



ARCTIA

# 2020

## Corporate responsibility



# Content

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# Reliable services in challenging conditions

Arctia enables safe, smooth and environmentally friendly water transport. We produce added value for our customers by combining different services into comprehensive service concepts in an innovative way.

The Group has three business areas: icebreaking, fairway maintenance, and hydrographic surveying. The business areas include a huge amount of experience and expertise, e.g. in oil spill preparedness and response, hydraulic engineering, pipe and cable laying, towing tasks, and the manufacture of plastic spar buoys and other buoys.

Arctia Ltd is a limited company wholly owned by the State.

The annual report of the Arctia Group consists of the annual review, the corporate governance and remuneration statement, the report on corporate responsibility, and the financial statements. The reports are published as PDF documents online at [www.arctia.fi/en](http://www.arctia.fi/en)

### ANNUAL REVIEW



### CORPORATE GOVERNANCE AND REMUNERATION STATEMENT



### RESPONSIBILITY REPORT



### FINANCIAL STATEMENTS



# Responsibility at Arctia





# Year 2020 in figures

## EMPLOYEES

### Total



### Offshore personnel

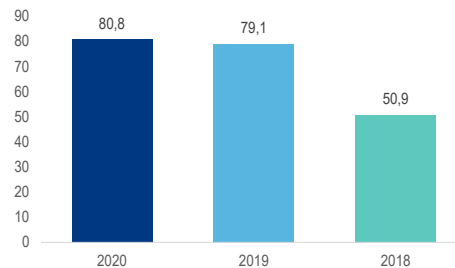


### Onshore personnel



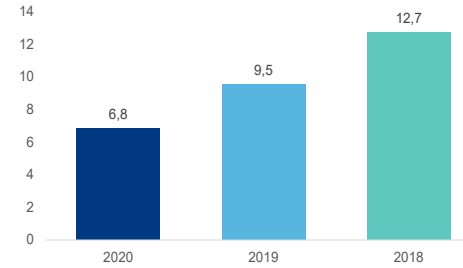
## KEY FIGURES

### Turnover M€



**80.8** 79.1  
50.9

### Investoinnit M€



**6.8** 9.5  
12.7

### Result for the financial year M€

**0.9** -2.0  
1.4

### Return on capital invested %

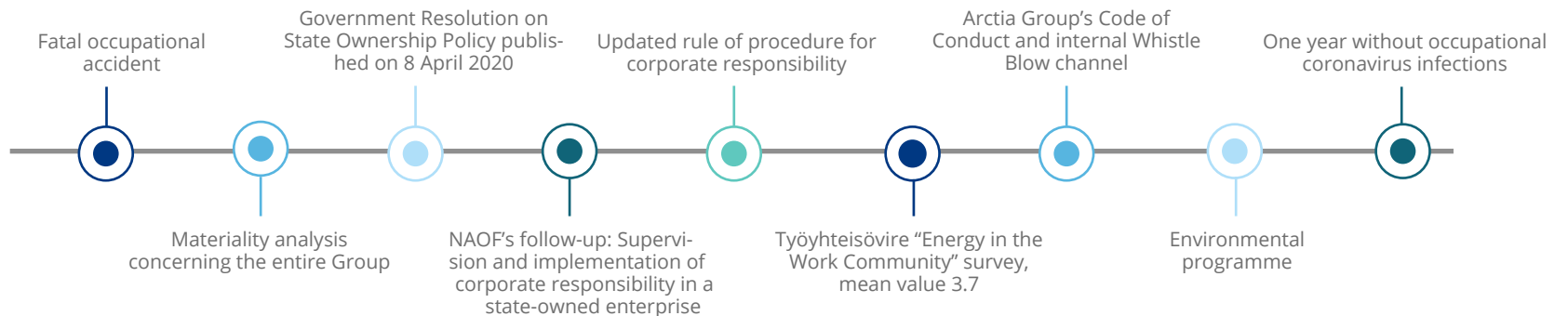
**0.9** 0.1  
08

### Operating profit M€

**2.4** 0.0  
2.2

The figures for 2018 are not comparable with years 2019 and 2020 due to the merger of Meritaito with the Group on 13 December 2018.

## 2020





# Arctia and responsibility

Arctia's mission is to enable safe, smooth, and environmentally friendly water transport throughout the year. Our mission is clear and tangible in the everyday lives of Arctia's employees. As almost all our operational activities take place close to the nature, in a vulnerable and valuable environment, it is easy to understand the importance of our responsibility.

Arctia's corporate responsibility is based on four cornerstones: financial, environmental and social responsibility, and responsible business practices. These cornerstones are integrated into our corporate activities and working culture. Corporate responsibility and its management was enhanced in 2020 based on a stakeholder materiality analysis. The result has been integrated in the Group's strategy and leadership practices. The updated corporate responsibility includes the updated and ambiguous guidelines laid by the Prime Minister's Office in 2020.

Our target by the end of the current strategy period 2020–2022 is to have the corporate responsibility deeply rooted into the everyday work of all Arctia's employees. In addition to the daily work, the cor-

porate responsibility development is managed via three strategic spearhead projects. More information of the projects can be found in this report.

Arctia's icebreaking, fairway maintenance and hydrographic surveying have a significant role enabling water transport in Finnish and international waters. We are committed to do this valuable work in an even more responsible way than before. With our corporate responsibility we want to make our contribution to the society in which we all live in.

**Maunu Visuri**  
President and CEO





# Corporate responsibility management

Arctia’s President and CEO together with the Management Team are in charge of the responsibility of Arctia’s activities. Responsibility work is directed by the Group’s policies, the Code of Conduct and good governance, the management systems, and the safety management systems of the Group’s shipping companies.

Arctia’s task is to safeguard winter navigation serving the transport needs of the Finnish trade and industry and to ensure safe and smooth water transport throughout the year. The high-quality services and smart solutions produced by Arctia promote the sustainable use of waters. In addition, Arctia provides hydrographic surveying services related to the contingency planning and preparedness of the Finnish Navy. These form the strong core of Arctia’s corporate responsibility.

At Arctia, responsibility management means excellent governance and responsible corporate culture. The Group’s President and CEO and the Management Team are responsible for the management and development of corporate responsibility, and they monitor the implementation of responsible operations on a monthly basis. In addition to the principles of corporate responsibility of state-owned companies issued by the Prime Minister’s Office, the work is also based on the company’s own guidelines and the expectations of its stakeholders.

The tools in the management and development of responsibility include the company’s policies, good

governance, leadership practices, and the rule of procedure. Arctia’s subsidiary Meritaito holds the ISO 9001 quality certificate, the 14001 environmental certificate, the ISO 45001 occupational health and safety certifi-

cate, and the RALA Competence by the Construction Quality Association (Rakentamisen Laatu RALA ry). The Group’s personnel guidelines also include the Code of Conduct and the equality plan.

Arctia reports on the implementations and targets of corporate responsibility each year in connection with the annual report. The report on corporate responsibility incorporated in the annual report is based on issues that Arctia has identified as essential (Government Resolution on State Ownership Policy VNK/2016/29). The previous instructions for the reporting of corporate responsibility by state-owned companies have also been taken into account in reporting, where applicable, in order to ensure sufficient coverage and to enable continuation of reporting.

In order to avoid interruptions in reporting, the annual report also includes in full the sections of the Climate Policy Report (ILPO) previously required by the Ministry of Transport and Communications. This report on corporate responsibility also includes, where applicable, the contents of the statement of human resources, which was used previously.



Figure 1. Description of Arctia’s corporate responsibility



The corporate responsibility manager is responsible for compiling and coordinating the report on corporate responsibility. Further information about the reporting principles is available at the end of this report on corporate responsibility.

### HOW THE BOARD OF DIRECTORS AND THE MANAGEMENT MONITOR THE IMPLEMENTATION OF CORPORATE RESPONSIBILITY

Responsibility is part of Arctia's strategy and operational decision-making, and the development of corporate responsibility is one of Arctia's strategic spearhead projects. The Management Team deals with the corporate responsibility review, the results of the responsibility indicators, and stakeholder feedback every month. Corporate responsibility issues are addressed regularly in the meetings of the Board of Directors, and the President and CEO is responsible for presenting them to the Board of Directors.

In early 2020, the materiality analysis of corporate responsibility was updated to include all services of the new Arctia Group. At the same time, the rule of procedure for corporate responsibility was updated, monthly and quarterly indicators were drawn up for monitoring corporate responsibility, and the reporting responsibilities and methods were decided on. The corporate responsibility manager was appointed for the development and reporting of corporate responsibility matters.

### OPERATING PRINCIPLES THAT DIRECT CORPORATE RESPONSIBILITY

#### Good governance – administration and operating principles

Responsible operations are made concrete through good governance and the company's working culture. The benefits of a responsible business practice can be explained by presenting them in pyramid format

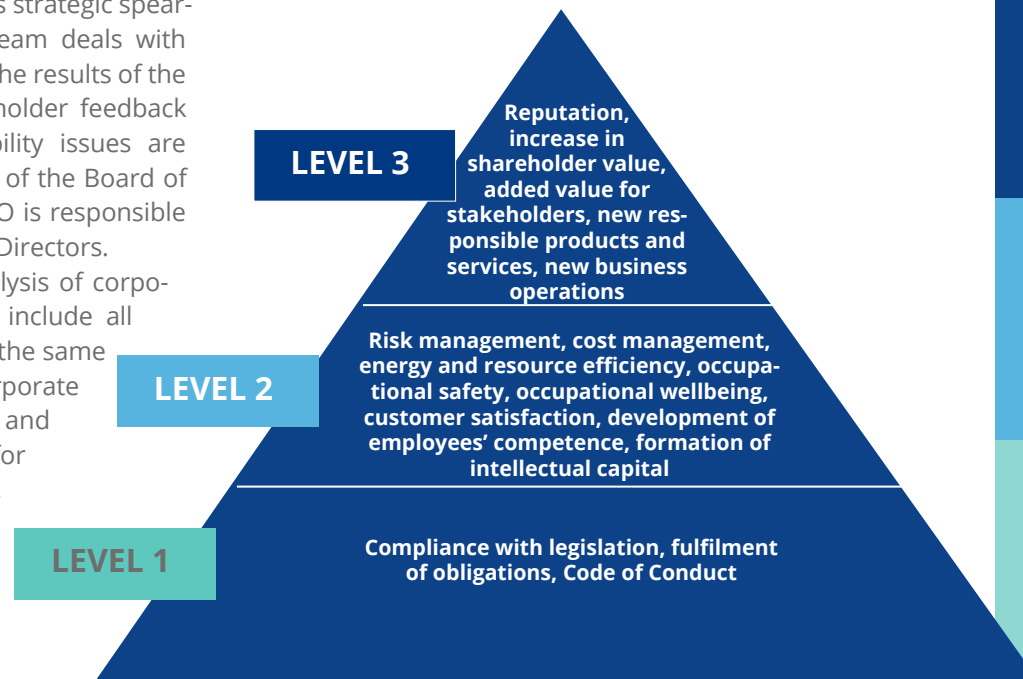


Figure 2. Corporate responsibility pyramid (source: Audit reports of the National Audit Office of Finland 5/2017)

where the compliance with laws and regulations and the Code of Conduct create the basis required by successful risk management, occupational safety and resource efficiency. Increasing the shareholder value and maintaining a good reputation are the result of long-term work.

We have worked on building a more responsible culture throughout the year. The indicators, monitoring and management of responsibility (Rule of

- LEVEL 3**
  - Utilising and maintaining a good reputation
  - Increasing shareholder value
  - Producing added value for stakeholders that is more extensive than the strategic interest
  - Creating new services together with the stakeholders
  - Producing a service that meets the wider challenges in society
- LEVEL 2**
  - Managing risks, being economic and efficient
  - Implementing energy-saving and waste minimisation programmes
  - Managing occupational safety and carrying on good HR policy, and making use of them
  - Identifying own strengths and competitive advantages and looking after them
- LEVEL 1**
  - Managing and resourcing safety
  - Addressing shortcomings, supervising operations and monitoring their compliance
  - Monitoring legislation and steering operations in accordance with policies and principles
  - Implementing direct requirements of national strategic interest
  - Complying with the principles of responsible business operations





Procedure for Corporate Management) have been defined. The company's policies and risk management have been updated and improved. Work on the development of safety and pro-environment attitudes has continued despite the organisational changes.

### Arctia's Code of Conduct

The Arctia Group's Code of Conduct was updated in autumn 2020 to cover the entire Group. The Code of Conduct directs the activities of Arctia and its every employee, director, managing director and member of the Board of Directors. Arctia's operations are based on responsibility and the compliance with laws and regulations. The company is committed to constant development of operations and to the promotion of ethical sustainable practices and solutions.

### Human rights

Arctia respects human rights and takes them into consideration in its operations. Human rights are accounted for in Arctia's Code of Conduct.

### Combatting bribery and corruption

Arctia pays attention to the prevention of bribery and corruption. The Arctia Group's Code of Conduct defines the anti-bribery and anti-corruption principles applying to all Group personnel.

