

**THERE IS SOMETHING ABOUT SAILING**



**PRESS KIT**

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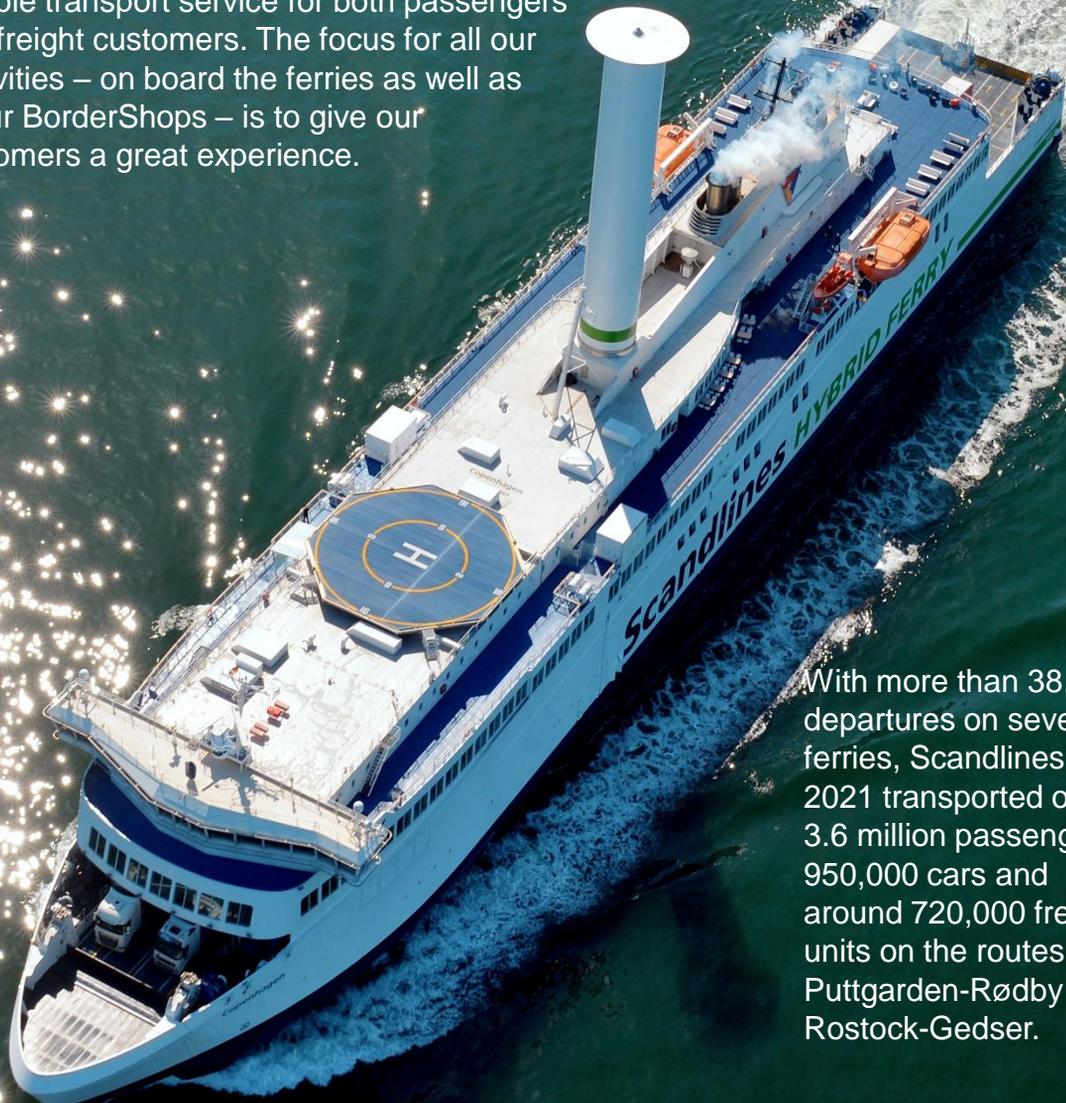


## Facts about Scandlines

Scandlines is a modern and innovative ferry operator with a green vision for the future. We have a proud culture based on a strong German-Danish cooperation and a maritime history dating back to 1872.

Scandlines operates two ferry routes with high capacity and frequency. Six of our ferries are hybrid ferries, and one is furthermore fitted with an innovative rotor sail – and that contributes to making our ferries greener.

Our core business is to provide an efficient and reliable transport service for both passengers and freight customers. The focus for all our activities – on board the ferries as well as in our BorderShops – is to give our customers a great experience.



With more than 38,000 departures on seven ferries, Scandlines in 2021 transported over 3.6 million passengers, 950,000 cars and around 720,000 freight units on the routes Puttgarden-Rødby and Rostock-Gedser.

## Facts about Scandlines



- **Two ferry routes between Denmark and Germany** with high frequency and capacity, providing an efficient and reliable transport service for **passengers and freight customers**



- **Catering and attractive shopping opportunities** on board the ferries



- Scandlines' **BorderShops in Puttgarden and in Rostock** with a huge range of different kinds of beers, soft drinks, sweets, wine and spirits



- **The world's largest hybrid fleet** and Scandlines' green agenda **Zero Emission:** zero emission ferries within a few years

## Route map



### Puttgarden-Rødby

The route is operated by four hybrid ferries: M/V Prinsesse Benedikte, M/V Prins Richard, M/V Deutschland and M/V Schleswig-Holstein. The crossing of the 18.5 km takes 45 minutes with departures every 30 minutes, 24/7 throughout the whole year – that means 35,000 departures a year.

