



# SUSTAINABLE SHIPBUILDING

Sustainability report

# 2022



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Meyer Turku Oy builds the world's most modern cruise ships, ferries and special vessels. Our share of the world's cruise-ship building market is around 15 percent, and our order book extends all the way to 2026. Our largest clients include Royal Caribbean International, Carnival Cruise Line, TUI Cruises and the Finnish Border Guard.

Meyer Turku Oy employs about 2,000 top professionals at the Turku shipyard where ships have been built since 1737. Meyer Turku Oy's partner companies include the cabin module manufacturer Piikkio Works Oy in Piikkiö, the interior solution provider Shipbuilding Completion Oy and the Rauma-based shipbuilding and offshore industry design company ENgD Oy. Along with Meyer Turku Oy, Germany-based Meyer Werftin and Neptun Werftin constitute the Meyer Group, one of the world's leading cruise ship builders. We continuously strive towards more sustainable shipbuilding. We have identified five UN's Agenda 2030 goals where we can provide most impact in our operations and in our cooperation with partners and clients.



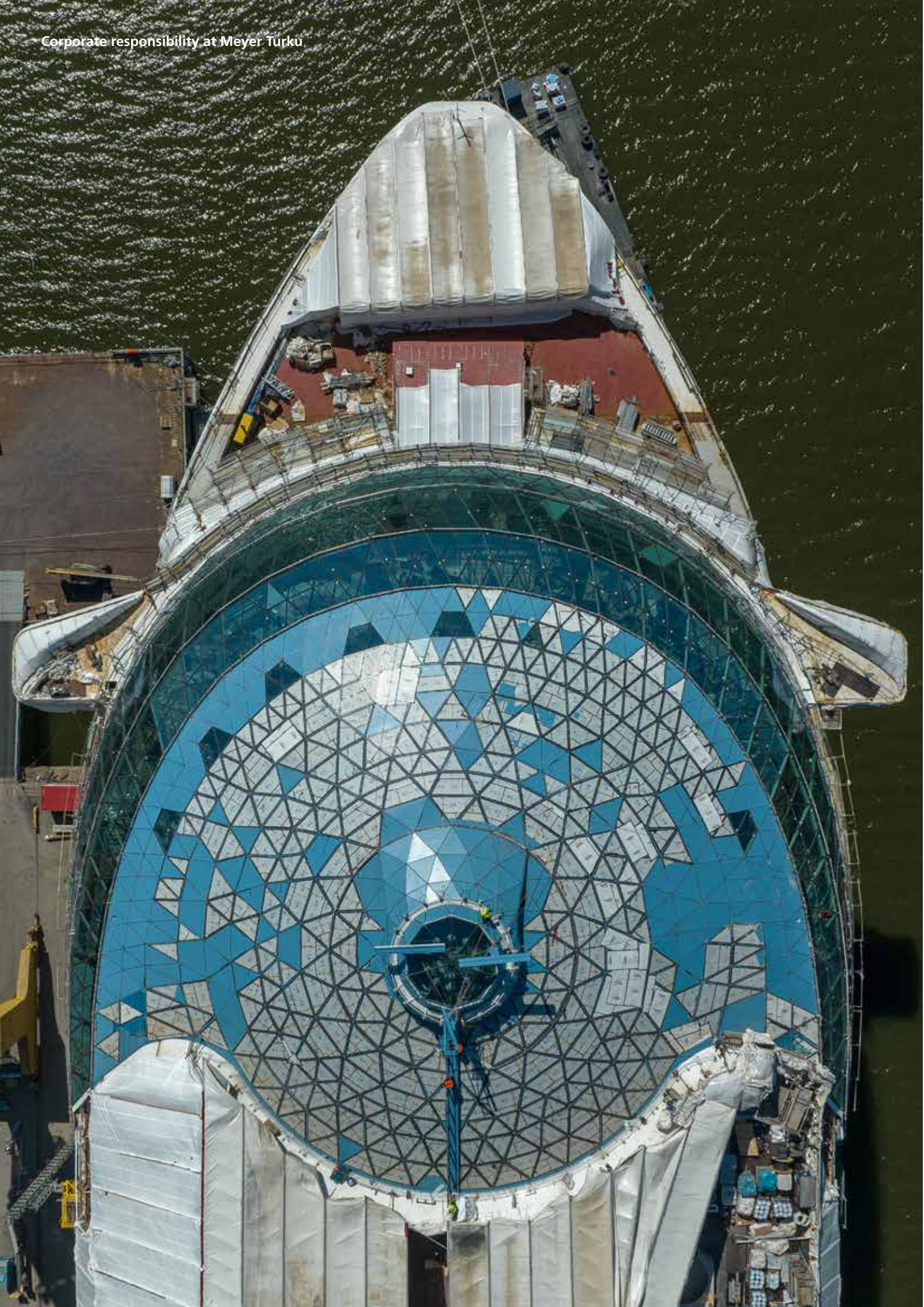
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# CORPORATE RESPONSIBILITY AT MEYER TURKU



# Cooperation drives sustainable development through the times



It takes thousands of people to build a large ship. Meyer Turku's strength derives from the professionals of the company and its partner network who work together to help the shipyard deliver a world-class ship for the global cruise fleet each year. The significance and value of this cooperation was further emphasised in 2022, a year that was unusual in many ways.

Meyer Turku shipyard's and its partner network's impact on regional economy was analysed for the third time last year. A study by the University of Turku demonstrates the shipyard's and its partner network's positive impact on regional economy and employment – both direct and indirect. The study included a new topic, assessing readiness for the green transition among the shipyard's partner businesses. Their readiness turned out to be good. This further strengthens our belief that it is not just Meyer Turku but the entire maritime industry that is committed to tackling the challenges of sustainable development, both today and in the future.

Our operating environment is in a constant state of change. A major shift related to the green transition is underway in the shipbuilding industry. Material availability and energy prices bring significant challenges to our operations. In times like these, it is important to remember that change always presents an opportunity. Facing challenging circumstances together with reliable partners can lead to solutions that unlock entirely new types of sustainability, product development and business opportunities.

In 2022, our green transition research and development programme NECOLEAP, funded by Business Finland, also got off to a good start. The programme is designed to strengthen and broaden innovative research and development in our shipbuilding ecosystem. Cooperation is at the foundation of NECOLEAP as well, and its strength lies particularly in the ecosystem of operators. As part of our company's standard operations, several cooperation projects, both within the programme and otherwise, advance the shipyard's energy efficiency, implementation of alternative fuels and waste management.

In December 2022, we made a joint declaration together with the Ministry of Economic Affairs and Employment and Royal Caribbean Group to develop sustainable shipping and shipbuilding and strengthen the Finnish maritime cluster.

This declaration is a new and important step for the entire maritime sector. We are committed to further developing our company and the entire network based on Finnish know-how and our innovative thinking. This requires long-term commitment, which is one of our fundamental values as a family business. As a shipyard, we proudly drive these efforts, and the green transition brings us shared opportunities for turning the strengths into a competitive advantage. ■

**Tapani Pulli**  
Executive Vice President  
Meyer Turku

# About the company

Meyer Turku Oy specialises in building highly demanding, innovative and environmentally friendly cruise ships, ferries and special vessels. Along with other Meyer shipyards operating in Germany, Meyer Turku is one of the world's leading builders of cruise ships.

Meyer Turku Oy's share of the world's cruise ship building market was approximately 12%. The largest clients of the company include Royal Caribbean Cruises Ltd, Carnival Corporation, TUI Cruises GmbH, and the Finnish Border Guard.

Meyer Turku Oy's operations are concentrated in the Turku shipyard. The shipyard works in close partnership with the company's three subsidiaries: cabin module manufacturer Piikkio Works Oy, ship communal area turnkey provider Shipbuilding Completion Oy, and shipbuilding and offshore industry design company Technology Design and Engineering ENGrD Oy.

The company has one series of shares consisting of 9,200 shares. At the end of the financial year, the share capital of the company was 143,053,830.78 €.

## Financial situation and result

After coming to a halt with the Covid-19 pandemic in 2020, the international cruise market turned a corner in 2021. However, limited availability of skilled labour force, prolonged deliveries for materials and increasing prices continued to have an effect on the company's operations and profitability during the financial period.

The company's order book extends all the way to 2026, guaranteeing steady work for the company. Ship projects are typically financed by clients' advance payments, external bank financing, as well the company's own capital and funds.

The construction financing agreement for the Carnival Celebration, signed in 2021, was amended to include construction financing for the Icon of the Seas cruise ship as well. In December 2022, two equity financing arrangements were implemented, strengthening the company's solvency and liquidity. The parent company Turku Marine Industry Holding Oy issued the company with 80 million euros in subordinated

debt. The loan, with an interest rate of 5% p.a., is governed by the provisions concerning subordinated debt in chapter 12 of the Finnish Limited Liability Companies Act. The company will make a separate decision on loan repayment and interest payment. No security for the loan is required. The loan had accumulated 22,222.22 euros in interest at the end of the year. Additionally, Turku Marine Industry Holding Oy invested 25 million euros in the company's reserve for unrestricted equity.

The company also entered into a long-term financing agreement with Finnvera. The loan is guaranteed by European Investment Bank. Finnvera also issued the company a long-term credit for working capital financing. The loans total 100 million euros. They were raised in early 2023.

## Key events during the financial period

The global coronavirus pandemic continued to impact the company's operations, particularly during the first six months. A readiness group that was founded for responding to challenges posed by the pandemic, for creating preventative plans, and for securing the health of shipyard workers, continued its successful work during 2022. These strict and proactive covid measures were effective in preventing infections in 2022 as well. During the spring and summer, the company began to gradually lift the covid restrictions as instructed, and currently the coronavirus pandemic has no significant impact on the company's operational activities.

The attack on Ukraine that started in February 2022 has had a significant impact on both the availability and prices of materials, and to some extent on the availability of labour force as well. The war has caused energy prices in Europe to multiply. The impact on the shipyard's expenses has been significant. At the end of the year, the company rehearsed for an electricity shortage situation and implemented various measures to conserve electricity.

During these exceptional times, the company has focused on securing the continuity of operations, as expected by clients. Over the last few years, the company has faced a challenging operating environment, partly due to exceptional circumstances,

## Order book As of Dec 31, 2022

Client	Ship type	Gross tonnage	Delivery
Royal Caribbean Cruises Ltd.	Cruise ship	248,750	Fall 2023
TUI Cruises GmbH	Cruise ship	111,500	Spring 2024
Royal Caribbean Cruises Ltd.	Cruise ship	248,750	Spring 2025
Finnish Border Guard	Special-purpose vessel	5,300	Winter 2025
Royal Caribbean Cruises Ltd.	Cruise ship	248,750	Spring 2026
Finnish Border Guard	Special-purpose vessel	5,300	Winter 2026



such as the coronavirus pandemic and the war in Ukraine. On the other hand, significant investments and changes in production management in the last few years have caused challenges in the management of both the company's production schedules and productivity. Considering the challenging circumstances, the company was able to continue its operations well throughout the financial period. Over the course of the year, the company managed to negotiate partial compensation for increased material prices with its clients. This is a testament to the long-term commitment of our clients.

Cruise shipping restarted gradually in spring 2021. The number of cruise customers and ship utilisation rates have increased steadily during the financial period. Customer volume presumably reached pre-pandemic levels during the last quarter. According to some shipping companies, cruise customers also spend more money on cruises than before the pandemic. At the end of the year, nearly all cruise ships were back in operation.

In June, Meyer Turku and the Finnish Border Guard confirmed an agreement that includes the delivery of two new Turva class offshore patrol vessels. Mein Schiff 7 went into production in June. Carnival Celebration was handed over to Carnival Corporation in November. Icon of the Seas was launched in December, as planned.

At the end of the financial period, the group's order book was valued at 5.9 billion euros (5.8 billion euros in 2021).

To adapt to the changed market situation and to ensure the future of the shipyard in the long term, the company launched a large change project in the spring of 2021 (Transformation project). It focuses on improving processes and increasing efficiency of production to secure general long-term competitiveness and profitability for the company. This project includes several subprojects, each with their own schedule. The project will run through the end of 2025. The first subprojects moved towards implementation during 2022.

With the impact of the coronavirus pandemic on our

clients, the company's shipbuilding schedule had to be amended and extended to cover a longer period. This in turn provided the opportunity to schedule a smaller project between the larger cruise ship projects. Negotiations with personnel representatives were held in the spring 2022 to resolve the temporary undercapacity. In the same vein, work duties were reorganised in terms of work hours and assignments and temporary layoffs of varying lengths. The temporary layoffs affected approximately 185 employees. However, the situation with our personnel's workload during the financial period was generally good.

The company continued implementing its corporate responsibility strategy, defined in 2020, together with clients and other stakeholders. As stated in the strategy, the company aims to become carbon neutral by 2030 and design a buildable carbon neutral concept ship by 2025. To support this strategy, the company applied for, and in early 2022 was approved to, Business Finland's funding programme for leading companies.

In 2021, the company implemented a SAP solution for project schedule management. It will be extended to cover several other operations, such as planning, purchasing, logistics and finances. The next stage of the project was launched in early autumn 2022, with implementation scheduled for 2024. Schedules of all ongoing shipbuilding projects have been moved to SAP during the first stage of the project. With the project launched in the autumn, processes that were previously separate from the schedule and were processed in other systems, such as purchasing and picking materials, will be directly connected to the project schedule.

The group's investments during the financial period totalled 12.1 million euros (12.4 million euros in 2021).

