

**Fehmarnbelt Fixed Link**

# **Project Presentation**

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Communications**



# In the heart of Northern Europe



# A European Project – TEN-Corridor

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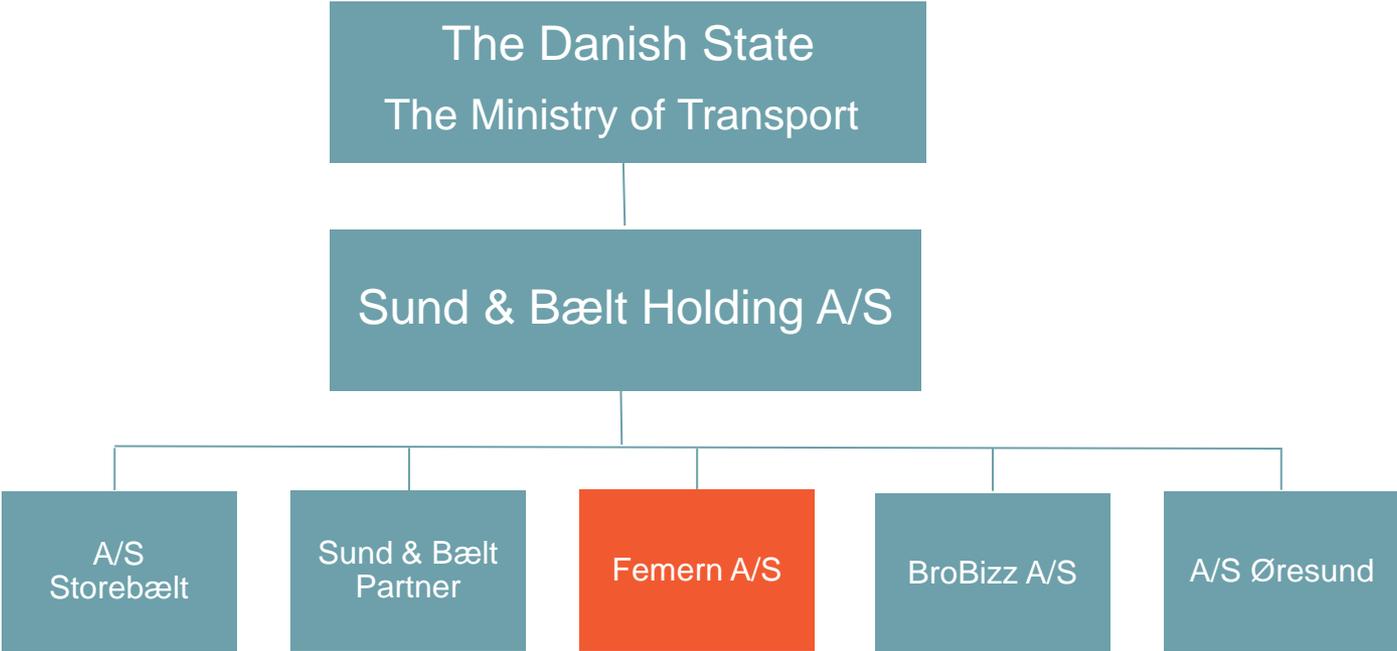
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# Who...

... is planning the project?

# Who we are

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# Femern A/S – A Danish owned organisation

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- **Until 2015 Femern A/S is responsible for:**
  - Economy
  - Planning
  - Approval of the project
  
- **It is assumed that Femern A/S will become responsible for:**
  - Construction of the fixed link (2015-2021)
  - Operation and maintenance (from 2021)



# The treaty of 3 September 2008

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## Denmark will

- ... **own** the fixed link and **collect** the revenues that finances it
- ... **reserve** the rights to finance the Danish landworks from the revenues
- ... **provide** guarantees for the financing of the project
- ... **determine** the ticket prices