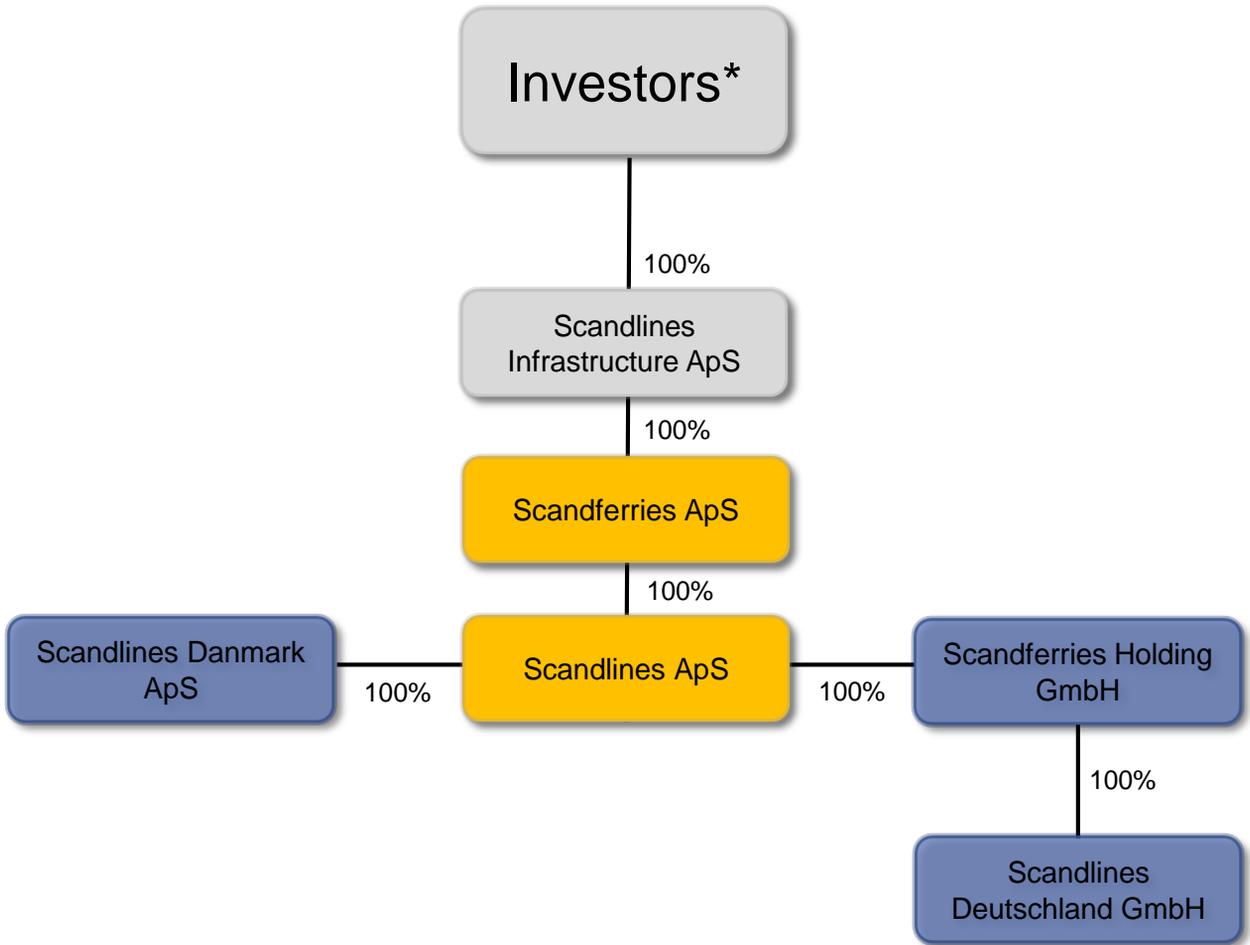
The cargo ferry M/V Kronprins Frederik transports freight and classified goods on this route.



### Rostock-Gedser

Two of the world's largest hybrid ferries operate this route: M/V Berlin and M/V Copenhagen. There are departures every two hours. During the day the crossing takes 1 hour and 45 minutes, the crossing time for the night departures is 2 hours. M/V Berlin and M/V Copenhagen have been operating on this route since 2016 and are Scandlines new hybrid ferries with double capacity compared to our previous ferries.

## Legal structure (simplified)



*Legal structure – simplified overview*

\*) Since 2018, Scandlines has been owned by a consortium consisting of First Sentier Investors, Hermes Investment Management and 3i.



**Carsten Nørland  
(CEO)**



**Per Johannesen  
Madsen (CFO)**



**Michael Guldmann  
Petersen (COO)**



**Gerald Lefold  
Managing director**



**Heiko Kähler  
Managing director**

## Key figures 2019

<b>Revenue</b>	475 MEUR
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<b>EBIT</b>	142 MEUR
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<b>EBITDA rec.</b>	188 MEUR
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<b>Investments</b>	22 MEUR
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<b>Employees</b>	approx. 1,500
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<b>Owned ports</b>	3
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<b>BorderShops</b>	2
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<b>Easymarked</b>	1
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## Milestones in Scandlines' history

**1903**

Bilateral co-operation between Denmark and Germany starts with the first rail ferry link between Warnemünde and Gedser.

**1957**

The first car ferry link over the Great Belt opens.



**1963**

The "beeline" between Puttgarden and Rødby opens.

**2013**

50th years anniversary of the "beeline" Puttgarden-Rødby.  
3i becomes sole owner of Scandlines ApS.

**1993**

Merger of ferry services of the two German rail companies into "Deutsche Fährgesellschaft Ostsee GmbH" (DFO).