Subsidiaries Piikkio Works Oy, Shipbuilding Completion Oy, and Technology Design and Engineering ENGNd Oy, all fully owned by the parent company, have a similar situation in terms of their business operations. ■

## KPIs, group 2022 (including subsidiaries)

Meyer Turku	2022	2021	2020
Revenue, M€	1,295.5	1,079.2	1,035.9
Operating result/loss, M€	20.3	10.8	-24.3
Operating result/loss, %	1.6	1.0	-2.3
Return on equity, %	-8.0	-9.2	4.5*
Equity ratio, %	15.3	18.6	19.3

Source: Meyer Turku Oy auditor's report 2022. PricewaterhouseCoopers Oy

\*Meyer Turku Group's other financial 2020 income include a non-recurring profit related to bonds purchased by Meyer Turku Oy and issued by its subsidiaries Meyer Tuotanto 1 Oy, Meyer Toimisto 2 Oy and Meyer Tuotanto 3 Oy.

# We are guided by our corporate responsibility strategy

Development of corporate responsibility at Meyer Turku and the related reporting is guided by the corporate responsibility strategy approved in 2021 by the company management. This strategy sets high-level goals from which we derive a practical action plan along with implementation and follow-up.

Our first action is to calculate the shipyard's carbon footprint and create a roadmap for our carbon neutrality 2030 goal.

This strategy is an all-encompassing guideline to Meyer Turku's operations, including those of our partners and our shipbuilding network.

At the Turku shipyard, we build  
**ECO-FRIENDLY SHIPS**  
 in a way that will make future generations proud.



2025

Meyer will design a buildable carbon-neutral ship concept by 2025.



2030

Turku shipyard's goal is carbon neutrality by 2030.



By practicing active local industrial responsibility, we are setting a good example.



We push our network to being equally or more responsible than we are.

\* GHG Protocol parts 1&2, part 3 is being specified.

## OUR MEASURES

1	We draw a roadmap for shipyard climate-neutrality and drive the initiative forward in a goal-oriented manner.	2	We design a climate-neutral ship concept together with our network.	3	We further a clean environment and biodiversity at our shipyard and in its surroundings.
4	We are pioneers in circular economy for industry.	5	We make corporate responsibility a prerequisite for our procurements.	6	We expect our network to commit to responsible practices.
7	We are closely linked with the communities surrounding our shipyard.	8	We make corporate responsibility into our employees' day-to-day work.	9	We openly communicate about our corporate responsibility topics.

# Ships that make future generations proud

Our vision is to build sustainable ships in a way that will make future generations proud. The corporate responsibility strategy guides our development work, and its focal areas may shift if necessary as our responsibility work progresses. The defined corporate responsibility goals are either related to our essential functions or have relevance based on risk evaluations.

Our goal is to develop Meyer Turku's corporate responsibility work, goals and data collection in line with the

new strategy. In practice, the shipyard is faced with a variety of development projects in order to achieve progress towards the goals of the strategy. We also develop measures related to circular economy and protection of biodiversity and connect them to the goals of our corporate responsibility strategy in the future.

Themes in our reporting	Our key actions and goals
We design <b>World-class ships</b>	A ship's long life cycle causes the majority of its environmental impact. Meyer will design a buildable carbon-neutral ship concept by 2025.
We want to be a <b>World-class shipyard</b>	In terms of emissions from our own operations, Turku shipyard's goal is carbon neutrality by 2030. Those working at the shipyard are subjected to safety-related risks. This is why risk management and safety at the shipyard are of utmost importance to us.
Our operations require a <b>World-class personnel</b>	Designing and building ships and managing the enormous scope of shipyard operations requires world-class expertise. We provide education in our own school and ensure that knowledge is transferred to the next generation. We also take care of our personnel's well-being and develop managerial work.
We operate as <b>Part of society</b>	We are setting a good example by practicing active local industrial responsibility, and we push our network to being equally or more responsible than we are. We work closely with the communities surrounding our shipyard.

## A driver for sustainable shipbuilding industry

We will be developing our corporate responsibility across the board, but first we want to place the primary focus on our own operations and the construction-time carbon footprint of our ships.

As declared in our corporate responsibility strategy, our goal is carbon neutrality by 2030. Meanwhile, Meyer's marine engineers have pledged to develop a buildable carbon-neutral ship concept by 2025. Calculations initiated in 2021 help us better identify the most significant sources of emissions and other environmental stressors for the entire span of a ship's life cycle and compare the environmental impact of selected materials.

While the goals are extremely challenging, we have luckily become accustomed to overcoming difficult challenges in the shipbuilding industry. We also strongly believe that this is vital for our future competitiveness.

This is not the first time that Meyer Turku has been at the forefront of environmental responsibility of the global shipbuilding industry. The first two LNG-powered passenger

ships in the world were built at the Turku shipyard, and Meyer Turku ships are more energy-efficient than those of our competitors.

Already at the outfitting pier, Icon of the Seas will be a pioneering ship in terms of fuel consumption and water and waste management for the client, Royal Caribbean. In the early hull assembly stage, Mein Schiff 7 for TUI Cruises will be fitted with capabilities for running on methanol and, in the future, green methanol, enabling for the ship to run on a nearly carbon-neutral basis.

## Calculating the shipyard carbon footprint

We calculate the greenhouse gas emissions of our own operations (Scope 1 and 2) each year. Our calculations are based on the internationally accepted emissions accounting standard, the GHG Protocol (Greenhouse Gas Protocol). Based on the results, we have identified our most significant sources of emissions, enabling us to monitor our journey towards a carbon-neutral shipyard by 2030.

In our shipyard operations, the most significant emission sources include fuel consumption and heating for the ship

under construction. We have also estimated both upstream and downstream emissions in the shipyard value chain (Scope 3). Carbon footprint calculations will keep evolving and increasing in accuracy with new reports and new data. The shipyard and ship construction-time carbon footprints make for a complex, interconnected system, and to fully understand and reduce the footprints we also need efforts from our partners.

The shipyard's carbon footprint is reported in more detail on page 32.

### Achievements through cooperation

As one of the goals in its corporate responsibility strategy, Meyer Turku pledges to set a good example of local industrial responsibility and to push its partners and the entire shipbuilding network to being equally or more responsible in their operations.

We have a very important and responsible role in society, as Finland Meyer Turku is first and foremost seen as a leader in the shipbuilding industry. Each new ship completed at our shipyard drives technological development and sustainability in the Finnish maritime industry.

A major shift related to the green transition is underway in the shipbuilding industry. Passengers expect the ships to boast new capabilities. Meanwhile, material availability and increased energy prices present challenges to the company's operations. In times like these, it is important to remember that change always presents an opportunity. Facing challenging circumstances together with reliable partners can lead to solutions that unlock entirely new types of sustainability, product development and business opportunities.

We participate in both Finnish and international projects designed to develop sustainability in the maritime and shipbuilding industries. We also work closely together with various parties in the Finnish maritime cluster as well as research and educational institutes.

Our most important task is to be a propelling force between the client and our wide network of suppliers in research and development. We also must form a platform for experimenting with new technologies. We expect our network to commit to responsible practices. Corporate responsibility is a prerequisite for our procurement decisions.

### Active corporate citizen of Turku

Turku has a 286-year history in shipbuilding. The shipbuilding industry involves both traditions worth preserving and fascinating challenges for today and tomorrow. The better

## Cooperation with universities to ensure best expertise

We want Finland to be a leader of ship technology and science in the world. Our close cooperation with universities is one of the most important ways for us to achieve this goal. High-quality engineering education is important to us, as the smart and creative solutions our employees invent in designing our ships and optimising our production are key to making sure we also maintain our competitive edge in the future.

Our agreements with Aalto University and the University of Turku are a part of our enduring commitment to a long-term cooperation combining top research, high-quality education and operators in marine technology. Cooperation includes, for example, material research and steel structures, hydrodynamics, ship safety, energy efficiency and research supporting sustainable development. In practice, the cooperation primarily takes place in research projects for Master's and PhD degrees. ■

we know ourselves and our closest partners, the stronger our ability to both look forward and keep hold of the valuable lessons of the past.

The shipyard is located in the Perno-Pansio region in Turku. We want to be a part of the local community and actively engage various operators in the region. We hope local residents can be proud of having our shipyard near their homes.

Meyer Turku is in constant dialogue with both the Perno-Pansio region and the City of Turku and the various operators in the economic region. We are in tight cooperation with, for instance, the University of Turku and the Turku University of Applied Sciences as well as local development companies.

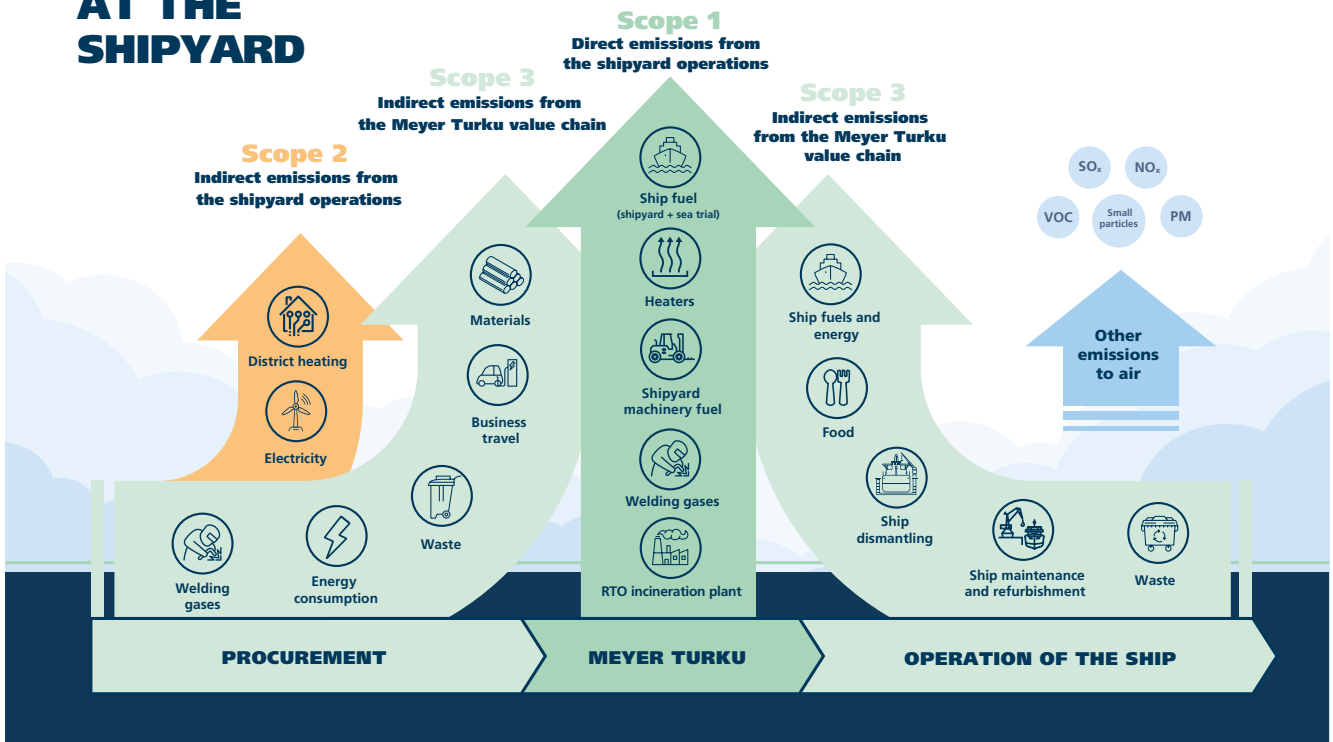
We support developing the University of Turku Master's of Engineering training with a donated professorship programme, channelled to materials and mechanical engineering. We value long-term partnerships and believe in the power of cooperation both locally and globally.

We are also a member of the Finnish corporate responsibility network, FIBS ry. ■

The UN Agenda 2030 strives for sustainable development in terms of economy, human well-being and the environment. We have identified five key goals where we can provide most impact in our operations and in the cooperation with our partners and clients.



# GHG EMISSIONS AT THE SHIPYARD



## GHG protocol standardises emission calculations

The calculation of greenhouse gas emissions takes into account both direct and indirect carbon dioxide emissions caused by a company's operations.

- Direct emissions refer to emissions generated at the tip of the company's smokestack – or exhaust pipe. These include carbon dioxide emissions from the fuels powering the property's oil heating or the company's vehicles or machinery.
- Indirect emissions, on the other hand, refer to emissions that are a consequence of a company's operations. These include emissions from the production of electric or thermal energy purchased by the company and any emissions from procurement, purchased services and transport.

In the GHG protocol, emissions are classified into three scopes:

- Scope 1** includes all direct greenhouse gas emissions by a company, such as fuel emissions from company vehicles.
- Scope 2** includes greenhouse gas emissions from purchased electricity, steam or heat production.
- Scope 3** includes all other indirect greenhouse gas emissions, such as emissions from material procurement and emissions from the end-use of sold products. Scope 3 is divided into 15 categories, including procurement, business travel and waste.

Our goal for shipyard carbon neutrality encompasses Scope 1 and 2 emissions. The carbon neutral ship concept is focused on the so-called downstream emissions in Scope 3, meaning ship's use-phase emissions in particular. ■



# 160-million-euro development programme for carbon neutral cruise ship and shipyard

In February 2022, Meyer Turku secured involvement in a Business Finland funding programme for leading companies ('Veturi') designed to challenge companies to increase their research, development and innovation investments in Finland.

