



ESL Shipping

# SUSTAINABILITY REPORT 2017

Reporting period 1.1.2017 - 31.12.2017





# OUR VALUES



# MANAGEMENT TEAM

Safety

Customer first

Respect of colleagues

Respect for the environment

Efficiency

**Mikki Koskinen**  
Managing Director

**Kimmo Valtonen**  
Chief Financial Officer

**Kirsi Ylärinne**  
Operations Manager

**Janne Eklöf**  
Technical Manager

**Mikko Rausti**  
Sea Personnel Manager



# RACE FOR BETTER RESPONSIBILITY

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Dear All,

We operate in the sensitive waters of the Baltic Sea and Arctic areas. Safety and responsibility are our first priorities. Having said this, we must admit it is not always easy to deliver what we promise. During last few years we have devoted a lot of time and resources to improve our human and technology standards, but we acknowledge we still are far away from being perfect and a lot of work remains. Our main task is to provide all our employees onboard and ashore a safe working environment and bring them safely back home. Responsibility for colleagues cannot be compromised by any individual.

Every industry is today facing a great sustainability challenge driven first of all by climate change. We have witnessed the change in prevailing weather conditions on the Baltic Sea, where the amount of winter ice has decreased over the years but the number of days with heavy winds has simultaneously increased significantly. That is why we act wherever we can.

Many of our clients belong to industries utilizing large amounts of valuable natural resources in their production. And all of them are looking for solutions how to decrease their environmental footprint. We are actively participating this development and working together with our clients in order to minimize the footprint caused by sea transport of raw materials. This means, for example, reducing harmful air emissions at sea and in ports by introducing new LNG technology, minimizing shipboard waste and dry bulk cargo residues into the sea by implementing adequate ways to handle residues on board and pump them into reception facilities. We are also dry bulk shipping first to install shore power connection into our ships.

Because we know we are part of the problem, we strongly support global regulation of CO<sub>2</sub>-emissions in shipping. In this respect, International Chamber of Shipping has prepared an industry proposal to International Maritime Organization IMO, hopefully resulting in a global roadmap for significant long-term emission reductions. In our newbuilding project, we are successfully demonstrating it is possible to combine a solid business case with CO<sub>2</sub>-emission reduction exceeding 50 percent. A perfect showcase what can be done in deep co-operation with an industrial client, when there is mutual will to do so.

We offer our clients reliable, safe and flexible deliveries regardless weather and ice conditions as sustainable as possible. Not always easy, but definitely worth working for.

Sincerely,

Mikki Koskinen  
Managing Director and  
the Management team



About ESL Shipping

# WE BREAK THE ICE

Established in 1949 and a fully owned subsidiary of Finnish conglomerate Aspo Plc, ESL Shipping Ltd is the leading dry bulk carrier in the Baltic region. Our mission is to optimize our clients' supply of raw materials – such as iron ore and pellets, coal and limestone – throughout the year, even in challenging weather conditions. Effective fleet utilization, combined with the just-in-time principle, requires close cooperation with customers and flexibility from all parties but gives highly competitive freight rates in return.

Our main clients come from the steel, power generation, and chemical industries. Our vessels are also suited for transporting fertilizers, grain and dry biofuels, such as wooden pellets.

Besides the Baltic Sea, our ice-class vessels are a perfect fit for the extreme north, such as the eastern coast of the United States and Canada, the Russian Arctic regions and the Northern Sea Route. Arc-

tic sea routes are normally only open from July to October, but our ice-strengthened vessels can also handle navigation during other times of the year.

All our ships are ice-strengthened and designed for the demanding northern conditions. Our two Supramax vessels, m/s Arkadia and m/s Kumpula, are the first 1A ice-strengthened dry cargo vessels in their class. They are fitted with efficient cargo handling equipment, enabling independent cargo operations also in conditions where the port infrastructure is still incomplete.

During 2017, the building of company's two new LNG-powered bulk carriers has proceeded and they will be delivered in the first half of 2018. The vessels are the first LNG-powered bulk carriers in the world and represent a great upgrade to an existing maritime link between Raahé, Luleå, and Oxelösund. The newbuildings will produce over 50 percent less CO<sub>2</sub>-emissions than the previous generation of the vessels.

### ARKADIA-class

2 x 56,000 dwt  
Ice class 1A

Ships: Arkadia and Kumpula



### VIIKKI-class

2 x 25,600 dwt  
Ice class 1A

Ships: Viikki and Haaga



### EIRA-class

3 x 20,000 dwt  
Ice class 1A Super

Ships: Eira, Kallio and Alppila



### PASILA-class

2 x 13,000 dwt  
Ice class 1A Super

Ships: Pasila and Tali



### Pushers and barges

4 x 14,000 dwt barge  
1 x 9,000 dwt barge  
Ice class 1A Super

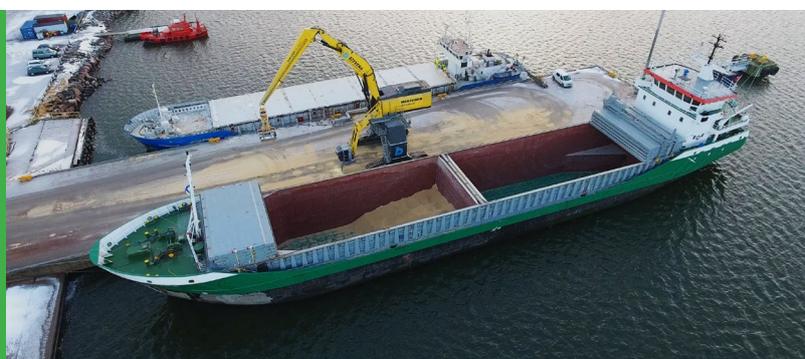
Pushers: Rautaruukki and Steel



### COASTER-class

4 x 3,000 dwt  
Ice class 1A / 1B

Ships: Baltic Carrier, Baltic Skipper,  
Capella and Delfin (all on time-charter)



