Fehmarnbelt link

Travel faster and more easily by car and train between Scandinavia and Central Europe

- Travel when you want – no need to book and no waiting
- You save 1 hour by car and lorry and 2 hours by train between Copenhagen and Hamburg
- Open 24 hours a day all year round – and in all weathers
- Upgrading of the railway between Copenhagen-Ringsted-Nykøbing Falster will offer new opportunities for commuters in Zealand and Lolland-Falster (DK)
- There will be no need for trains to be coupled together or decoupled – they will be able to run straight through
- Greener transport on road and rail
- Will free up capacity on the railway line between East and West Denmark for more passenger trains
- The entire region will be connected to the European transport network
Tunnel factory east of Rødbyhavn

A huge undertaking like the fixed link will attract employees from the whole of Denmark and Northern Germany. Companies are already showing considerable interest in participating in the project when construction gets underway.

A factory will be built east of Rødbyhavn to manufacture the tunnel elements.

Facts about the tunnel

- Over 18 km long with four tunnel tubes comprising:
  - Two double-lane motorway tubes with a hard shoulder and emergency exits to a safe neighbouring tube approximately every 100 m
  - Two rail tubes with electrified rail tracks
  - 79 standard elements every 217 m and 10 special elements for technical installations
- The alignment runs between Rødbyhavn on Lolland and Puttgarden on Fehmarn
- Owner: the Danish state
- Client: Femern A/S

The immersed tunnel

The tunnel elements will each weigh 73,000 tonnes and will be equipped with a watertight bulkhead to enable them to float when being towed from the factory. They will be sited above a dredged tunnel trench and immersed with great precision under the seabed. The tunnel trench will then be filled with sand and gravel and a protective layer of stone.

Siting of the tunnel factory

New natural areas and beaches

Railway
Motorway

1 m 500 m 1000 m
New recreational beach areas

The dredged material from the tunnel trench on the seabed will be used to create a new and diverse natural area, with beaches and lagoons off Rødbyhavn. A new beach east of Puttgarden will also be established.

A safe journey

The Fehmarnbelt tunnel will be one of the world’s safest. The immersed tunnel will be safer than an equivalent motorway or railway on land and there will be no disruption caused by bad weather.

Innovation in an international league

It will be a world-class engineering feat to build a tunnel under the Fehmarnbelt. The tunnel will employ innovative solutions, which are already being used in projects in South Korea and China. These innovative solutions will lead to new methods for building infrastructure and for addressing environmental challenges.

Speedily through the tunnel

With the motorway and railway equipped for high speeds, the journey through the tunnel will be fast and easy: by train it will take seven minutes and by car around 10. Architectural lighting will be used to create variation.
The need for a fixed link is growing
Over the past 40 years, the ferry service between Rødby and Puttgarden has seen average growth of more than 3 per cent.

A fixed link will cut travel time and increase flexibility and accessibility.

It will take 2½ hours to travel by train between the two cities of Hamburg and Copenhagen. Even with stops in cities on Zealand and in Eastern Holstein, travel time will still be under three hours. Today, the journey takes 4½ hours. Regionally, travel time on the section will also be significantly improved.

Helping to bring Europe together
The fixed link across the Fehmarnbelt is part of the Scandinavian-Mediterranean corridor – one of the EU’s nine priority main network corridors. The link is a key part of the main European transport system.

The EU is supporting the project by funding half the planning costs. Femern A/S expects a support of 18 per cent of the construction costs and 10 per cent of the Danish landworks costs.

Good links will drive economic growth
The fixed link across the Fehmarnbelt will increase mobility between Denmark, Sweden and Germany and offer better conditions for travelling, commuting and trade.

Denmark, Germany and Sweden share a long trading history. Germany is both Denmark and Sweden’s largest trading partner. Scandinavia is Germany’s seventh largest trading partner.

Improved conditions for local commuters
The upgrading of the railway on both sides of the Fehmarnbelt will lead to faster travel times domestically and there will be new opportunities to live in the countryside and work in the city.

When the new railway between Copenhagen and Nykøbing Falster on the Danish side opens, it will be possible to travel between the two cities in under one hour compared to at least one hour and 30 minutes currently.

The railway on the German side of the link will also be upgraded, which will result in shorter travelling times.

Room for more on the railway
The Fehmarnbelt tunnel will increase capacity for both cars and trains across the Fehmarnbelt and between the different regions in Denmark. Freight trains will be able to avoid 160 km detours via Storebælt. This, in turn, will free up vital space for passenger trains between the Danish regions. The Fehmarnbelt thus benefits all of Denmark.

There will be two key land based transport corridors between Scandinavia and Germany, the western corridor over the border in Southern Jutland and the eastern corridor via the Fehmarnbelt.

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Framework for stronger Danish-German cooperation
With a new fixed link, the potential for German-Danish cooperation across the Fehmarnbelt will improve. Experience from the Southern Jutland-Schleswig area, where Denmark and Germany are already closely linked, offers a basis for inspiration.
New beach area at Puttgarden

The environment will benefit during construction and operation

The Fehmarnbelt tunnel will bring environmental benefits because it will enhance the railway as part of an overall European plan. The railway is a climate-friendly means of transport in respect of energy consumption, air pollution and CO₂ emissions.

During the construction of the link, negative environmental effects will be avoided as far as possible or kept to a minimum by imposing strict requirements on the contractors.

The success of the Great Belt and Øresund underlines the future potential

The number of journeys between East and West Denmark has increased fivefold since the Great Belt link opened in 1998. Major companies have restructured their production, storage and distribution because transport has become easier, cheaper and faster.

Traffic across Øresund has tripled since the opening of the fixed link. Commuters have acquired new opportunities for living or working on the other side – Swedes have found work in Copenhagen, Danes have settled in Sweden and new markets have opened up for companies.

User financed

The Fehmarnbelt link will be financed with loans guaranteed by the Danish state, which will keep interest expenses down. In the final analysis, the link will be paid for by the users of the tunnel and not by Danish tax payers. The same model has been used successfully for both the Storebælt and Øresund links.

New opportunities for culture and tourism

Increased accessibility will benefit tourism. The shorter travelling time means that day-trips, weekend breaks and holiday travel across borders will become more attractive. Six out of 10 foreign overnight stays in Denmark are currently accounted for by visitors from Germany, and more than half of the foreign tourists in Schleswig-Holstein are from Scandinavia.

The Fehmarnbelt tunnel will create new jobs

The construction of the Fehmarnbelt project will account for 55,000 man-years in total.

Altogether, the project will generate many thousands of new jobs – particularly in Denmark but also in Germany. And for every individual directly employed by the contractors for the tunnel construction, there will be another new employee at the companies that are sub-contractors for the project.

When the link opens, there will be around 300 permanent jobs for its operations and maintenance.

New opportunities for businesses

The fixed link will strengthen the areas between Hamburg and Copenhagen and create a growth axis with new opportunities for the areas between the two cities.

The Fehmarnbelt Region will offer great potential for growth within health, food products, IT, the media, logistics, green technology, materials research and tourism.

As part of the state-owned Sund & Bælt Holding, Femern A/S is tasked with planning and designing the fixed link across the Fehmarnbelt. Contracts can be signed and construction can get underway when Folketing, the Danish parliament, has adopted a Construction Act and all approvals in Germany are in place.

Sign up to our newsletter and follow the project at www.femern.com facebook.com/femern twitter.com/femernas

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