## 100 partners and counting

Meyer's NEcOLEAP programme is about developing a neutral cruise ship and carbon neutral shipyard with the help of a wide partner ecosystem. The NEcOLEAP green transition project brings together representatives of universities and research institutes to develop technology solutions that are innovative and sustainable on a global scale. The primary goal of the programme is to accelerate the adaptation of our shipyard's

business to green transition and respond to the demands of climate change together with our ecosystem partners.

The research and development stages have four focus areas: the cruise ship itself, shipyard operations, i.e. shipbuilding, implementation of smart technologies, and the open-minded professionals of the future.

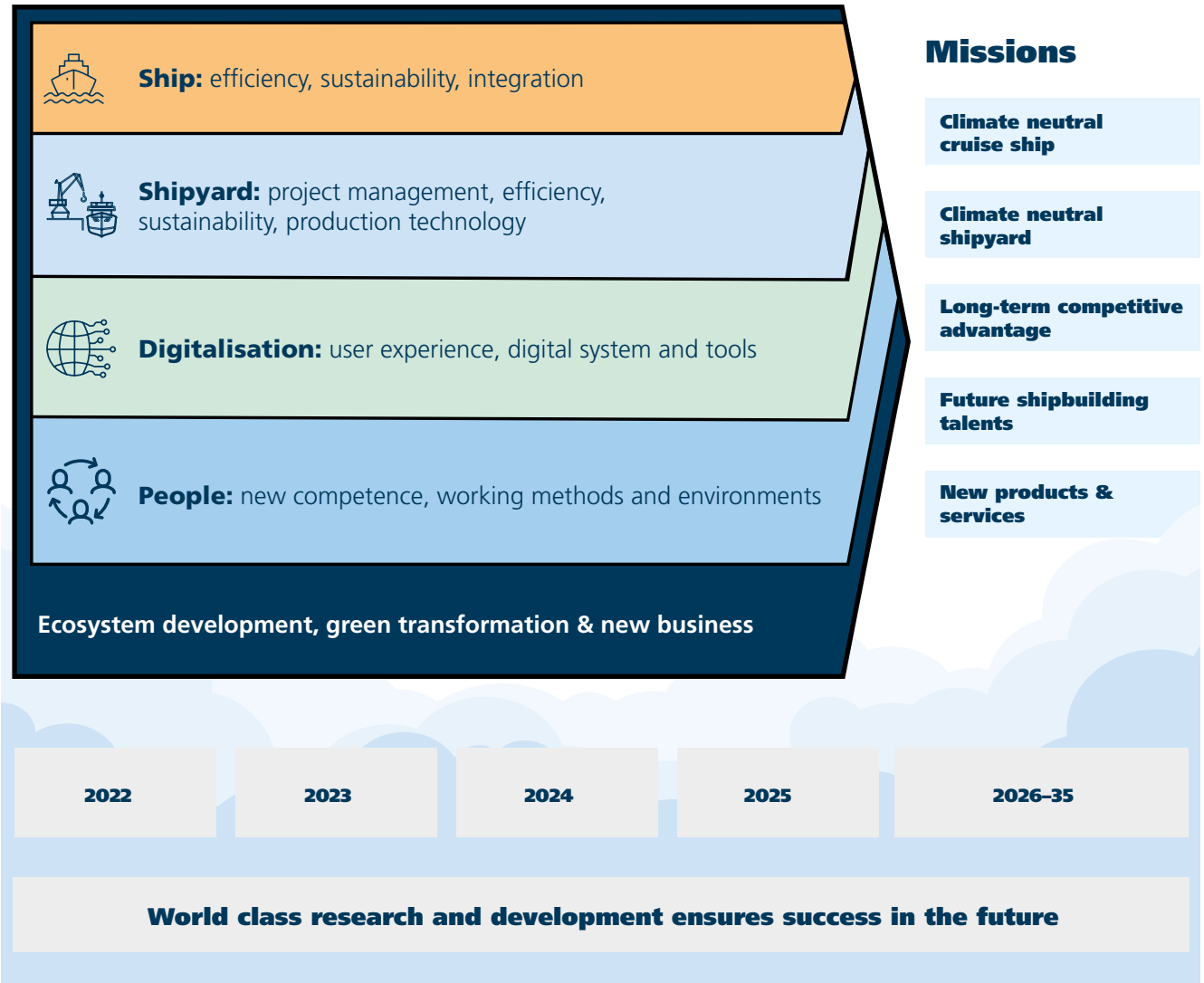
In the NEcOLEAP programme, we study opportunities to implement even more sustainable technologies, allowing us to, among other things, develop ship and shipbuilding energy efficiency, resource efficiency, automation, robotics and cybersecurity. This also enables us to respond to our clients' strategic sustainability goals, says **Ilkka Rytkölä**, Ecosystem Lead, Meyer Turku.



## NEOLEAP Ecosystem for developing climate-neutral cruise ship and shipyard



# NEcOLEAP roadmap to 2035



Goals of the NEcOLEAP programme:

- Reinforcing and expanding innovative research and development in our shipbuilding ecosystem
- Utilising smart technology throughout a ship's life cycle
- Adapting the business for green transition and responding to the requirements related to climate change
- Developing a climate-neutral cruise ship concept by 2025
- Climate-neutral shipyard by 2030
- Building a carbon-neutral cruise ship requires wide-ranging cooperation between businesses, universities and research institutes.





## Projects launched in the NEcOLEAP programme

**Canelis** – Carbon-neutral lightweight ship structures using advanced design, production, and life-cycle services

**Navispace** – Future Passenger Spaces

**INDECS** – Integration of design and operation of cruise-ship energy systems

**Necom** – Lighter solutions and HVAC energy efficiency

**VTC** – Virtual Training Certification

**CASEMATE** – Computationally Aided Systems Engineering For Marine Advanced Technology For The Environment

**Silent Engine**

**MEMS** – Meyer Energy Management System

## Significant impact across our cooperation network

While Meyer Turku already has an existing high-quality partner network, it is now possible to further expand the cooperation network and include entirely new development areas where focus is not only on environmentally sustainable energy solutions but also on the opportunities of circular economy and resource efficiency of materials.

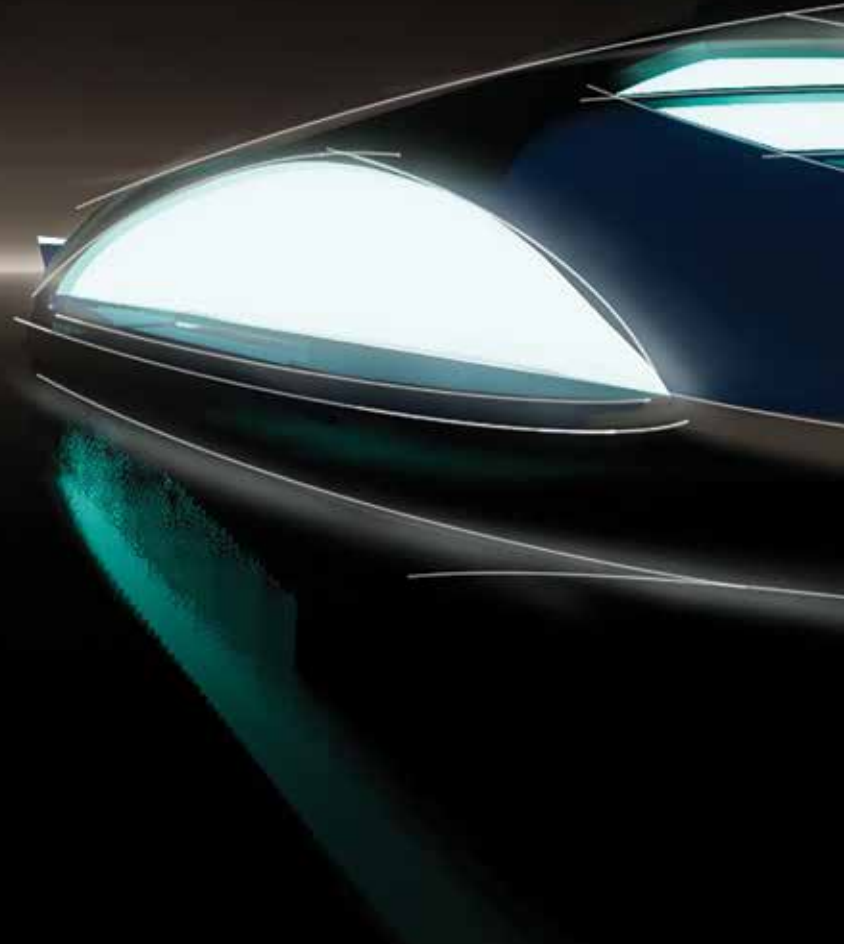
A carbon neutral cruise ship order for Turku would bring about 12,000 man-years to the shipyard, an equivalent of

about 9,500 jobs. It would also add about one billion euros to Meyer's revenue, making a direct impact on Finland's export. NEcOLEAP's estimated cost is about 160 million euros, with Business Finland funding Meyer with 20 million euros and Meyer Turku providing 40 million. In addition, Business Finland has allocated 50 million euros to support the businesses, research institutes and universities in the ecosystem. The NEcOLEAP ecosystem already boasts 100 partners, including everything from large corporations to small and medium-sized businesses and startups. ■



# 01

## WORLD-CLASS SHIPS



## Energy-efficient and low-emission cruise ships

Designing and building energy-efficient low-emission ships is at the heart of Meyer Turku's operations. This is important to us for many reasons. First, we want to contribute to the fight against climate change. Furthermore, building energy-efficient ships and introducing low-emission energy sources to our ships provides us a competitive edge because our clients, primarily cruise lines, specifically look for these qualities in new ships.

While international shipping is not subject to the Paris Agreement, the EU and several ports have already set emission limits for marine traffic sulphur oxide emissions, for instance. The International Maritime Organization (IMO), responsible for regulating shipping, has also set gradually tightening energy-efficiency requirements for ships. Starting in 2023, ship performance level is monitored annually with the operational carbon intensity rating (CO<sub>2</sub>/GT-nm)\* which includes gradually increasing reduction requirements. It aims to reduce carbon intensity of shipping by 40% by 2030 (compared to 2008) and requires reducing the greenhouse gas emissions of international marine traffic by 50% by 2050. This will be followed by efforts to gradually eliminate carbon dioxide emissions entirely.

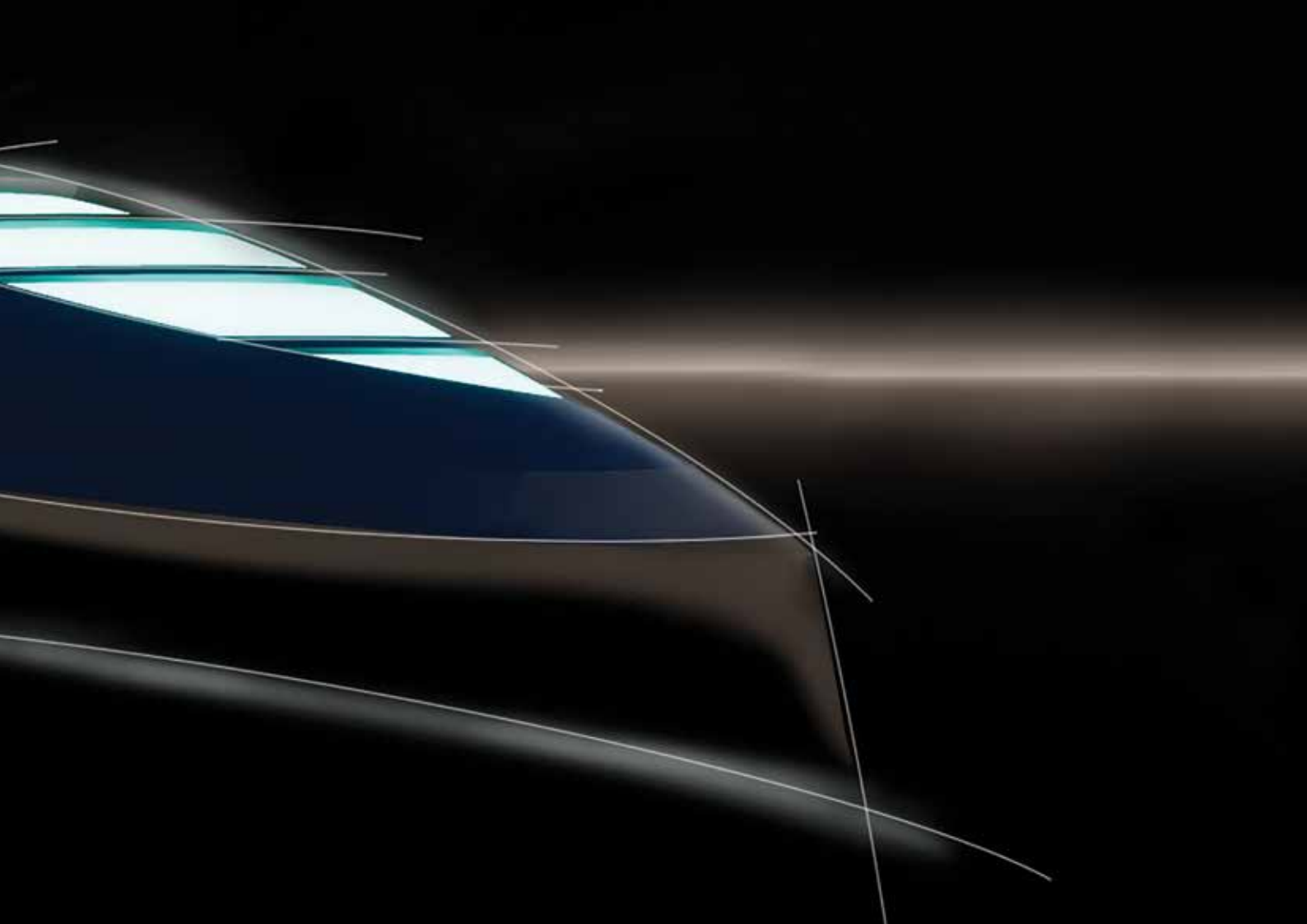
For us, strict international regulations are exclusively a positive thing. Ships engineered and built at our shipyard are pioneers in the industry, often exceeding the prevailing requirements for energy efficiency and ship emissions.