## Germany will

- ... **finance** the extension of the German landworks



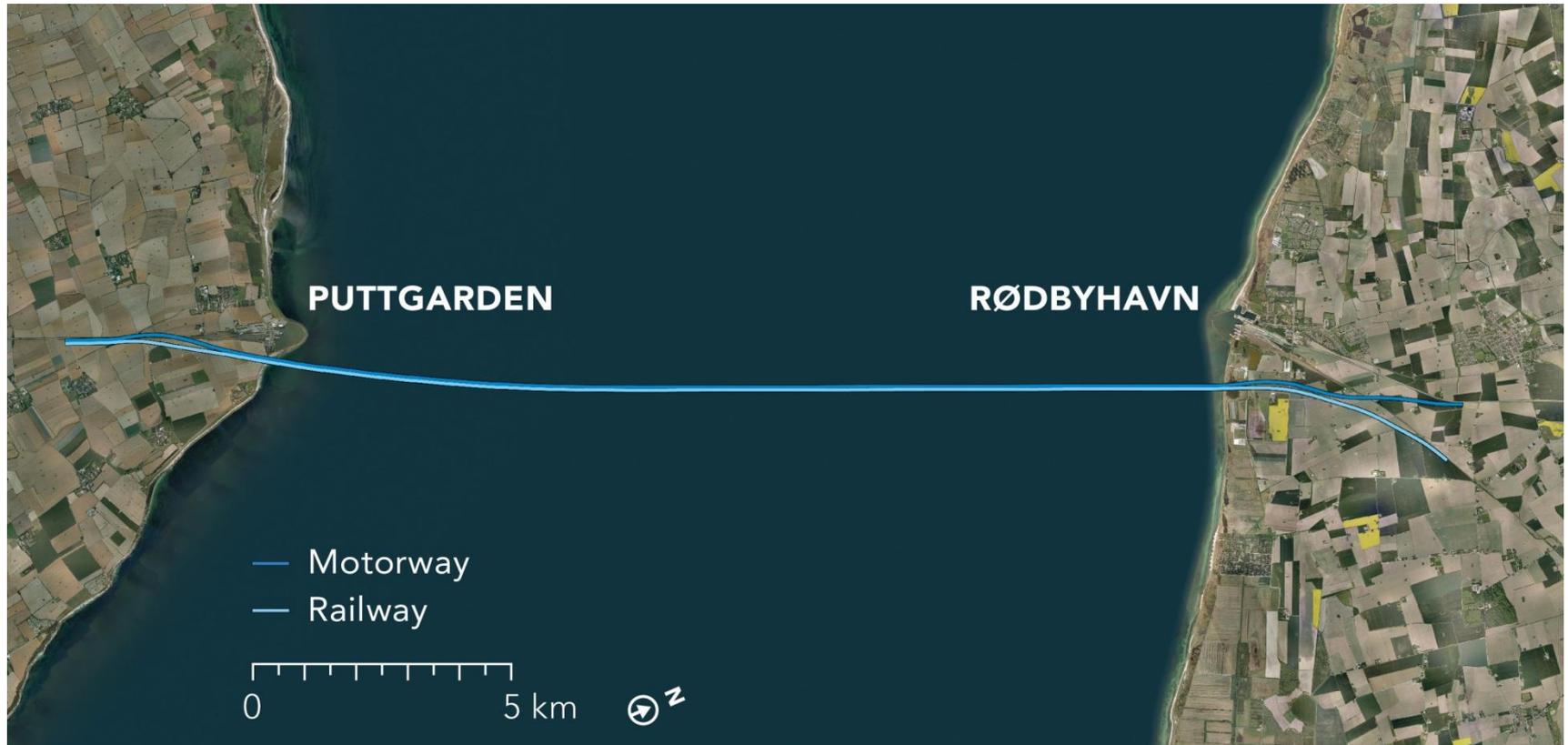
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# What...

... are we planning to build?