**2014**

All passenger ferries on Puttgarden-Rødby are now hybrid ferries.

**1997**

DSB Rederi A/S changes its name to Scandlines Danmark A/S.

**2015**

The route Helsingør-Helsingborg is sold to First State Investments.

**1998**

Scandlines AG is founded through the merger of DFO and Scandlines Danmark A/S.

**2016**

Two new hybrid ferries on Rostock-Gedser.

**2007**

Scandlines is sold to Allianz Capital Partners (ACP), 3i Capital Group (3i) and Deutsche Seereederei (DSR).

**2018**

Scandlines is sold to a consortium consisting of First Sentier Investors, Hermes Investment Management and 3i.

**2012**

Baltic freight routes are sold to Stena Line and Swedish Orient Line.

**2020**

The hybrid ferry M/V Copenhagen is equipped with a rotor sail.



## Scandlines and the UN Sustainability Goals

Scandlines has a vision – **green** ferry operation.

Along with this vision, we support the United Nations' Sustainable Development Goals (SDGs) in five areas for a better and more sustainable future.



### 3 GOOD HEALTH AND WELL-BEING



*We commit to being a positive and inclusive workplace with a holistic approach to health and safety that extends to all employees, customers, contractors and visitors.*

### 12 RESPONSIBLE CONSUMPTION AND PRODUCTION



*We commit to integrating sustainability into our purchasing decisions, reducing waste and improving our waste recycling.*

### 13 CLIMATE ACTION



*We commit to protect the climate by building a resilient and sustainable infrastructure throughout the business.*

### 14 LIFE BELOW WATER



*We commit to being Stewards for the sustainable use of the Baltic Sea and the integrity of all marine biodiversity.*

### 15 LIFE ON LAND



*We commit to protect, restore and promote sustainable use of terrestrial ecosystems. We will do so by the renaturalization of land and soil and supporting biodiversity in the regions we operate.*

## Our green agenda – from hybrid...



Since 2011, Zero Emission has been an essential part of Scandlines' corporate strategy. Our goal: Zero Emission ferries, solely driven by batteries, within a few years.

The conversion of our ferries to hybrid technology in 2013 and 2014 is only the first step into this direction.

Today, six out of our in all eight ferries are hybrid ferries. Thus, Scandlines owns and operates the world's largest hybrid fleet. But things don't stop here. Moreover, Scandlines owns two of the world's largest hybrid ferries, M/V Berlin and M/V Copenhagen, which operate the route Rostock-Gedser.

Scandlines is a pioneer in terms of green ferry operation.

**Conventional ferry operation is the past, hybrid is the present, Zero Emission ferries are the future.**

For a number of years, Scandlines has cooperated with NABU, the German Nature And Biodiversity Conservation Union (Naturschutzbund Deutschland e.V.).

The cooperation has resulted in a continuous development of the green initiatives of the shipping company. Among other things, NABU has advised Scandlines regarding the transition from traditional diesel propulsion to hybrid propulsion. The goal for both parties: Zero Emission ferries within a few years.



Scandlines is a member of the Public Private Partnership for innovation and demonstration of technologies and methods that make shipping more environmentally friendly.

### Hybrid ferries on Puttgarden-Rødby

As the first step in our Zero Emission strategy, Scandlines introduced the groundbreaking hybrid system on M/V Prinsesse Benedikte operating on Puttgarden-Rødby. In 2014, the remaining three passenger ferries on this route were converted to hybrid service.



Scandlines' hybrid system combines traditional diesel power with electric battery power. As the first shipping company in the world, we are able to make large-scale use of an on-board hybrid propulsion system which stores energy in battery banks.

The hybrid system optimizes the engine's operation performance, ensuring maximum fuel efficiency. As a result, the ferry's CO<sub>2</sub> emissions are reduced by up to 15%, corresponding to approx. 15,000 t p.a.

Since the opening of the "beeline" in 1963, Scandlines has improved its concept for traffic machines to perfection: two crossings per hour in each direction, 24 hours per day, 365 days a year – that means 35,000 departures every year. The crossing of the 18.5 km route takes only 45 minutes and disembarking and embarking is handled within 15 minutes. The "beeline" is the fastest and most efficient route from Scandinavia to the European mainland – and very soon, it can also become the most eco-friendly.



## How does the hybrid system work?



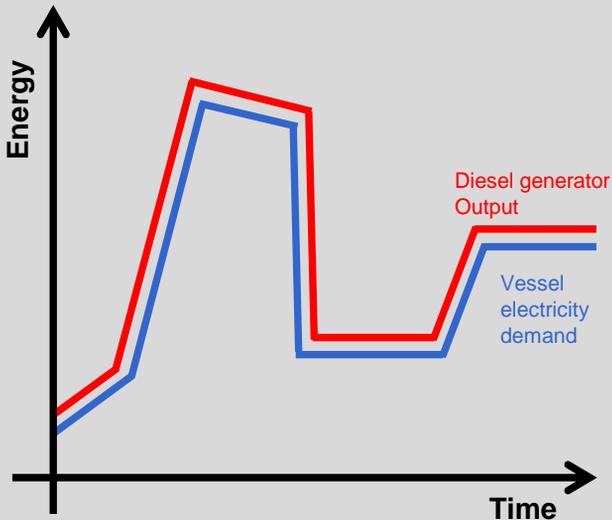
*"The hybrid propulsion system is the key to our green agenda. We are the proud owners of the world's largest hybrid ferry fleet. With our knowledge and expertise we are on target to reach our goal – Zero Emission."*