In autumn 2020, Arctia introduced the Whistle Blow channel for internal use. With the reporting channel, employees can anonymously express their concerns about anything that does not comply with Arctia's values, policies, the Code of Conduct or local legislation and that may have serious consequences to our organisation or individuals. The use of the Whistle Blow channel will be extended to outside stakeholders in spring 2021. Arctia is committed to preventing any discrimination or reprisals against whistleblowers.

### Compliance with competition law rules

Arctia Ltd takes into account aspects of competition law in both national and international competition. Arctia's Code of Conduct and guidelines are complied with in all Arctia's tasks, and the management is also trained in competition law issues.

### Policies

The operations of the Arctia Group are directed by the management, financial, decommissioning, risk management, and HSSEQ policies. In connection with the governance renewal in 2020, Arctia's policies were updated to correspond to the entire new group.

## Values

### COMPETENT

We want to learn new skills, and we share our competence with our colleagues. Competence and commitment to goals are a requirement for our success.

### HELPFUL

Cooperation with our customers forms the foundation of our operations. We aim to satisfy our customers. We provide a good service for our customers and are proud to do so.

### EFFICIENT

We create a good working atmosphere by valuing our own work and that of others. We perform our duties professionally and safely. With our efficiency, we ensure the continuity of our operations.



Picture: Jaakko Jaskari



# Risks and opportunities in corporate responsibility

With corporate responsibility work, we better understand the risks of our own operations. Responsibility work also opens new kinds of opportunities.

## CORPORATE RESPONSIBILITY RISKS

Risk management in the new Arctia Group is even more extensive than before. Shipping company activities have certainly always required continuous and high-standard risk management, but the new business areas, such as the manufacturing industry, fairway maintenance, marine survey and hydraulic engineering, require risk management on an even wider scale. Risk assessments are carried out on all projects, ensuring that they also include risk evaluations pertaining to corporate responsibility. In 2020, risk management focused on risks concerning occupational safety and individual tasks.

## OPPORTUNITIES PROVIDED BY CORPORATE RESPONSIBILITY - GLOBAL CHALLENGES AND ARCTIA

In addition to obligations, corporate responsibility also provides opportunities for Arctia. The corporate responsibility workshop held in early 2020 examined

the opportunities opening to Arctia through megatrends and global challenges and the options to develop the company's operations to be more sustainable. In our operations, we take account of, e.g. the UN

sustainable development goal on sustainable industry and infrastructure (goal 9), the megatrend "technology as an opportunity" referred to by the Finnish Innovation Fund Sitra, and the questions

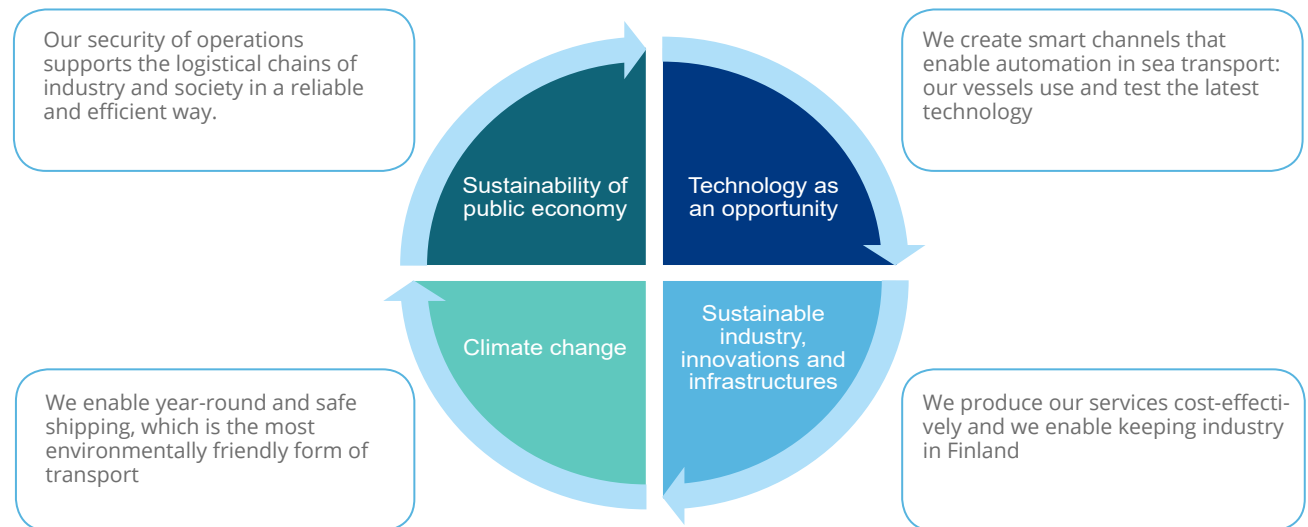


Figure 3. Global challenges and Arctia.



on the sustainability of public finances and climate change raised as drivers for change by the Prime Minister's Office.

With technology, we develop intelligent fairways, which contribute to enabling the automatised and new kind of monitoring of marine traffic, e.g. with respect to emissions. We also use and pilot new technologies on our vessels.

Arctia's security of operations and services support the logistical chains of industry and society in a reliable and efficient way. That way we can meet the UN sustainable development target "sustainable industry, innovations and infrastructures". We respond to the challenges of climate change, for example, by guaranteeing and enabling year-round and safe shipping – also for merchant vessels complying with the new environmental standards.

Marine transport is the most environmentally friendly form of transport, and transportation should be made by water whenever possible – also in inland

waters to the extent made possible by the Saimaa Canal.

The sustainability challenge characterised by the public finances of Finland can also be highlighted as an opportunity to develop the company's operations in a more responsible direction. With our services, such as icebreaking, we can enable more favourable logistical costs for end users who operate with larger and more fuel-efficient vessels. This will help to retain the industry in Finland. At the same time, Arctia will still need to carry on developing the cost effectiveness of its services to ensure that the contributions burden for the State and water transport industry would be as moderate as possible.

### STAKEHOLDERS AND STAKEHOLDER INTERACTION

There are many contributors to ensuring smooth and safe navigation in both the private and the public sector. In Finland, Arctia carries out stakeholder collaboration with customers, the authorities, ports, charterers, trade and industry, research organisations, training facilities, and other operators in the maritime cluster, as well as with its own personnel. In addition to customers, the overseas stakeholders include, e.g. the authorities, shipping operators, non-governmental organisations, and research institutes.

Arctia engages in active dialogue with its stakeholders. Stakeholder meetings in 2020 were limited by the coronavirus pandemic. Despite this, active contacts were maintained virtually with the stakeholders.

Stakeholder work is longstanding, and the

expectations of stakeholders are taken into account in the development of services and in decision-making. A stakeholder survey was implemented in late 2019, and its results were analysed and utilised as part of the 2020 materiality analysis.

The stakeholders and their expectations are listed at the end of this report.

### EXTERNAL INITIATIVES

Arctia's memberships of associations and advocacy organisations:

#### Finland:

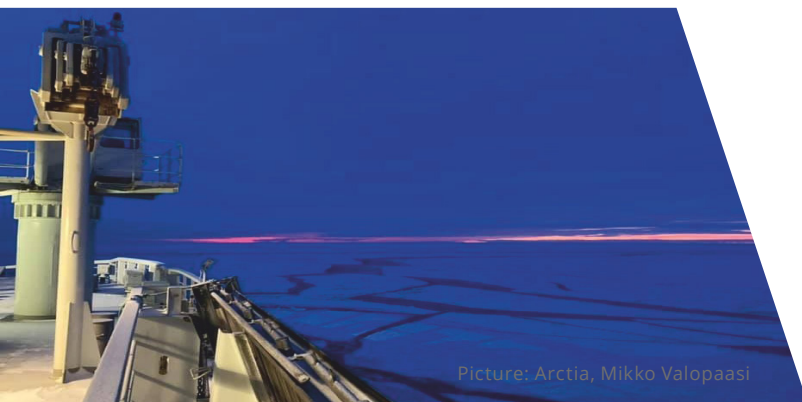
- The Service Sector Employers Palta
- The Finnish Shipowners' Association
- The Finnish Maritime Society
- The Kotka Maritime Research Centre (Merikotka)
- The Apprentice Mill
- The Association of Finnish Waterways

#### International:

- The European Community Shipowners' Associations, ECSA (through the Finnish Shipowners' Association)
- ALA's industrial membership (International Association of Marine Aids to Navigation and Lighthouse Authorities)

### POLITICAL ADVOCACY AND POLITICAL SUBSIDIES

The Arctia Group does not support political parties, politicians or political institutions with financial or other donations.



Picture: Arctia, Mikko Valopaasi



# Corporate responsibility – a key part of our working culture

The responsibility of our operations is based on identifying and implementing material issues as part of everyday work.

In 2020, the company carried out a materiality analysis to include all services of the new Arctia Group. The analysis was based on the stakeholder survey carried out in December 2019. The responses of the survey highlighted the functioning of icebreaking operations, the conformity of hydrographic surveying, and the implementation of fairway maintenance in the agreed way. The stakeholders had paid attention to compliance with the project schedules, sufficient staff numbers, competence, commitment and flow of information.

In the materiality analysis, Arctia’s responsibility was condensed into nine themes (Figure 3) and further divided into three groups: shareholders’ strategic interests with regard to Arctia’s operations and to matters improving the efficiency and continuity of operations.

The key responsibility themes direct our responsibility work and reporting on corporate responsibility.

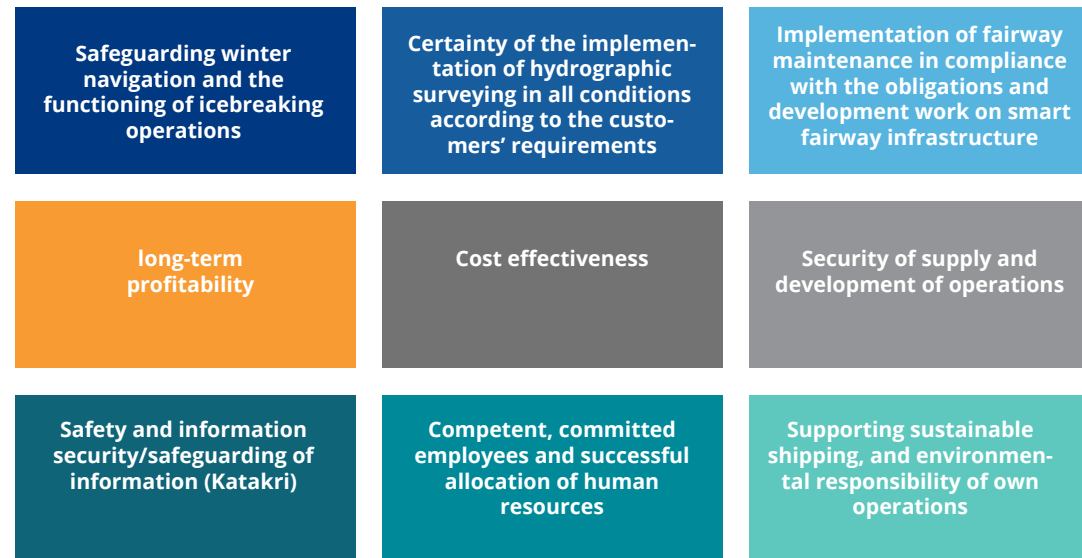


Figure 4. Material targets of Arctia’s corporate responsibility



## STRATEGIC INTERESTS FOCUSING ON ARCTIA AT THE CORE OF RESPONSIBILITY



Arctia is a state-owned company, which is subject to a strategic interest. The company's task is to safeguard winter navigation serving the transport needs of the Finnish trade and industry and to provide hydrographic surveying services related to the contingency planning and preparedness of the Finnish Navy under all conditions. Arctia's services are especially significant in terms of the functioning of the Finnish State and society. Therefore, it is important that the State has direct ownership in order to safeguard the availability and functioning of the services. The impeccable management of the tasks pertaining to the state-owner's strategic interests forms the core of Arctia's responsibility.

### **Safeguarding winter navigation and the functioning of icebreaking operations**

Arctia safeguards smooth winter navigation. The number, width and engine power of our icebreakers ultimately determine the kind of fleet that can be used for entering Finnish ports in the winter season and the kinds of ice restrictions that should be imposed in order to guarantee smooth transport.

In addition to the normal winter conditions (amount of ice, winds, brash ice, ridges and compaction), the utilisation rate and operation of icebreakers depend on how well merchant vessels can cope independently and routed and to which extent they

**Safeguarding winter navigation and the functioning of icebreaking operations**

**Certainty of the implementation of hydrographic surveying in all conditions according to the customers' requirements**

**Implementation of fairway maintenance in compliance with the obligations and development work on smart fairway infrastructure**

need assistance or towing. The operation of icebreakers is also affected by how efficiently other stakeholders, such as ports, are operated and how reliably they provide information about their schedules.

