# Annual Report 2018

Using the
world's watts
more wisely

# Contents

## 3 ABOUT ALFA LAVAL



## 42 SUSTAINABILITY



## 43 CORPORATE GOVERNANCE



## 59 FINANCIAL STATEMENTS



**50,000,000,000 watts.**
That's the power needed for two billion light bulbs to bring light to our world. In comparison, it is also the total power that industries around the world are saving thanks to Alfa Laval's yearly installations of new heat exchangers. Talk about alternative energy use!

These are the facts: today enormous amounts of energy are lost in industrial processes, mainly in the form of waste heat. But there is an easy way to address this. By using our high-technology heat exchangers, the energy efficiency of these processes can be increased by up to 50 per cent. This amounts to a reduced global requirement of 50 GW. As a bonus, emissions of carbon dioxide are reduced by about 150 million tons every year – the same amount as 30 million cars emit into the atmosphere during a year. It is all about contributing to a cleaner environment.

**Pure Performance.** Energy. Environment. Marine. Mechanical engineering. Food. Sanitary. Chemical. You name the industry. Alfa Laval is helping all of them to refine their processes and purify their products. Time and time again.

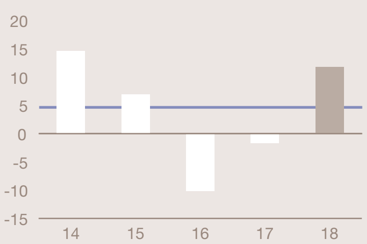
We are hard at work in more than 100 countries implementing our expertise, technical support and service. Our purpose is always the same: to create safer and more comfortable living conditions for all mankind. In other words: a brighter life.

# Alfa Laval creates value by optimizing customer processes

**Alfa Laval is a leading global provider of first-rate products in the areas of heat transfer, separation and fluid handling. With these as its base, Alfa Laval aims to help enhance the productivity and competitiveness of its customers in various industries throughout the world. We define their challenges and deliver products and solutions that meet their requirements – mainly in energy, the environment, food and the marine industry.**

**Today's increased focus on saving energy and water while protecting the environment is also an excellent fit for the company's offering. Alfa Laval's products help to clean water, minimize electricity and water consumption and reduce $CO_2$ emissions in a number of industries and processes.**

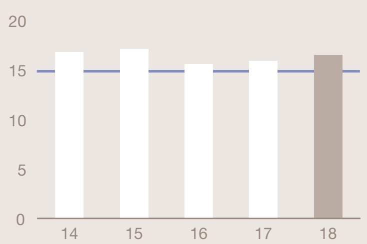
**Invoicing growth, %***




The goal is to grow an average of at least 5 percent measured over a business cycle.

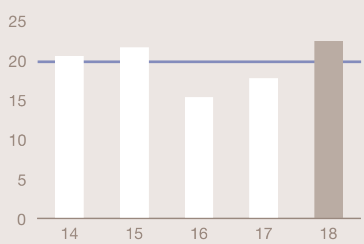
* Excluding exchange rate variations

**Operating margin, %**




The goal is to have an operating margin of 15 percent measured over a business cycle.

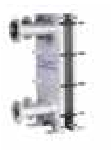
**Return on capital employed, %**




The goal is to have a return on capital employed of at least 20 percent.

**WHAT?**

## Alfa Laval is a world leader in three key technologies



**Heat transfer**
Alfa Laval's heat exchangers transfer heating or cooling from, for example, one liquid to another. The company's compact heat exchangers have the capability to recycle heat, optimize customers' energy consumption, cut costs and reduce their environmental impact.

**Separation**
The technology is used to separate liquids from other liquids and solid particles from liquids or gases. The offering includes separators, decanter centrifuges, filters, strainers and membranes.

**Fluid handling**
Alfa Laval offers pumps, valves, tank cleaning equipment and installation material for industries with stringent hygiene requirements as well as pumping systems specifically for the marine industry and the offshore market.

**FOR WHOM?**

## The company's products are needed in most industries

The need to heat, cool, transport and separate arises in many industries. Take almost any sector: food, energy, the environment, engineering, pharmaceuticals, refineries or petrochemicals – Alfa Laval can help in the majority of them. Customers are reached through three sales divisions: Energy, Food & Water and Marine.

**HOW?**

## They are produced and distributed through a shared supply chain

The Operations division is responsible for the Group's production-related procurement, manufacturing, distribution and logistics on a global basis. In other words, the Operations division ensures that anything sold by the three divisions – everything from heat exchangers and separators to pumps, valves and membranes – is produced and delivered in line with the promise made to the customer.

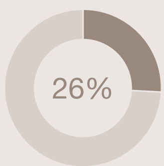
**WHERE?**

## New sales reach more than 100 countries and the after-market offering reaches more than 160

**New sales**
Alfa Laval's products, systems and services are sold in more than 100 countries. Around half of all sales are handled directly by the three divisions and the rest via channels such as system builders, external contracting companies, retailers, agents and distributors.