**Søren Poulsen Jensen,**  
CEO Scandlines



### Conventional diesel electric ferries

Electricity supply and demand varies

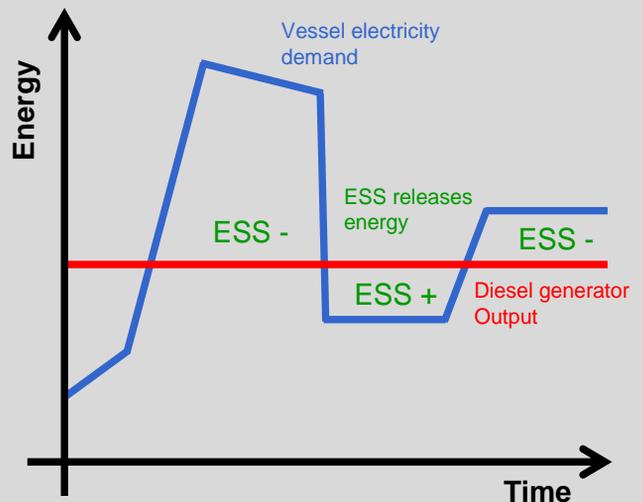


Vessels run with 1-3 diesel generators\* at 40-55% load at sea on average and 8-9% load in ports.

\*) A diesel generator is a so called **GenSet**, a combination of a diesel engine and a power generator

### Scandlines hybrid ferry

Constant electricity supply at varying demand through ESS (Energy Storage System)\*\* buffer



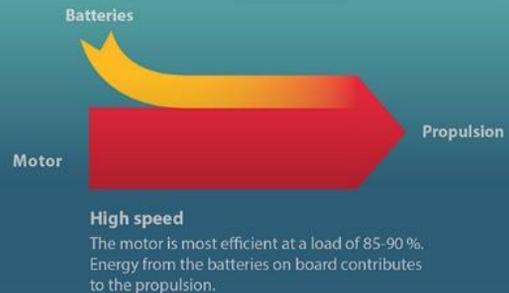
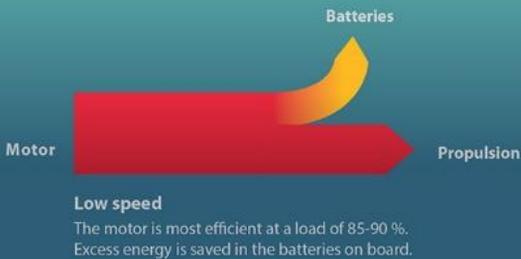
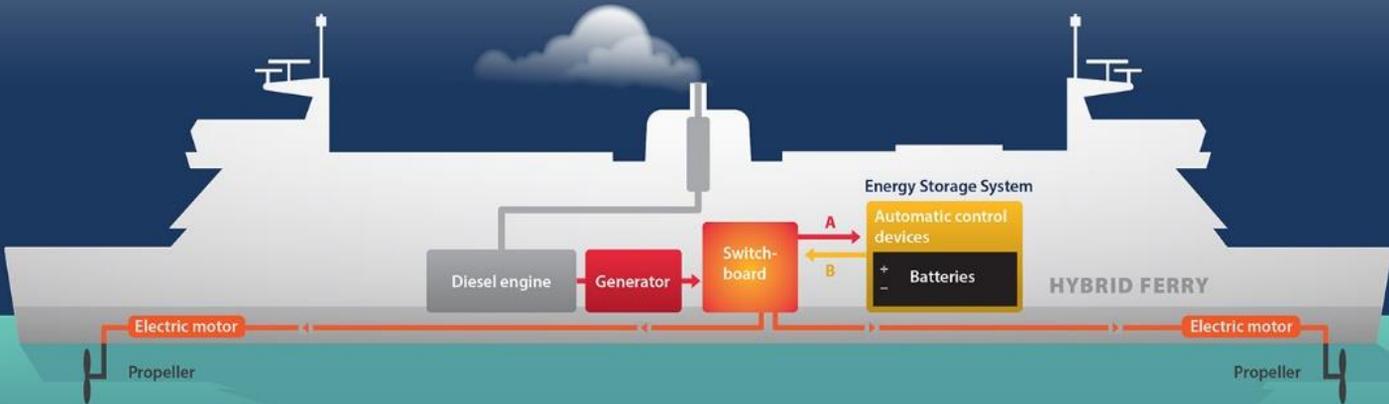
Scandlines' hybrid ferries run with 1 diesel generator at 85-90% load at sea and in ports. Optimal engine efficiency at load factor >85%.

\*\*) An **ESS** consists of a battery bank and a control system

# How does the hybrid system work?



- A** The generator produces energy to the Energy Storage System via the switchboard.
- B** The Energy Storage System supplies energy to the switchboard.