The amount of assistance needed by winter navigation is particularly affected by the kinds and numbers of keels that industrial and commercial transport – import and export - is divided into. Together with numerous smaller operators, we at Arctia make sure that the wheels of Finland and the Finnish society keep turning also during the winter months.

### **Certainty of the implementation of hydrographic surveying in all conditions according to the customers' requirements**

Arctia's strategic task is to provide hydrographic surveying services related to the contingency planning and preparedness of the Finnish Navy under all conditions. The customers of hydrographic surveying are national marine survey authorities, ports, municipalities and towns, consultants, and industrial and energy companies. Condition data is produced concerning the topographic shapes of the seabed, the materials of the seabed (backscatter intensity),

the water column and the deposits of the sea floor (low-frequency sounding). Special, structural, geodetic and Lidar surveys can be carried out with the varied equipment. Timely, safely produced and reliable information of the water areas is most important to the stakeholders.

### **Implementation of fairway maintenance in compliance with the obligations and development work on smart fairway infrastructure**

The management of Finland's waterways in compliance with the quality requirements and, at the same time, the development and digitalisation of the fairway infrastructure ensure that the network of Finland's waterways that are important to imports and exports are in a safe condition. It also enables digitalisation and its advantages to be available to the shipping industry. Oil spill preparedness and response and oil spill recovery are also part of fairway maintenance and the management of environmental risks in shipping.



## INCREASING EFFICIENCY IN OPERATIONS IS AN IMPORTANT PART OF FINANCIAL RESPONSIBILITY



### Long-term profitability

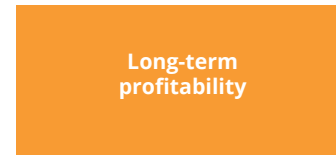
Arctia aims to build profitability together with the customer in the long term by producing added value. It is our strategic target to bring the company's profitability to a sustainable level by increasing the efficiency of our operations. We also aim to increase turnover through managed growth, especially with new customers and services.

### Cost effectiveness

Cost effectiveness plays a key role in improving and safeguarding profitability. Cost effectiveness also meets the challenges pertaining to the sustainability of state economy on a wider scale and is an important part of Arctia's responsibility. Cost effectiveness is also a driver in Arctia's development work, utilisation of digitalisation and improvement of competitiveness. We want to be the most competitive actor in our segment.

### Security of supply and development of operations

Security of supply is the most important individual part of logistics and the supporting infrastructure. In addition, financial security of operations and predictability are also an important part of responsible corporate activities. We invest in the redevelopment of



these. We also allocate resources to the development of operations in order to be able to maintain competitiveness and to adapt to a changing operating environment. Our operating environment is changing as a result of climate change on the one hand, but also in relation to the state finances and other players and competitors in the market on the other hand.

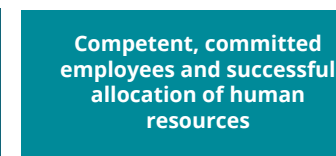
## SOCIAL RESPONSIBILITY IS SAFE WORK THAT HAS A PURPOSE



### Safety and information security/safeguarding of information (Katakri)

At Arctia, safety in operations at sea, on lakes and in locks, as well as in factory, construction, fairway

maintenance and hydrographic survey work is an important matter, and we spend a significant amount of resources on its safeguarding. The services and products received by customers, such as spar buoys and towings, assistance and locking activities, must be safe. This also applies to the infrastructure itself because the channels must be safe to navigate, the spar buoys must be in place, and the waypoints installed on ice must be well-planned. The data material gathered in hydrographic surveying must also be processed and stored in an appropriate way. Safety and security provide a steady basis and foundation for our operations and for the services we provide.





### **Competent and committed employees and correct allocation of resources**

Arctia's services and their quality depend on the competence of its employees and their willingness to contribute to the service. Competent and committed personnel is the primary requirement for our operations and that way for undisturbed maritime logistics. In order to carry out work safely and to man the vessels appropriately, it is important that we have a sufficient number of employees for each task. At the same time, we also must be able to offer a sufficient amount of work in an industry that follows the natural yearly cycle in its seasons.

### **ENVIRONMENTAL RESPONSIBILITY SUPPORTS MARITIME TRANSPORT**



#### **Supporting sustainable maritime transport and environmental impacts of Arctia's operations**

Maritime transport is the most environmentally friendly form of transport, with no substitutive alternative form of transport. From the viewpoint of environmental responsibility, for Arctia it is most important to support and enable environmentally friendly waterway transport in both sea areas and ports and in inland waterways. With our services, such as icebreaking, harbour and escort tug services and fairway planning, we enable safe navigation of increasingly energy-efficient vessels to the Finnish ports.

We also pay attention to the environmental responsibility of our own operations and are constantly aiming to improve and develop the management of our own environmental impacts and that way reduce our ecological footprint.



Picture: Arctia, Miikka Ylikoski

# Financial responsibility



Picture: Arctia, Ville Suni





# We ensure year-round merchant shipping

For Arctia, financial responsibility means profitable business operations, duly paid taxes and fees, high-quality and safe services and products, good supplier management, and fair recruitment and remuneration.

At Arctia, financial responsibility means taking care of profitability, the efficiency of business operations, and competitiveness. With our operations, we create added value for our customers and for society. Our most significant financial impact on the Finnish society is safeguarding year-round merchant shipping. Economically viable operations make it possible to take care of the employees, the environment and assets in a responsible way, and they also enable a reliable partnership for customers and suppliers. In addition, good financial profitability is a precondition for the development of our operations and for investments.

We aim to offer and create for our customers cost-effective services that meet their needs. We also aim to improve the efficiency of our operations in order to ensure the competitiveness of our services and continuity of our operations.

We monitor the profitability of operations with our strategic and operational indicators. Our key financial targets are related to improving profitability. Currently, the company's profitability is reduced by, e.g. the maintenance costs of the ageing fleet, increased depreciations, and the inflexibility of the

fixed cost structure.

Our net sales grew on the previous year, standing at EUR 80.8 million (79.1 in 2019). Results increased to EUR 0.9 million (EUR -2.0 million). The Group's equity ratio remained at a healthy 50 per cent level. During the period under review, the Arctia Group did not raise new bank loan, and it repaid EUR 6.1 million

(EUR 6.7 million) of an existing loan. The Group's cash flow was positive and liquidity remained at a good level. The Group's cash assets at the end of the year totalled EUR 33.5 million (EUR 22.7 million). In 2020, investments totalled EUR 8.6 million (EUR 9.5 million). The greatest investments were made in maintaining the operational condition of icebreakers.

## FINANCIAL KEY FIGURES DESCRIBING THE OPERATIONS OF THE ARCTIA GROUP

	2020	2019	2018	2017	2016
Turnover, MEUR	80.8	79.1	50.9	48.9	60.7
Operating profit/loss, MEUR	2.4	0.0	2.2	0.1	12.9
% of turnover	3.0	0.0	4.4	0.3	21.2
Profit/loss for the fiscal period, MEUR	0.9	-2.0	1.4	-1.4	9.1
% of turnover	1.1	-2.5	2.7	-2.1	15.1
Equity, MEUR	142.1	141.2	147.3	137.2	143.2
Equity ratio, %	50.2	49.1	49.2	50.1	49.9
Net gearing, %	60.2	72.6	70.4	70.4	62.5
Interest-bearing liabilities, MEUR	119.3	125.3	130.0	121.4	124.2
Return on capital invested, %	0.9	0.1	0.8	0.1	5.7
Return on equity (ROE), %	0.6	-1.4	1.0	-1.0	6.4
Investments, MEUR	6.8	9.5	12.7	5.7	131.6
% of turnover	8.5	12.0	25.9	11.6	216.9
Balance sheet total, MEUR	283.7	288.0	300.1	274.5	287.4

The figures for 2016–2018 are not comparable with years 2019 and 2020 due to the merger of Meritaito with the Group on 13 December 2018.



### ARCTIA AS A TAXPAYER

The tax footprint describes our impact on society through the tax-paying ability. In 2020, the companies in the Arctia Group paid a total of EUR [#] million (2019: EUR 10.47 million) of taxes and tax-like payments. We also have an indirect impact on the tax revenues of the state and several municipalities by employing a total of some 420 people.

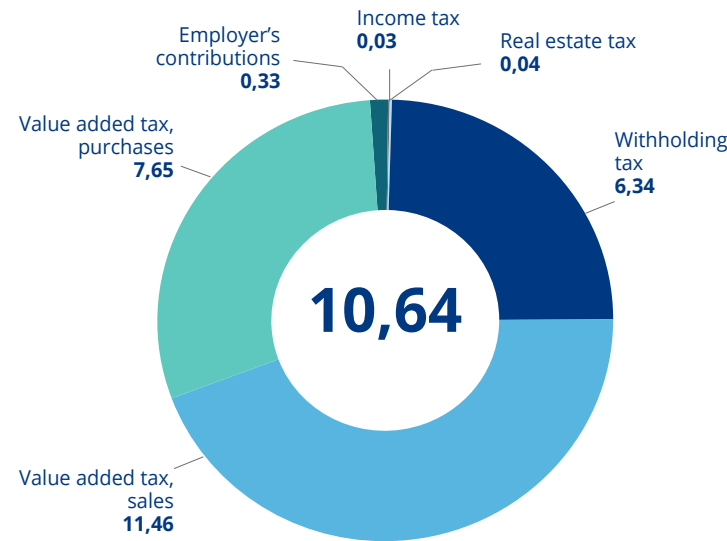
We comply with the effective legislation in the payment, collection, remitting and reporting of taxes and payments. All Arctia Group companies are incorporated in Finland. All taxes are paid and remitted in Finland.

### CHARITY AND SPONSORSHIP

Arctia does not support or sponsor sports or the arts, and it does not sign cooperation agreements related to them. Arctia does not support political parties or religious organisations. In 2020, Arctia donated its Christmas gift funds to the Save the Children Christmas appeal\*.

Charity and sponsorship, €	2020	2019	2018
Children and youth	0	0	0
Science, research and education	7 500	7 500	7 500
Arts	0	0	0
Sports and exercise	0	0	0
Political subsidies	0	0	0
Civic and environmental organisations*	1 000	1 000	1 500

### Tax footprint in 2020 (M€)



### PAID AND REMITTED TAXES, M€

TAXES PAID, M€	2020	2019	2018
Employer's contributions	0.33	0.24	0.16
Income tax	0.03	0.01	1.15
Real estate tax	0.04	0.04	0.01
<b>Taxes paid in total</b>	<b>0.40</b>	<b>0.29</b>	<b>1.33</b>
TAXES REMITTED, M€	2020	2019	2018
Withholding tax	6.34	8.04	5.19
Value added tax, sales	11.46	7.92	2.54
Value added tax, purchases	7.56	5.78	3.45
<b>Taxes remitted in total</b>	<b>10.64</b>	<b>10.47</b>	<b>4.27</b>

The figures for 2018 are not comparable with years 2019 and 2020 due to the merger of Meritaito with the Group on 13 December 2018.



Picture: Arctia, Ville Suni



## CREATING FINANCIAL ADDED VALUE FOR STAKEHOLDERS, M€

ADDED VALUE PRODUCED	2020	2019	2018
Turnover	80.8	79.1	50.9
Other operating income	1.6	0.4	1.2
Financial income	0.0	0.2	0.0
<b>Total</b>	<b>82.4</b>	<b>79.7</b>	<b>52.1</b>
DISTRIBUTED FINANCIAL ADDED VALUE			
<b>Suppliers</b>			
Materials and supplies, services, and other operating expenses	31.4	30.4	15.6
Investments	6.8	9.5	12.7
<b>Employees</b>			
Salaries, wages and pension expenses	29.5	32.2	21.0
<b>Payments to owners and lenders</b>			
Dividends	0.0	1.6	1.5
Financial expenses	1.6	1.6	1.3
<b>Public sector</b>			
Income taxes and real estate taxes	0.1	0.1	1.2
Social insurance contributions	1.3	0.8	0.7
<b>Total</b>	<b>70.7</b>	<b>76.2</b>	<b>54.0</b>
<b>FINANCIAL ADDED VALUE RETAINED IN THE DEVELOPMENT OF OPERATIONS</b>	<b>11.7</b>	<b>3.5</b>	<b>-1.9</b>

The figures for 2018 are not comparable with years 2019 and 2020 due to the merger of Meritaito with the Group on 13 December 2018.

## CUSTOMERS, CUSTOMER SATISFACTION, PRODUCT LIABILITY

Arctia's most significant customer is the Finnish Transport Infrastructure Agency, which maintains the majority of Finland's fairways and canals and is responsible for organising winter navigation. Fairway maintenance includes, for example, fairway planning, fairway upkeep, and maintenance of marine safety devices. The Finnish Transport Infrastructure Agency acquires the services mainly through sub-contracts in public procurement.

### Icebreaking

Quality targets have been set for Arctia's icebreaking business, e.g. with regard to the ships' waiting times, towing speed and the number of empty transits. In 2020, Arctia met the quality targets for icebreaking. Close cooperation of several operators is needed in order to safeguard winter navigation of Finland's industry and merchant shipping.

