

Hamburg Express Class

A CLEANER FUTURE FOR SHIPPING





DEAR READERS,

A new era is beginning at Hapag-Lloyd: The “Berlin Express” is the first vessel in our new Hamburg Express class to enter service. It is the first of twelve large container vessels that will make our fleet even more efficient and sustainable.

With a cargo capacity of 23,660 TEU each, the Hamburg Express vessels will ensure the global exchange of goods, while at the same time representing innovation, digital technology and sustainability.

Our aim is to operate our entire fleet on a climate-neutral basis by 2045. The “Berlin Express” will help us to achieve this aim as the new vessel class it belongs to, can sail using the non-fossil fuels of the future. Thanks to its dual fuel technology the ship could also run on biomethane and e-methane.

The new large container vessels will initially continue to operate with LNG (liquefied natural gas). As such, they are already playing a part in reducing emissions. LNG is cleaner than conventional fuels and produces fewer emissions. It is an important transitional solution on the path to climate-friendly shipping.

Thanks to its innovative technology, this state-of-the-art vessel class also enables us to make great progress as regards automation and digitalisation on board.

Our highly qualified, international crews will ensure that the goods entrusted to us reach their destination safely and reliably. With our highest quality standards, we can guarantee the satisfaction of our global customer base.

Furthermore, all vessels in our Hamburg Express class will sail under the German flag. That’s because we remain true to our German roots and to our birthplace and headquarters in Hamburg.

We look forward to having the “Berlin Express” and her sister vessels in our fleet.

Kind regards,

Rolf Habben Jansen
Chief Executive Officer of Hapag-Lloyd AG

- Berlin Express (2023)
- Manila Express (2023)
- Hanoi Express (2023)
- Busan Express (2024)

- Singapore Express (2024)
- Damietta Express (2024)
- Hamburg Express (2024)
- Gdansk Express (2024)

- Bangkok Express (2024)
- Rotterdam Express (2025)
- Genova Express (2025)
- Wilhelmshaven Express (2025)

ON THE PATH TO CLIMATE NEUTRALITY.

Immediate effect of LNG in comparison to diesel:

Future non-fossil fuels, such as synthetic gas or e-methane in comparison to diesel:

~ 15–25%
fewer CO₂ emissions

approx. 0%
CO₂ emissions

approx. 95%
less sulphur dioxide

approx. 95%
less carbon black



FE3 SERVICE

All of the newbuilds in the Hamburg Express class will be used on the cargo-intensive Far East route between Asia and Europe.

The “Berlin Express” travels regularly on the FE3 service between Ningbo - Xiamen - Kaohsiung - Yantian - Hong Kong - Singapore - Rotterdam and Hamburg.



NAVIGATION AND ROUTE PLANNING SYSTEM

The system is a virtually integrated solution for all aspects of route planning, optimisation and monitoring. It enables route planning (from port to port), optimises the route using weather data and artificial intelligence, downloads the navigation data and fine-tunes the route as regards waypoints and stages, with the captain maintaining complete control over planning.



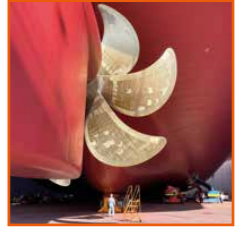
FREE WIFI ON BOARD / STARLINK ANTENNA

Starlink, a satellite internet access technology launched by SpaceX, provides the crew with additional bandwidth of up to 250 Mbit/s, making video calls and streaming services possible at sea.



FIRE-FIGHTING SYSTEM

With an output of 250 m³ per hour and a range of 110 metres, the fire hydrants prevent a fire from spreading on the upper deck. To enable effective fire-fighting below deck, the hatch covers are fitted with a built-in fire-extinguishing nozzle system.