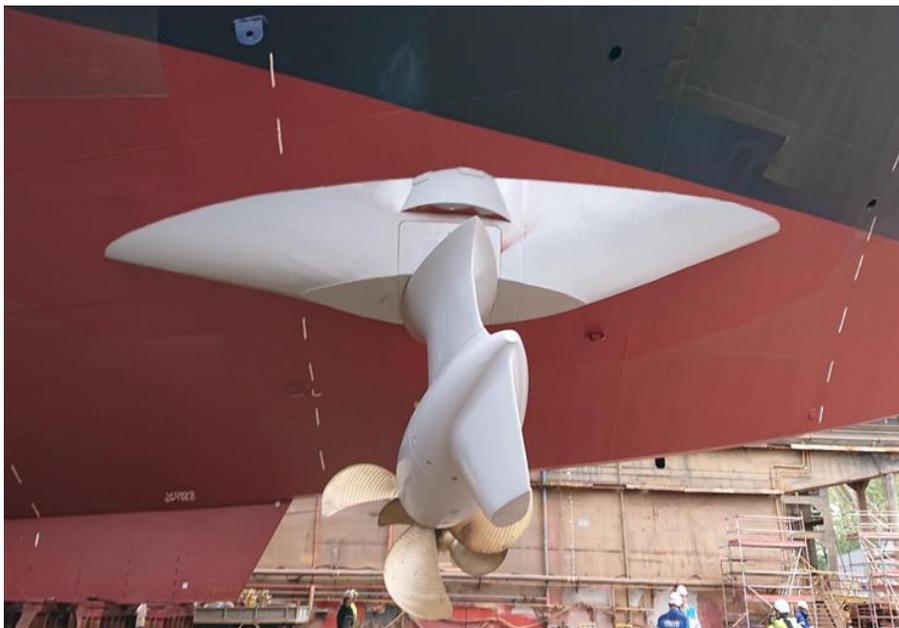
In normal service, only two or three of the ferry's originally five diesel engines are working, at a load of 40-55% offshore and of 8-10% when the ferry is in the port. Nevertheless, the engines work most efficiently at a load of 85-90%. By replacing one of the five diesel engines with a battery of 1.6 MWh, corresponding to approx. 182 Toyota Prius hybrid cars, and using this battery simultaneously with the diesel engines, the engines are working at the optimum level of load which is 85-90%.

As the first shipping company in the world, Scandlines was in 2013 able to make large-scale use of a hybrid propulsion system which stores energy in batteries on-board. Scandlines' hybrid system combines traditional diesel power with electric battery power. When the engine needs more energy than the diesel generator can supply, it uses the batteries' energy – and when there is less need for energy, excess energy is saved in the batteries.

## New thrusters on Puttgarden-Rødby

Another step towards our zero emission strategy is the exchange of all thrusters – the ships’ propulsion systems – on Scandlines’ four hybrid ferries on the route between Puttgarden (Germany) and Rødby (Denmark). The new thrusters allow a homogenous water flow, which gives less noise and vibration. The exchange lessens the environmental impact significantly. Reduced underwater noise and less vibration can improve the conditions for the marine life in the Fehmarn Belt area – among these the harbour porpoises. Furthermore, easier water flow during propulsion ultimately reduces emissions, including CO<sub>2</sub>.

The total investment in the new thrusters is more than 13 million EUR.



### Project status

M/V Schleswig-Holstein  
New thrusters Q4 2019

M/V Deutschland  
New thrusters Q1 2020

M/V Prins Richard  
New thrusters 2021

M/V Prinsesse  
Benedikte  
New thrusters 2021



### High tech pull thrusters instead of push thrusters

All 4 vessels have 4 thrusters each that create propulsion and steer the vessel.

On the former push thrusters, the propeller was at the back, so the water needed to pass the thruster before it reached the actual propeller.

We exchange these with high tech pull thrusters, where the propeller is at the front of the thruster, thus allowing a more homogeneous flow through the water.



## Hybrid ferries on Rostock-Gedser

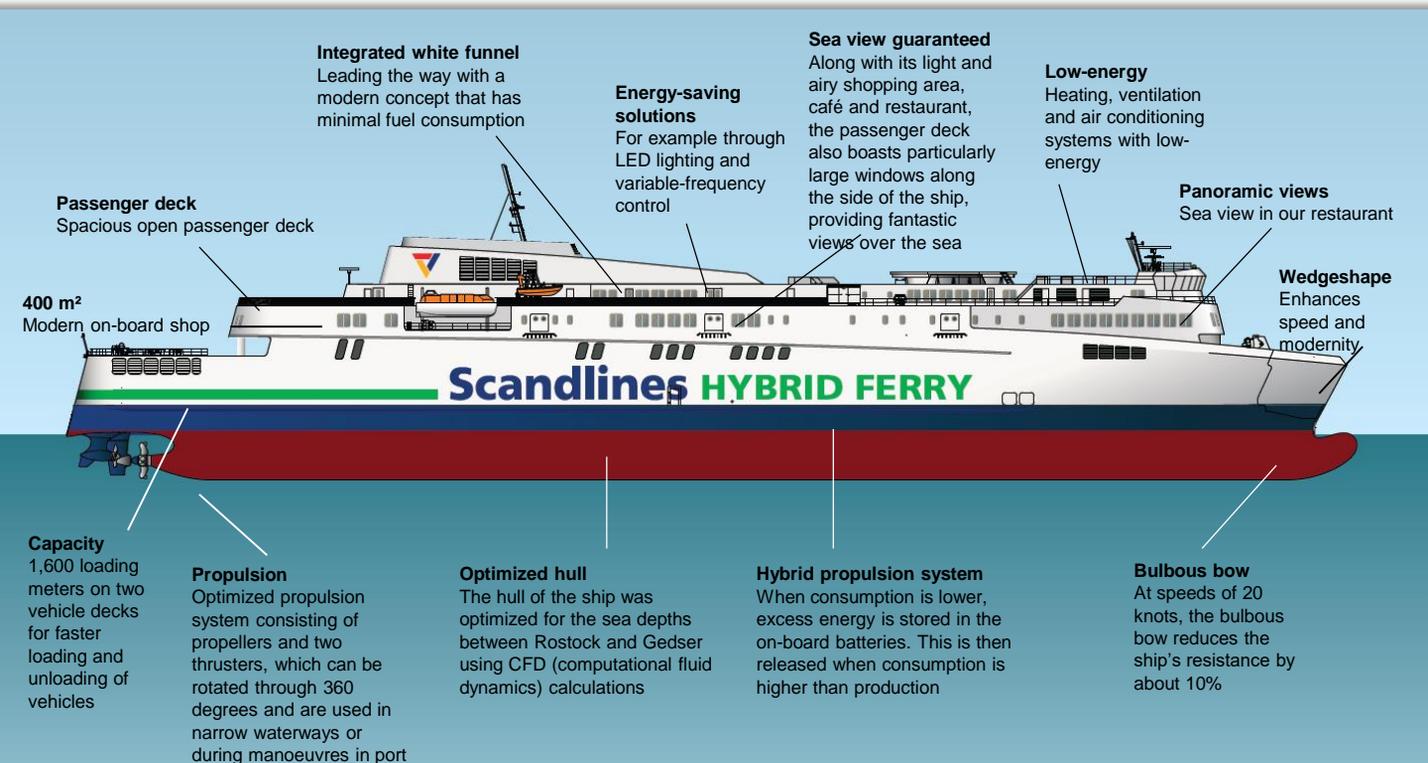
In 2016, we introduced two modern hybrid ferries on the route Rostock-Gedser.