The Finnish Transport Infrastructure Agency and the Finnish Transport and Communications Agency Traficom act as the authorities for the system and supervise its functioning. The Finnish Transport Infrastructure Agency not only requests the icebreaking, but it also defines the assistance restrictions and exemptions for merchant vessels. The Finnish Transport and Communications Agency Traficom monitors, e.g. with national port inspections, that vessels and their crews meet the ice class and regulatory requirements. In addition, the functioning of the system requires regular contacts between pilots, ports, charterers, shipping companies and other actors.



### Fairway maintenance

Contract-specific targets have been set for each fairway maintenance contract, which include, e.g. inspections of the location of floating safety devices in the agreed response time. The achievement of the targets is actively monitored together with the Finnish Transport Infrastructure Agency.

### Hydrographic surveying

The most important customers of hydrographic surveying are the national marine survey authorities. In 2020, hydrographic surveying tasks were carried out for the Finnish Transport and Communications Agency Traficom and the British Maritime and Coastguard Agency responsible for sea rescue operations in the United Kingdom. Other key customers were the Finnish Transport Infrastructure Agency; the Finnish Defence Forces; Metsähallitus; the Centres for Economic Development, Transport and the Environment; ports; municipalities; consulting and planning firms; and companies that own hydraulic structures.

### CUSTOMER SATISFACTION

Customer satisfaction is impacted by the success of projects and service provision, implementation of the standard of services, and keeping to the schedule. The commitment of competent personnel and, in the long term, the renewal of fleet and keeping its maintenance and utilisation rate at a good level will improve customer satisfaction and the customers' confidence in the availability of services.

Customer satisfaction is assessed at Arctia with

customer meetings and surveys. The monitoring of customer satisfaction at Arctia's subsidiary Meritaito is based on project-specific success. The average score of the customer satisfaction of Meritaito's projects was 4.1, which is at the same level as in the previous year. The assessment is based on a five-step scale in which 1 represents a low quality of work performance and 5 means an excellent one.

Arctia's performance in its icebreaking service provision is monitored in cooperation with the Finnish Transport Infrastructure Agency, which organises an annual stakeholder survey to assess the functioning of the winter navigation system. Arctia's service provision is also monitored for every assistance, towing and transit task at a time on a monthly basis with respect to each vessel in operation. In terms of customers, the waiting times for icebreakers are the key indicators at Arctia. In 2020, Arctia met all of its service level requirements.

### SAFETY OF SERVICES

The safety of seafaring and waterborne transport is the most important individual area of responsibility to Arctia. The safety of services is administered as part of the management systems. Arctia maintains and develops the safety management system of its vessels and shipping companies. In addition, Arctia's subsidiary Meritaito also uses the ISO 9001 quality management system, the 14001 environmental management system, and the ISO 45001 occupational health and safety management system. The functioning of the management systems is assessed with audits of places of business, vessels and systems.

Training related to the systems is provided for the ships' and office personnel.

### ENVIRONMENTAL IMPACTS OF THE SERVICES

Like other shipping companies, Arctia takes part in IMO's efforts towards low-emission shipping. In accordance with the IMO regulation, which entered into force in 2018, the reporting of fuel consumption in shipping was launched in 2019. Arctia reports to the Finnish Transport and Communications Agency



Picture: Arctia, Rauno Matilainen



Traficom the fuel consumption with respect to vessels that are larger than icebreaker Voima (SEEMP II).

Travel resulting from the rotation of sea personnel and at the start of off-duty periods contributes to other carbon dioxide emissions caused by Arctia's operations. The number and length of rotation trips depend on the vessels' operating areas and the number of annual operating days. In late 2020, the majority of rotation trips were made by train due to the coronavirus situation.

The materials used by Arctia in the provision of its services are primarily related to the operation and maintenance of vessels and the services in fairway maintenance and hydraulic engineering. Arctia uses, for example, construction materials, paints, solvents, detergents and cleaning agents each year. The lighted safety devices use a fairly high number of batteries and accumulators; Arctia imports these buoy batteries itself. The weights and chains of spar buoys are replaced to a certain extent each year. In order to test the recycling of buoys, Arctia carried out a pilot project in 2020.

The amounts of materials used are monitored by cost unit. The service and maintenance programme used on the vessels will offer extra tools for the monitoring of materials consumption also in Meritaito's operations.

### SAFETY AND ENVIRONMENTAL LOAD OF THE PRODUCTS OF VIITTATEHDAS

Arctia's products include maritime safety devices, plastic spar buoys and navigational aids, which have been manufactured in Viittatehdas in Joensuu for

over 40 years. Even at the moment, there are about 27,000 navigational aids manufactured by Arctia in the Finnish fairways. Arctia produces about 1,500 navigational aids each year. The production of navigational aids has always been based on an easy-to-care, low-cost structure that also withstands winter conditions. We carry on constant development work to enable the manageability and safe use of navigational aids.

The materials used for the navigational aids and buoys manufactured by Viittatehdas are HD and MD polyethylene and polystyrene, which are recyclable materials. The accessories of the navigational aids include steel weights and connectors, lifting lugs, reflectors, aluminium radar reflectors, as well as lights and batteries with their casings. In 2020, the recycling of navigational aids was piloted within the company with good results. HD and MD were

shredded for reuse, and it was possible to recycle the iron weights and corner reflectors of the navigational aids. Viittatehdas has also continued to improve the efficiency of waste sorting and, e.g. it has found further use for disposable pallets.

The navigational aids and buoys have a CE marking and they are manufactured from IALA-specified types. Viittatehdas is the only company in the world that manufactures plastic spar buoys for ice conditions. The products have been exported to more than twenty countries, especially to areas needing ice-proof qualities. We design and manufacture the navigational aids in-house which, together with continuous product development, also enables tailored solutions for the individual needs of our customers.

The navigational aids are a significant part of the digitalisation of the maritime industry. Remotely monitored and managed navigational aids and buoys



Picture: Arctia



increase fairway safety and reduce the environmental load. The Sniffer buoy that monitors sulphur emissions in shipping does important work. In 2020, the test version of the Sniffer buoy (SO<sub>2</sub>) was installed in the Port of Naantali. The Sniffer buoy is part of an EU-funded project, which also includes investigation of alternative energy sources and battery solutions for the buoys.

### RESPONSIBLE PROCUREMENT, SUPPLIERS AND SUBCONTRACTORS

The Group continued the development of the procurement policy and the related processes in 2020.

The efficiency and relevance of investment processes were improved and investments in vessels were allocated to take place in connection with docking. The docking process, on the other hand, was developed further by taking the process preparation and competitive tendering into the maintenance system.

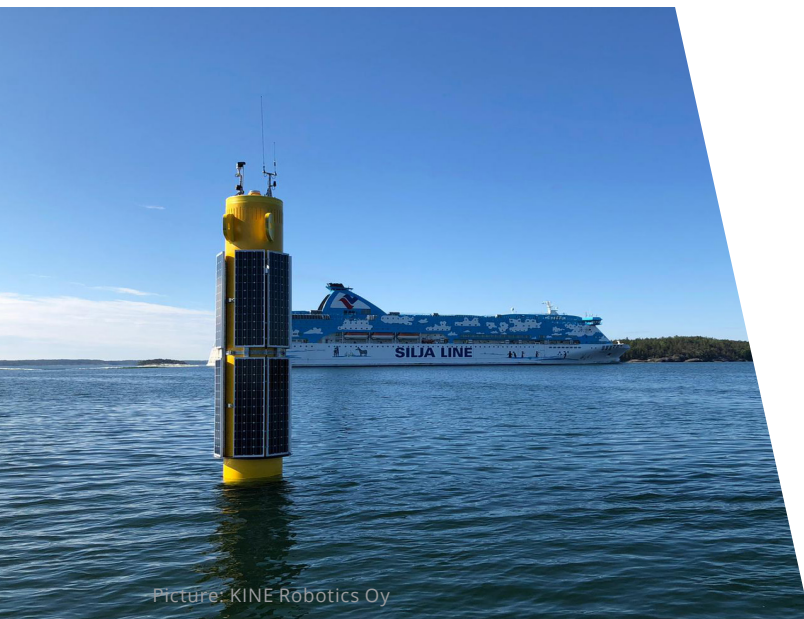
In 2020, it was the turn of icebreakers Urho and Otso to start their 5-year docking. The dockings carried out in the Fayard A/S shipyard in Denmark provided valuable experience in cooperation with a well-organised international shipyard. The dockings emphasised the importance of forward planning in the docking process and the timing of the maintenance period; based on the experiences, the annual clock of procurement was turned forward. Through more efficient anticipation, we were able to implement the 2021 investment project proposals and invitations to tender for next summer's dockings well in advance.

The procurement resources were strengthened during 2020; in the Icebreaking business, the buyer controls the procurement, and in the subsidiary Meritaito it is the procurement manager's responsibility. In 2020, the procurement process tied to the maintenance system was extended to Meritaito's vessels. The transparency of the procurement process increased in 2020 and it will be developed further. A preliminary assessment method is complied with in the selection of suppliers and subcontractors, taking into account the requirements of the Act on the Contractor's Obligations and Liability when Work is Contracted Out, the pre-selection criteria and risk assessment. In the preliminary assessment method,

efforts are made to prevent the passing of services down a chain.

Arctia instructs the subcontractors with regard to its safety principles and requires them to comply with the Code of Conduct in their operations: the suppliers must undertake to comply with Arctia's safety, occupational safety and environmental practices. Particular attention is paid to the supervision of subcontractors' works, and a non-conformity report is required of any damage caused to the employees of suppliers or to the environment. The safety practices used by Arctia, i.e. permits to work, site meetings and work plans, also apply to the service providers and subcontractors working in Arctia's places of business and vessels in order to secure occupational safety of all those working at Arctia's sites.

The procurement organisation started the development of a responsible procurement policy by surveying the operating environment, by drawing up an impact analysis and by ensuring the compliance with conformance criteria, for example, in terms of the obligations of the Act on the Contractor's Obligations and Liability when Work is Contracted Out, by updating the guidelines. In accordance with the targets of Arctia's environmental programme, the company complies with quality and environmental friendliness in procurement, and resource-efficient solutions are prioritised; for example, the company's electricity contract was put out to tender and tied to CO<sub>2</sub>-neutral energy production. Efforts are made to reduce the amount of waste produced by procurement and to improve the recycling rate.



Picture: KINE Robotics Oy

# Social responsibility





# Caring for employees and society

For us, social responsibility means taking care of the safety and well-being of our employees and work community. We also look after our suppliers and subcontractors and take society into account as a wider entity with and in our operations.

## HUMAN RESOURCE MANAGEMENT AND TARGETS

Maintenance and development of the competence and good working conditions of its employees play a strategically important role at Arctia. During 2020, Arctia launched a new performance management system where unit-level targets derived from the Group's targets are put into practice as targets of individual employees by setting them together with the line manager. The new system is now in use and it will be developed further in the years to come.

Strategic goals are also aspired to through systematic collection of information about staff well-being. In 2020, Arctia conducted the first group-wide Työvire survey in partnership with Ilmarinen Mutual Pension Insurance Company. As a whole, Arctia's employees find that the meaningfulness of their work is important. More information about the Työvire survey is available under Occupational

Wellbeing and Employee Experience.

The optimal allocation of the use of employees is also part of responsibility. Arctia has been able to make provisions for the harmful effects of the coronavirus by agreeing exceptions in the arrangement of shifts in icebreaking during spring 2020 and winter 2021 based on the so-called principle of continuous negotiation. In spring 2020, Arctia also agreed on a shift trial in icebreaking with an objective of increasing staff rotation between vessels, enabling a sufficient number of days at sea for all and that way supporting more even distribution of work. The agreements have supported operations in exceptional circumstances and enabled new kind of shift planning, which can be developed further in future.

The allocation of staff is also related to the agreement with the trade unions reached in December 2020 in relation to the collective agreement on fair-way maintenance. The purpose of the agreement is



Picture: Arctia, Juha Kuronen





## NUMBER AND STRUCTURE OF PERSONNEL

	2020	2019	2018	2017	2016
<b>Number of personnel (31.12.)</b>					
Onshore personnel	198	219	32	31	32
Offshore personnel	219	223	243	237	233
<b>Employment contract distribution (31.12)</b>					
Onshore personnel, permanent	186	203	31	29	29
Offshore personnel, permanent	217	223	220	217	209
Temporary	14	16	24	22	27
<b>Share of full-time and part-time employment contracts (%)</b>					
Onshore personnel, part-time	5.6	2.6	3.1	3.2	8.7
Offshore personnel, part-time	0	0	0	0	0
<b>Leaving rate (31.12.)</b>					
total personnel / leaving and part-time employees (%)					
Onshore personnel	15.1	15.6	3.4	28.1	13.9
Offshore personnel	17.5	48.1	39.6	27.4	11.8
<b>Average length of employment contract / years (31.12.)</b>					
Koko henkilöstö	12.9	13.3	11.5	12.5	13.5
<b>Average age of personnel / years (31.12.)</b>					
All employees	48.7	48.5	47.5	48.1	49.0
Offshore personnel, men	50.3	50.3	48.0	48.4	49.3
Offshore personnel, women	48.3	48.0	44.3	44.3	47.5
Onshore personnel	47.6	48.1	48.0	48.0	46.0
Retired employees	8	22	12	11	12
Average age of retirement	61.5	62.1	62.0	60.3	61.6

The figures for 2018 are not comparable with years 2019 and 2020 due to the merger of Meritaito with the Group on 13 December 2018. All members of personnel employed by Arctia in 2020 were Finnish nationals.

to increase efficiency of work and to provide more work opportunities for a lighter fleet of fairway vessels. Arctia has aimed to increase openness with all levels of organisation in cooperation with the employees and their representatives.