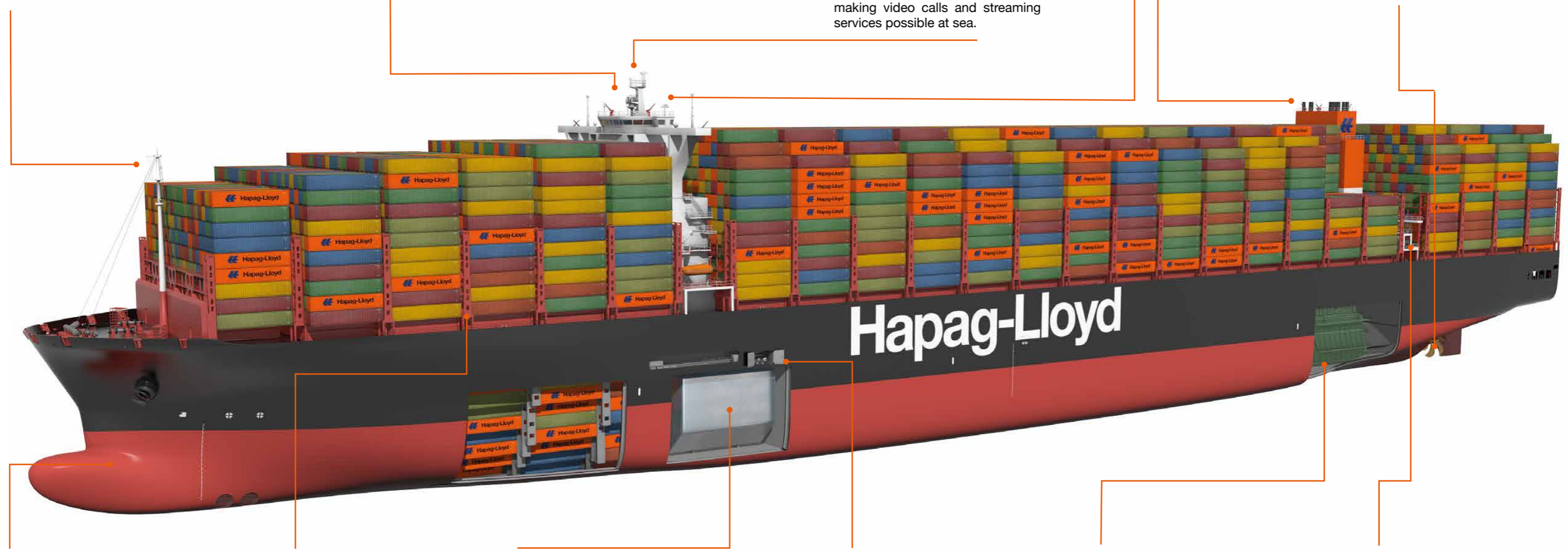


HIGHLY EFFICIENT PROPELLERS

Highly efficient propellers manufactured in Germany will help cut fuel consumption and greenhouse gas emissions.

ULTRA-LARGE VESSEL

The capacity increase of 20% compared with the A18 class leads to greater energy efficiency and therefore lower energy consumption per container.



OPTIMISED HULL

Hull including bulbous bow, propeller and rudder are optimised to the specific deployment profile. This cuts emissions by around 3%.

CUSTOMISED LASHING AND LOADING SYSTEM

A lashing and loading system has been customised for the Hamburg Express class. It offers greater flexibility and therefore greater efficiency in container stowage. Containers of different heights can be secured better and the stack weight can be optimised.

LNG TANK

Due to the lower density of LNG, the tanks are roughly twice as big as heavy-oil tanks. The use of LNG reduces CO₂ by 20%.

GAS BUNKER STATION

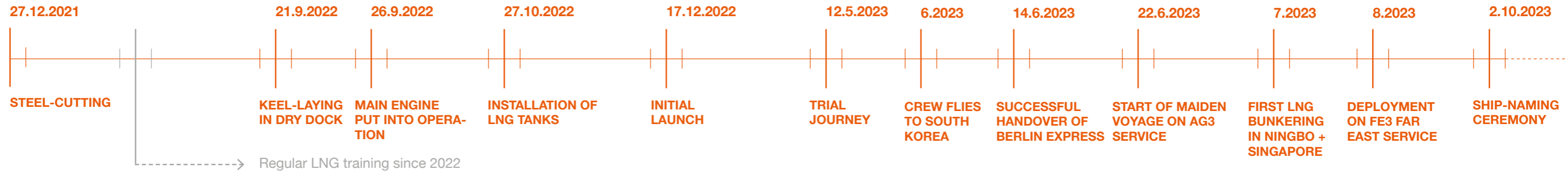
The liquefied gas is bunkered at -160 degrees celsius. The entire procedure involves cleaning and cooling the pipelines as well as numerous safety checks. Bunkering usually takes around 24 hours, and is therefore completed while the vessel is docked in port.

ENGINE ROOM

The MAN B&W11G95ME-C10.5-GI dual fuel main engine can be operated using both very low sulphur fuel oil (VLSFO) and LNG, as can the auxiliary engines and boilers. One full tank of LNG is sufficient for a complete Europe-Asia-Europe round trip. Future-proof: the engine can also run on non-fossil fuels, such as synthetic gas.

ONSHORE POWER CONNECTION TO REDUCE EMISSIONS

All vessels in the Hamburg Express class can connect to an environmentally friendly power supply onshore – the auxiliary diesel engines on board can be shut down in port. The connection points are located on both sides of the vessel.



**THE JOURNEY TO BECOMING A VESSEL
– TWELVE MILESTONES ALONG THE WAY**

27.12.2021 The first piece of steel for the new-build is cut at the Hanwha Ocean shipyard (formerly Daewoo Ship Building & Marine Engineering Co., Ltd.).