With the deployment of M/V Berlin and M/V Copenhagen, we are able to strengthen our route further by doubling the capacity compared to our previous ferries on this route.



### Facts about the hybrid ferries M/V Berlin & M/V Copenhagen

- Length: 169.5 m, breadth: 25.4 m, service speed: 21 kn
- 1,300 passengers, 460 cars or 96 lorries
- Cost per vessel: 140 mio. EUR
- Innovative and award-winning hybridsystem installed
- Compared to our previous ferries, the fuel consumption can be reduced by 2/3 per trip per car

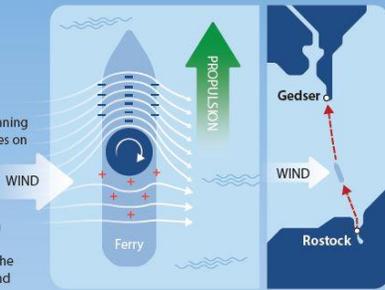


## Rotor sail on M/V Copenhagen

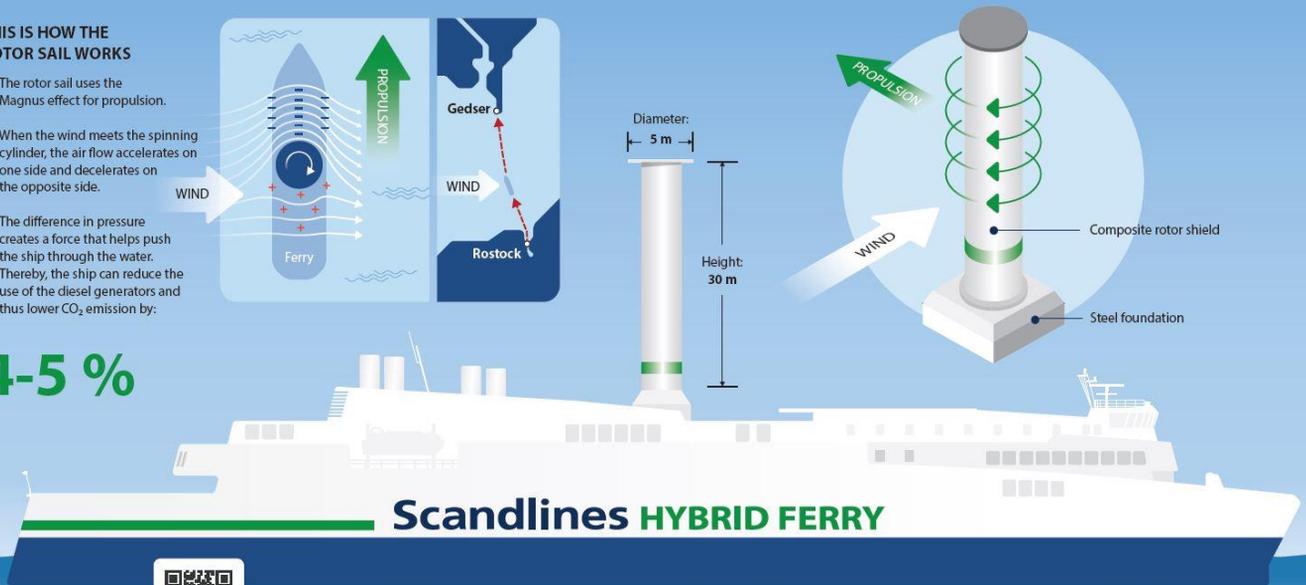
### A ROTOR SAIL WIND POWERS SCANDLINES

#### THIS IS HOW THE ROTOR SAIL WORKS

- 1 The rotor sail uses the Magnus effect for propulsion.
- 2 When the wind meets the spinning cylinder, the air flow accelerates on one side and decelerates on the opposite side.
- 3 The difference in pressure creates a force that helps push the ship through the water. Thereby, the ship can reduce the use of the diesel generators and thus lower CO<sub>2</sub> emission by:



**4-5 %**



Scan the QR-code to read about the Magnus effect:



**Scandlines**



Since 2013, Scandlines has invested more than EUR 300 million in building and retrofitting ferries from conventional diesel-driven ferries to hybrid ferries. With the addition of the rotor sail – a wind power propulsion technology developed by Norsepower Oy Ltd – the vessel further reduces its emissions.