## REORGANISATION AND DISMISSALS

In spring 2020, Arctia conducted cooperation negotiations concerning fairway vessels due to the termination of oil spill preparedness and response agreements. As a result of the cooperation negotiations, a new operating model was introduced for fairway vessels, according to which operations taking place with heavy fairway vessels will be reduced and the work is to be carried out with a lighter fleet. It was possible to avoid the dismissal of employees in the main by relocating employees to the tugs of Arctia Karhu and to fairway maintenance tasks. It was necessary to make two employees redundant.

Due to coronavirus, international competitive tendering processes for hydrographic surveying were postponed. As a result of a reduced amount of work, it was necessary to conduct cooperation negotiations concerning layoffs with respect to hydrographic surveying in the autumn. At the end of 2020, layoff notices were issued for a few of the ships' officers, however, efforts are made to find alternative duties in icebreaking for them during the winter. The final impacts of the cooperation negotiations depend on the development of the volume of orders in hydrographic surveying during 2021.

Cooperation negotiations concerning all canals managed by Arctia were conducted in December on



the basis of the seasonal nature of operations. The length of the winter has an impact on periods of non-use of the canals, and based on this, two employees working at the Murole Canal were laid off. In terms of other canals, layoffs may have to be carried out if the ice winter turns out to be exceptionally long. In all reduction situations, Arctia has succeeded in offering some alternative tasks within the Group in order to considerably reduce the negative impacts on the personnel.

### COLLECTIVE AGREEMENTS

The following collective agreements were in force in 2020:

1. The collective agreement applying to the deck, engine and catering personnel of the Arctia Group
2. The collective agreement applying to the engineering officers of the Arctia Group's icebreakers
3. The collective agreement applying to the deck officers of the Arctia Group's icebreakers
4. The collective agreement applying to the crews of harbour icebreakers
5. The collective agreement applying to the personnel of fairway maintenance
6. The collective agreement between Meritaito Ltd and the Public and Welfare Services Union applying to blue-collar workers
7. The collective agreement between Meritaito, the Public and Welfare Services Union, the Confederation of State Employees' Unions Pardia and the Federation of Professional and Managerial Staff YTM applying to salaried employees
8. The collective agreement applying to merchant vessels in overseas transport
9. The collective agreement applying to ships' crew serving on Meritaito's fairway vessels
10. Service Sector Employers Palta

Arctia Management Services Oy became a member of Service Sector Employers Palta on 1 June 2020, and the new collective agreement of Palta concerning AMS employees was adopted. Therefore, this collective agreement became the tenth applied in the Group.

In spring 2020, so-called EPA-sector collective agreements at Meritaito were negotiated on, and a pay settlement corresponding to the general line was achieved. The period of the new collective

agreement is two years.

In December 2020, negotiations on the collective agreements concerning the sea personnel of the entire Arctia Group were launched. The agreement periods in these collective agreements ended on 28 February 2021.

During 2020, three co-operation committee meetings were held in icebreaking and four in fairway maintenance and hydrographic surveying. The meetings dealt with topical issues in addition to matters related to cooperation. Members of the Management Team and experts took part in the meetings to represent the employer. Shop stewards and members of the occupational safety and health organisation took part in the meetings as employee representatives.



Picture: Arctia, Ville Suni



## EQUALITY AND NON-DISCRIMINATION

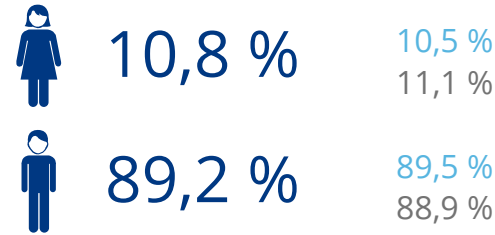
In its operations, Arctia follows an equality plan approved by the Ombudsman for Equality. The equality plan includes information about personnel structure and pay surveys. In addition, a list of measures to promote non-discrimination and an assessment of the implementation of non-discrimination have also been included in the equality plan. No issues have been detected by the Ombudsman for Equality that would suggest unjustified differences between men and women. The plan was updated in 2019. Arctia monitors the structure and salaries of its employees.



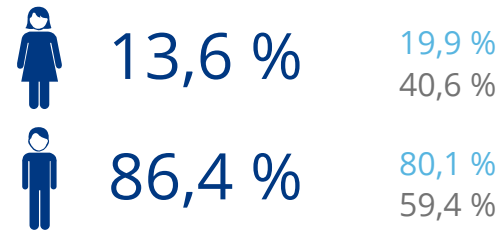
Picture: Arctia, Rauno Matilainen

## GENDER DISTRIBUTION

### Offshore personnel



### Onshore personnel



### Board of Directors' gender distribution\*



### Gender distribution in senior management (Management Team)



2020 2019 2018

\*Members at the turn of the year

### Family leave

(care leave + paternity leave + maternity leave)

	2020		2019		2018	
	persons	days	persons	days	persons	days
Men	15	223	16	445	7	176
Women	3	588	5	1227	3	413

The figures for 2018 are not comparable with years 2019 and 2020 due to the merger of Meritaito with the Group on 13 December 2018.



### SKILLED AND MOTIVATED PERSONNEL

Training plays a significant role in the development and maintenance of professional skills of the employees. The maintenance of training for personnel working in operational tasks related to professional qualifications based on regulatory requirements requires regular refresher training, which is carried out in a systematic way in compliance with continuous monitoring.

Despite the exceptional circumstances in 2020, the number of training days was 470 although some training events had to be cancelled or postponed due to the coronavirus situation. Training events were organised remotely, where possible, but, for example, the fire and rescue training for seafarers can only be carried out fully in contact teaching until further notice.

One of the most significant training events during the year was the fire and rescue training for catering personnel of icebreakers in the autumn in accordance with the training plan. In addition, employees took part in other refresher training required for maintaining extra qualifications in seafaring in accordance with individual training needs. Occupational safety-related training included, e.g. occupational safety card, hot work card and first aid training.

The responsible role of supervisors is seen as an important part of reaching the targets and successful measures. In late 2020, coaching related to giving feedback was organised for supervisors, implemented as a part of the development plan based on the personnel survey.

In addition to training, on-the-job learning also

has a key role in the development of competence. Induction programmes and job orientation safeguard the requirements for safe work performance in accordance with the instructions for both new employees and in relation to new or changing tasks.

#### Educational background of personnel

	2020 persons	2020 %	2019 persons	2019 %
Vocational studies or similar	261	61	282	54
Bachelor's degree	140	32	136	31
Master's degree	30	7	23	5
In total	431	100	442	100

### WITH MUTUAL DISCUSSION TOWARDS THE TARGETS

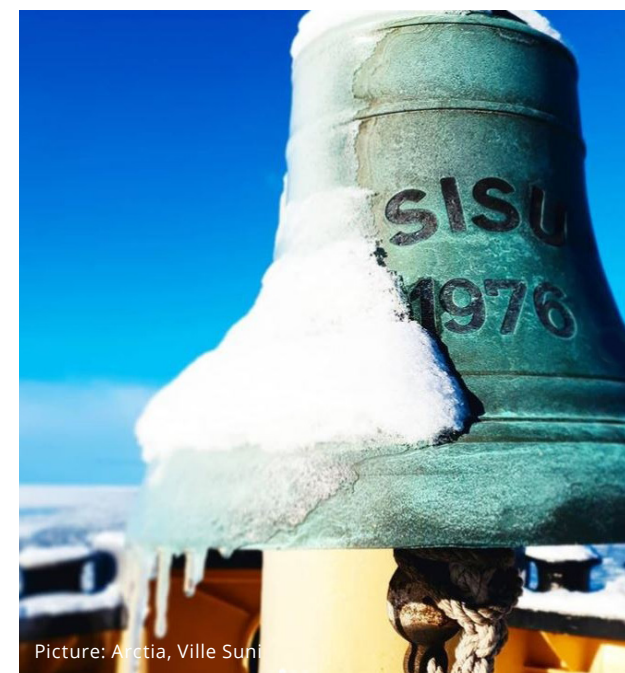
The performance review model was updated in 2020. In the discussion model complying with the performance management system, personal targets are used for strengthening the awareness and role of every employee as part of the implementation of the organisational targets. The discussion model also takes into account factors related to the development of competence and wellbeing in order to support the preconditions for successful performance and achieving the targets.

An important part of performance management is the monitoring of targets included in the performance review model in accordance with mutually agreed principles and schedule. Due to the coronavirus situation, it was not possible to carry out discussions

according to the new model in all professional groups according to the preliminary plan. Therefore, the target for 2021 is to conduct the performance review with all Arctia's employees during the year.

### OCCUPATIONAL WELLBEING AND PERSONNEL EXPERIENCE

Arctia monitors the development of personnel experience with a personnel survey that includes questions on themes related to occupational wellbeing from the viewpoint of the organisation level and the close work environment of the employees, as well as



Picture: Arctia, Ville Suni



individual performance requirements.

In 2020, the personnel survey was implemented with a new questionnaire concept, and that is why there are no reference values with the previous surveys available. The response rate was good (70%). The total index, 3.7, which describes the Group's work efficiency and mood, was also at a good level (on a scale from 1 to 5).

Based on the survey, the meaningfulness of work, personal health in terms of working capacity, as well as competence that sets you apart from others were found to be the most significant strength factors. These strength factors play an important part in support of achieving the organisational and business targets, and therefore their maintenance and safeguarding are of utmost importance also in future.

Based on the survey, themes related to leadership, communication by the directors and the company's capacity to reform itself were raised as the most significant development areas. On the basis of the result, in 2020 Arctia updated, e.g. in-house communication channels, organised managerial training, and promoted the progress of extensive project entities in accordance with the targets by projecting them. Constant attention is paid to the improvement and monitoring of the development areas.

The survey results were presented to the personnel via intranet because due to the exceptional circumstances it was not possible to organise a joint event for all employees to attend. In addition, the results were dealt with in team- and vessel-specific meetings where also individual development plans were drawn up.

## OCCUPATIONAL HEALTH AND SAFETY

During 2020, the company focused on harmonising the occupational health and safety practices of Arctia and Meritaito and on updating the harmonised risk assessments. This work was also part of the work to alter OHSAS 18001 to comply with the ISO 45001 standard. The objective of the updated ISO 45001 standard is to improve the health and safety of employees, to reduce workplace risks and to create healthier and safer working conditions. The classification society for the ISO 45001 standard at Arctia is Det Norske Veritas (DNV).

At the beginning of 2020, Arctia carried out internal audits on the company's operational activities and places of business. In addition, employees were trained in carrying out risk assessments within

the occupational safety project Kompassi. After the outbreak of the coronavirus pandemic, internal audits were continued partly virtually. The auditing of shipping companies by the Finnish Transport and Communications Agency Traficom was also carried out remotely.

In January 2020, there was a serious occupational accident on a fairway vessel, resulting in the death of one person. The accident touched every single employee of Arctia. Despite previous inputs in aid of occupational safety, the extremely sad and unfortunate accident highlighted the meaning of occupational safety in all our work areas. We continued our safety work determinedly throughout the year, and the Group's lost-time incident frequency fell by about 19% on the previous year.



Picture: Arctia, Jussi Helminen



In 2020, the lost-time incident frequency (LTIF) of the Arctia Group was 12.70 while in the previous year it was 15.75. The most significant reduction in the lost-time incident frequency was seen in fairway maintenance where the LTIF rate fell by 30% to 25.22 (36.83 in 2019). The management and hydrographic surveying deserve a special mention: their LTIF rate was zero for the second year running. In 2020, there were 13 occupational accidents resulting in absence from work in the entire Group, which was at the same level as in the previous year.

The two-year Kompassi project focusing on occupational safety has played a significant role in supporting our business units. Arctia's central occupational safety organisation and Meritaito's occupational safety organisation developed in 2020 the occupational safety guidelines in good cooperation, planning, e.g. future training events and Arctia's safety programme, which was published in early 2021. Chief Security Officer Pia Broumand was selected as a member of the branch committee for the maritime industry in the Transport and Logistics Group of the Centre for Occupational Safety to represent Finnish shipping companies in the role of employer. This way, Arctia will be able to have a say on the promotion of occupational safety in seafaring also on the national scale.