Social responsibility

# SAFELY BACK HOME



Ship: Arkadia  
Location: Gulf of Bothnia  
Unloading from Arkadia to Tali

"Safety is very dependent on our people and their mindset – creating a robust safety culture is one cornerstone ensuring safety. Safe working methods and procedures is another cornerstone – these are described in and communicated through our Safety Management System. The third cornerstone is good, seaworthy ships and protective equipment that is easy and comfortable to use."

Maintenance and development of our safety culture, management system, and equipment is continuous. Reporting of near misses, incidents, and accidents is active. The reports lead to corrective and, above all, preventive actions through analyzing root causes. Relevant information is openly shared to enhance the understanding of risks, take actions throughout the fleet and improve our safety culture. Risk assessments are used to mitigate risk prior to developing into incidents or accidents."

- Hans Björkestam, Safety & Environment Manager

We at ESL take safety seriously. The efficiency of the safety management system is monitored both internally through audits, masters' reviews, management reviews, and externally. An evidence of our system complying with the International Convention of the Safety Of Life At Sea (SOLAS 1974) is the Document of Compliance held by the company and the Safety Management Certificates held by each vessel. These certificates are granted by the Finnish Transport Safety Agency, based on their audits.

Our Technical Department ensures, together with the people onboard, that our fleet is kept in a good seaworthy condition. The certificates issued by Class Societies and other authorities are evidence of this.

LNG technology onboard new vessels (see pp. 18-19) means that there are new safety issues to think about. To be prepared for new challenges, crewmembers chosen for new vessels as well as office staff have gone through extensive training.



Lost-time injury frequency  
decreased from 2016 by

**67%**



## SAFETY CULTURE BEGINS FROM INDIVIDUALS

"Safety mindset onboard starts from small details. Even though helmet and hearing protectors may sound small things, they play a crucial role to ensure safety and health of crew members. Convincing everyone to wear personal protective equipment (PPE) wasn't an easy task. The best way to convince everyone onboard is to discuss the benefits and ensure that equipment is easy and comfortable to use.

Everyone has to understand that this only works and it's not worth destroying, for instance, your hearing only

because you work in a loud environment. I'm happy with the new helmets as the hearing protectors are now integrated to helmet. Thus, it's not possible to forget them when you descend to the cargo hold, for instance."

- Niklas Lindroos, Master, ms Eira

*"Convincing everyone to wear personal protective equipment wasn't an easy task."*



**264**

*"Every workday at least one of our crew members participated in training."*

Social responsibility

# PERSONNEL & DIVERSITY



Ship: Arkadia  
Location: Arctic Sea

"I like coming back here because I always know the people onboard and I don't need to adjust every time I board the ship. We are like a family here. When you come back you already know the ship and it shortens the adjustment time. Now when I come back I know straight away what to do.

The work system here is quite good and the trading area like Luleå-Raahé, I like it. I have been on ships that sail around the world and sometimes we spent almost one month at sea. What I like most in this trade is that I can communicate with my family almost every day because we have internet connection most of the time, That's why I don't have homesickness that much here.

I find people here very nice, professional, and friendly. Compared to other cultures I have worked with, the Finnish one is more relaxed because in other cultures the atmosphere can be more authoritative. Here people respect your opinion and there is no discrimination, that's why I stay here."

- Denmark Jalandoni, 2nd Officer, pusher Steel

ESL Shipping employs around 200 skilled seafarers who know how to operate in demanding winter conditions as well as in ship-to-ship operations at sea. All employees belong to an occupational health system.

Mainly manned by Finnish seamen, the company's vessels have also seamen around the globe bringing diversity and fresh views onboard. Part of company's vessels has mixed crew and thus part of the crew comes from the Philippines. The manning agency has ISO 14001 and ISO 9001 quality management certificates issued by DNV GL and it also complies with international MLC-convention. ESL Shipping recognizes challenges related to mixed crews, and in order to better understand the issue, the company participated a study about the mixed crews onboard Finnish-flagged vessels.

Overall satisfaction among employees has remained high throughout the years. In order to follow up and track progress, employee satisfaction is measured with regular surveys.

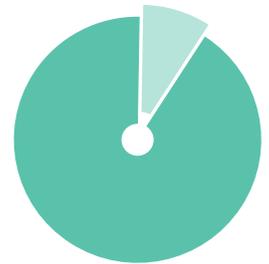
## GREAT WORKING ENVIRONMENT

As a proof of a great working environment, the retention rate has remained high over the years. In 2017, the retention rate was 95%. Some employees have worked for ESL Shipping more than 30 years.

*“Some employees have worked for us more than 30 years.”*



## EMPLOYEE BREAKDOWN



25 at office



200 at sea



Retention rate

# 95%



Economic responsibility

# PART OF THE COMMUNITY

Ship: Pasila  
Location: Helsinki, Finland

ESL Shipping is the leading Finnish dry bulk carrier and all of its own vessels sail under Finnish flag and thus the company plays a vital role in ensuring national emergency supply. The major part of fuel used in power plants in Southern Finland is transported to Finland by ESL Shipping's vessels.