\*GT-nm = Gross Tonnes-nautical mile, i.e. ships' gross tonnage and nautical miles travelled during one year.

### Collaborative ongoing development

Our most important research and development themes include corporate responsibility, low emissions, operational efficiency, reliability of operation, safety, and digital transformation. Every time we begin planning for a new ship class, we set ambitious emission and energy goals. In spring 2020, we started building the first Icon class ship. The Icon class is designed to have 30% better energy efficiency than its closest conceptual comparable.

However, we would not be able to reach our ambitious development goals alone. This is why we constantly collaborate with our clients, equipment manufacturers and supply network as well as research institutes, universities and universities of applied sciences.



## SusFlow – Utilising sustainability data in shipbuilding networks

Meyer Turku is involved in the University of Turku's and VTT's SusFlow research project (*Sustainability Through Information Flows*), a multidisciplinary approach to collecting sustainability data from the shipbuilding network and utilising it throughout the ship's life cycle.

The project is designed to advance the development of the shipbuilding industry towards increased transparency and better sustainability. In addition to research partners, the project involves 11 operators in the shipbuilding value chain.

The project identifies data sources relevant to sustainability in the supplier network. Additionally, technical and computational solutions are developed to ensure that sustainability information, such as carbon dioxide produced during production for materials, for instance, flows all the way to the end product. This is how we ensure that the full construction-time impact is known at the later stages of the life cycle.

The project promotes practices used to collect sustainability data in production and improves information flow between the parties in the supply chain. The project also studies the potential of new technology in providing proof of sustainability, for instance.

Business Finland is the main contributor of funding for the SusFlow project. It is connected to the NEcOLEAP green transition programme designed to develop a climate neutral cruise ship. ■

We are involved in the *Clean Propulsion Technology* research consortium run by University of Vaasa. It is designed to develop new solutions for low-emission shipping and respond to the requirements of increasingly stringent emission legislation. Over the course of the project, cruise ship's water production optimisation was identified as an important research area deserving of particular focus.

Improving the energy efficiency of future ships is an important part of our NEcOLEAP development programme. We have already launched some energy-efficiency related projects, and the programme includes both internal and new projects within the ecosystem.

### Energy-efficient ships, alternative fuels

We have improved the energy-efficiency of our ships by increasingly utilising waste heat streams, optimising the operations of various systems and implementing alternative fuels. We also place heavy focus on monitoring the operational energy efficiency of our ships and on the continuous development throughout our ships' operational life cycle.

Heavy fuel oil, the primary fuel in shipping, is in the process of being replaced by alternative fuels, including liquefied natural gas (LNG) which contains zero sulphur and produces considerably less nitrogen oxides and particle emissions.

Liquefied natural gas has already been adopted in several ships. The *Costa Smeralda*, handed over from our shipyard in 2019, was one of the first LNG-powered cruise ships in the world. An increasing number of the ships in our order book are powered by LNG.

We research and develop ways to use bioliquids and gases for ship fuels, and we are involved in projects together with

refineries designed to investigate opportunities to utilise biofuels in ships in the near future. We also research alternative energy production technologies, including hydrogen-powered fuel cells.

*"We also place heavy focus on monitoring the operational energy efficiency of our ships and on the continuous development throughout our ships' operational life cycle."*

### Sustainable materials throughout ship life cycle

Sustainability is an all-encompassing matter and a major factor in material selection. The sustainability and lifespan of materials as well as safe dismantling at end-of-life must be considered early on in the design phase. They guide material selection.

The amount and range of various materials used in building a ship is immense. For example, the *Mein Schiff* ships built at our shipyard required approximately 2,000 km of electric cables, 180 km of piping, 8,500 m<sup>2</sup> of windows, 335,000 litres of paint and 30,000 m<sup>2</sup> of carpets, among all other materials.

Shipbuilding Completion, our subsidiary, provides turnkey deliveries for cruise ship communal areas, including space planning and management and installation of selected materials. The company constantly develops the traceability and sustainability of procured materials.

## A more sustainable handprint through cooperation

Turku shipyard and Evac, a specialist in marine water and waste management solutions, have been in tight cooperation in the last few years to improve ships' ecological sustainability. The SusCon project that ended in autumn 2022 studied the effects of water and waste management modernisation on ships' environmental footprint and carbon emissions.

The joint project by Meyer Turku, Evac and VTT calculated the environmental footprint of a 5,000-passenger cruise ship built in Turku and compared it to a similar ship that utilises the latest technology. The study concluded that the positive impact is significant in terms of energy efficiency, marine biodiversity and circular economy. In food waste and biosludge treatment, the latest industry technology can help reduce carbon emissions by up to 70%.

Evac wants to create sustainable waste management solutions that maximise recovery of materials and increase cruise ships' recycling rate from the current 20–40% to 70%. And as waste and wastewater technology in ships is also replaced with more energy efficient and modern technology, ships' ecological handprint, i.e. the positive environmental impact, improves significantly. Systems developed by Evac are also currently being implemented in ships built by the shipyard.

Cooperation between Meyer Turku and Evac plays an important pioneering role in advancing the sustainability of the entire marine industry cluster, both in Finland and abroad. ■

In addition to sustainability, lightness is an essential criteria in selecting shipbuilding materials due to the effect a ship's weight has on its fuel consumption. Piikkio Works, another subsidiary of ours, designs and manufactures all cabin and bathroom modules installed in the ships at the shipyard. Our objective is always to make the cabins as light as possible. We use the best available technical solutions for energy and water conservation, among others.

The IHM document (*Inventory of Hazardous Materials*) is an important part in the documentation of the materials used

for building a ship. The EU Ship Recycling Regulation stipulates that all ships over 500 GT sailing under the EU flag are required to have an up-to-date and certified IHM that includes all equipment and materials with fixed installation.

The IHM document describes where and to what extent the ship includes specified hazardous materials that pose work safety or environmental risks when a ship is modified or dismantled. Certified IHM reports have been prepared for all ships completed at the shipyard since 2009.



## Meyer Floating Solutions – new types of floating infrastructures

In spring 2022, we founded Meyer Floating Solutions together with Admares Marine. The company designs and manufactures high-quality tailored floating solutions for various applications.

The company has access to Admares Marine's entire product range and patent portfolio. Famous projects, such as the 10,000 m<sup>2</sup> overwater deck expansion for the Burj Al Arab hotel in Dubai and the world's largest floating luxury villa, are a testament to the company's top-class expertise.

The entire life cycle of products provided by Meyer Floating Solutions is designed to minimise environmental impact. Floating overwater structures are designed with sustainable materials and manufactured from beginning to end inside production facilities. According to studies, this can help reduce waste over 70% compared to traditional on-site construction.

The energy capability and consumption of the floating structures are also carefully planned for. Floating real estate solutions are typically not marine vessels and therefore do not require energy for propulsion. Therefore, it is possible to use solutions where electricity is produced with solar panels and where heat pumps use water for both heating in the winter and cooling in the summer. ■



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# 02

## WORLD-CLASS SHIPYARD

# World-class shipyard

In terms of safety, a shipyard is an extremely demanding location. All risk factors related to metal and construction industry must be taken into account at the shipyard, along with the fact that work is also performed in ships at height and above water where, for example, a fire can cause major personal and material damage.

In addition to people safety, it is important to control and minimise the impact of our shipyard operations to the environment and the nearby maritime area. We have refined our safety and environment-related goals each year and will continue to do so in the future.

## Risk assessment at the shipyard

With risk assessment, we systematically identify risk, hazard and stress factors for each department in the shipyard working environment. Every shipyard worker has an opportunity to make an impact in their work with checklists for observing hazardous situations and identifying risks. Once the dangers have been identified, their impact on employee health and safety is evaluated together with employee representatives, department management and occupational health nurse, and risk-reducing measures are implemented.

The shipyard maintains a risk register with about 2,000 identified risks, of which 231 were updated in 2022. Risk assessment summaries prepared for the departments are used in department-specific onboarding.

From our partners, we require statutory risk assessment and occupational safety and health action programmes that are reviewed and assessed in safety meetings attended by the shipyard HSE department representatives and suppliers, as well as in inspections conducted by occupational safety authorities.

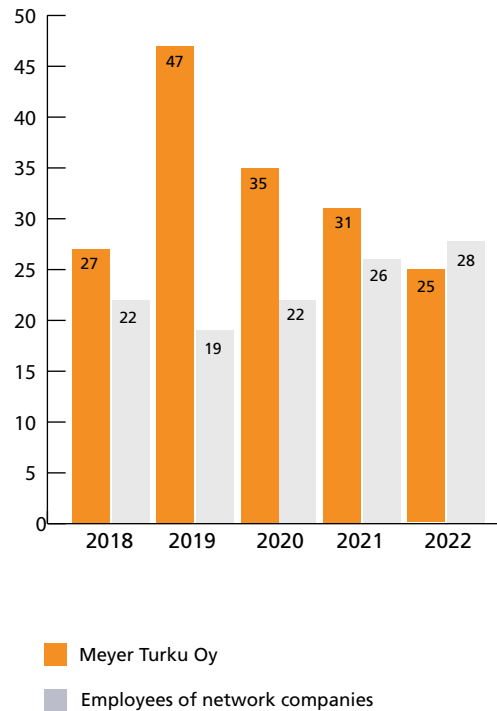
We carefully consider the safety of our personnel and the risks they face at each stage of shipbuilding, and a safety plan is prepared for every ship before beginning production.

## Occupational safety at the shipyard

Everyone working within the shipyard area, both our personnel and that of our network companies, are required to undergo training on security and environmental risks before given access to the shipyard. We provide HSE (Health, Safety, Environment) online onboarding in 18 languages to minimise the risk of misunderstandings with our safety instructions. As we update our training materials, Ukrainian will be added to the range of languages available.

In the HSE section of our managerial training, we teach occupational safety responsibilities and the environment and fire safety issues most relevant to managerial work.

Accidents at the shipyard (qty)

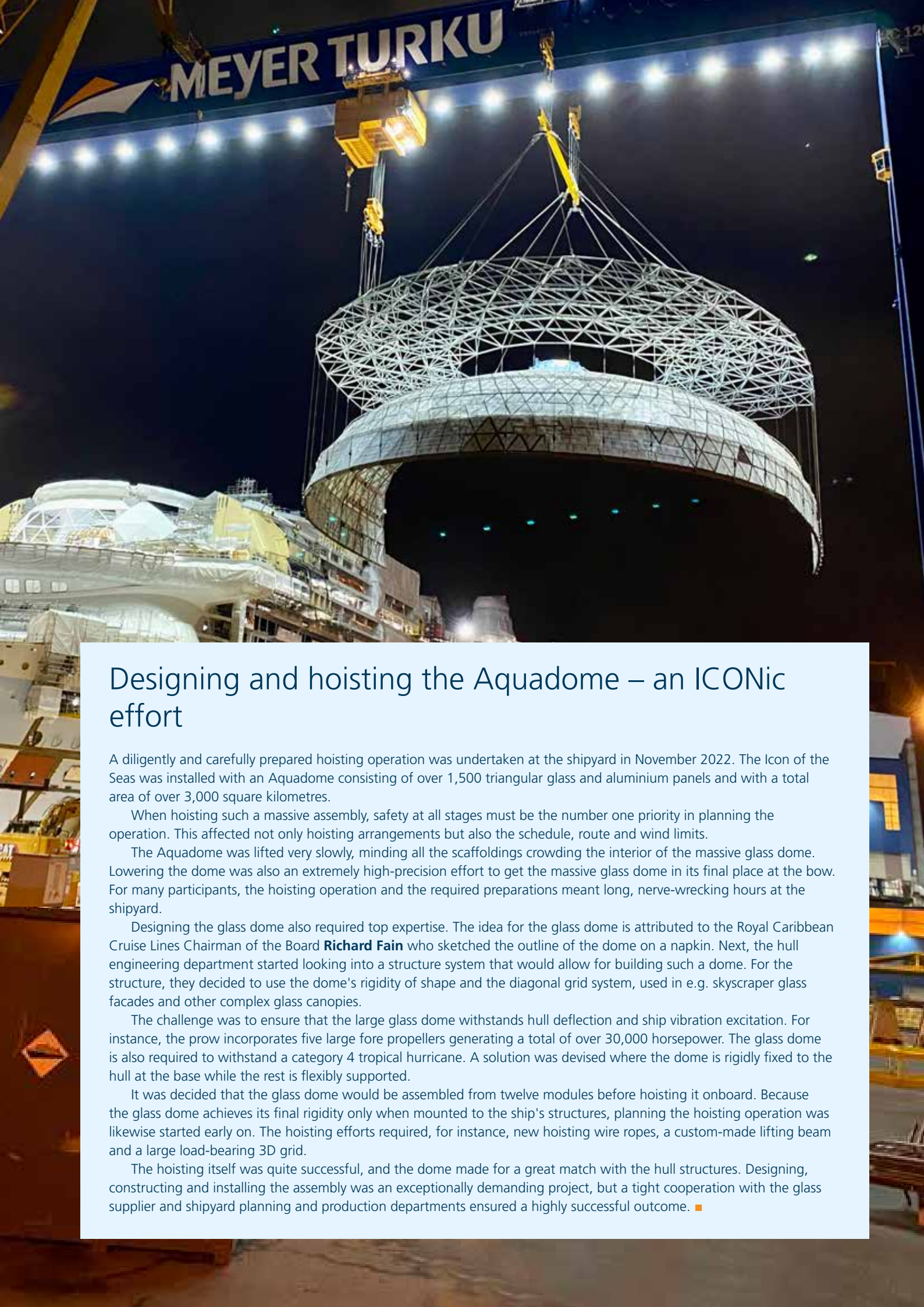


In 2022, the shipyard, including the personnel of Meyer Turku Oy and its network companies, saw a total of 53 (57 in 2021) accidents that led to absences. The accident rate was 6.2 (6.4) for every one million working hours, substantially below the general average in construction and the industrial sector. Piikkio Works cabin module manufacturer's accident rate was significantly lower than in the previous year, now down to 12.2 (29.6).

