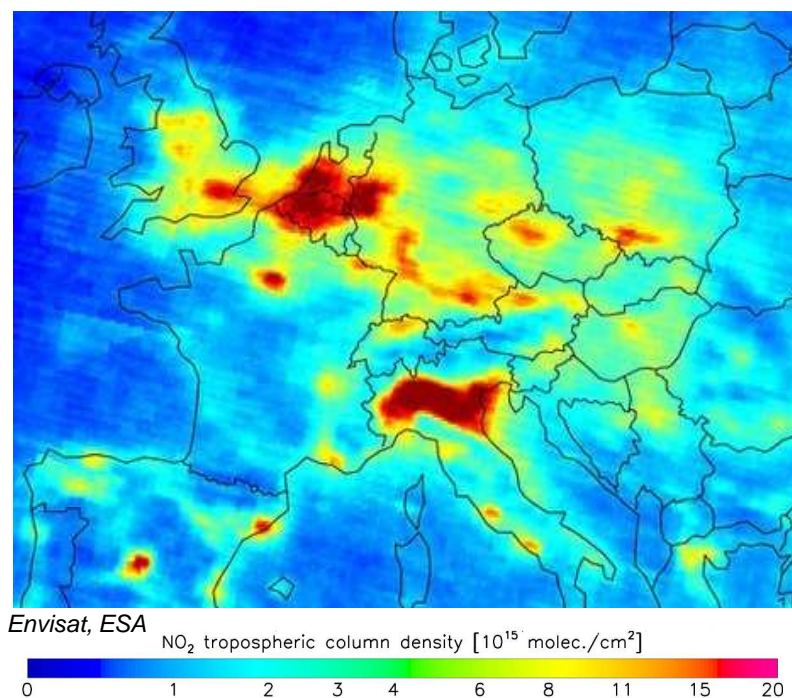


LNG as bunker fuel:  
40 mt/y market size

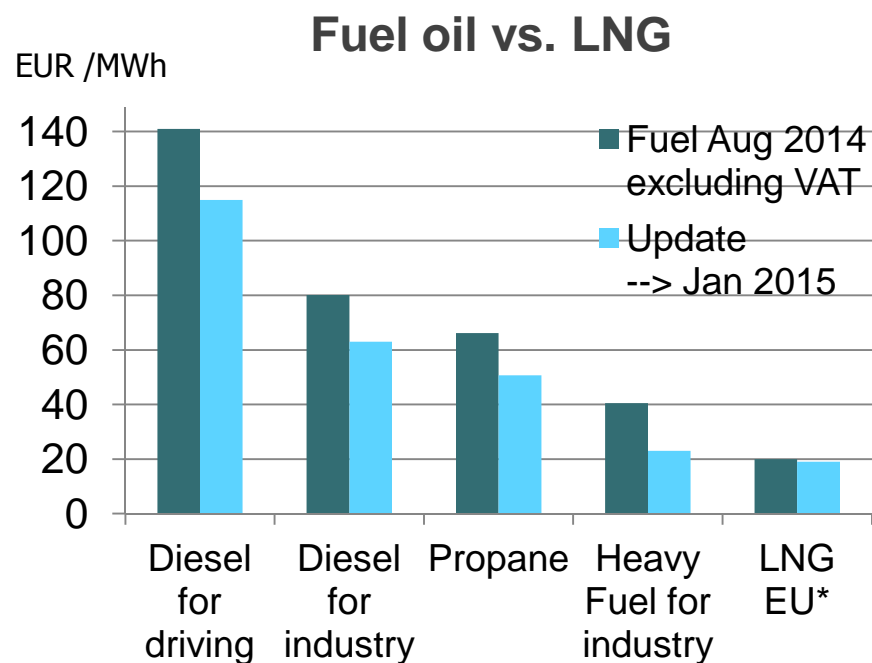


LNG as fuel for long-haul  
trucks: 5 mt/y market size  
within 500 km range

# LNG, LESS EXPENSIVE AND BETTER FOR THE ENVIRONMENT



- 0 emissions of SO<sub>2</sub> and fine particules  
→ negligible
- 50 to 60% less Nox
- Up to 25% less CO<sub>2</sub>



- Challenge: to invest in LNG infrastructure on long term
- Diesel for driving = 1.18 EUR/l  
Diesel for industry = 0.67 EUR/l  
Propane = 0.47 EUR/l  
Heavy Fuel Oil = 450 EUR/tonne \*\*