In Helsinki, Helen's power plants cover over 90 percent of the heating needs of the city. The fuel is shipped to the power plants by ESL Shipping's vessels, all sailing under Finnish flag. The co-production of power and heat is environmentally-wise the best solution as the efficiency can be up to 90 percent thus reducing total emissions.

Moreover, a ship is the most environmentally friendly way to transport large quantities. If the proposed biofuel plants would rely on trucks, it would mean 5-10 kilometers of trucks to Helsinki every day during the heating period.

Especially in Helsinki, company's vessels discharge near housing premises. For example in Ruoholahti, the

nearest apartment buildings are nowadays closer to the quay than before. Discharging operations comply with the current environmental permit, but in order to further decrease noise emissions, another silencer was installed to exhaust line of Eira's auxiliary engine during fall 2017. The auxiliary engines generate power for the vessel's cranes during discharging and thus can not be turned off. The tests proved that the noise emissions have decreased remarkably - up to 30 percent.

When sailing around the world, crew members may face actions and behavior that fulfill the criteria of bribery or corruption. ESL Shipping and parent company Aspo has strict zero policy when it comes to corruption and bribery and to enforce this policy, all employees onboard the vessels and ashore are required to complete parent company Aspo's Code of Conduct -training. It provides knowledge how to recognize suspicious situations and which actions may be considered as bribery or corruption.



At port the  
noise emissions of  
Eira decreased by

**30%**



## PART OF THE EDUCATION SYSTEM

ESL Shipping's vessels are also an important part of national education system. Annually, tens of future seamen carry out their mandatory training periods onboard our vessels. In 2017, 101 maritime students participated in the onboard training on our vessels.

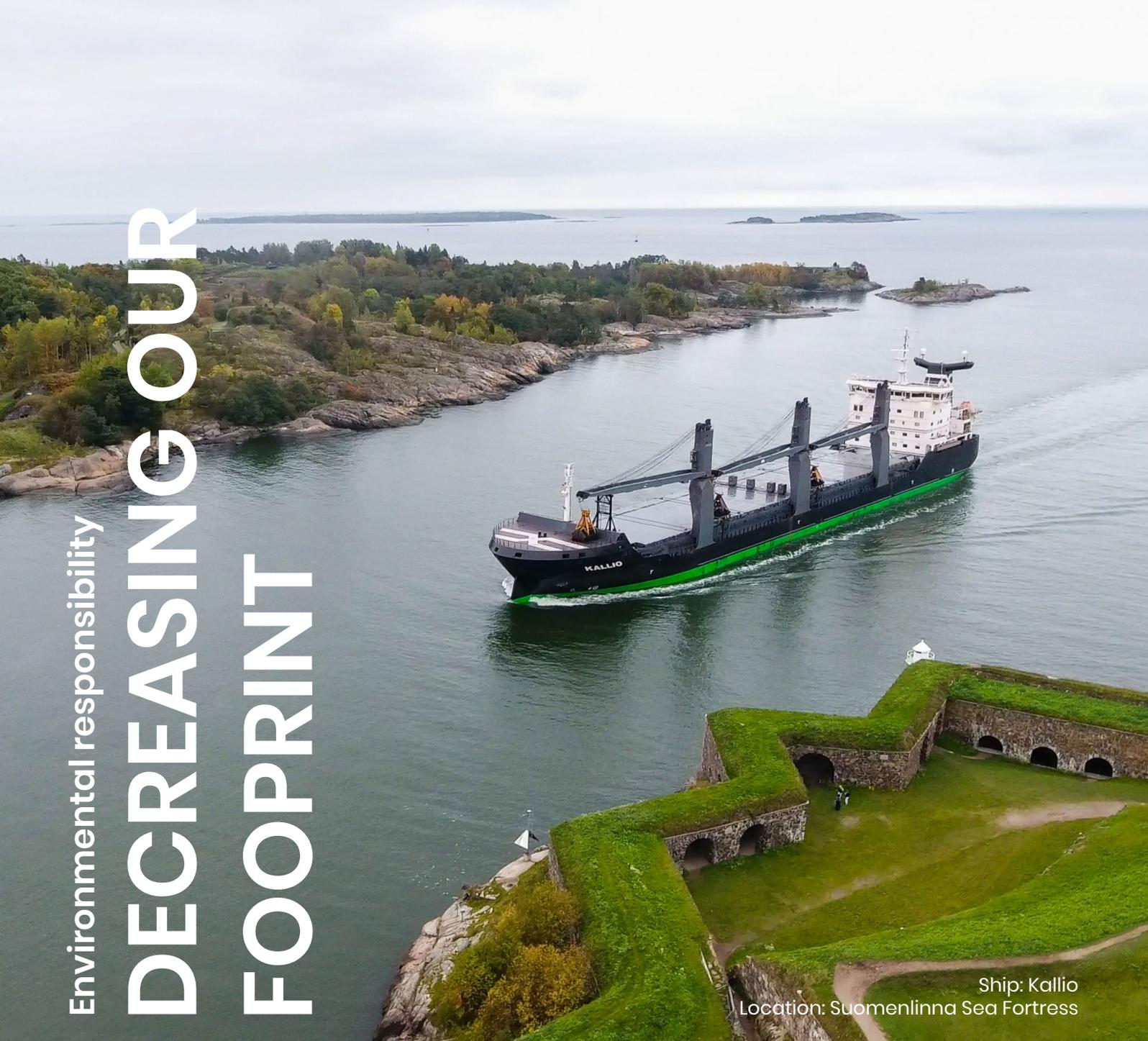
*“101 students  
participated in the  
onboard training.”*

*“Our vessels are perfectly  
suitable for carrying wood-  
chips and other solid  
biofuels.”*



Environmental responsibility

# DECREASING OUR FOOPRINT



Ship: Kallio  
Location: Suomenlinna Sea Fortress

"Due to a broad operating range of mv Kumpula, we always have different fuel variants onboard ranging from heavy fuel oil to diesel. This year we have mainly sailed in the Baltic Sea and the North Sea, where we use ultra-low-sulphur fuel oil with sulphur content less than 0.1 percent.