#### Facts about rotor sail

- The rotor sail is a modernised version of the Flettner rotor – a tall cylinder, rotating around its own vertical axis driven by an electric motor. The technology is based on the Magnus effect: a pressure difference which creates a lift force that is perpendicular to the wind flow direction. The longitudinal component of this force helps to push the ship through the water, thereby reducing the use of the diesel motors.
- The technology has the optimum effect when it is windy and the wind comes from the side. The route between Rostock to the south and Gedser to the north is almost perpendicular to the prevailing wind from the west, giving Scandlines favourable conditions for using rotor sails on the crossing.
- Simulations of the current traffic pattern of the ferries and of the wind conditions indicate a reduction of the CO<sub>2</sub> emissions of 4 to 5 per cent.
- M/V Copenhagen was prepared for a rotor sail in autumn 2019. The actual rotor sail was installed in May 2020.

## From hybrid towards Zero Emission

Today

Current focus

In a few years

Hybrid ferries

Reduction of energy consumption per trip and Plug-in

Zero Emission ferries



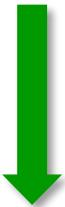
Diesel generator Battery bank



Diesel generator Battery bank



Charging in harbour 3-4 battery banks



Charging in harbour



- 1 ESS\* on board
- Traditional diesel power combined with electric battery power
- Constant electricity supply at varying demand through ESS\* buffer
- Protection of the environment by avoiding partial load and idling

\*) An ESS consists of a battery bank and a control system

- Investment in efficiency to lower electrical demand per crossing
- Establish technical partnership
- Secure sufficient power grid to harbours

- 3-4 ESS\* on board
- Yet another diesel generator will be removed
- The ESS\* are recharged by charging stations that are situated ashore

### Puttgarden-Rødby:

The whole route is covered by 100% battery power

### Rostock-Gedser:

Compared to Puttgarden-Rødby, the journey on Rostock-Gedser is longer and therefore results in an increased energy consumption. Hence, in order to sail entirely emission free between Gedser and Rostock new technology is required. A possible solution could be a hybrid ferry combining hydrogen and battery power.



### From hybrid towards Zero Emission

#### Our goal: Zero Emission ferries on Puttgarden-Rødby

We take one nautical mile at a time and invest responsibly in tomorrow's technology leading towards a greener future. Our skilled engineers have gained extensive experiences with our green solutions in recent years. By converting our six passenger ferries to hybrid ferries, we have successfully completed the first step of our green strategy. Now, we are heading towards our goal: Zero Emission ferries within a few years.

Our current focus is on reducing the energy consumption per crossing as much as possible. With 35,000 annual departures only on Puttgarden-Rødby, we can achieve big energy savings through even small adjustments. At the same time, we are working on ensuring sufficient power supply in the ports.

In other words, we prepare our ferries step by step to 100% battery operation within a few years.

**Past**  
Diesel/electric



**Present**  
Diesel/battery/  
electric hybrid



**Future**  
Zero emission  
- 100% battery  
- Hydrogen/battery  
hybrid



## The world's largest hybrid fleet

### M/V Berlin



Route	Rostock-Gedser
Type	RoPax
Construction year	2016
Gross tonnage	22,319
Shipbuilder	FAYARD A/S, Denmark
Port of registry	Rostock
Flag	German
Engines	4 pc. MaK, type 9M32CCR 1 pc. MAN
Energy Storage System	1 pc. Siemens 1,500 kWh
Scrubber	SOx closed-loop scrubber 4 x 4,500 kW
KW	19,500
Length	169.5 m
Breadth incl. fender	25.4 m
Service speed	21 kn
Capacity	460 cars or 96 freight units
Passenger capacity	1,300

### M/V Copenhagen



Route	Rostock-Gedser
Type	RoPax
Construction year	2016
Gross tonnage	22,319
Shipbuilder	FAYARD A/S, Denmark
Port of registry	Gedser
Flag	Danish
Engines	4 pc. MaK, type 9M32CCR 1 pc. MAN
Energy Storage System	1 pc. Siemens 1,500 kWh
Scrubber	SOx closed-loop scrubber 4 x 4,500 kW
Rotor sail	30 x 5 m (hxd)
KW	19,500
Length	169.5 m
Breadth incl. fender	25.4 m
Service speed	21 kn
Capacity	460 cars or 96 freight units
Passenger capacity	1,300

### M/V Prinsesse Benedikte

Route	Puttgarden-Rødby
Type	RoPax
Construction year	1997 / 2003
Gross tonnage	14,822
Shipbuilder	Ørskov Staalskibsværft, Denmark
Port of registry	Rødby
Flag	Danish
Engines	2 pc. MaK, type 8M32 1 pc. MAN, type 8L32/44CR 1 pc. MAN, type 6L32/44CR
Energy Storage System	1 pc. Siemens 1,600 kWh
Scrubber	SOx closed-loop scrubber 1 x 4,500 kW
KW	17,440
Length	142 m
Breadth incl. fender	25.4 m
Service speed	18.5 kn
Capacity	364 cars or 60 freight units
Passenger capacity	1,140



### M/V Prins Richard

Route	Puttgarden-Rødby
Type	RoPax
Construction year	1997 / 2003
Gross tonnage	14,822
Shipbuilder	Ørskov Staalskibsværft, Denmark
Port of registry	Rødby
Flag	Danish
Engines	3 pc. MaK, Type 8M32 1 pc. MaK, Type 9M32CCR
Energy Storage System	1 pc. Siemens 1,600 kWh
Scrubber	SOx closed-loop scrubber 1 x 4,500 kW
KW	17,440
Length	142 m
Breadth incl. fender	25.4 m
Service speed	18.5 kn
Capacity	364 cars or 60 freight units
Passenger capacity	1,140