# LNG TRUCK LOADING

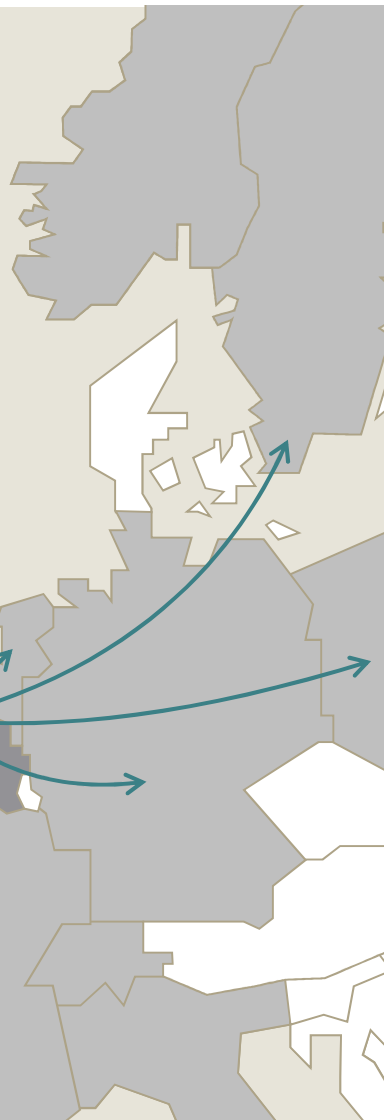


- Since 2010, Fluxys loads LNG trucks for third parties (operations started in 1995)
- Currently loading ~2 000 trucks /year
- Ready to double our capacity to 8 000 loadings /year

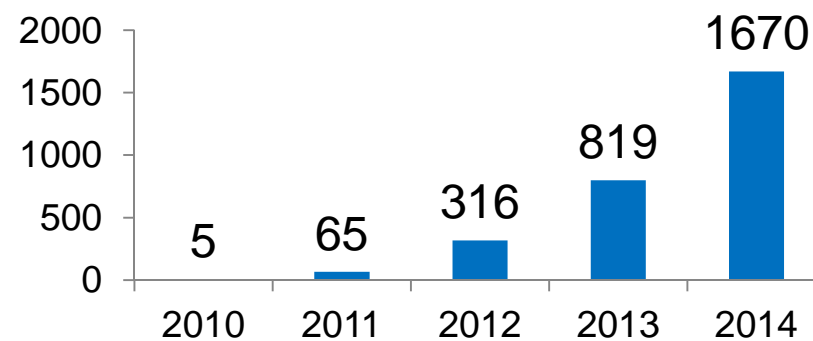


# LNG TRUCK LOADING

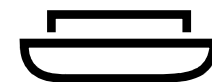
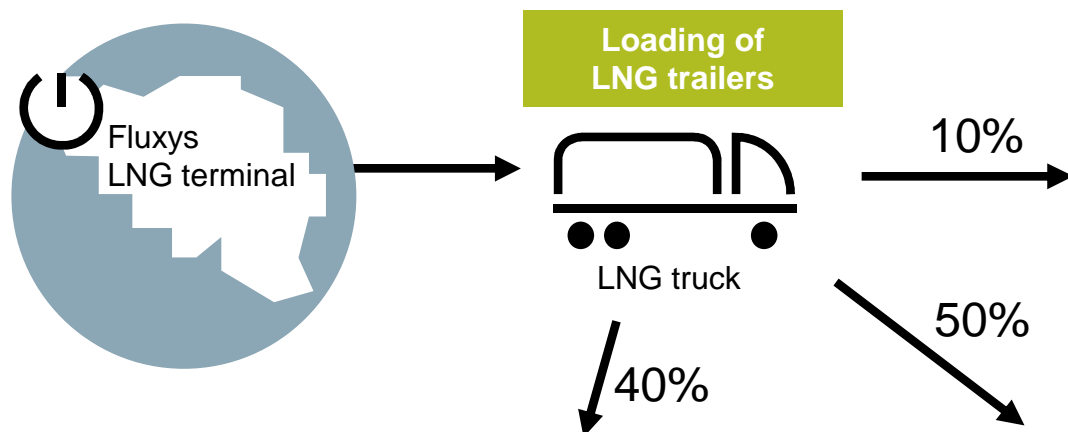
2010 2011 2012 2013 2014 ...