# 19 km between Rødbyhavn and Puttgarden

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# An immersed tunnel



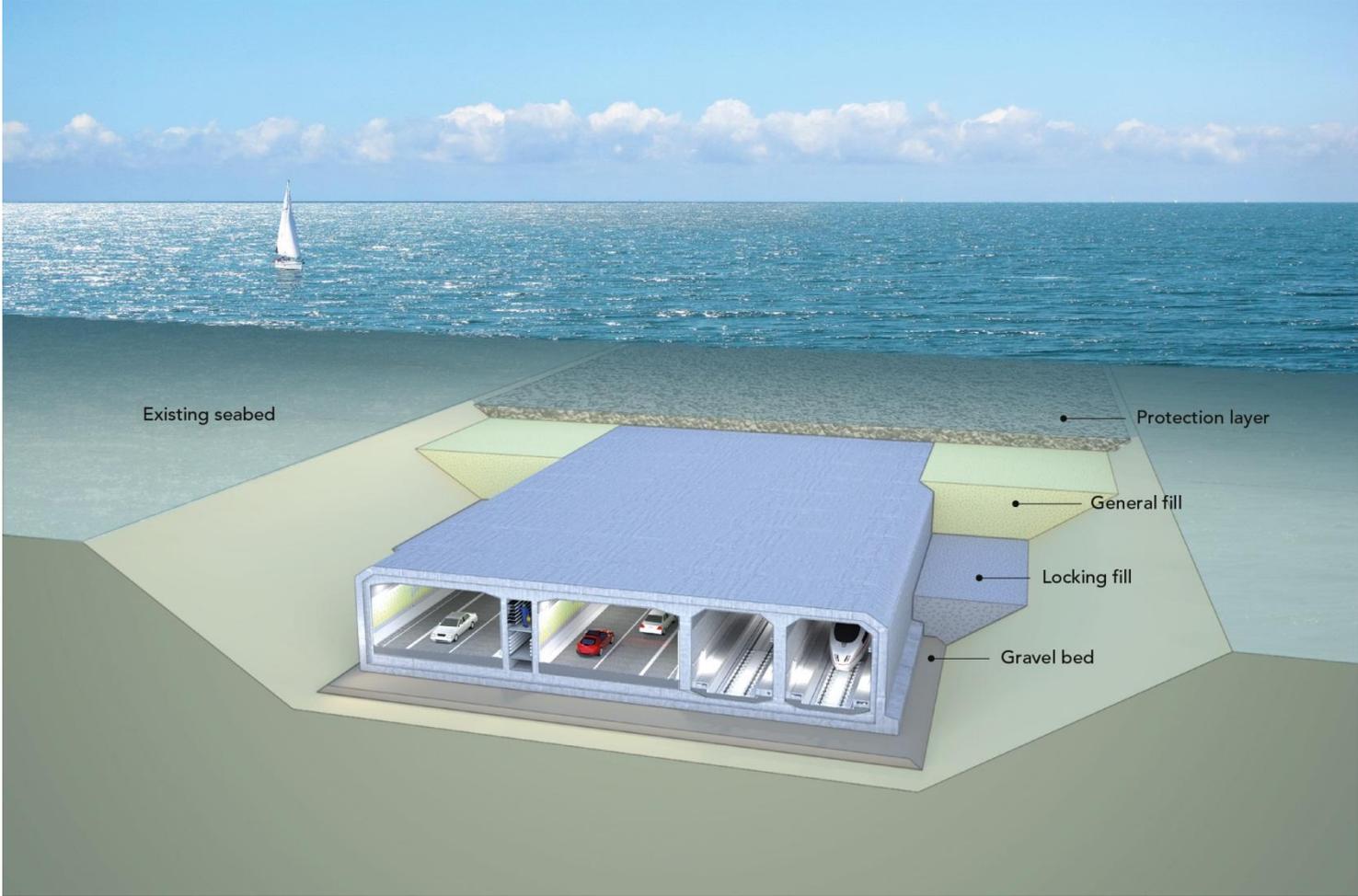


ABA





# Safely under the seabed



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# How...

... do we plan to build the world's  
longest immersed tunnel?