## App makes it easier to report and process HSE-related matters

The shipyard uses an app that is helpful for both shipyard and partner network employees in impacting shipyard safety. Reporting safety observations has been made easy and available to everyone as it is now possible with, for instance, phone, tablet or computer browser.

The Meyer EYE app was implemented in 2019 for the purpose of reporting HSE observations and safety walks, along



## Designing and hoisting the Aquadome – an ICONic effort

A diligently and carefully prepared hoisting operation was undertaken at the shipyard in November 2022. The Icon of the Seas was installed with an Aquadome consisting of over 1,500 triangular glass and aluminium panels and with a total area of over 3,000 square kilometres.

When hoisting such a massive assembly, safety at all stages must be the number one priority in planning the operation. This affected not only hoisting arrangements but also the schedule, route and wind limits.

The Aquadome was lifted very slowly, minding all the scaffoldings crowding the interior of the massive glass dome. Lowering the dome was also an extremely high-precision effort to get the massive glass dome in its final place at the bow. For many participants, the hoisting operation and the required preparations meant long, nerve-wrecking hours at the shipyard.

Designing the glass dome also required top expertise. The idea for the glass dome is attributed to the Royal Caribbean Cruise Lines Chairman of the Board **Richard Fain** who sketched the outline of the dome on a napkin. Next, the hull engineering department started looking into a structure system that would allow for building such a dome. For the structure, they decided to use the dome's rigidity of shape and the diagonal grid system, used in e.g. skyscraper glass facades and other complex glass canopies.

The challenge was to ensure that the large glass dome withstands hull deflection and ship vibration excitation. For instance, the prow incorporates five large fore propellers generating a total of over 30,000 horsepower. The glass dome is also required to withstand a category 4 tropical hurricane. A solution was devised where the dome is rigidly fixed to the hull at the base while the rest is flexibly supported.

It was decided that the glass dome would be assembled from twelve modules before hoisting it onboard. Because the glass dome achieves its final rigidity only when mounted to the ship's structures, planning the hoisting operation was likewise started early on. The hoisting efforts required, for instance, new hoisting wire ropes, a custom-made lifting beam and a large load-bearing 3D grid.

The hoisting itself was quite successful, and the dome made for a great match with the hull structures. Designing, constructing and installing the assembly was an exceptionally demanding project, but a tight cooperation with the glass supplier and shipyard planning and production departments ensured a highly successful outcome. ■

# Occupational safety risks at the shipyard



**Unguarded machinery**



**Fire**



**Tripping / slipping**



**Unsafe electrical equipment and connections**



**Danger of getting crushed**



**Excessive strain**



**Overloaded vehicles and forklifts**



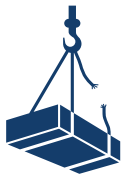
**Unsafe working at height**



**Falling objects**



**Confined spaces**



**Unsafe lifting operations**



**Stuck by foreign body**



**Handling of chemicals**



**Internal traffic**



**Unsafe loading bays**



**Open shafts and edges**



**Unsafe working platforms**



**Poorly supported structures**



**Unfinished scaffolding**

with any resulting tasks. At the same time, all information regarding chemicals in use at the shipyard was imported into the system, which made the related safety data sheets electronically available to all employees. Since implementation, additional online tools have been added to the app. These tools can be used, for instance, to draft job-specific safety plans and to report and investigate close calls. Occupational safety risk assessments are also currently entered directly into the system.

Determined encouragement to use the app has produced results and the number of reported observations is growing. Compared to the previous year, the number of observations received through the system doubled in 2022.

The most significant change in 2022 was to bring all occupational accident reports under the Meyer EYE system. At the same time, the reporting and investigation process for occupational accidents was retooled. With the new method, processing occupational accidents is more efficient and consistent because it is now a requirement to fill out the investigation section into the system after every occupational accident report. The current method has also expedited the flow of information, with the department managers now receiving information instantly on any occupational accidents under their area of responsibility.

### Traffic safety at the shipyard

Safety related to shipyard logistics requires special attention. Much like a small town, our shipyard is bustling with thousands of workers and heavy traffic, including trucks, cranes, forklifts and even trains.

The cruise ships built at the shipyard are tall structures where working and moving around requires special alertness and skill. Everyone at the shipyard is required to understand the risks involved in lifting and follow marked routes.

Safety is improved with training. For instance, operator training for remote-controlled bridge cranes is conducted in a simulator specifically developed for the purpose. As a result, there is no need to remove production cranes from production

use for the duration of the training – all the while making for a safe training environment. Earning forklift operator certification for the shipyard area requires undergoing upgraded forklift training and proving your skills on a test-driving track.

We have also identified issues and high-risk areas in shipyard traffic and made changes accordingly to reduce safety risks for both pedestrians and bicyclists. We have reduced the number of forklifts in the shipyard, reducing the safety risks related to forklift operation.

Additionally, area lighting has been significantly improved and everyone at the shipyard is required to wear high-visibility clothing or reflective vests from parking area to place of work. Visitors are also issued reflective vests at the shipyard gate for the duration of their visit.

### Preventive fire prevention

Fire safety is one of the most important considerations for risk management and safety at the shipyard. Extinguishing a fire that breaks out onboard a ship is in many ways more challenging than at any regular property, and the greatest risk in a ship fire involves evacuation of personnel from a ship under construction.

In addition to evacuation, it is highly demanding to locate the scene of the fire and for fire fighters to access the scene in cramped, labyrinthine spaces. This is why the shipyard has its own fire department, on call 24/7 every day of the year.

Fire safety at the shipyard comprises of prevention of fires and other accidents, rescue operations and civil defence. This refers to the urgent measures taken when an accident happens, or is expected to happen, to protect and rescue people, shipyard assets and the environment, to limit damages and to mitigate the consequences. Civil defence efforts are about preparing for emergencies. Meyer Turku has, among other things, maintained and chartered the civil defence shelters located in its area, something that was not on anyone's radar only a few short years ago.

#### Number of accidents

	2022	2021	2020	2019
Meyer Turku Oy	25	31	35	47
Network companies operating at the shipyard	28	26	22	19

#### Accident rate, LTIR\*

	2022	2021	2020	2019
Meyer Turku Oy	8.1	10.5	10.5	13.0
Network companies operating at the shipyard	5.1	4.4	4.0	3.5
Accident rate, total	6.2	6.4	6.5	7.2

\*LTIR (lost time injury rate) = accidents causing a minimum of 1-day absence / million working hours

All of us who work at the Meyer Turku shipyard play the most important role in preventive fire safety. Litter and packaging materials continue to be the most common culprits for fires ignited by, for instance, sparks during welding operations. Therefore, keeping a clean worksite remains one of the key measures in preventive fire prevention. In addition to general tidiness, it also improves productivity.

Mandatory for everyone involved in hot work, hot work pass training developed specifically for the shipyard is an important part of daily fire safety. Over 6,000 individuals have undergone this training in the last three years. The shipyard and the ship under construction in particular are highly unusual work environments, and we felt that traditional hot work training does not sufficiently take our unique requirements into account. Training is conducted online and practical first-aid extinguishing training takes place in a designated training area. Online training materials are available in 17 languages.

We are involved in European shipyards' Safety Interest Group (S.I.G), cooperating in the area of fire safety. The S.I.G group has conducted shared analyses of fires and disclosed shipyards' fire and safety issues and innovations for shared use. Based on heavily researched shared information, predictive international fire prevention cooperation between shipyards goes back over 20 years.

### Onboard fire safety risks under close scrutiny

Compared to previous years, the number of initial fires caused by flame cutting reduced significantly. Incorporating the most high-risk hot work in the hot work permit system, overseen by rescuers, has been one of the main causes for this positive development. This has enabled us to significantly reduce the number of initial fires caused by flame cutting.

In 2022, a total of seven initial fires broke out at the shipyard, all of which were extinguished with one portable fire

extinguisher. Going back almost 20 years, statistics regarding onboard fires at the shipyard indicate that an average of 12 initial fires break out each year. Compared to the average, last year's figure was relatively good.

Onboard risk levels continue to dictate the permit requirements for hot work, and the goal is to increasingly replace the most hazardous hot work with alternative work methods. This also requires that we unlearn some old, familiar habits.

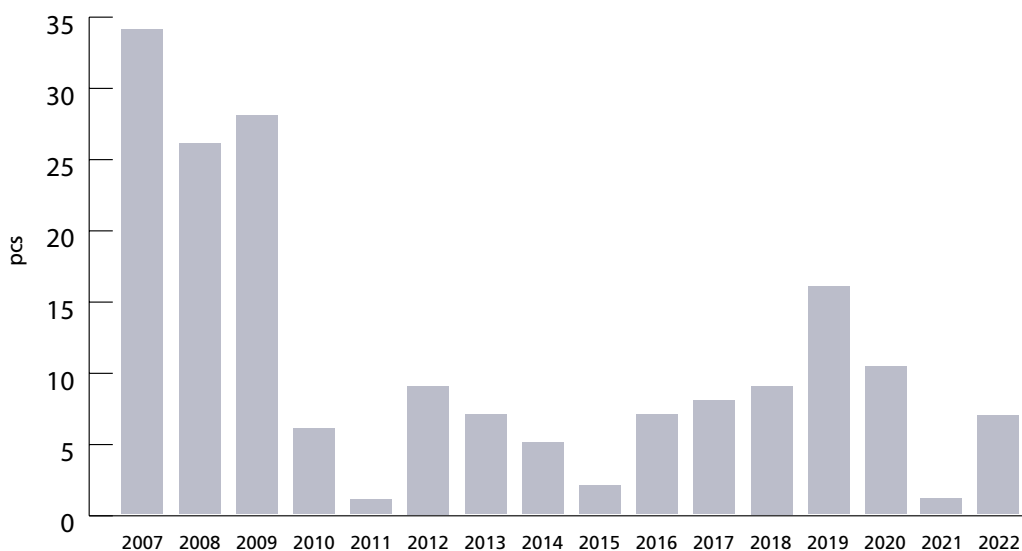
Ships under construction employ a digital fire risk reminder policy maintained by the shipyard rescuers. If rescuers on their onboard safety walks identify an excessive fire load that increases the level of risk in a specific area, this immediately affects any shipbuilding hot work in that area. If necessary, rescuers can prohibit hot work in specific spaces, pending removal of the excessive fire load.

### Initial fire can cause an evacuation of a giant cruise ship

Time is money in shipbuilding, especially so in case of a fire. When a ship is close to being handed over, a fire can cause smoke damages of up to 300,000 euros per minute. About seven minutes from ignition, fire reaches a stage where fire gases start igniting. This is an extremely dangerous situation for personnel, with a high risk for property damage.

In 2021, shipyard personnel accepted a challenge from an insurance inspector who suggested a two-minute emergency response time for a ship. This means that a first rescuer is on site within two minutes of receiving a fire alarm or an accident alarm from a ship or the shipyard area. Last year, we completed a total of 681 emergency response operations at the shipyard and onboard the ships, with an average emergency response time of 2 minutes and 42 seconds. Majority of the emergency operations were triggered by the ship's fire alarm system. A welder working directly under a fire

Number of initial fires





## HSE Day was all about safety

The annual HSE Day for everyone working at the shipyard was held in November. With the help of various presentations and activities, the event highlighted various subjects important for health, well-being, safety and the environment.

The day's programme included an HSE quiz, exploration of the virtual world, showcasing fire brigade equipment, guidance for defibrillator use, introduction to safety products and balance practicing. In addition, visitor feedback was collected to develop the shipyard's HSE operations and to identify areas of improvement at the shipyard.

A cleaning week preceded the event. The week was set up by the environmental department and rewarded litter picking volunteers with meal vouchers. ■

detector was the most common cause for an alarm. A two-minute emergency response time becomes especially challenging when the shipyard is building the largest cruise ship in the world, Icon of the Seas.

### At long last, a full-scale fire drill

Meyer Turku and the partner network working at the shipyard took on a lot of new employees at a time when drills were not possible due to the coronavirus pandemic. This means that a large part of our shipyard personnel had never attended a fire drill.