During 2020, Arctia continued the measures related to the monitoring and management of occupational health risks in a systematic way. The target level of absences due to sickness at Arctia is 5%. At 4.8, the percentage of absence due to sickness in the Group was falling. During the year, the Arctia Group

supported its employees' sporting and cultural activities with sports and arts vouchers.

Year 2020 was challenging also for Arctia due to the COVID-19 virus. In the early stage, Arctia established an in-house coronavirus coordination team, which drew up individual guidelines for the company and monitored the general coronavirus situation and guidance by the Finnish Institute for Health and Welfare THL. The coordination team has also planned operations in an exceptional situation and in case of infections. The National Emergency Supply Agency has monitored the Group's operations; the company reports regularly on the impacts of the exceptional situation on business operations.

The strong role of occupational health was

<b>Number of accidents</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Accidents resulting in absence from work	13	13	5
Other accidents	3	14	17
Accident frequency / million working hours	12.70	15.38	9.76

<b>Sick leave</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Absence rate due to illness, all personnel	4.8	5.1	5.4
Number of suspected cases of occupational illness	0	1	1

The figures for 2018 are not comparable with years 2019 and 2020 due to the merger of Meritaito with the Group on 13 December 2018.



Picture: Arctia, Rauno Matilainen



highlighted with the rapid availability of COVID-19 test results, the inspection of coronavirus guidelines and the implementation of training lectures on remote work ergonomics. In addition to statutory preventative occupational healthcare, Arctia offers its employees GP-level medical care. The health insurance policy taken out by the company for its employees complements the occupational health care services.

### OUR ROLE IN SOCIETY

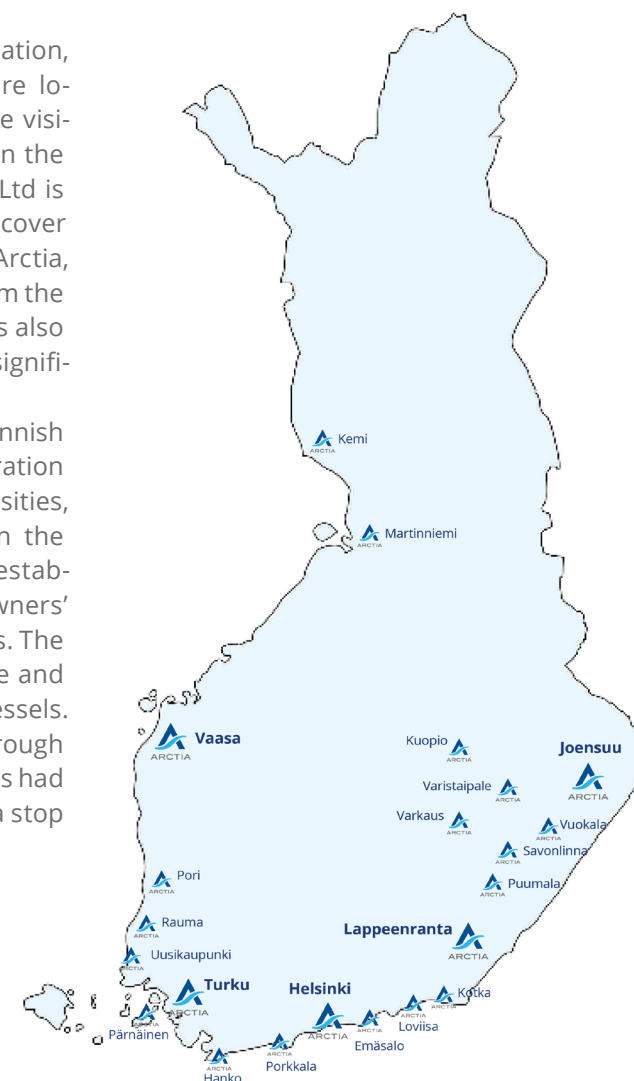
Arctia's services guarantee the functioning of Finnish society throughout the year. For more than 140 years, winter navigation and fairway maintenance services have secured Finland's export trade by sea, as well as imports required by the domestic market. Together with its stakeholders, Arctia guarantees the orderly functioning of society and continues to develop the infrastructure of winter navigation to meet the needs of the future.

Arctia serves its customers locally along the coast and in inland waterways in more than 20 places of business. Safe waterborne transport is a sum of many factors. Fairway safety starts already with the quality of hydrographic survey data and fairway planning, and continues in the construction of the fairway, channel markings and fairway maintenance, also requiring icebreaking in places. Functioning logistics ensure continuing competitiveness in the region, and low-emission waterborne transport contributes to resolving the environmental impacts of logistics. Regional presence and especially the personnel's local knowledge of water areas are part

of Arctia's strengths.

Arctia's head office, the Helsinki fairway station, and the base for conventional icebreakers are located in Katajanokka and, correspondingly, the visibility of the icebreakers Fennica and Nordica in the cityscape of Kotka is significant. Arctia Karhu Ltd is domiciled in Kemi. The services of Meritaito Oy cover the coast and inland waters. Maintained by Arctia, the Saimaa Canal is an important waterway from the Gulf of Finland to Lake Saimaa and, as the EU is also investing in inland waterborne transport, its significance may increase even further.

Arctia also contributes to the future of the Finnish maritime industry through research cooperation with universities of applied sciences, universities, and other organisations. Arctia is involved in the activities of the Apprentice Mill, which was established in cooperation with the Finnish Shipowners' Association and nine schools of nautical studies. The purpose of the Apprentice Mill is to coordinate and promote the efficient use of trainee posts on vessels. This supports Finnish maritime education through practical training on ships. In 2020, Arctia's ships had a total of 17 (37) trainees; the coronavirus put a stop to accepting trainees on the ships.



Picture 5. Arctia's locations.

# Environmental responsibility







# Sustainable services for the protection of seas and inland waters

Arctia's operating environment is sensitive and changes according to the seasons. Operating practices that respect nature and the environment are important to us. Seafaring is the most environmentally friendly form of transport.

## ENVIRONMENTAL MANAGEMENT AT ARCTIA

Environmental management at Arctia took a significant step forward in 2020 in the form of the Group's environmental programme. The programme assists in the management of environmental issues at Arctia even more efficiently and focused way than before. The roadmap to reduce carbon dioxide emissions and the work to implement it in icebreaking are part of the environmental programme. A separate strategic spearhead project has been established on the implementation of the environmental programme.

## CLIMATE CHANGE AND CARBON DIOXIDE EMISSIONS

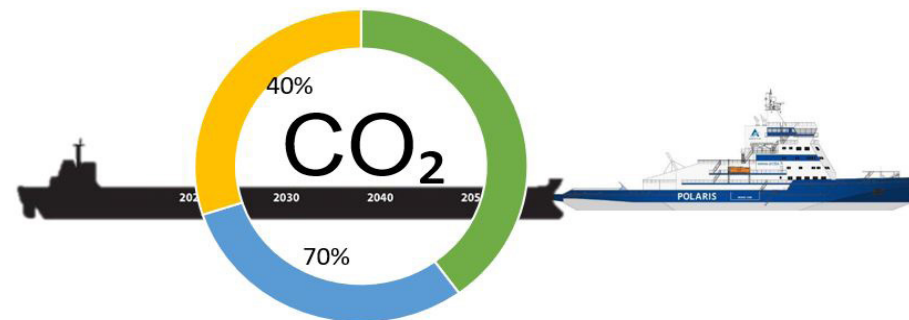
The International Maritime Organisation IMO, which is a UN agency, adopted new environmental commitments for shipping in accordance with the Paris Agreement in April 2018. The objective is to first cut relative carbon dioxide emissions in shipping by

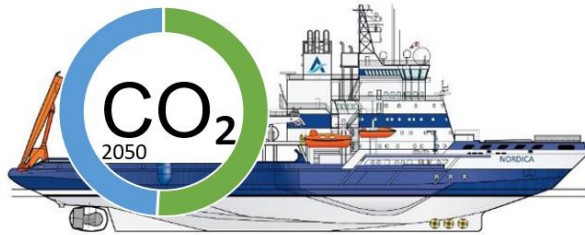
40% compared with the 2008 level by 2030. After that, the absolute emissions from seafaring, including both new and old vessels, will be reduced by at least 50 per cent by 2050. From then onwards, efforts will be made to reduce emissions even further.

The IMO targets currently apply to vessels with a gross tonnage exceeding 5,000 gross register

tonnage (GRT), having all Arctia's icebreakers within their immediate applicational scope with the exception of Voima. However, IMO has also negotiated on reducing the limit to the level of 400 GRT, in which case the impact on Arctia's vessels would be even more significant. Nevertheless, the spearhead of methods and regulations entering into force in the

**ARCTIA IS A FACILITATOR:** Together we will reduce the relative CO<sub>2</sub> emissions of transport performance (tonnes/km) of international sea transport by at least 40 per cent by 2030, aiming for relative reduction of 70 per cent (tonnes/km) by 2050 compared to the 2008 level.





**ARCTIA IS COMMITTED** to reducing the absolute amount of annual CO<sub>2</sub> emissions of the icebreakers by at least 50 per cent by 2050 compared to the 2008 level.

short term, i.e. in 2030, have been outlined during the discussions in 2020 to focus on relative fuel consumption per transported unit. Vessel classes suitable for icebreakers were not discussed in 2020, and therefore, as a rule, for example, the requirements to reduce the engine power or to lengthen the vessel do not apply to Arctia's vessels, only to the merchant vessels it assists.

Another one of IMO's targets is absolute emission reduction by 2050. The medium and long term methods set in order to achieve this target are not yet clear, and the discussion on them is progressing in the stakeholder networks. The requirements of these methods concerning icebreakers are still unclear. The planned national targets for transport and maritime transport are even stricter in places. The EU in particular has launched determined measures to mitigate emissions, but currently, for example, the EU's MRV (Monitoring, Reporting, Verification)

reporting obligation is not applied to icebreakers or offshore vessels. However, Arctia has for long reported its fuel consumption in public in its annual report and delivers the SEEMP2 reports to the Finnish Transport and Communications Agency Traficom.

As a result of the new international emissions reduction targets, the efficiency requirements for the transport capacity of cargo ships in relation to emissions are becoming stricter at a fast pace. For this reason, the hull forms and engine power of merchant ships operating to and from Finnish ports will inevitably change and, as a result, there will probably be significant changes to icebreaking and the icebreaking fleet suitable for the conditions in the Baltic Sea. A combination where the emissions of icebreakers must be reduced while, on the other hand, the assisted ships' performance in ice will presumably be diminished, may prove to be extremely challenging.

Moreover, the emission targets will not be achieved only by increasing energy efficiency as there must also be changes to the fuels and power technology used. The latest vessel in the fleet, icebreaker Polaris, is capable of using both liquefied natural gas (LNG) and low-sulphur diesel fuel oil as fuel. Sustainably produced bio-LNG and other biofuels can be a part of Arctia's low-carbon solution.

### ARCTIA GROUP'S ENVIRONMENTAL PROGRAMME FOR PERIOD 2020-2022

The environmental programme for the period 2020-2022 concerning the entire Group was published in late 2020. The programme has four environment-related ceiling targets that continue throughout the

## Environmental targets

### ENVIRONMENTAL TARGET 1:

Reducing the fuel consumption of vessels

### ENVIRONMENTAL TARGET 2:

Starting the recycling of plastic spar buoys

### ENVIRONMENTAL TARGET 3:

Prevention of environmental damage

### ENVIRONMENTAL TARGET 4:

Building a roadmap for halving CO<sub>2</sub> emissions in icebreaking and starting the measures accordingly



programme period:

1. Reducing the fuel consumption of vessels
2. Starting the recycling of plastic spar buoys
3. Prevention of environmental damage
4. Building a roadmap for halving CO<sub>2</sub> emissions in icebreaking and starting the measures accordingly

In order to reach the targets, a separate strategic spearhead project was established at the turn of the year.

**For year 2020**, the company has set two long-term targets, which at the end of the year were included in the multi-annual environmental programme and its targets. The first target is to start the work so that Arctia can, for its own part, achieve the IMO's emissions targets. Over the course of the year, the understanding of the targets and their impacts and possible solutions grew significantly. The seafaring stakeholder networks worked hard especially to concretise the short-term methods and to assess their impacts. In order to achieve the environmental target, Arctia has monitored and taken part in discussions on the methods, technical alternatives and their impacts with its stakeholders and launched a separate internal roadmap analysis. At the same time, it has become clear that the assisted vessels will change rapidly as a result of the forthcoming EEXI regulations (energy efficiency existing ship index) in the same way as they have also changed in the past few years as a result of EEDI (energy efficiency design index for new ships).