### M/V Deutschland



Route	Puttgarden-Rødby
Type	RoPax
Construction year	1997 / 2003
Gross tonnage	15,187
Shipbuilder	Van der Giessen de Noord, The Netherlands
Port of registry	Puttgarden
Flag	German
Engines	2 pc. MaK, type 8M32 1 pc. MaK, type 9M32CCR 1 pc. MaK, type 6M32
Energy Storage System	1 pc. Siemens 1,600 kWh
Scrubber	SOx closed-loop scrubber Capacity 1 x 4,500 kW
KW	15,840
Length	142 m
Breadth incl. fender	25.4 m
Service speed	18.5 kn
Capacity	364 cars or 60 freight units
Passenger capacity	1,200

### M/V Schleswig-Holstein



Route	Puttgarden-Rødby
Type	RoPax
Construction year	1997 / 2003
Gross tonnage	15,187
Shipbuilder	Van der Giessen de Noord, The Netherlands
Port of registry	Puttgarden
Flag	German
Engines	1 pc. MaK, type 9M32E 2 pc. MaK, type 8M32 1 pc. MaK, type 6M32
Energy Storage System	1 pc. Siemens 2,600 kWh
Scrubber	SOx closed-loop scrubber Capacity 1 x 3,500 kW
KW	15,840
Length	142 m
Breadth incl. fender	25.4 m
Service speed	18.5 kn
Capacity	364 cars or 60 freight units
Passenger capacity	1,200



Besides our six hybrid ferries, Scandlines also owns the cargo ferry, M/V Kronprins Frederik for transport of freight units and classified goods on the route Rødby-Puttgarden with the. By doing so, we can increase the capacity on our hybrid ferries for the benefit of our car- and freight customers. The ferry also functions as replacement ferry on the Rostock-Gedser Route.

## M/V Kronprins Frederik

Route	Puttgarden-Rødby
Type	RoPax
Construction year	1981 / 1998 / 2004
Gross tonnage	16,071
Shipbuilder	Nakskov Shipyard, Denmark
Port of registry	Rostock
Flag	German
Engines	4 pc. MaK, type 8M32C 2 pc. MaK, type 6M32C
KW	22,000
Length	152 m
Breadth incl. fender	23.7 m
Service speed	21 kn
Capacity	40 freight units
Passenger capacity	133



## Scandlines' ports

Scandlines owns the port areas in Rødby, Gedser and Puttgarden. In Rostock port, Scandlines uses the local facilities. One of Scandlines' BorderShops is situated in Rostock as well – the other one is in Puttgarden.

### Rødby Port



Buildings	60
Under roof (m <sup>2</sup> )	10,922
Land (m <sup>2</sup> )	421,990
Ferry berths	4

### Gedser Port



Buildings	38
Under roof (m <sup>2</sup> )	8,077
Land (m <sup>2</sup> )	134,481
Ferry berths	3

### Puttgarden Port



Buildings	27
Under roof (m <sup>2</sup> )	28,380
Land (m <sup>2</sup> )	401,705
Ferry berths	4
BorderShops	1

*Puttgarden Port is one of the most important ferry ports in Germany with 6 million passengers every year.*

## Catering, shopping & SMILE

Our customers always have our full focus. Coffee bars, a variety of restaurants and excellent shopping possibilities on-board and in our BorderShops as well as our customer benefit program SMILE make sure that our customers enjoy their stay .

### Catering

Most of Scandlines' passengers benefit from the crossing to enjoy a meal or a cup of coffee. We offer coffee bars with high quality coffee, cafeterias with homemade specialities and on-board restaurants with a panoramic view and a delicious buffet.



### Shopping

In our on-board shops on the ferries, we offer more than 4,000 different high quality products – from Danish design classics to cosmetics, sweets and spirits.



### SMILE

SMILE is Scandlines' customer benefit program which features the best offers for its members. In addition, SMILE members can collect and use points when they buy their ferry ticket online and when they shop on-board and in our BorderShops.

SMILE has more than 700,000 members.



## BorderShops

Scandlines owns and runs BorderShops in the ports of Puttgarden and Rostock. The two BorderShops have a unique “taste, look and feel“-environment. It means that customers not only have the opportunity to look and feel our products. They can also taste them - every day, there are lots of tastings in Scandlines' BorderShops. In addition, BorderShop in Puttgarden holds special events such as Whisky&Rom Festival with tastings of exclusive brands, music and fun. Customer service is a high priority. Therefore, our customers have the possibility to pre-order their goods online and pick them up done and dusted in BorderShop. We also offer cheaper ferry tickets especially for cross-border shopping in Germany.

### BorderShop Puttgarden



BorderShop Puttgarden opened in 2001. Due to its more than 6,000 m<sup>2</sup> sales area and over 1,000,000 customers per year, it is one of the world's largest cross-border shops – and at the same time the only floating one in the world. Here you will find a huge range of different kinds of beers, soft drinks, sweets, wine and whisky. There are more than 600 different kinds of whisky in the store, among others in the new exquisite whisky lounge.

Within the wine selection, you will find more than 900 different varieties to choose from and competent wine experts help the customers with everything concerning the world of wine.

Beside the professional guidance, it is also possible to taste many of the wines before purchasing.

### BorderShop Rostock



Easily accessible and centrally located, BorderShop Rostock also offers a wide range of international and regional high quality products which are very popular, especially among Scandinavians. Scandlines' BorderShop in Rostock has existed since 2008.



The triangle in the logo symbolizes Scandlines' three primary markets. Red is for Denmark, yellow for Germany and blue symbolizes Sweden.



THERE IS SOMETHING ABOUT SAILING

 Scandlines



**Press contact**

Anette Ustrup Svendsen  
Head of Corporate Communications  
@anette.ustrup.svendsen@scandlines.com

+45 26 777 000

<https://twitter.com/UstrupSvendsen>

<https://www.scandlines.com/about-scandlines/press>