# Construction of the immersed tunnel

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FEHMARNBELT FIXED LINK

Immersed Tunnel

**Femern**  
*Sund ≈ Bælt*



XBA

05/06/2013



ABA

05/06/2013



ABA

05/06/2013





# Safe navigation in the Fehmarnbelt

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- VTS system (Vessel Tracking System) for monitoring and guiding shipping in the Fehmarnbelt will be set up
- Guard vessels that will warn ships of offshore activities
- Limiting offshore activities to give vessels the greatest possible leeway in the area



# Refinanced by the future users

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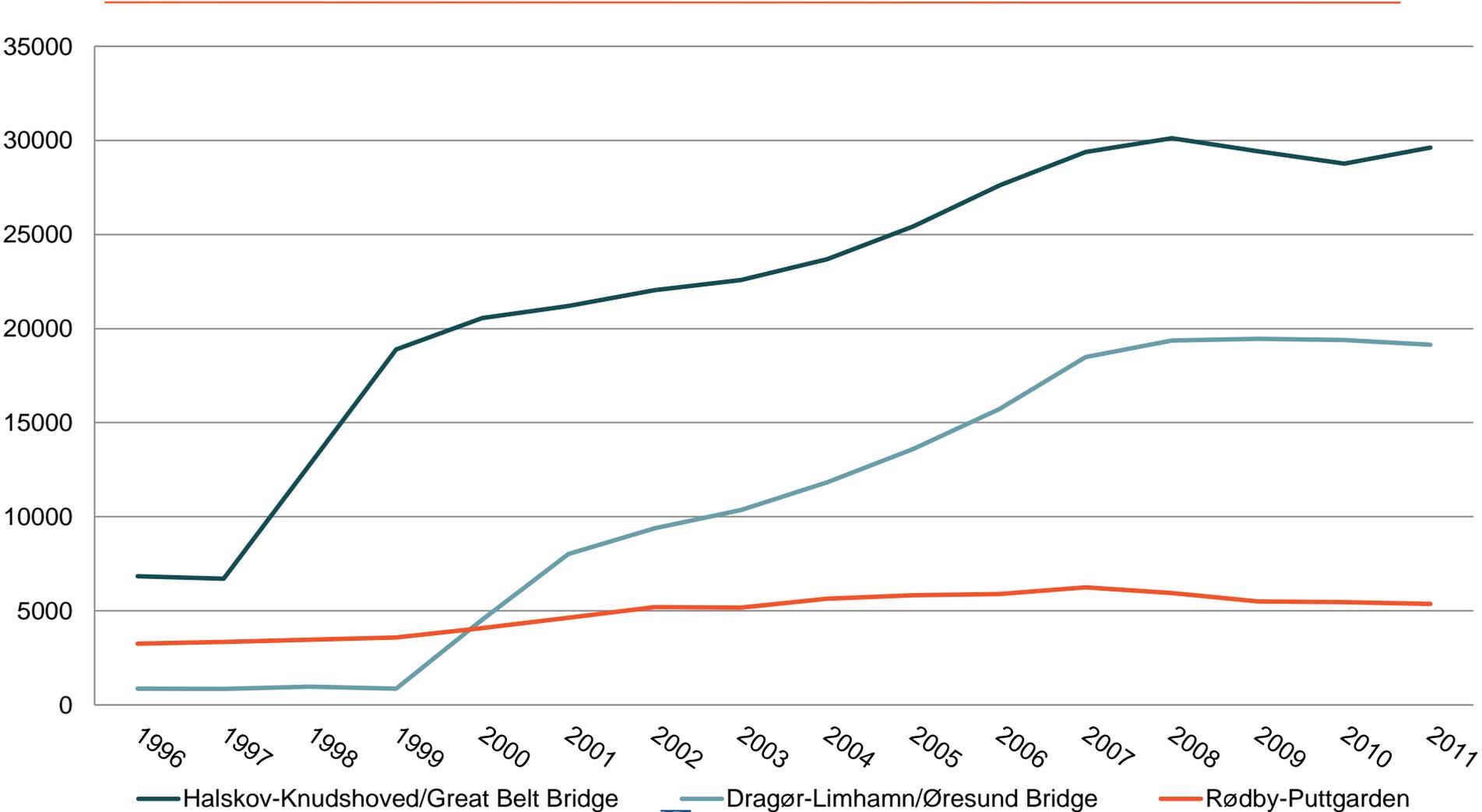
<b>Repayment time</b>	<b>Immersed tunnel</b>
Coast-to-coast section + Danish landworks	39 years
<b>Assumptions</b> <ul style="list-style-type: none"><li>• Total gross costs for coast-to-coast section</li><li>• Construction costs for landworks</li><li>• Growth rate for road traffic – first 25 years</li></ul>	<ul style="list-style-type: none"><li>• 5.5 billion EUR</li><li>• 1.1-1.2 billion EUR</li><li>• 1.7 % p.a.</li></ul>