We have also diesel fuel onboard in order to fuel the port boiler which we use at the port in order to minimize adverse effects to local air quality.

Sludge, bilge water, and waste oil are pumped ashore around once a month. Across the ship, we have recycling bins for burning waste, plastics, and metals. In addition, we have a separate garbage room where solid waste is sorted and stored before we discharge it at a port. Most ports allow us to discharge waste without a separate fee."

- Joonas Karvinen, Chief Engineer, ms Kumpula

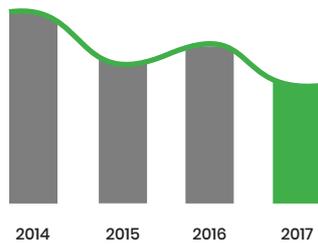
ESL Shipping works systematically in order to protect the environment and to improve the energy-efficiency of its fleet. Vessels' cruise speed and fuel economy are continuously optimized according to prevailing situations without decreasing customer service level.

Both the office and ships operate an environmental management system based on ISO 14001, which creates a base for continuous improvement of environmental issues. The system has been certified by Bureau Veritas. All vessels are naturally operated and maintained in compliance with international MARPOL-convention that governs emissions on a global scale.

Sea organisms attached to a ship's hull increase the resistance and lead to increased engine power need. In order to ensure smooth sailing, the bottoms of the vessels are brushed and cleaned at regular intervals instead of using harmful hull paintings.

Sulphur emissions decreased  
from 2016 by

**23%**



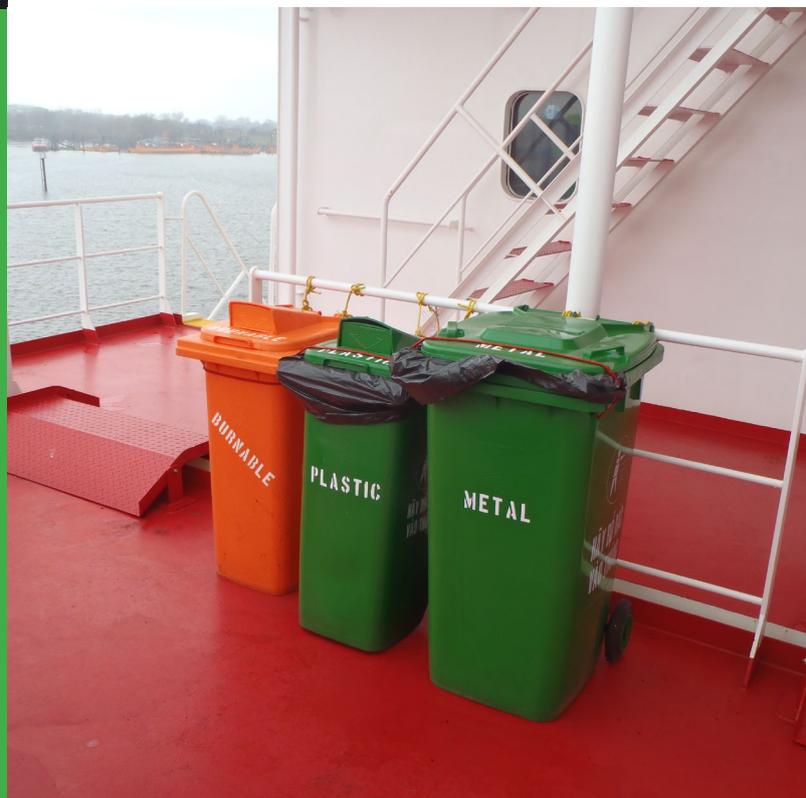
## INCIDENT WITH ARKADIA

Despite all efforts to comply with the 0.1 % Sulphur cap within the Sulphur Emission Control Area in the form of trained crew, established procedures and fuel complying with the Sulphur cap, there can still be issues with complying with the regulations. During a random inspection conducted by the officials, Arkadia's fuel sample was found to contain about 0,15 % sulphur.

A rigorous investigation was undertaken to find the root cause. It turned out that high-sulphur fuel used outside the SECA-area had been pumped into the low sulphur day tank thus contaminating the fuel in use. Procedures were amended both on Arkadia and on the rest of our vessels to prevent similar incidents from occurring.

*“All steps will be taken to ensure the compliance.”*

*“Across the ship we have recycling bins. The bins will be replaced by metal ones in 2018.”*



Environmental responsibility

# SMART ROUTE PLANNING



Ship: Eira  
Location: Archipelago Sea

“Efficient sailing and optimizing of fuel consumption are one of the key concerns of every captain in ESL Shipping’s fleet. Knowing your vessel is one of the keys for decreased fuel consumption. Based on my experience, I know that in a certain speed, a small increase in speed actually decreases fuel consumption per nautical mile and that’s why the meters have to be monitored closely in order to find optimal speed for each situation.

Another important feature for the captain is to understand the port operations. If the port operates only daytime, there is no reason to rush there by the evening because nothing is going to happen during the night. We rather just decrease speed, let the crew sleep well and arrive at the port early in the morning and commence unloading as early as possible.”