The recycling of plastic spar buoys has been

raised as the second environmental target. Arctia manufactures about 1,500 spar buoys each year at Viittatehdas in Joensuu and, correspondingly, several hundred buoys are replaced with new ones each year throughout Finland. The spar buoys can be dismantled into parts, and a significant part of the buoy can thus be recycled. The spar buoy itself can be shredded into recyclable plastic, and the metal parts can also be partly reused. Dismantling of a larger number of spar buoys and recycling of the parts in waste management and for reuse in the manufacture of spar buoys was piloted in 2020. Based on the piloting, the buoys can be recycled to a high degree. The next step is to take the operations from piloting to practice.

### ENVIRONMENTAL IMPACTS

The most important environmental impact of

icebreaking is enabling winter navigation for other vessels. The efficiency requirements for merchant vessels (EED/EEXI) will have a wide impact on Arctia's operating environment because, for example, the increased size of vessels will further affect the dimensioning of channels while the reduced machine power will have an impact on the need to use icebreakers and harbour tugs. Correctly maintained and clearly marked fairways, timely and sufficient icebreaking assistance, and coordination of traffic are requirements for safe and environmentally efficient seafaring.

Arctia's other services, such as oil spill preparedness and response services on vessels and oil spill remediation services, contribute to reducing the environmental impacts of maritime transport. Our product range also includes buoys designed for the monitoring of environmental emissions, for example,



Picture: Studio Timo Helkala



sulphur emissions or oil spills.

When the icebreakers are at berth in the icebreaker base in Katajanokka, they are connected to shore-side electricity and municipal utilities. During such periods, the icebreakers obtain their water, district heat and electricity from the shore and discharge their sewage into the municipal network. The use of fuels and lubricants is the most significant environmental impact of icebreaking. Icebreaker Polaris also uses the overflow of its LNG system for heating. When at berth, the fairway vessels, harbour icebreaker Ahto and the other tugs are connected to shore-side electricity and their waste water is discharged into a collection vehicle.

In addition to consumption by vessels, the most significant environmental load of fairway maintenance comes from the batteries and accumulators required by the safety devices. Arctia is working on the development of improved buoy batteries. The emissions generated by fuel consumption during the operational period are the most significant environmental impacts of Arctia's operations.

Arctia did not cause any material environmental damage in 2020.

### GREEN HANDPRINT

By safeguarding smooth and disturbance-free navigation in the sea areas and in inland waterways, the indirect, positive environmental impacts enabled by Arctia with its activities are more significant than the direct impacts. The shipping industry in Finland corresponds to about 90 per cent of all import and export transport, but only 2.6 per cent of all emissions.

This ratio helps to illustrate Arctia's positive net impacts on the environment.

Arctia's business operations have significant positive impacts on the marine environment.

- Icebreaking achieves a significant green handprint when it enables year-round seafaring and lower engine power of merchant vessels.
- Increasingly accurate information about the seabed produced by hydrographic surveying, good channel planning and a high standard of fairway maintenance prevent maritime accidents, improve maritime safety, speed up traffic in the channels and that way increase the pass-through capacity of the channels.
- Oil spill preparedness and response and oil spill remediation services prevent environmental accidents and restore nature after accidents.

### PREPAREDNESS FOR ENVIRONMENTAL RISKS

Preparedness for environmental risks is an increasingly important part of responsible operations in the maritime sector in particular. The Baltic Sea, inland waters and the Arctic sea areas have a sensitive ecosystem. Arctia's expertise contributes to ensuring the sustainable development and exploitation of these sensitive areas.

Arctia's subsidiary Meritaito Oy uses a separate environmental management system to manage the numerous environmental aspects pertaining to its branch of industry. In addition, the safety management system for Arctia's icebreakers and other larger vessels includes a separate environmental

section, defining the most significant risks to the environment and including instructions in case of environmental damage. The vessels also have separate waste management plans. The risk management frameworks of the safety management system also ensure that environmental risks are taken into account in the planning and execution of work.

### ENVIRONMENTAL INVESTMENTS

Arctia always strives to operate in the most economical and fuel-efficient manner possible. Nevertheless, this is not done at the expense of the winter transport system as a whole. Reduction of the passive consumption of ships and the adjustment of the use of equipment to be as energy efficient as possible are the primary objectives. The solutions include, for example, various automation modifications and frequency converters. We have carried out these minor environmental investments annually within the vessel maintenance budgets.

In 2020, the Group's fleet plan was updated to also take into account environmental aspects, such as reducing carbon dioxide emissions in life cycle extensions. The fleet plan is updated further on the basis of docking experiences, suppliers' system upgrades and reports on the need for repairs.

The monitoring and reporting of environmental investments have been raised as a separate point of interest in the 2020 environmental programme.

# Environmental report

Picture: Arctia, Jukka Launonen



# Environmental report

The Environmental Report section presents the environmental figures of the Arctia Group: emissions, consumption and waste. Arctia aims to reduce the negative environmental impacts of its operations.

## ENERGY AND WATER CONSUMPTION AND AIRBORNE EMISSIONS

### Airborne and greenhouse gas emissions

In order to prevent climate change and harmful airborne and greenhouse gas emissions, it is essential to reduce the consumption of energy and other resources. At Arctia, airborne emissions consist of carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NO<sub>x</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and particulate matter (PM). The consumed resources consist of fuel, water, electricity, spar buoy accumulators and batteries, their manufacturing materials, and heating oils and district heat.

The company's by far the greatest individual source of emissions is the fuel consumption of icebreakers, which is naturally the primary target of emissions reduction. The long-term work starts from the life-cycle planning of the fleet, including more energy-efficient new builds, higher optimisation of the fleet's operations, and technical modifications

to improve energy efficiency.

Due to the low rate of utilisation of the fleet, the most significant methods to reduce emissions in the short and medium term are contractual amendments, operational changes, and the possible use of biofuels. In terms of emissions, other important means are reducing the fleet's consumption of shore-side electricity at berth and improving the energy efficiency of properties.

In the longer term, digitalisation on the vessels and in the channels will enable remote control and

real-time consumption monitoring. Efforts are also made to support the self-imposed and energy-efficient operation of vessels with various contractual solutions. In the service contracts, Arctia can manage better the responsibility and possibilities for energy-efficient operations.

### AIRBORNE EMISSIONS

Other aerial emissions (tonnes)*	2020	2019	2018
CO	29.2	33.6	56.9
HC	11.7	13.5	22.8
NO <sub>x</sub>	409.0	470.9	796.5
Particulates	8.8	10.1	17.1
CH <sub>4</sub>	1.5	1.7	2.8
N <sub>2</sub> O	0.5	0.6	1.0



Picture: Jarmo Vehkakoski



### Electricity consumption

Outside the icebreaking season, traditional icebreakers are connected to the electricity network of the City of Helsinki. Their engines are switched off to avoid emissions and noise. In Kotka, Nordica and Fennica correspondingly rely on shore-side electricity, as do the tugs in Kemi and Tornio and the fairway vessels along the coast. Naturally, the annual consumption of the icebreaker base is also impacted by the severity of winter conditions, i.e. how many vessels are at berth during the winter months.

### District heat

District heat is used in buildings and on icebreakers. When the icebreakers are berthed at the icebreaker pier in Katajanokka, they are heated from the City of Helsinki's district heating network. When icebreakers arrive in port, they are connected to district heating and their boilers are shut down.

### Other materials

Paints, solvents, detergents and cleaning agents are used each year for the maintenance, service and repairs of the vessels. Plastics and metal are used in the manufacture of spar buoys, and buoy batteries are imported and used. Paints, solvents, detergents and cleaning agents are used each year for the maintenance of properties. The amounts of used materials are monitored by cost unit.

	2020	2019	2018
<b>Use of electricity <sup>1)</sup> and shore power (MWh)</b>			
Katajanokka icebreaker pier	4,437.4	3,993.9	3,928.5
Kotka <sup>2)</sup> icebreaker pier	2,575.2	2,931.0	
Other ships <sup>3)</sup>	876.2	335.4	
Other places of business	2,197.8	3,353.2	
<b>Weather-adjusted energy consumption (MWh)</b>			
Energy consumption Katajanokka <sup>4)</sup>	6 064,1	5 109,0	4 292,0
<b>Fuel oil consumption (tonnes)</b>			
Ultra-light	0,0	777,7	2 540,0
Light, icebreakers	5 340,2	2 540,0	11 532,3
Light, other ships <sup>5)</sup>	1 021,2	1 258,0	
LNG	69,8	1 206,0	494,8
Light, boats	299,7	616,6	
<b>Carbon dioxide emissions from fuel combustion, tonnes <sup>6)</sup></b>			
	21 547,2	31 130,7	46 476,6
<b>Water consumption (m<sup>3</sup>)</b>			
Icebreakers	4 530,1	7 337,6	8 346,5
Other ships <sup>7)</sup>	937,0	182,0	

- 1) Directly purchased electricity
- 2) Annual consumption measured of the ships
- 3) MPV Pohjanmeri, MSV Seili, HIB Ahto
- 4) The figure for 2020 includes Laivastokatu 3 energy consumption
- 5) Harbour icebreaker Ahto, hydrographic survey vessel Pohjanmeri, fairway vessel Seili
- 6) Includes LNG. Calculated according to IMO MEPC/Circ.471, LNG is calculated with a coefficient in accordance with MEPC 63/23, Annex 8 with respect to consumed fuel.
- 7) Harbour icebreaker Ahto, hydrographic survey vessel Pohjanmeri, fairway vessel Seili

### Fresh water

Attention is paid to moderate consumption of fresh water in the Group. The results presented in the enclosed table are based on the ships' own consumption monitoring, which does not give a fully comprehensive report on water use while berthed in Katajanokka.

### Transportation and travel

The environmental impacts of the transportation and travel required by Arctia's operations are minor. Arctia nevertheless seeks to reduce unnecessary transport. Travel resulting from the rotation of sea personnel and at the start of off-duty periods contributes to other carbon dioxide emissions.

The number and length of rotation trips depend on the vessel's operating area and the number of annual operating days. Due to the weak ice winter and the coronavirus crisis in 2020, air travel and the resulting carbon dioxide emissions decreased from the previous year.

Air travel	2020	2019	2018
All flights (kg CO <sub>2</sub> )	**6,865	*738,350	186,793
Rail traffic	2,666		

- \* Includes Meritaito
- \*\* Includes parts Meritaito



## Waste

Arctia aims to reduce waste and increase its sorting and utilisation rate. By increasing the utilisation of waste and circular economy, we will reduce environmental stress while the costs of waste management will fall. Appropriate storage and disposal of hazardous waste is invested in by the company and in its places of business.

Waste is collected and sorted at Arctia's places of business and on vessels. The places of business are equipped with waste sorting points complying with the municipal waste management regulations. There is a large number of recycling points on the Katajanokka quayside, and skips are ordered for larger volumes of waste.

Other places of business of the company also aim to recycle waste as efficiently as possible, taking the local reception possibilities into account. During the operating period, waste is delivered into the collection receptacles provided by ports, and the port then collects the waste for recycling or delivers it to the landfill. In order to maintain the target level for waste sorting, Arctia has commissioned, e.g. the collection of bio-waste when necessary. Hazardous waste is always sorted and delivered into the appropriate collection receptacles or points.

## Refrigerants

The refrigerants most commonly used in the refrigeration equipment on vessels are potent greenhouse gases that are harmful to the ozone layer. Arctia has given up the use of such gases and switched to alter-



Picture: Arctia

native refrigerants. Authorised service companies carry out the servicing of Arctia's refrigeration equipment.