21.9.2022 The actual construction phase for the newbuild begins with the keel-laying in the dry dock.

SINCE 2022 Regular LNG training for the crew in Hamburg. The programme “Fit for LNG” was specially developed for Hapag-Lloyd seafaring staff. Between 2022 and 2024, all European seafaring staff will be able to obtain the “gas certificate” in a week-long training course in Hamburg which qualifies them to work with LNG in vessel operations. All employees outside Europe will be trained by external partners.

26.9.2022 The main engine is put into operation.

27.10.2022 The LNG tank is installed on the vessel.

17.12.2022 The “Berlin Express” takes to the water for the first time. The launch of the “Berlin Express” took place at South Korea’s biggest floating dock (L x B x D: 438 m x 85.6 m X 8.73 m).

12.5.2023 The “Berlin Express” leaves the shipyard for the first time on a trial journey and its manoeuvrability is tested. Experts from the shipyard, the classification society and the shipping company perform numerous stress tests. All of the suppliers are on board to ensure that the systems work and the vessel is ready for deployment.

JUNE 2023 The first crew is flown to South Korea and comes aboard.

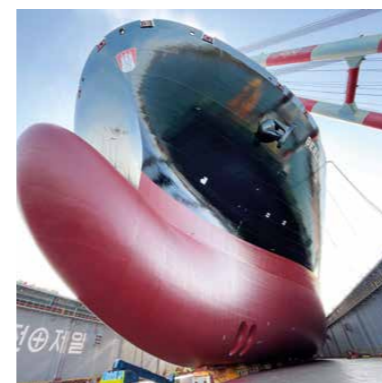
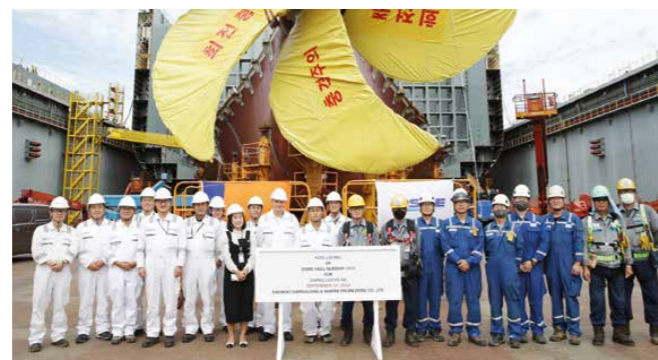
14.6.2023 On 14 June 2023 at 2 p.m. Korean local time, the “Berlin Express” is successfully handed over by the Hanwha Ocean shipyard to Hapag-Lloyd AG.

JULY 2023 First LNG bunkering in normal vessel operations in Ningbo and Singapore.

22.06.2023 Start of the maiden voyage on the AG3 service to the United Arab Emirates.

AUGUST 2023 The vessel switches to its regular service (FE3).

2.10.2023 Naming ceremony for the “Berlin Express”. The patron is Germany’s “First Lady”, Elke Bűdenbender.



**THE NEW HAMBURG EXPRESS
CLASS: BERLIN EXPRESS**

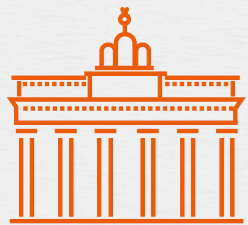
The Berlin Express is 399 metres long and 61 metres wide.

BY COMPARISON:
The Berlin TV Tower is

368 m high,

the Brandenburg Gate

62.5 m wide.



Max. height	76 m
Side height/ keel-main deck	33.2 m
Draught	16.3 m
Tonnage	224,995 t
Container capacity	23,664 TEU
Reefer slots	1,500 TEU
Max. speed	22 kn
Shipyard	Hanwha Ocean, South Korea

Propellers	
Diameter	10.3 m
Blades	6
Weight	102 t
Rudder blade	115 m ²
Empty weight of vessel	66,850 t
Size of LNG tank	18,650 m ³
Max. generator output	18.5 megawatts

BY COMPARISON:
According to the internet, a 4-person single family house consumes an average of 4,000 kWh of electricity per year.

18.5 MW

can supply 40,515 households, 365 days a year.



Steel anchor	2
(each 6.2 m long and around 4.2 m wide, 24,750 kg)	
Anchor chains	2
each 385 metres long	

FACTS ABOUT THE MAIN ENGINE

The Hyundai-MAN 11G95ME-C10.5-GI x 1-set main engine powers the propeller via the propeller shaft with 58,270 kilowatts.

BY COMPARISON:
A VW Golf has an output of around

75 kw 

OTHER FACTS ABOUT THE MAIN ENGINE:

Cylinder	11
Piston diameter	0.95 metres
Piston stroke	3.46 metres

LNG

LNG is a gas that changes into liquid form at temperatures below -162 °C and is therefore ideal for transport and storage. In order to use it, it is heated up and thus turned back into a gas.