Unlike what we usually do, we announced beforehand that a full-scale fire drill will be held at the Icon on week 46. With the previous fire drill over three years earlier, it was important to first go through the stages of an onboard fire

drill. In a fire drill such as this, a headcount is taken for the entire shipyard personnel to ensure that no one is left behind onboard the ship.

The focus of the fire drill was on ship evacuation and the headcount process. The ship was successfully cleared of personnel – the last ones exited the ship at around the 13-minute mark, an excellent result for a ship this size. At the time of launching the fire drill, the ship had approximately 2,500 people on board.

Some areas of improvement were identified, including accuracy of the headcount process and company-specific assembly areas. Companies were also given suggestions for improving the headcount process and for reporting any missing persons to the command centre.

# Sustainable shipbuilding

Energy consumption and any related emissions and waste generated are the most significant environmental aspects in shipbuilding. Energy is consumed in production, in powering equipment, and in heating the properties and the ship. Significant amount of waste is generated due to the enormous amounts of materials required to build the ship and its cabins.

## Low-emission and resource-efficient production

In Meyer Turku's corporate responsibility strategy, the shipyard aims for carbon neutrality by 2030 for its own emissions. We monitor progress towards the goal by calculating the greenhouse emissions of our own operations (Scope 1 and 2) annually in accordance with the GHG protocol. We refined our Scope 1 calculations in 2022, which resulted in increased emission numbers from 2018 to 2022.

In our shipyard operations, the most significant emission sources include fuel consumption for the ship under construction and heating for the ship and the properties at the shipyard. We have also estimated both upstream and downstream emissions in the shipyard value chain (Scope 3), and we continue to refine our calculations.

We aim to assess and improve our data availability and the sustainability of our network under the NECOLEAP green transition project, within the SusFlow research project launched in 2023 and led by the University of Turku. The goal is to report on Scope 3 emissions in more detail in future sustainability reports.

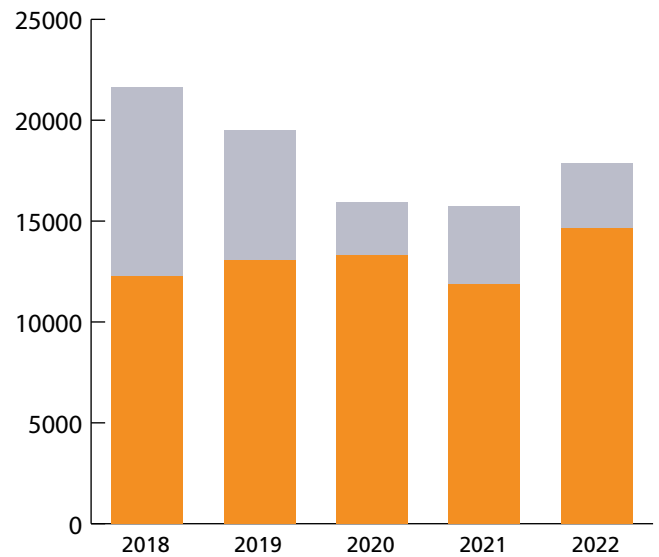
Scope 2 emissions at the shipyard have decreased significantly since 2017 when we transitioned to emission-free electricity for all our purchased electricity. Furthermore, the shift in the fuel mix of the district heating supplied to the shipyard and the consequent reduction in specific emissions have made a clear positive impact on the shipyard's emissions.

Since 2018, the use of LNG (Liquefied Natural Gas) is reflected in our Scope 1 emissions. The majority of the ships manufactured at our shipyard are currently LNG-powered, and LNG is consumed when the ship is at the dock with engines running and during test drives at the sea. The shipyard's direct emission sources also include machinery fuel consumption and the fuel oil-powered portable heaters.

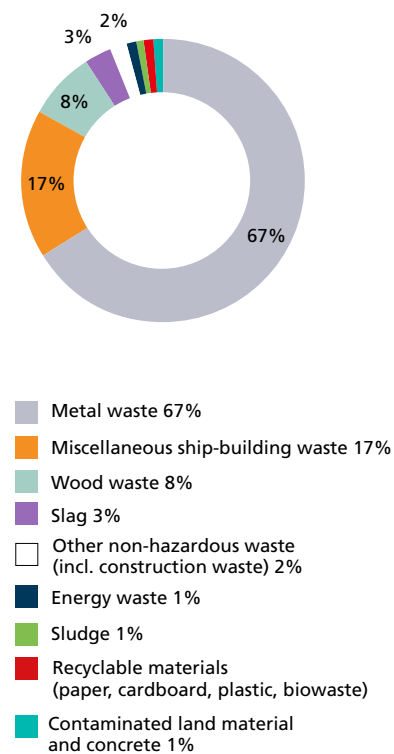
In our investments, we consider energy-efficient solutions and waste heat recovery. The shipyard also has its own 4,000 m<sup>2</sup> solar power plant that currently produces just under 1% of the total electricity needed at the shipyard.

The use of solvents generates volatile organic compounds, i.e. VOC emissions, which form tropospheric ozone hazardous to humans, flora and fauna. The majority of the shipyard's VOC emissions are generated while pre-processing steel sheets. The thermal treatment of our VOC emissions at the RTO facility (Regenerative Thermal Oxidizer) has helped significantly reduce VOC emissions in the pre-processing.

Shipyard CO<sub>2</sub> emissions (Scope 1 and 2)



Ordinary waste 2022







## More efficient use of steel sheets

The ongoing Meyer Transformation programme is designed to develop shipyard operations with structural changes.

– With active development, production units have managed to improve cost-efficiency, processes and practices which has also helped reduce the shipyard's carbon footprint. The life cycle management project for steel materials in block production is a great example of this, says Meyer Transformation's Local Implementation Lead **Erik-Mikael Telkki**.

The project is designed to minimise steel waste in the shipbuilding process. Steel sheets make up a significant share of ship hull materials, so actions reducing the use of sheet materials were selected as the first area of development.

Development projects focus on three stages, helping make steel consumption more efficient:

1. Optimisation of nesting
2. More efficient use of leftover sheets in own production
3. Optimisation of steel procurement practices

In the parts manufacturing process, nesting refers to laying out cutting patterns for ship hull steel parts on steel sheets or profiles. To optimise nesting, an algorithm is created to lay these parts out in the most resource-efficient way for each batch of steel. More efficient nesting reduces the amount of leftover sheets produced and reduces the volume of sheets required.

A new process is also created for more efficient utilisation of leftover sheets. The leftover sheets from the first round of nesting are recycled back to the automated sheet storage where they can be directed to the parts manufacture process for reuse.

Additionally, sheet procurement practices will be more tightly integrated with the raw materials used in parts manufacture. As part of the new procurement practices, steel sheet consumption will be monitored at the sheet item level. This also covers sheets nested but not yet cut and sheets to be cut in the near future as indicated by the planning models.

The biggest savings in steel sheet consumption are achieved when all parts of the process support each other, making it important to take a holistic approach to the process. The challenge is to implement all required changes in a way that does not burden logistics or production in the further processing of sheet parts or delay the ship's production schedule.

Procurement of steel sheets is one of the largest cost items in block production and the sheets a significant set of materials in the entire shipbuilding process. An improvement of just a couple of percentage points in utilisation of raw plates, a realistic goal in this project, immediately reflects as savings in cost projections and in the consumption of raw materials. ■

## Minimising waste

As part of the Turku shipyard corporate responsibility strategy, we aim to become an industry pioneer in circular economy. The long-standing work towards efficient use of materials and improved waste recovery at the shipyard will be made even more efficient.

Our shipyard and our cabin factory generate a wide variety of waste. As ship sizes have become bigger, the amount of waste has likewise increased. In 2022, the shipyard conducted a waste assessment survey together with the shipyard's waste management service provider. The survey was designed to identify the waste components generated at the shipyard along with their sources and methods of collection. We received several recommendations to develop our waste management, and some changes were already implemented at the time of the survey to improve the efficiency of waste collection.

Following the waste assessment survey, the shipyard begun planning for increased sorting of waste and improving the efficiency of waste logistics. In 2023, the shipyard conducts various pilot projects both in the ship under construction and in the shipyard area.

In 2022, 98% of the non-hazardous shipyard waste and 96% of the non-hazardous cabin factory waste was collected for recycling or reuse as material or energy. Shipyard operations produce an abundance of metal waste which can be recycled in channels that have proved to be efficient. With the tightened requirements in waste legislation, the shipyard will pay closer attention to reducing mixed waste, to source separation, and to more efficient separate collection of packaging materials. More attention is also paid to ensuring that no useful materials are discarded as waste.

The cabin factory has worked systematically to improve recycling efficiency and reduce unused waste. The amount of unused waste has decreased from 40 kg per cabin to under 5 kg per cabin. The amount of material ending up as waste is reduced with optimal protection and careful handling across the supply chain from materials supplier to the shipyard.

## Contributing to a cleaner environment in the vicinity of the shipyard

By developing waste management, we also contribute to cleaner environment in the areas surrounding the shipyard. The Turku shipyard is located on the Baltic Sea coastline, right on the inner edge of the archipelago. Due to challenging conditions and with many of our operations taking place outdoors, the wind whisking away plastic packaging materials has been a challenge for us. We regularly conduct coastline clean-up operations, both from the land and from the sea. Prevention, however, plays the most prominent role, and we

strive to prevent littering of the surrounding environment and the maritime area by covering ships under construction with tarp, by using nets and other barriers in the dock area and by replacing open waste bins with lidded bins. Providing instructions and training and continuous reduction of packaging materials are also important.

Shipyard operations are governed by an environmental permit. Shipyard's environmental permit obligates the shipyard to improve, monitor and review its operations, its emissions and its environmental impact. The environmental permit governs all shipyard operations and any changes implemented in the operations as well as determines the processing and storing of chemicals at the shipyard. With the change in the environmental permit, the shipyard has begun replacing fuel tanks used for heating the ship with double-jacketed tanks to prevent oil and fuel leaks. The shipyard has also had a new tank built in 2022 for storing glycol-water mix. An added benefit of the new tank is the fact that glycol tanks no longer need to be moved around at the shipyard, which reduces risk of leaks. The new tank also helps in recycling glycol, reducing the amount of chemicals consumed.

Our certified management systems (Meyer Turku and Piikkio Works):

- ISO 14001 Environmental management system
- ISO 9001 Quality system
- ISO 45001 Occupational safety system

## Making good use of dredged material from shipping lane

The Perno shipyard lane was dredged at the turn of 2022–2023 together with Port of Turku. Some dredging was required at the shipping lane to ensure safe delivery of large ships to clients in the future.

No longer disposed at sea, dredged material was put to good use in earthmoving at the Lauttaranta pre-construction area in Hirvensalo, Turku. Dredged material was transported by barges to Lauttaranta where the material was received and processed in accordance with the area's environmental permit.

Surveillance specified in the dredging permit was conducted during dredging. Based on the results, waters got slightly cloudier during dredging but returned to pre-dredging levels immediately once dredging was completed. Any adverse effects from dredging were minimal and temporary, and there was no significant or long-term impact on the quality of water or water system. ■



## Energy Efficiency Agreement paving our way towards a carbon neutral shipyard

The shipyard targets carbon neutrality for its own operations by 2030. Reaching this goal requires major measures in e.g. improving the efficiency of energy consumption. As part of the effort to reduce energy consumption, the shipyard began preparations to join the Energy Efficiency Agreement (EEA).

Energy Efficiency Agreement is an agreement between industrial associations and the Finnish government on the efficient use of energy. For a business, joining the agreement means committing to increasing energy efficiency in accordance with the goals specified in the agreement. The goal is to reduce energy consumption by 7.5% by the end of 2025.

Energy Efficiency Agreements by companies are a significant way to drive energy efficiency in the business world and society at large and an integral part of the Finnish national energy and climate strategy.

Over 700 companies and over 100 municipalities and joint municipal authorities have committed to the goals of the Energy Efficiency Agreements. The energy use of all participants equals nearly 60% of the total energy consumption in Finland. ■

# Environmental figures

The following graphs show usage of energy, electricity and water as well as amount of waste at Meyer Turku, Piikkio Works and ENGNd.

## Meyer Turku's energy, electricity and water consumption

	2022	2021	2020
District heating MWh	41,075	48,272	37,380
Electricity, MWh	76,293	73,067	67,043
of which produced in our own solar power plant	510	515	417
Water consumption m <sup>3</sup>	223,960	172,000	144,500

## Piikkio Works, energy, electricity and water consumption

	2022	2021	2020
Electricity, MWh	1,042	985	1,135
Light fuel oil, kg	31,360	5,091	32,808
Liquefied gas, m <sup>3</sup> *	107,182	142,158	121,548
Water consumption, m <sup>3</sup>	1,613	1,716	1,852

## Technology Design and Engineering ENGNd Oy, energy, electricity and water consumption

	2022	2021	2020
District heating, MWh	62	66	63
Electricity, MWh	38	35	42
Water consumption, m <sup>3</sup>	56	67	n/a

The company is a tenant at the property, KPIs calculated based on floor space (m<sup>2</sup>) used

## Meyer Turku, carbon dioxide emissions (Scope 1\* and 2), tons of CO<sub>2</sub>

	2022	2021	2020	2019	2018
Scope 1	14,634	12,997	14,779	13,805	7,502
Scope 2	3,265	3,837	2,654	6,400	27,180
Total	17,899	16,834	17,433	20,205	34,682
Emission intensity (kg of CO <sub>2</sub> eq/h)**	2.1	1.9	2.0	2.3	3.3

\* We refined our Scope 1 calculations in 2022, which resulted in increased emission numbers from 2018 to 2022.