## Waste management training and plans

New employees are introduced to the shipping company's waste management system during their general orientation. Extra training is available when necessary. At fixed places of business, waste is sorted separately with regard to combustible waste, oils and oily waste, bilge water, accumulators and batteries, pyrotechnic articles and (if the operations produce them) the following waste types: paper, metal, plastic, biowaste, fluorescent tubes and energy-saving light bulbs, SER, coolants and hydraulic fluids, and other chemicals, fuels and pressure-treated wood. When

ships are at sea, solid waste is sorted into separate receptacles located on board as follows:

- electronic waste (e-waste)
- energy waste
- biowaste
- paper and cardboard
- mixed waste
- glas
- metal
- hazardous waste (tins of paint, fluorescent tubes, oily waste, etc.)
- PVC
- batteries and accumulators



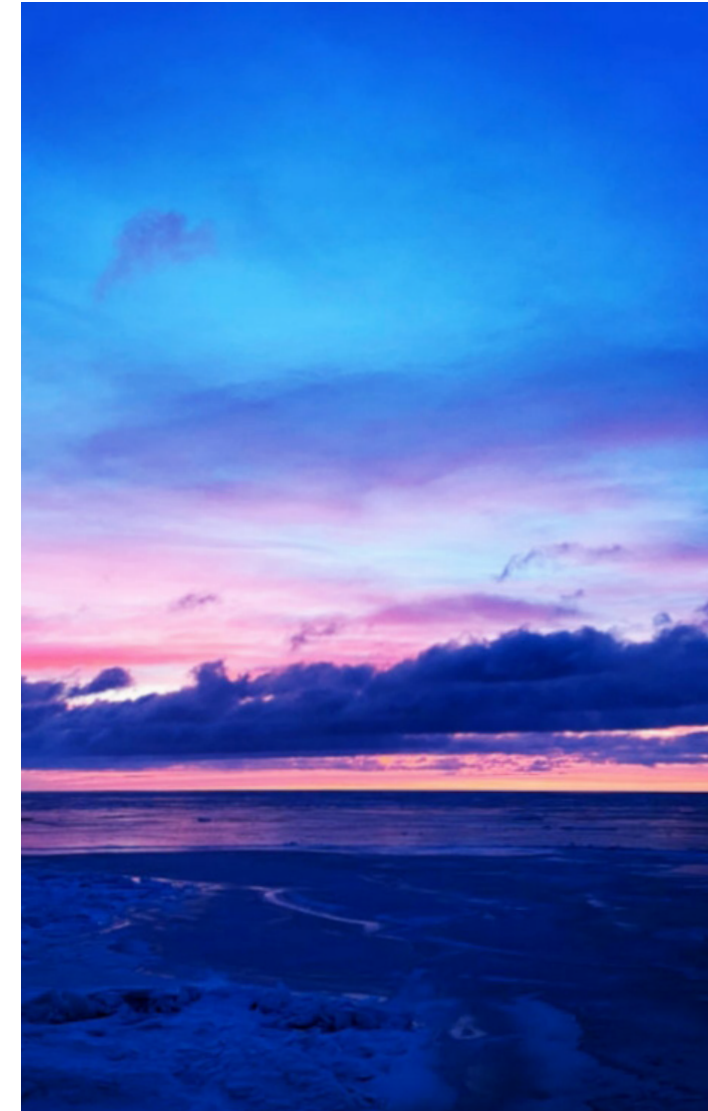


WASTE

	2020	2019	2018
<b>Ships' waste (m<sup>3</sup>)</b>			
Biowaste	32.2	35.2	38.8
Plastic	20.1	57.6	72.3
Glass	0.6	2.4	5.2
Cardboard	51.5	84.6	45.1
Metal	35.6	20.6	30.0
Paper	9.8	78.3	91.1
Other	187.2	11.5	7.0
Mixed waste	355.4	706.3	257.8
<b>Hazardous waste</b>			
Oily waste (m <sup>3</sup> )	10.1	9.0	12.6
Accumulators, batteries (pcs)	1,864	1,286	1,495
Light bulbs, etc. (pcs)	1,048	760	1,000
Other (pcs)	210	170	31
<b>Hazardous waste, liquid</b>			
Oils (m <sup>3</sup> )	34.9	34.4	16.1
Paints (m <sup>3</sup> , kg, kg)	0.1	2.8	0.1
Coolants (m <sup>3</sup> , kg, kg)	0.0	0.7	0.3
Refrigerants (m <sup>3</sup> , kg, kg)	48.6	9.5	22.0
Other (m <sup>3</sup> , kg, kg)	0.0	0.0	0.1
<b>Liquid waste (m<sup>3</sup>)</b>			
Processed bilge water	559.9	406.2	145.0
Other oily water	339.6	301.0	0.0
Toilet waste water (into the municipal sewage system)	1,797.0	1,897.5	1,441.1
Toilet waste water (suction disposal)	19.5	2,102.4	0.0
Other		29.0	73.8

	2020	2019
<b>Waste from the places of business (tonnes)</b>		
Hazardous waste	61.9	60.0
Mixed waste	26.5	29.0
Energy waste	12.6	6.9
Construction waste	24.4	11.0
Mixed wood	23.9	10.4
Impregnated wood	8.2	2.0
Scrap steel	7.8	15.2
Data protection materials	1.2	1.4
Biowaste	4.5	3.6
Metal packaging	0.6	0.6
Cardboard	1.2	1.3
Recycled paper	0.8	1.9
Board	0.2	0.2
Sludge	19.6	3.8
Electrical and electronic waste	0.9	3.6
Brick and concrete waste	18.5	
Tyres		0.3
<b>Total</b>	<b>212.1</b>	

\*Ships: icebreakers, Ahto, Pohjanmeri and Seili



# Stakeholders and their expectations

STAKEHOLDERS		EXPECTATION	STAKEHOLDERS		EXPECTATION
<b>OWNER</b>	Finnish State, Ownership Steering Department of the Prime Minister's Office	Investment ability, implementation of strategic interests, responsibility and good financial standing	<b>DIRECT CUSTOMERS</b>	<b>OWNERS OF WATER INFRASTRUCTURE</b>	
<b>EMPLOYEES</b>	Onshore personnel Offshore personnel	Good financial standing, good long-term HR policy, important and meaningful work		Finnish Transport Infrastructure Agency Towns and municipalities Ports ELY Centres Government of Åland Regional Councils Finnish Defence Forces Finnish Border Guard Metsähallitus Private industrial operators Telecommunications and energy companies Oil and energy companies Offshore construction companies Customers of Viittatehdas	High-quality services that comply with the service descriptions and agreements, production of added value, expertise and professionalism, responsible operations, cost-effective prices, smooth water transport
<b>AUTHORITIES AND 3RD SECTOR</b>	International organisations IALA, IHO, PIA, IMO, IMCA HELCOM, EMSA, ECSA	Responsibility, flow of information, cooperation, development		<b>DESIGNERS OF THE USE OF WATERS, INFORMATION PROVIDERS AND PLANNERS</b>	
	Research organizations Schools, instructors, scientists Maritime colleges Maritime research institutes			Traficom Finnish Navy Towns and municipalities Ports ELY Centres	High-quality services that comply with the service descriptions and agreements, production of added value, expertise and professionalism, responsible operations, cost-effective prices, smooth water transport
	<b>Arctic operators</b> Ministry for Foreign Affairs of Finland Arctic Council Finnish Meteorological Institute Arctic Economic Council		<b>CLIENTS AND PROVIDERS OF ENVIRONMENTAL AND NATURAL RESOURCES SERVICES</b>		
<b>Interest organisations</b> The Finnish Shipowners' Association The European Community Shipowners' Associations, ECSA Trade unions and other labour market organisations			Emergency Service of Lapland Finnish Border Guard SYKE Ministry of the Environment ELY Centres	High-quality services that comply with the service descriptions and agreements, production of added value, expertise and professionalism, responsible operations, cost-effective prices, smooth water transport	
<b>Authorities</b> Finnish Transport Safety Agency Police of Finland Finnish Border Guard					
<b>3RD SECTOR: Foundations</b> Associations RALA ry Waterways Association Foundation for Recreation Areas					

# Stakeholders and their expectations

STAKEHOLDERS		EXPECTATION
DIRECT CUSTOMERS	<b>USERS, CLIENTS AND OPERATORS OF THE WATER TRANSPORT SYSTEM</b>	
	Finnish Transport Infrastructure Agency Saimaa Canal Board of Management Port of Kemi, Port of Tornio Customers of Ice Advisors Ltd Towing and harbour icebreaking customers Direct customers of ice management and icebreaking	High-quality services that comply with the service descriptions and agreements, production of added value, expertise and professionalism, responsible operations, cost-effective prices, smooth water transport
OTHER STAKEHOLDERS	Regional Councils Finnpilot VTS Saimaa Canal Board of Management Finnish Border Guard SYKE Ministry of the Environment Finnish Meteorological Institute Sea cluster  Winter transport operators: Veeteede Amet (EMA) Sjöfartsverket Rosmarport Ministry of Transport of the Russian Federation Media	Flow of information, cooperation, maintaining own service level, local knowledge and understanding and supporting regional operations, cooperation, maintaining own service level, development
END CUSTOMERS	Finland's exports and imports Industry Shipping companies Merchant vessels Regional operators Pleasure boaters and citizens	Fast, reliable and quality transport, service, product and information

STAKEHOLDERS		EXPECTATION
SUPPLIERS	Dockyards Goods and service suppliers Classification societies Insurance companies Financiers, banks	Good financial standing, responsibility, flow of information, cooperation, development

# Reporting and calculation principles

This report on corporate responsibility incorporated into the annual report of Arctia is based on issues that Arctia has identified as essential, as stated in the Government Resolution on State Ownership Policy (VNK/2016/29). At the same time, this reporting basis of the report on corporate responsibility has been implemented in compliance with the instructions in Annex 3. Model for corporate responsibility reporting for state-owned companies of the Government Resolution on State Ownership Policy (3 November 2013), where applicable. The following sources have been used when creating the reporting model in the resolution: Global Reporting Initiative (GRI) Sustainability Reporting Guidelines G3, 2006 (updated version of the reporting guidelines GRI 3.1, 25 March 2011); Accounting Board: Yleisohje toimintakertomuksen laatimisesta (General guidelines on drawing up an annual report), 12 September 2006; Ministry of Economic Affairs and Employment: Yritysvastuun raportoinnin ensiaskeleet. Tietopaketti pk-yrityksille (First steps of corporate responsibility reporting. An information package for SMEs); Securities Market Association: The Finnish Corporate Governance Code for listed companies 2010; ISO 26000 standard on social responsibility, confirmed on 22 November 2010.

In order to avoid interruptions in reporting, this report on corporate responsibility also includes in full the ILPO report in accordance with the Climate

Policy Report (ILPO) required by the previous corporate governor, the Ministry of Transport and Communications, of its administrative sector. Moreover, the contents of the statement of human resources have also been reviewed relatively extensively in this report on corporate responsibility. This report on corporate responsibility covers and replaces these previously published reports.

The information for the report on corporate responsibility has been reported by different parts of the Group so that the monitoring data has been delivered to Arctia's responsibility manager who, in turn, has compiled and edited the report.

Financial figures are reported by the financial management, and they are created mainly in the same process and the annual report and financial statements. The human resources department monitors the personnel situation and work-related travel. The HSSEQ unit produces the information related to occupational safety and environmental damage. Senior management then supplements the report where required. In addition, the CEO's review has also been enclosed in the report. The report on corporate responsibility is dealt with by the Management Team and in a meeting by the Board of Directors. It is published on the website of Arctia Ltd ([www.arctia.fi](http://www.arctia.fi)).

## MEASUREMENT AND CALCULATION PRINCIPLES

### Personnel indicators

The reported figures represent the situation on the indicated date (31 December 2020). The total number of personnel also includes part-time employees, as well as fixed-term employees with valid employment contracts on the day in question.

### Lost-time incident frequency

The number of lost-time injuries (LTI) has been calculated by including all workplace accidents resulting in a minimum of one day of inability to work. The lost-time incident frequency has been calculated by dividing the above-specified LTI by the working hours and multiplying the result by one million.

The daily working time used in the formula is eight hours in the onshore organisation and twelve hours on the vessels. Accidents sustained by both onshore and offshore personnel are included in occupational accidents, and the total number of working hours in the organisation was used as the basis of division. The international term for this accident frequency calculation principle is lost-time injury frequency (LTIF).

# Reporting and calculation principles

## **Carbon dioxide and particulate emissions**

The carbon dioxide emissions of the vessels have been calculated according to the formula presented in the IMO publication MEPC/Circ.471, 29 July 2005; INTERIM GUIDELINES FOR VOLUNTARY SHIP CO<sub>2</sub> EMISSION INDEXING FOR USE IN TRIALS.

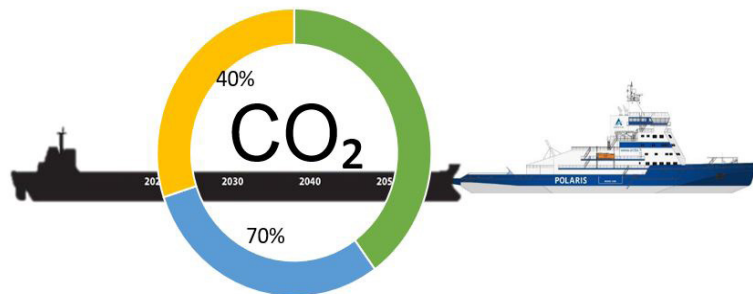
The carbon dioxide emissions of air traffic have been calculated on the basis of flight kilometres, using the following coefficients:

- less than 950 km 0.15 kg CO<sub>2</sub>/km
- more than 950 km 0.11 kg CO<sub>2</sub>/km.

The particulate emissions of icebreakers were calculated using the emission coefficients presented in VTT's research report (VTT-R-08702-09) Calculation system for Finnish waterway traffic emissions MEERI 2008. However, the research report has defined the engines of icebreakers as slow two-stroke engines [sic] instead of four-stroke engines (p. 11). For this reason, this report deviates from the standard coefficients of the research report so that the calculation is based on four-stroke engines.

## **Waste amounts**

The vessels monitor waste amounts by volume, whereas the recipients of waste charge for the services by weight. The amounts reported by ships have in part been adjusted to weights using coefficients in accordance with the Waste Tax Act (495/1996).



Arctia Ltd.

Laivastokatu 9, FI-00160 Helsinki, Finland

Puh. +358 30 620 7000

[arctia.fi/en](http://arctia.fi/en)