FRESH WATER

The fresh water generator can produce 40 t of fresh water a day. It does this by converting ocean water into freshwater by means of evaporation. Around 9 t of fresh water a day are needed on board.

VESSEL DIMENSIONS

A tour of the deck is almost a kilometre long. There are 135 steps between the officers' station on deck A and the bridge (at a height of 31.5 m).

THE CREW

The crew comprises 27 seafaring staff. The two captains of the "Berlin Express" are Michael Kowitz (52), who has been at Hapag-Lloyd for 18 years and was previously a captain on the "Brussels Express", and Captain Carsten Metzner (49), who has been sailing with Hapag-Lloyd for 20 years. He is the former Captain of the "Buenos Aires Express".

For further questions and information, please contact presse@hlag.com or visit our website.



QUOTES ON THE "BERLIN EXPRESS"

Lara Marie Habedank,
2nd Officer



"Sustainability is an important issue for me – particularly in my job. The development of new technologies and research in the area of shipping play decisive roles in this regard. In order to make progress in both areas, large shipping companies have to invest as well. By ordering our twelve newbuilds with dual fuel propulsion, Hapag-Lloyd has met its responsibility here to create a cleaner future. As we all know, this is a first step towards emission-free shipping, and further steps must follow. I am excited to see how our Company and the entire shipping industry will achieve the medium-term goal of zero emissions. I firmly believe that Hapag-Lloyd will continue to play a leading role in the future."

Captain Michael Kowitz



"As a captain who is putting a new vessel in a completely new class into service, I have three clear priorities: 1. good manoeuvrability of the vessel, 2. good accommodation for my crew and 3. sufficient cargo capacity. The 'Berlin Express' fulfills all three. It is important, of course, that all the technology on board is safe, especially when it is so new and innovative. This is demonstrated particularly well in bad weather conditions, by the way. That is precisely when it is good to know you can trust a vessel."

Karsten Schönemann,
Chief Engineer



"From the first day on, all the systems on a new vessel must be tested to ensure they work reliably under normal conditions. The vessel, its technology and all the associated processes must prove themselves in everyday operations on board. This included the first LNG bunkerings in Ningbo and Singapore, for example. We were on our feet a little longer than so we could monitor everything, and everyone is happy when a process like this works smoothly."

Roque Mendoza,
Electrical Engineer



"I come from a city near Manila and have three children, including twins. For me, it is important to sail on a safe vessel. As a dual fuel vessel, the 'Berlin Express' can also be powered by gas. Safety is the top priority here. For this reason, the vessel has a lot of electricity and a greater number of sensors on board than any other vessel I have ever been on. We have integrated a complex system of safety controls. This gives me and my family a good feeling."

Oskar Nowicki,
Strategic Asset Projects



"I had the privilege to be involved in the entire vessel construction process of the 'Berlin Express', from the cutting of the first

steel plate to the moment when the vessel set sail. It was an excellent performance that was made possible by the very good teamwork with the shipyard, our local staff members and the thorough checks by our classification society DNV."

Richard von Berlepsch,
Managing Director Fleet



"In every discussion we conduct, for every container we move, we must keep the climate in focus. It is no longer enough to transport goods safely from A to B; it must also be climate-friendly. Vessel management has become much more complex, because we are aware of our responsibility to protect the climate at the same time. Striving for climate neutrality is a strategic aim of our Company. This aim must be taken into consideration when managing each and every one of our 258 vessels."

Dr. Ing. Christoph Thiem,
Director of Strategic
Asset Projects



"Even before we switch to a climate-neutral fuel, we must do everything to consume as little of it as possible. These fuels which produce fewer emissions are associated with enormous efforts and costs. For this reason, we will continue to optimise our existing fleet in this regard too, such as through a combination of retrofitting and modernisation measures with

a focus on vessel operations that optimise consumption. With a newbuild like the 'Berlin Express', we are already on the right path for this."

Silke Lehmköster,
Senior Director Fleet
Management



"Regardless of where in their careers our seafaring staff are, whether they are at the beginning or due to retire soon, they will all be specially trained for sailing with an LNG propulsion system. Hapag-Lloyd has had a special training programme developed to ensure that our dual fuel vessels are manned with crews who want, know and accept the new technology and its requirements."

Dr Maximilian Rothkopf,
Chief Operating Officer



"Our goal is to be climate-neutral by 2045. The Hamburg Express class is an important step on our way toward climate-neutral shipping operations. We are not only investing in new, future-proof vessels, but are simultaneously making our existing fleet fit for the future and examining alternative fuel and propulsion options."



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