- 18 active truck loading companies
- Capacity of 4 000 loadings/year
- 24/7, online day-ahead scheduling
  - > Industrial sites without pipe gas >50%
  - > LNG refuelling stations <40%
  - > LNG as fuel for shipping <10%
- Destinations: Belgium, UK, France, Germany, the Netherlands, Poland, Switzerland, Sweden, Norway, Italy



# LNG AS A FUEL FOR INDUSTRY, SHIPS AND TRUCKS



Small ships propelled on LNG



Truck refuelling station  
- Fluxys in Veurne



Fuel for  
industry



## 2ND JETTY TO ACCOMMODATE MORE SHIP LOADINGS, SMALLER SHIPS AND TRANSSHIPMENT (H2 2015)




- Second jetty under construction
- Reception of LNG carriers with capacity as small as 2 000 m<sup>3</sup> LNG as from 2015
  - > Unloading and loading
  - > Ship-jetty-ship transfers

# LNG PROJECTS IN BELGIUM



✓ 2015 - 2016: Eni to supply small scale ship loadings for Skangass in Sweden = 4.6 TWh



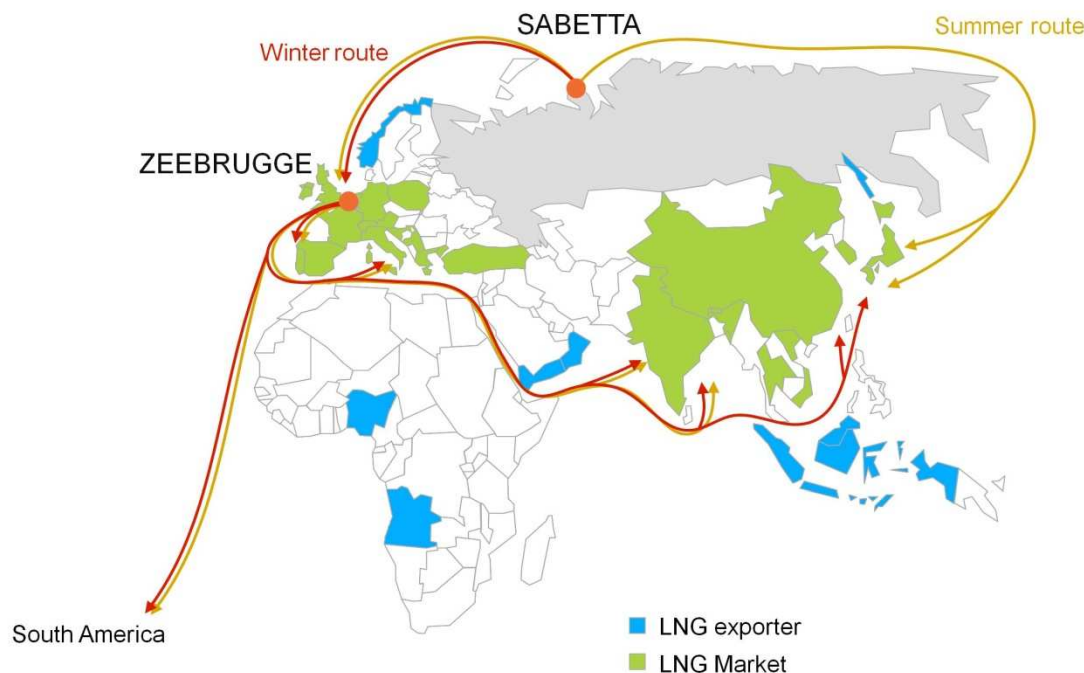
 Co-financed by the European Union  
Trans-European Transport Network (TEN-T)

✓ 2014: first Fluxys LNG refuelling station in Belgium



✓ 2016 : GDF Suez to load a 5 100 m<sup>3</sup> LNG bunker vessel to supply end user ships like UECC

# LNG TRANSSHIPMENT DEVELOPMENT AT ZEEBRUGGE



- Yamal to produce 16.5 mio tonnes of LNG/y. Three LNG production trains currently under construction.
- 05 March 2015, Fluxys LNG and Yamal signed 20y capacity agreement for LNG Transshipment services at LNG terminal in Zeebrugge.
- Arctic LNG carrier unloading → 180 000 m<sup>3</sup> LNG storage → LNG carrier loading



## CONCLUSIONS

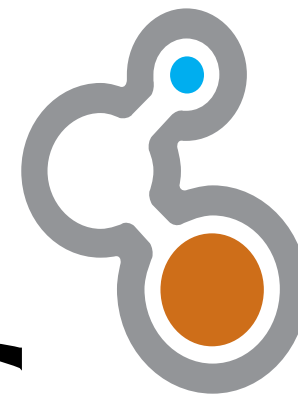
Fluxys LNG terminal in Zeebrugge has been successfully transformed from a regas terminal for the Belgian market into a versatile tool for our clients

- Currently 3 long term capacity holders
- Optimum destination flexibility in terms of
  - » LNG regasification
  - » Loading large and small LNG ships
  - » Loading LNG trucks

LNG as a fuel for industry, ships and trucks

- A strong demand to reduce emissions as well as costs
- Challenge: developing downstream LNG infrastructure

# FLUXYS



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