- Niklas Lindroos, Master, ms Eira

In 2017, ESL Shipping’s vessels completed over 1,400 port calls and hundreds of voyages in an area ranging from Milne Inlet in Canadian Arctic to Sabetta in the Russian Arctic while the most frequently visited ports are located in the Baltic Sea.

Every port call means careful route planning as well as ensuring that the cargo is safely discharged or loaded. Shipping lanes in the Baltic Sea are often rocky, narrow and shallow, which pose certain limits to vessels operations. Some of our captains have obtained a pilot license for certain frequently used shipping lanes which further improves efficiency.

The experienced crews onboard our vessels are responsible for choosing the most suitable route while the employees at the office optimize the fleet utilization and minimize sailing with empty cargo holds.

## OUR FLEET

ESL Shipping's fleet comprises 17 vessel units ranging from 3,000 to 56,000 dwt. Company's carried cargo volume of approximately 11 million tons annually. We own most of our vessels, which gives latitude and flexibility in organizing operations. In 2017, vessels completed over 1,400 port calls.

*"Over 1,400 port calls in 2017."*



In 2017  
our ships sailed  
around the globe

—  
**17 TIMES**

*"Knowing your vessel is a key for decreased fuel consumption."*



Environmental responsibility

# LOADED WITH ARCTIC KNOW-HOW



Ship: Pasila  
Location: Arctic Sea

Since its inception in 1949, ESL Shipping has developed solid knowledge of operations in demanding winter and ice conditions. All of its own vessels have been designed to winter conditions and have ice class 1A or 1A Super. Newbuildings Viikki and Haaga are ice classed, and supramax-vessels Arkadia and Kumpula are the first 1A ice classed supramax vessels in the world.

During the past years the company has actively extended its operating area to Russian and Canadian Arctic. Most recently, m/s Pasila has sailed in Russian Arctic transporting construction materials (pictured) to Yamgas project in Sabetta, and m/s Arkadia has carried iron ore from the Baffin Island in Canadian Arctic to the European market.

Operations in the Arctic areas requires careful planning, know-how in navigation in harsh winter conditions as well as sophisticated, ice-strengthened vessels. In addition to sailing in the ice, the crew has to take in to account the ice formation in ship's deck and superstructure. Often these remote areas lack proper harbour facilities and thus bunker and provisions are often not available which sets additional weight for planning.

The new Polar Code entered into force at the beginning of 2017 governing the traffic and vessel requirements in the Arctic areas. ESL Shipping is working with classification societies and authorities in order to certify its vessels according to Polar Code.

*“Our vessels have been designed and our crew is specialised in harsh winter conditions.”*



In 2017  
Supramax Arkadia  
sailed to the

**CANADIAN ARCTIC**

## ICE-PROOF SHIPPING

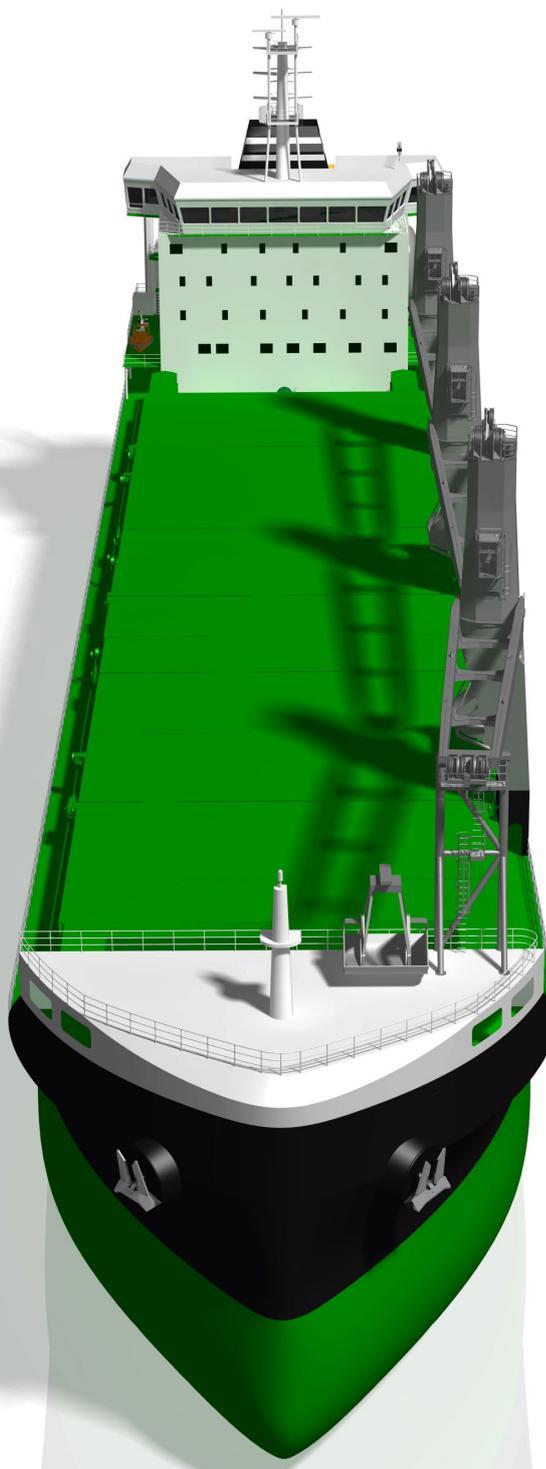
The ESL Shippings's vessels are a perfect fit for the extreme north. Arctic sea routes are normally only open from July to October but our ice-strengthened vessels can also handle navigation during other times of the year.