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# Why...

... do we need a fixed link at all?

# When you remove a bottle neck...



# The regional project: making the region flourish

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## New business clusters and cooperations across borders

### Industries present in all regions:

- Life science/health
- Food industry
- Information technology and media
- Logistics (especially maritime)
- Wind energy/green technology
- Tourism

### Industries present in some regions:

- Financial sector (with business services)
- Cultural sector (media)
- Airport related activities, civil aviation
- Nanotechnology
- Maritime industries

# The european project: towards a stronger Europe

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- **Strengthening**  
the competitiveness of the common market
- **Creating**  
CO2 efficiency of rail transport
- **Connecting**  
the periphery regions with the central regions
- **Removing**  
bottlenecks
- **Improving**  
the quality of infrastructure and the transport operation
- **Establishing**  
a main transport corridor between Continental Europe and Scandinavia

# Regional development is already in full swing

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## FEHMARNBELT DAYS 2012

26TH - 28TH  
SEPTEMBER  
HAMBURG AND LÜBECK



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# When...

... is the tunnel ready?

# What has happened

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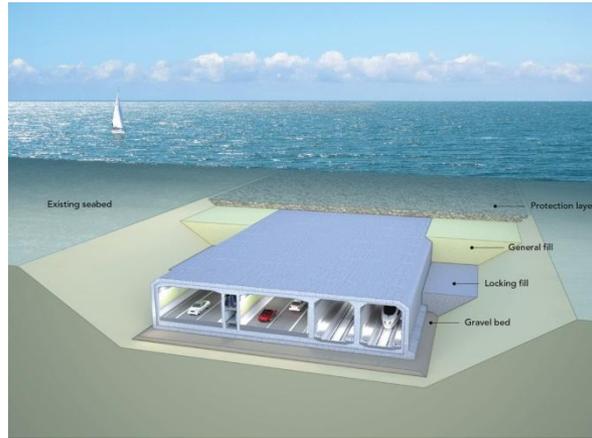
## ▪ 2008