\*\* Emission intensity in relation to hours worked, incl. working hours of partner network at shipyard

## Other airborne emissions (tons)

	2022	2021
Particulate matter (PM)	3.0	2.4
Nitrogen oxides (NOx)	218.2	167.7
Sulphur oxides (SOx/SO <sub>2</sub> )	3.9	2.8
Other volatile organic compounds (VOC)	130.5	87.2

## Meyer Turku, waste by component (tons)

	2022	2021	2020
Metal waste	19,993	21,459	14,676
Miscellaneous ship-building waste	5,156	4,197	5,880
Wood waste	2,267	1,774	2,409
Slag	798	778	1,697
Energy waste	419	401	493
Recyclable materials (paper, cardboard, plastic, biowaste)	286	257	295
Sludge	64	44	197
<b>Ordinary waste, in total</b>	<b>28,983</b>	<b>28,910</b>	<b>25,767</b>
Hazardous waste	295	212	316
Contaminated land materials and concrete	251	399	1,039
Untaminated land materials and concrete	106	94	2,223
Other non-hazardous waste (incl. construction waste)	491		
<b>Total</b>	<b>30,126</b>	<b>29,615</b>	<b>29,028</b>

## Piikkio Works, waste by component (tons)

	2022	2021	2020
Energy waste component	142	76	122
Metal waste	108	68	103
Cardboard and paper	102	55	92
Construction waste	14	18	25
Miscellaneous wood	0	0	2
Paint waste	0	0	0
Combustible waste	0	0	0
Other (total)	3	4	3
<b>Total</b>	<b>369</b>	<b>145</b>	<b>225</b>

## Meyer Turku, waste recycling and disposal (tons)

	2022	2021	2020
Recycling	20,131	21,177	14,210
Recovery (including energy recovery)	8,675	6,532	9,084
Reuse	140	486	691
Incineration disposal and physicochemical treatment (hazardous waste)	243	205	337
Composting and decomposition	185	-	22
Disposal at landfill	752	1,215	4,880

## Piikkio Works, waste recycling and disposal (tons)

	2022	2021	2020
Recycling	210	123	195
Recovery (incl. use for energy)	142	76	124
Landfill disposal	14	18	25
Other	3	4	3
Incineration		-	0
<b>Total</b>	<b>369</b>	<b>221</b>	<b>347</b>

## Technology Design and Engineering ENGnD Oy, waste by component (tons)

	2022	2021
Energy waste component	0.1	0
Cardboard	0	0
Confidential documents	0.2	0.2
Combustible waste	0.8	0.8
<b>Total</b>	<b>1.1</b>	<b>1.0</b>



# 03

## WORLD-CLASS PERSONNEL

# Top professionals of shipbuilding

Modern cruise ships are like smart cities sailing across the seas, and cruise ship production has evolved into a demanding field of the technology industry. Building cruise ships requires not only highly professional metal industry workers but also top expertise in design, project management, technology and product development. It is important for us to maintain our employees' high level of expertise and ensure our personnel's well-being and ability to cope.

The secret behind Meyer Turku's exceptional performance is a highly professional and thriving personnel that we support in all possible ways both at work and in their free time. The shipyard's health care centre helps us maintain our work capacity, ensuring our employees stay healthy and maintain their ability to work until retirement. Furthermore, the shipyard's own school helps us continuously develop the required competences.

## Responsibility for personnel well-being

It is very important for us to take a comprehensive approach to our personnel's work capacity, which means identifying, preventing and managing risks and stress factors related to shipyard work as well as supporting our personnel's well-being and rehabilitation where necessary. Our tried-and-true occupational health care, our managers and our early support model are key to this.

Should an employee burn out, fall ill or incur an injury, our goal is always to help them recover and return to their duties. Illness or injury can reduce work capacity and render an employee unable to return to, say, physically challenging duties, such as those of a sheet metal welder. In these scenarios, we consider various options together with the employee, their manager and occupational health care to help them return to work through retraining, for instance.

Maintaining work capacity and not having to retire on disability pension have significant impact on not only the personal and financial well-being of an employee but also the economy at large. Our goal is to secure good work capacity and a long working career for every employee.

## Well-being through coaching

To support well-being and work capacity, we continued our pre-emptive coaching for reducing work-based physical and mental stress and for maintaining work capacity in 2022. Coaching in small groups was planned together with occupational health and HR. Practical implementation was handled by the shipyard's occupational health psychologist and physiotherapist.

Interactive meetings are designed to pre-emptively identify stress factors related to work, engage in dialogue and provide methods for controlling them. The main themes of well-being at work have included management skills, stress management and better sleep – especially for those working in shifts. Clearly themed coaching is intended to lower the threshold of participation, as everyone is able to choose a group that best suits their needs. More coaching themes may be added in the future based on personnel needs. The coaching is open to all of our personnel, and content can also be customised to meet the needs of specific departments.

Several factors affect well-being at work, including sense of community, the dynamics of the work community and equal and fair manager work. Management coaching has a direct correlation to personnel well-being and coping at work.

## Experience-based learning in management coaching

Unified and good leadership is important to us, and we want to ensure that all our current and future managers continue to learn and develop on the job. This is why we have defined the leadership principles for Meyer Turku. These are our guidelines for manager work, management culture and competence development for managers.

Competence development expanded in 2022 as we continued the systematic coaching of management started in 2021. Manager coaching was tied to an overall solution where we develop the competence of management as well as tools, and seek to unify our manager culture in order to respond to future needs and goals. The purpose of management coaching

## Online learning

The shipyard operates its own Shipbuilding School that helps us ensure that we always have knowledgeable and well-trained personnel designing and building our ships. We also train the personnel of our subsidiary and network companies.

For the most part, training at the Shipbuilding School is online-based, making it possible to attend the training at a time that best suits each participant. In addition to traditional professional training, the training of new managers has been moved online, for example.

In 2022, the number of personnel participants (from Meyer Turku and subsidiaries) in the Shipbuilding School training increased from the previous year while participation from network companies remained roughly at the same level. Over 5,300 people participated in short-term training, with 30% of them personnel from our network companies. Five recruitment training events were held in 2022, resulting in employment of 25 persons at the shipyard. ■



is to develop the managers' ability to lead their teams and individuals according to the Meyer Turku's management principles.

Through various coaching, we continue to develop a participatory leadership style that makes use of coaching, the giving and receiving of feedback, as well as change management in your own team. Also, the intention is to create a common method for managing and performing a cultural change for the company, as well as for working together and networking across internal departmental

boundaries. Manager coaching is performed in small groups of 12 participants. Training is mostly based on experience-based learning. In addition to intensive training days, an important role is given to practicing already-learned issues with participation from one's team as part of everyday work.

The members of Meyer Turku's management team will also participate in the trainings to spar others and discuss their own experiences. Based on feedback received, manager training has been a success, and coaching will continue regularly with new smaller groups. ■

## How are we doing? Personnel survey as a development tool

We want to know how our personnel is doing. In spring 2022, we conducted a personnel survey for all personnel at Meyer Turku. The results show that we can rely on the help and support of our coworkers. The respondents also felt that the work at the shipyard has clearly defined goals, and there is a strong sense of working together to reach these goals. It is particularly rewarding to learn that a large majority feels that everyone in the work community can come forward with any issues and challenges.

However, there are also many areas for improvement. Our employees feel they are not sufficiently familiar with the Meyer Transformation programme and its goals. Cooperation between various departments is considered challenging, which was also highlighted as the #1 area for rectification and improvement in the open-ended responses. Respondents would also like to have more opportunities for improving various operations. Work processes and practices also need some development.

There was a slight downturn in the results compared to our 2018 survey. This is likely due to the major changes in our operating environment, such as those brought on by the coronavirus pandemic and related contingency arrangements and cooperation negotiations. However, the respondents felt that managerial work has improved. This development is due to systematic efforts launched to develop managerial work through, for instance, coaching and training.

The results were reviewed team by team, while a development plan was prepared. Each unit selected 1 to 3 important areas for improvement, to be implemented by the team and its manager themselves. The three most common themes for areas of improvement included internal cooperation and flow of information, work processes and procedures, and coping and well-being at work. The related tangible areas for improvement included meeting practices, practices for sharing information, clarification for division of responsibilities, and more equal distribution of workload.

Higher management also reviewed the results and devised company-wide development efforts. Some of the development efforts have even been incorporated in strategic goals for 2023. ■

### TOP RESULTS

	Average
1. I can always rely on my coworkers' help and support	4.05
2. I have clear objectives in my work	4.02
3. We work together to achieve our goals	3.91
4. We keep our promises to clients	3.86
5. Everyone in our immediate work community can safely come forward with issues and challenges	3.84

### WEAKEST RESULTS

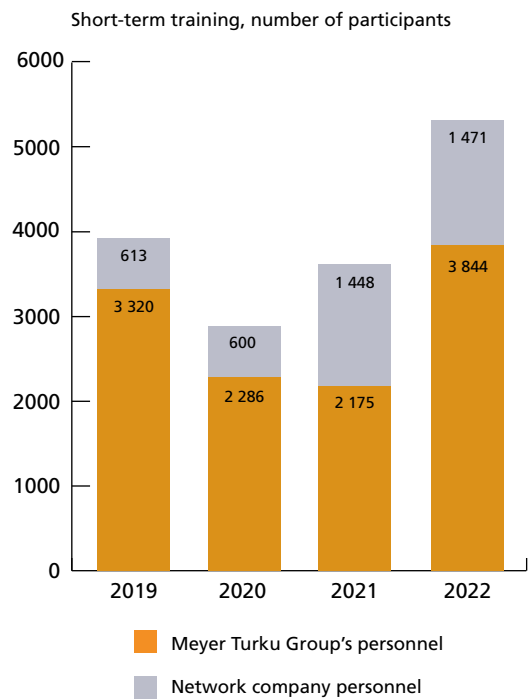
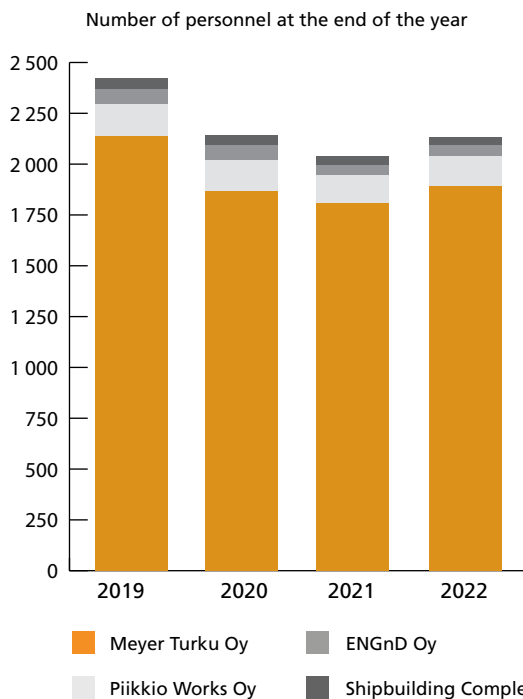
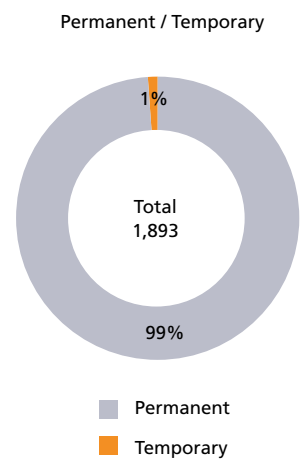
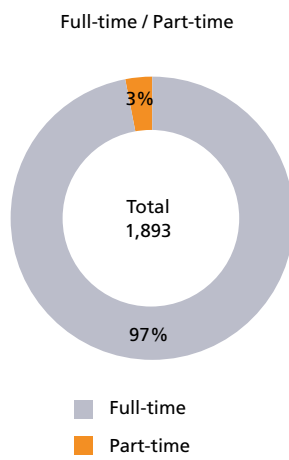
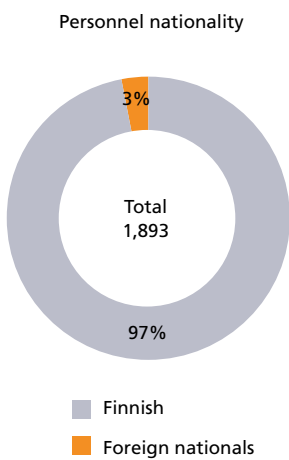
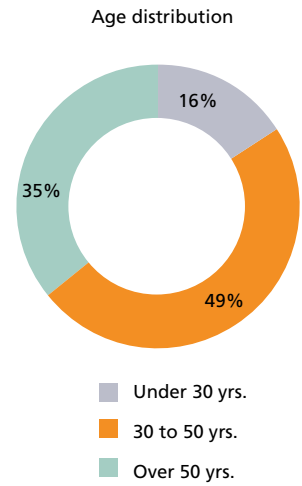
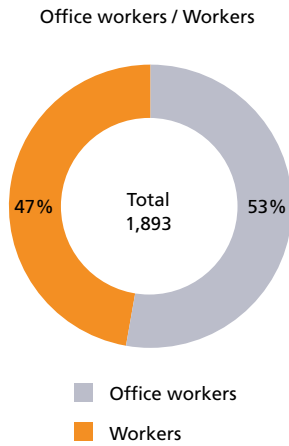
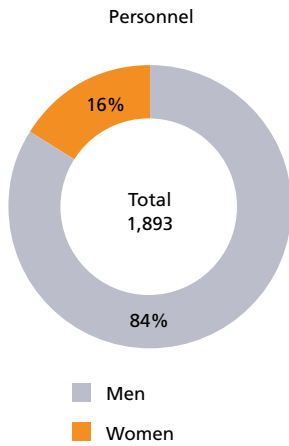
	Average
1. I feel that I have sufficient information on the means to achieve the goals of Meyer Transformation	2.25
2. I feel that I have been provided sufficient information on the goals of Meyer Transformation	2.42
3. I know what the Meyer Transformation programme is about and why it was launched	2.64
4. Cooperation is smooth between various areas of operation	2.78
5. I have sufficient opportunity to participate in the development of our operations	3.10

The survey had a response rate of 63%.