*“Our vessels are a perfect fit for the extreme north.”*



Environmental responsibility

# LOADED WITH INNOVATIONS



“The newbuildings demonstrate ESL Shipping’s aim to be an innovative, flexible and environmental friendly company. When designing the new vessels, we took into account that, in the future, we will operate not only in arctic conditions, but also more frequently in changing and unexpected conditions as caused by climate change.”

- Jussi Vahtikari, Master and Owner supervisor

When designing newbuildings ESL Shipping wanted not only create vessels well-suited to customers’ needs but also the ones that would be global leaders in eco-friendliness. With these vessels, ESL Shipping is reducing its environmental footprint together with its customers. New LNG-powered vessels represent great decrease in carbon dioxide and other emissions.

One remarkable feature is hybrid propulsion, which

means that the new vessels can meet the requirements of Finnish-Swedish ice class 1A with the main engine designed to provide enough power to achieve design speed in open water. Additional power required in ice conditions is produced by auxiliary engines that are connected to main shaft by permanent magnet shaft generator delivered by Finnish WE Tech. This gives an additional boost of 1,250 kW resulting a combined shaft line power of 7,250 kW.

Another remarkable innovation relates to cargo handling. Hatch covers open the whole length of the cargo holds instead of opening conventionally to both ends of a cargo hold. The chosen design enables smooth cargo handling as cranes can operate almost without restrictions because there is no need to lift the grab over the hatch cover. This change in the arrangements makes loading and discharge faster and safer.

*“Skangas will deliver liquified natural gas (LNG) and liquified bio gas (LBG) to the newbuildings Viikki and Haaga.”*



## ESL SHIPPING PARTICIPATED IN AAWA –PROJECT

ESL Shipping participated AAWA-project that investigated remote and autonomous shipping operations. The project period was from 2015 to June 2017. AAWA was led by Rolls-Royce, and the other industry partners were DNV GL, NAPA, Deltamarin, and Inmarsat. The other research partners included Aalto University, Tampere University of Technology, Åbo Akademi University, and VTT Technical Research Centre of Finland.

In the meantime, ESL Shipping and MacGregor have agreed to test automatic cranes onboard the new-

building and thus making a small but remarkable step to test automatic operations onboard. The new feature is expected to improve safety and offer operational efficiency.

*“ESL Shipping is making a small but remarkable step to test automatic operations onboard.”*