Signing of state treaty between Denmark and Germany



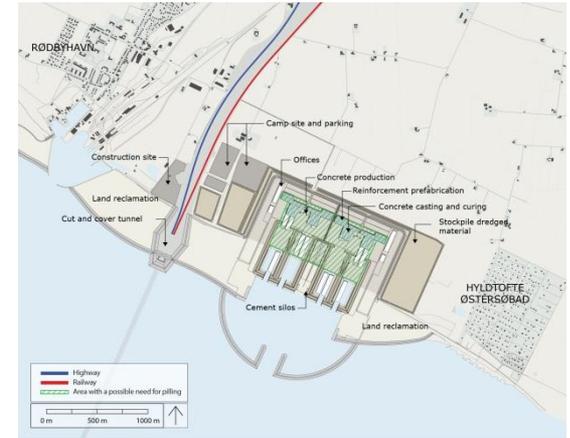
## ▪ 2011

The immersed tunnel declared to be the preferred technical solution



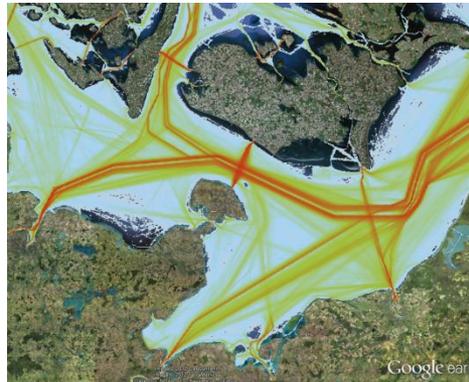
## ▪ 2012

The approval process begins



# The approval process and the environment

- **Development** of design
- **Investigations** (environmental, navigational, geotechnical etc.)
- **Preparation** of the plan approval documents
- **Formal plan approval process** including EIA (Environmental Impact Assessment) in DK and DE
- **Danish approval:** Construction act
- **German approval:** "Planfeststellungsbeschluss"



# Comprehensive environmental investigations

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- Broad investigation program, e.g. water exchange, flow conditions, sediment spill, birds, fishes, mammals
- Environmental investigations: 2008–2013 (to be concluded)
- 270 Millionen EUR
- Final stage of assessments. But clear indication: immersed tunnel will have no permanent effects on the environment.



# What will happen

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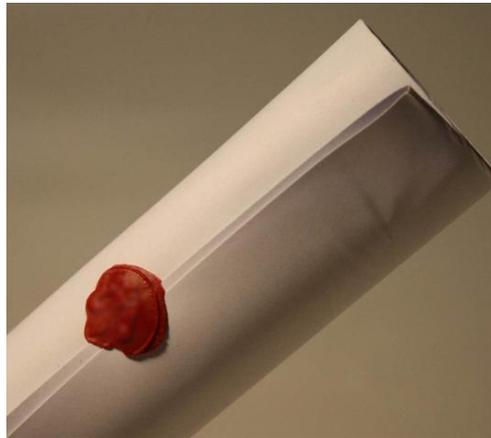
## ▪ 2013

Construction work put out to tender



## ▪ 2014

Construction act



## ▪ 2015

Construction work begins (6½ years)

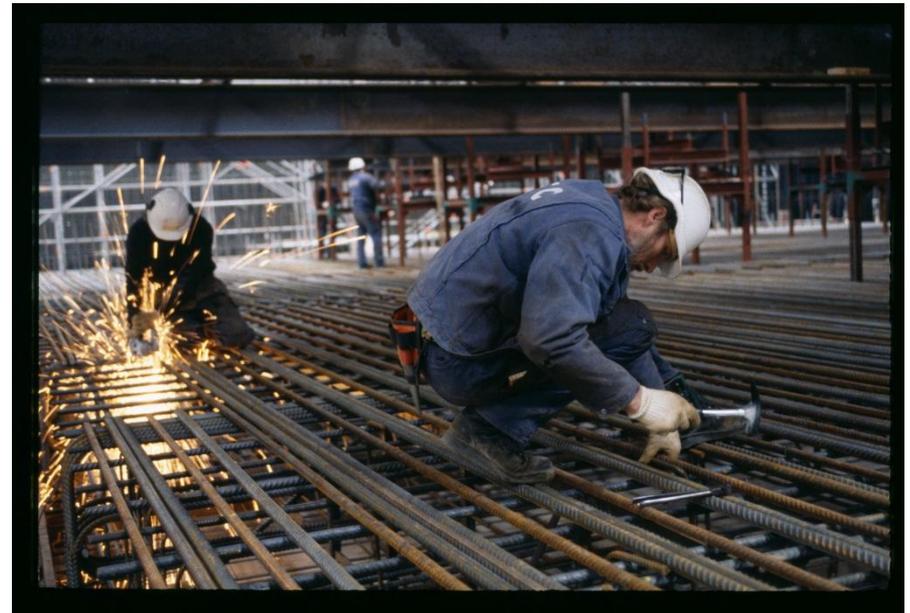
## ▪ 2021: Opening



# Jobs at the coast-to-coast link

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- The direct and closely related indirect employment from 2009 to 2021 is estimated to be between 25,000 and 30,000 man years
- During the busiest years in the middle of the construction phase, approx. 4,000 people are expected to be directly engaged in the project.