### OVERALL RESULT & RESULTS FOR EACH SECTION

The overall result is the average of all questions in the survey. A section's result is the average of the questions within the section.





## Number of personnel at the end of the year

	2022	2021	2020	2019
Meyer Turku Oy	1,893	1,806	1,869	2,139
Piikkio Works Oy	147	139	150	153
Technology Design and Engineering Eng'nD Oy	50	52	73	76
Shipbuilding Completion Oy	42	44	49	53
<b>Total</b>	<b>2,132</b>	<b>2,041</b>	<b>2,141</b>	<b>2,421</b>
On average, within the year	2,133	2,086	2,067	2,387
New recruitments	257	144	115	287
Starting turnover	7.7%	8.4%	5.3%	4.7%

## Training and education

### Short training, number of participants

	2022	2021	2020	2019
Meyer Turku Group's personnel	3,844	2,175	2,286	3,320
Network company personnel	1,471	1,448	600	613
Participants total	5,315	3,623	2,886	3,933

### Recruitment trainings, number of trainees

	2022	2021	2020	2019
Meyer Turku Group's personnel	25	0	15	44
Network company personnel	0	0	0	35
Trainees, total	25	0	15	79

In 2021, no recruitment training was conducted due to cooperation negotiations and Covid-19.



# 04

## A PART OF SOCIETY

# Part of society

We have a very important and responsible role in society, as Finland Meyer Turku is first and foremost seen as a leader in the shipbuilding industry. Each new ship completed at our shipyard drives technological development and sustainability in the Finnish maritime industry.

We participate in both Finnish and international projects designed to develop sustainability in the maritime and shipbuilding industries. We also work closely together with various parties in the Finnish maritime cluster as well as research and educational institutes.

The scope of our shipbuilding projects is immense. A single ship's delivery value can be up to one percent of all of Finland's annual exports, and the impact of our operations on the overall economy and employment is significant.

We don't build our ships alone. Around 80% of the value of a ship is from the work of network companies, and 20% from the work of the shipyard itself. Together with our network companies, we directly and indirectly employ around 8,600 people. When accounting for the employment of foreign companies and the network's own suppliers, the actual impact is even more significant. Ensuring the sustainability of our network is a top priority for us.

## Cooperation drives success through the times

According to the regional economic impact study of the Meyer Turku shipyard and its partner network, now conducted for the third time by the University of Turku, the shipyard's value of deliveries and employment impact continue to grow.

In Southwest Finland, Meyer Turku shipyard is the largest company in terms of turnover, the fourth largest employer of individual businesses and the second largest employer of the industrial sector. The economic impact of the company and its partner network are widely felt outside Southwest Finland, extending across Finland and even abroad through its partner companies.

The shipyard's supplier network has grown by about one hundred suppliers in the last three years, and the total value of deliveries has increased approximately 4%. We build ships with the help of a predominantly Finnish network. In 2021, the shipyard had a total of 1,323 direct supplier companies, 70% of which were Finnish.

The total combined turnover of the shipyard and its direct supplier companies' shipyard-related production is approximately 2.1 billion euros. This amounts to growth of about 9% compared to the previous comparison from 2018. In 2021, the value of supply orders to the shipyard exceeded 972 million euros, signifying a growth of 4% from 2018.

The largest economic impact is felt in Southwest Finland where 96% of the shipyard and its network personnel live. Tax revenue impact is biggest in the municipalities of Southwest Finland, and in Turku in particular. Of the companies in the shipyard network, 42% are located in Southwest Finland, with 39% of the value of supply directed there.

Shipyard's impact on employment has increased since the last study, with indirect employment impact increasing in

particular, a notable 22%. Following a downturn caused by the coronavirus pandemic, the number of shipyard's own personnel has since turned a corner, with the shipyard's operations directly employing about 4,100 persons in man-years. Indirectly, the shipyard employs 4,500 persons.

However, total impact on employment is significantly larger than the figures above, because the study did not examine indirect impact on, for instance, retail or services used by suppliers in subcontracting chains of foreign companies or by the shipyard personnel.

## A professional, wide network is of vital importance to us

While in the past shipyards built ships almost entirely on their own, it is now becoming more typical for shipyards to assemble ships from advanced components and modules, often involving a joint effort by multiple operators. The role of the shipyard is primarily to manage and coordinate this overall effort.

Our network includes, for example, design companies, device, material and system providers, turnkey solution providers as well as subcontracting and service providers. We use the network to acquire not only devices and materials for the ship, but also most of the design and outfitting work – the latter typically in the form of turnkey solutions.

## Network sustainability monitored constantly

Thousands of companies work at the shipyard every year, some just for a few days, others on a constant basis. We train all network employees to ensure safe work at the shipyard, and we closely monitor our providers' ways of working and their performance.

It is very important for us to know that all our suppliers work in ways that are both ethical and sustainable. All our agreements include suppliers committing to upholding our Code of Conduct for Suppliers.

In our selection process for suppliers, we pay attention to not only price, quality and reliability of supply, but also to the supplier taking care of their obligations regarding society, work safety and the environment. We require all our network companies to draft their own plans for work safety and occupational health.

We monitor all companies working at the shipyard regarding their fulfilment of, for example, the Act on the Contractor's Obligations and Liability when Work is Contracted Out and the Occupational Health Care Act, including companies that do not have a direct contractual relationship with Meyer Turku.

The shipyard contains its own workgroup for network monitoring. Its key goals are fighting grey economy and grey workforce and monitoring that suppliers live up to their requirements in society, such as their obligations regarding taxes and social contributions, as well as monitoring working hours.

## Tax number and Finnish residence permit requirement implemented

In spring 2022, Meyer Turku decided to implement a requirement for Finnish residence permit for employees outside the EU working in design, planning and production. The requirement entered into force on September 1, 2022. The decision clarified the various workforce-related interpretations by shipyard stakeholders and consequently simplified the rules for working at the shipyard for individuals outside the EU.

Another big change in 2022 was the implementation of shipbuilding industry tax number. It was implemented in the beginning of July. The tax number had already been implemented in construction industry in 2012. The implementation of the tax number was preceded by approximately a year of preparations with authorities.

Now the tax number is visible on new shipyard ID cards along with a picture, name and employer information. Everyone working within the gates of the shipyard area must visibly wear an ID card with a picture. In the autumn, Regional State Administrative Agency for Southern Finland (AVI) organised a large-scale inspection regarding the implementation of the tax number at the shipyard. The results were good, as the required tax numbers were presented and visible.

## Safety cooperation with relevant authorities

The shipyard's operations are subject to authorisation, and the shipyard cooperates constantly with authorities that inspect

and monitor its operations, including those from the Finnish Safety and Chemicals Agency (Tukes), Regional State Administrative Agency for Southern Finland (AVI) and the Occupational Safety and Health Division at Regional State Administrative Agency of Southwestern Finland.

We work closely together with the Regional State Administrative agency to perform the occupational safety checks for companies in our network. Cooperation improves and advances not only occupational safety at the shipyard but also the monitoring efforts of authorities.

Both domestic and foreign companies operate at the shipyard, and the cooperation allows for efficiently monitoring their operations regardless of their domicile. We help set up the inspections for selected companies in our network and also support the work of authorities in following up on any deviations from rules detected.

In addition to workplace checks, the inspections involve pre-emptive actions, such as risk evaluations and onboarding. The shipyard uses an online occupational safety training programme mandatory to all who work at the shipyard. Additionally, all network companies must organise their own onboarding and briefing for employees.

The Meyer shipyards employ joint supplier chain management that improves the monitoring of our suppliers. With the shared supplier management, we can set the same requirements for all our network companies. Information on deviations, such as compliance negligence, are available to all our shipyards. ■

## Cooperation between Aalto University and Meyer Turku took on a new, highly visible shape

In September 2022, Meyer Turku Oy's Meyer Hall opened its doors in the iconic K1 building at the Otaniemi campus. It is the first sponsored lecture hall on the premises of the School of Engineering and part of the sponsorship agreement between Aalto University and Meyer Turku, designed to further strengthen the fruitful cooperation between the university and the shipyard company. A dedicated lecture hall is part of the company's efforts to build its image as an employer among the students.

– We want to reach experts from different fields and build dialogue with them about the future of shipbuilding, so we are looking forward to the opportunities brought by the new space. We hope that all Aalto students interested in marine engineering and ship design discover the lecture hall. But everyone is welcome. A sustainable future and the technological solutions it requires provide unprecedented opportunities for world-class professionals on a wide scale, says **Tim Meyer**, CEO of Meyer Turku. ■



Tim Meyer, Ari Niemelä, Mikko Ilus, Marjo Keiramo, Piritta Puolakka

# Meyer Turku – an active partner and an eager learner

Meyer Turku is partnered with national and local schools on many fronts.

We value interaction and mutual learning and provide development opportunities for students of shipbuilding and other fields. Today's luxury cruise ships incorporate not just steel but also world-class technology and everything in between. A shipyard needs top professionals from a truly wide scale of fields.

Our network of contacts includes not only universities, universities of applied sciences and vocational colleges but also general upper secondary schools and junior high schools. In cooperation with the Yrityskylä Business Village run by Economy and Youth TAT, we provide ninth-graders with

positive experiences regarding working life, economy and the society. A Finnish learning concept, Yrityskylä has been awarded for the best educational innovation in the world.

In addition to other schools, the shipyard's own Shipbuilding School has played a key role for 60 years and counting. The Shipbuilding School provides training for a significant part of new employees starting at the shipyard. The Shipbuilding School also offers degree programmes that allow students to graduate as a ship's sheet metal welder, a ship's pipe fitter or machine fitter, or a ship designer. The school also cooperates with the managers at Meyer Turku, taking charge of maintenance and management of personnel's competence in accordance with the future needs of the company. ■

“We are a rare breed” – For 60 years, the Shipbuilding School has taught students how to build the world's finest cruise ships

The Shipbuilding School operating at the Meyer Turku shipyard is one of the few remaining schools in Finland that are run by a company. Having turned 60 in autumn 2022, the school not only has a long tradition but also a firm grip on the modern day and the future.

– Our advantages as a small industry school include agility and the ability to quickly respond to competence needs of the parent company and the entire maritime industry network. We are also highly oriented towards working life and we have very low operating costs compared to any provider of education. But we are a rare breed. In fact, we are one of the last remaining industry schools that operate with such a concept, providing education primarily with the help of in-house personnel, says principal **Vesa Eskonen**.

The school has a long tradition in training shipbuilding industry professionals in Finland. An industry school at the time, it launched its first course on September 3, 1962. During its operation, the school has trained approximately 15,000 workers for the shipyard. In addition, the Shipbuilding School organises continuous training for personnel, with about 3,000 participants every year from the shipyard and its network.

The majority of the teachers at the Shipbuilding School work at the shipyard in addition to their teaching responsibilities. Furthermore, educational cooperation is organised with several other schools and the maritime industry network. ■







# Responsible operations

Under no circumstances do we accept unethical or illegal practices.

In our Code of Conduct, we have specified the commonly accepted practices at Meyer Turku. Our Code of Conduct covers, for example, opposing corruption, conflicts of interest, fair competition and acquisitions, employee rights, occupational safety and protecting the environment. We require all our employees and managers to carefully consider their actions, follow our ethical principles, and act with integrity in all business activities.

Our expectations for our partners are described in our Code of Conduct for Suppliers. All our suppliers are required to commit to these principles in writing.

## A system for preventing abuse

We use a reporting system that both our personnel and others, including those in our network, can use to report any abuse they observe or suspect, anonymously if needed. The system

also makes it possible to exchange information and submit additional questions anonymously.

The system helps us detect abuse, such as corruption and theft, and more quickly tackle any issues that may be uncovered. An anonymous channel also lowers the threshold for making

***“We do not condone unethical or illegal activities under any circumstances.”***

reports, and the system is available in ten languages to ensure that language is not a barrier for reporting.

A shared system makes it easier to improve the processing of reports as they are always submitted directly to the Compliance department that will investigate the issues. Any actions or consequences will be up to company management. ■

## Report description

This 2022 sustainability report by Meyer Turku Group concerns its parent company Meyer Turku Oy and all its subsidiaries (Piikkio Works Oy, Shipbuilding Completion Oy and Technology Design and Engineering ENGNd Oy).

In terms of training and occupational safety, the report extends beyond Meyer Turku Group. The reporting for any training provided at our Shipbuilding School and for any occupational accidents at the shipyard extends to Meyer Turku's networking companies' personnel as well.

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The framework for the report is based on upgraded GRI standard (2021)

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Image: Finnish Border Guard