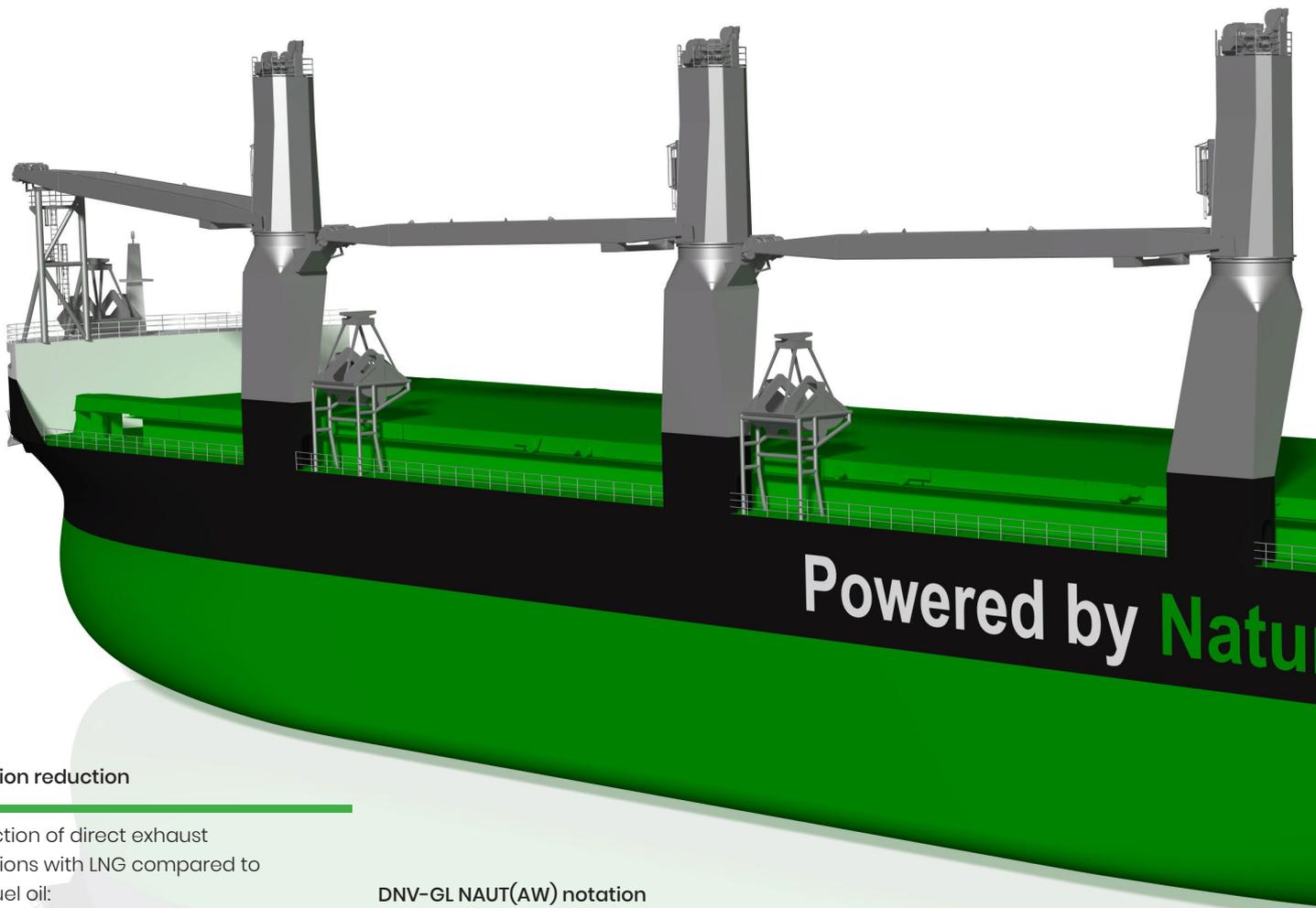
## WE ENCOURAGE TO INNOVATE

Every year we prize the best innovation by our crew members. Recent winners are:

- 2016** Kai Olander, 2<sup>nd</sup> Engineer, m/s Eira  
Fuel savings and decreased sludge
- 2015** Jeremias Epondulan, Fitter, m/s Kumpula  
Several technical improvements
- 2014** Vesa Airas, Master, pusher Rautaruukki  
Improvements to rest hour management

# INNOVATIVE NEWBUILDINGS

ESL Shipping's newbuildings are full of innovations that decrease the environmental footprint of the vessels and result more efficient operations. Vessels have been designed in Finland, and European equipment suppliers account for roughly 60 percent of all vessel systems.



## Emission reduction

Reduction of direct exhaust emissions with LNG compared to 0.1 % fuel oil:

- 57 % for CO<sub>2</sub> emissions
- 92 % for SO<sub>x</sub> emissions
- 25 % for NO<sub>x</sub> emissions
- 98 % for PM emissions

## EEDI

Energy Efficiency Design Index (EEDI) of the vessels is approximately 50% below the current requirement and already fulfilling the 2025 requirements.

## Hatch coaming heating

Heating of cargo hatch coamings enables smooth operations in cold climates.

## DNV-GL NAUT(AW) notation

Notation requirements increase maritime safety and reduce the risk of collision, grounding and heavy weather damage through enhancement of the reliability of the bridge system.

## Exhaust gas heat recovery

Efficient exhaust gas heat recovery for all combustion engines.

## Shore power

Vessel can perform operations in port on shore-electricity, reducing emissions in port up to 100%.

## Hydrodynamic hull form

Extensive CFD-calculations and model testing was performed to optimize hull form. The bow and stern thruster tunnel openings are provided with scallops and streamline grids. Special attention for monitoring of hull surface roughness was done during the building stage.

## Ballast water treatment systems

Capacity 2 x 1000 m<sup>3</sup>, UV-type, United States Coast Guard approved ballast treatment units.

### Thermal insulation & Heat recovery

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Vessels have improved thermal insulation and are equipped with energy saving solution for air handling unit. Heat recovery wheel reduces cooling energy consumption with 30% and heating energy consumption with 45% compared to a traditional system.

### VFD equipment

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Engine room fans, BW, SW and LNG-pumps are equipped with variable frequency drive (VFD) to reduce the power consumption.

### DNV GL Clean Design notation

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The notation requires special features such as 5 ppm bilge water separator, biofouling management, ODP = 0 (Ozone depletion potential), GWP max 1300 (Global warming potential).

### Energy management system

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The system enables crew to optimize energy consumption.

### All LNG-powered

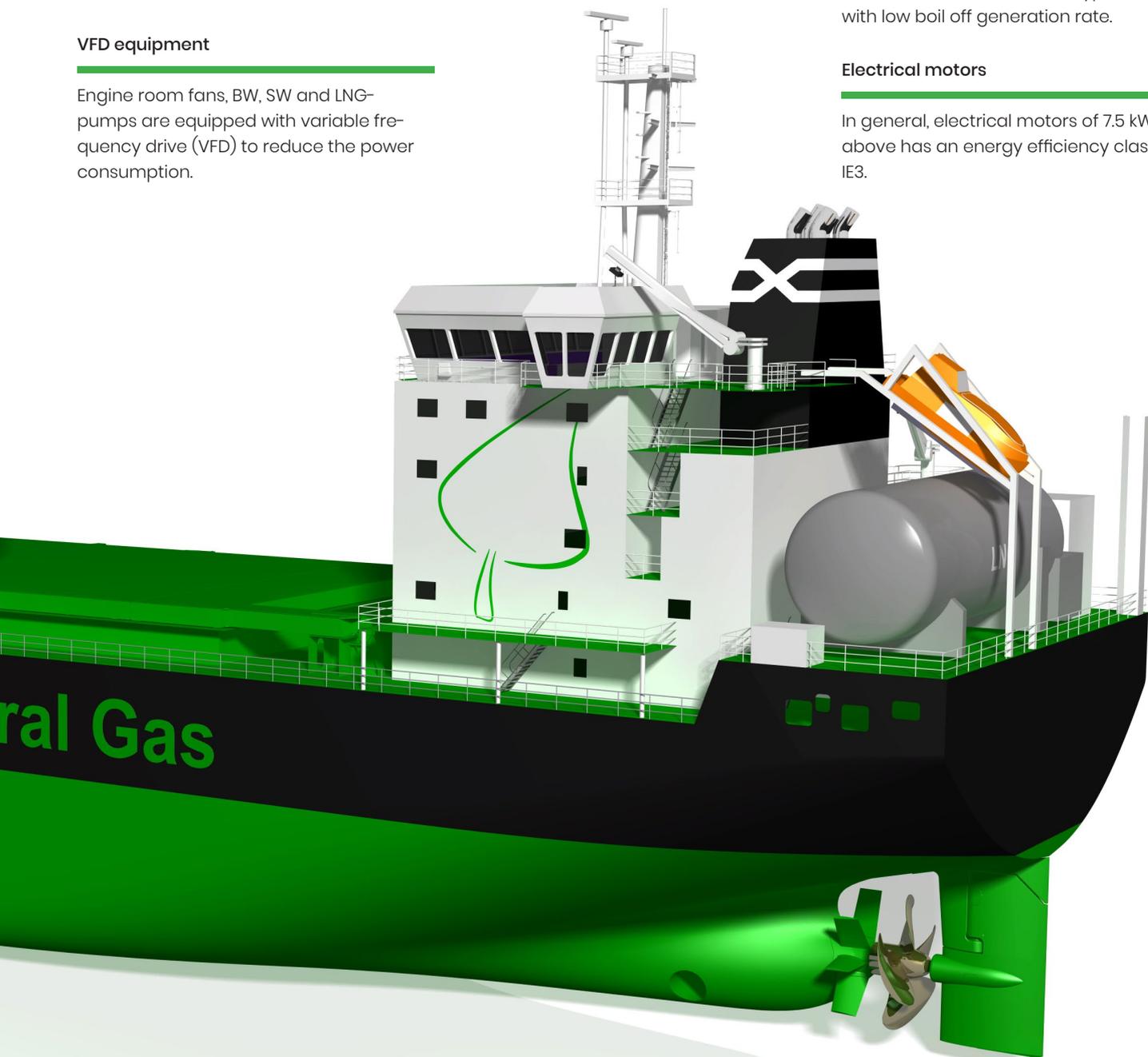
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All engines and boiler burner operates on LNG. Vacuum insulated IMO type C tank with low boil off generation rate.