# Construction site at Puttgarden

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# Puttgarden – 2021

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# Puttgarden – 2021

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# Thank you for your attention!

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-  Internet: [www.femern.com](http://www.femern.com)
-  Facebook: [www.facebook.com/femern](http://www.facebook.com/femern)
-  Blog: [www.blog.femern.com](http://www.blog.femern.com)

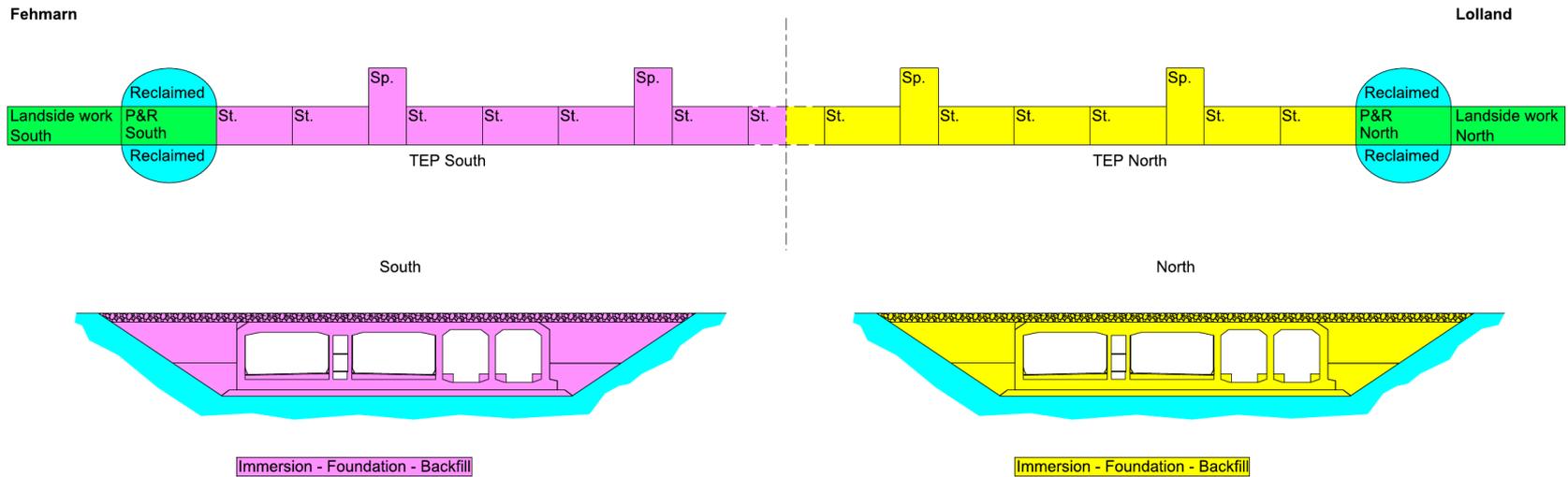


# Prequalification

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- In the prequalification process, Femern A/S identifies those companies best suited for implementing the large construction contracts
- Interested companies will be rated according to:
  - General suitability
  - Financial and economic abilities
  - Technical abilities

# Prequalification for Four Major Contracts



- Immersed Tunnel North
- Immersed Tunnel South
- Portals, ramps and landworks
- Excavation of seabed and land reclamation

# Tender Modalities

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- EU tender regulations:
  - Ensure a fair competition
  - Define certain requirements for equal treatment
  - Define limits for national special regulations
- Split into several contracts ensures:
  - Optimum competition between the bidders
  - A sensible size of the different contracts
  - Focus on competitors' key competences
  - Simple interfaces between contracts

# Social Responsibility

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- Femern A/S seeks to be a good citizen in the region
- The major building contracts will include some social responsibility requirements for the contractors, e.g. reg.:
  - Apprentices and interns
  - Wage and work conditions
  - Housing at the construction sites
- All requirements need to be compatible with EU rules and international conventions