### Electrical motors

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In general, electrical motors of 7.5 kW and above has an energy efficiency class of IE3.



### Hull coating

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Hull is painted with low friction ice-resistant paint. No harmful antifouling paint is used. Frequent hull cleaning will be performed to reduce the drag of the hull.

### Stator fins

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The vessel is equipped with four stator fins in order to optimize the flow to the propeller and to increase propeller efficiency.

### Cargo wash water recovery system

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Vessel is able to re-use the washing water and discharge used washing water to port facilities.

### High efficiency propeller and rudder

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Optimal hydrodynamic design with rudder bulb to optimize the water flow.

### Permanent magnet PTI/PTO shaft generator with VFD drive

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Shaft generator enables flexible and efficient operation of propulsion and power generation at sea as well as extra power for ice conditions through power take in/ power take out shaft generator.

# PERFORMANCE INDICATORS

	2017	2016	2015	2014
<b>SOCIAL PERFORMANCE</b>				
Personnel, average	236	226	226	222
Crew members	202	199	202	200
Office staff	33	27	24	22
Gender breakdown (male/female)	215 / 21	205 / 21	200 / 23 <sup>1</sup>	202 / 23 <sup>1</sup>
Average employee age	43	43	43	44
Retention rate <sup>2</sup>	95,3%	96,0%		97,2 %
Training days <sup>3</sup>	264	342	405	155
Lost-time injury frequency (LTIF) <sup>3</sup>	0.89	2.68	3.62	2.85
Incident and near miss reports	44	49	50	71
<b>ENVIRONMENTAL PERFORMANCE<sup>4</sup></b>				
Distance sailed (nm)	368 741	348 909	350 977	354 223
Fuel oil consumption (tn)	29 073	28 895	27 698	29 836
Consumption per cargo ton (kg/tn)	2.73	2.78	2.56	2.67
CO <sub>2</sub> -emissions (tn)	93 224	91 550	86 427	93 628
CO <sub>2</sub> -emissions per ton-mile (g)	0.023	0.024	0.023	0.024
SO <sub>x</sub> -emissions (tn)	95.28	124.26	112.90	148.66
SO <sub>x</sub> -emissions per ton-mile (mg)	0.023	0.033	0.030	0.038
<b>ECONOMIC PERFORMANCE</b>				
Net sales (MEUR)	79.3	71.4	76.2	85.2
Operating profit (MEUR)	13.5	12.6	14.7	16.0
Investments (MEUR)	16.8	5.0	13.2	16.0
Cargo volume (million tons)	11.4	10.7	11.1	12.1

<sup>1</sup> At the end of the year.  
<sup>2</sup> Based on two-year average (2017/2016, 2016/2015, 2015/2014). Based on terminations of employment during contract period based on employee's own will, excluding pension. Includes sea personnel only.  
<sup>3</sup> Sea personnel only.  
<sup>4</sup> Excluding vessels on time and voyage charter.



## OUR STAKEHOLDERS

- Clients
- Public organizations
- Employees
- Trade unions
- Educational institutions
- Suppliers
- Shareholders
- Local communities

## MEMBERSHIPS

- Finnish Shipowner's Association
- Finnish Port Operators Association
- Finnish Waterway Association
- Harbour Icebreaker S/S Turso Association
- Shipbrokers Finland
- Team Arctic
- The Baltic and International Maritime Council (BIMCO)

Reported figures are based on the calendar year 2017 or the situation on December 31st, 2017 if not stated otherwise. More financial information can be found from Annual Report of Aspo Plc, the parent company of ESL Shipping Ltd. See [www.aspo.com](http://www.aspo.com) for more details.





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