**Service and spare parts**
Alfa Laval has more than 110 service centers with the capacity to deliver services in over 160 countries. This means that Alfa Laval is close to its customers, ready to help at a moment's notice when the need arises.

**Aftermarket**




Spare parts and service accounted for approximately 26 percent of the Group's order intake in 2018.

**Ten largest markets (order intake, SEK million)**

| | %* |
|---|---|
| USA | 15,1 |
| China (incl. Hong Kong) | 13,3 |
| Nordic | 9,8 |
| South Korea | 8,8 |
| Japan | 7,1 |
| Adriatic region | 5,9 |
| South East Asia | 5,2 |
| Region Germany, Austria, Switzerland | 4,4 |
| Benelux | 3,0 |
| India | 2,6 |

* Percentage of total order intake

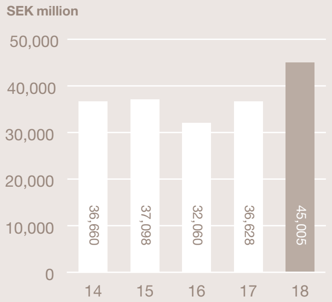
# 2018 in brief

## – Order intake amounted to SEK 45.0 billion, compared to SEK 36.6 billion in 2017.
## – Invoicing rose 15 percent to SEK 40.7 billion.
## – The adjusted EBITA margin, or operating margin, was 16.5 percent, compared with 15.9 percent in 2017.

| Amounts in SEK million unless otherwise stated | +/- %[6] | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|---|
| Order intake | +23 | 45,005 | 36,628 | 32,060 | 37,098 | 36,660 |
| Net sales | +15 | 40,666 | 35,314 | 35,634 | 39,746 | 35,067 |
| Adjusted EBITDA [1] | +18 | 7,344 | 6,239 | 6,196 | 7,478 | 6,456 |
| Adjusted EBITA [2] | +20 | 6,718 | 5,610 | 5,553 | 6,811 | 5,891 |
| Operating margin (adjusted EBITA [2]), % | | 16.5 | 15.9 | 15.6 | 17.1 | 16.8 |
| Profit after financial items | +35 | 5,896 | 4,371 | 3 325 | 5 444 | 4 117 |
| Return on capital employed, % | | 22.4 | 17.7 | 15.3 | 21.6 | 20.5 |
| Return on shareholders' equity, % | | 20.3 | 13.9 | 11.8 | 21.7 | 17.6 |
| Earnings per share, SEK | +52 | 10.77 | 7.09 | 5.46 | 9.15 | 7.02 |
| Dividend per share, SEK | | 5.00 [3] | 4.25 | 4.25 | 4.25 | 4.00 |
| Equity per share, SEK | +15 | 56.26 | 48.87 | 48.34 | 43.92 | 41.01 |
| Free cash flow per share, SEK [4] | -4 | 8.56 | 8.92 | 9.97 | 12.25 | -23.48 |
| Equity ratio, % | | 40.6 | 39.0 | 38.0 | 35.5 | 30.8 |
| Net debt to EBITDA, times | | 0.93 | 1.31 | 1.81 | 1.56 | 2.46 |
| Number of employees [5] | +5 | 17,228 | 16,367 | 16,941 | 17,417 | 17,753 |

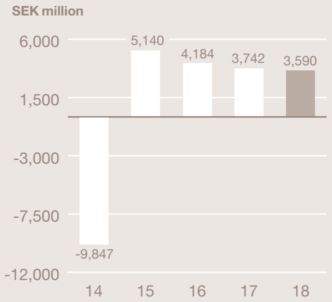
1) Adjusted EBITDA – Operating income before depreciation and amortization of step-up values, adjusted for items affecting comparability.
2) Adjusted EBITA – Operating income before amortization of step-up values, adjusted for items affecting comparability.
3) Board proposal to the Annual General Meeting.
4) Free cash flow is the sum of cash flow from operating and investing activities.
5) Number of employees at year-end.
6) Percentage change between 2017 and 2018.

### Order intake



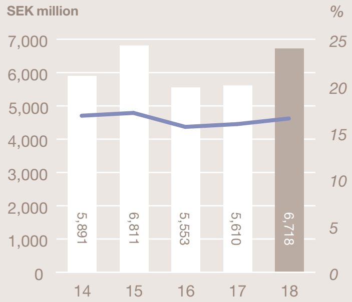

Order intake amounted to SEK 45,005 million in 2018, an increase with 23 percent compared to 2017. Excluding exchange rate variations, order intake rose 19 percent.

### Free cash flow




Alfa Laval generated a free cash flow of SEK 3,590 million (3,742) in 2018.

### Adjusted EBITA




Adjusted EBITA amounted to SEK 6,718 million. The adjusted EBITA margin was 16.5 percent.

# Delivering on our organic growth strategy

**In 2016, Alfa Laval established a new strategic direction and a new organization structure. Implementation followed in 2017, making it a year of change involving new product strategies, the launch of a big investment program in our global supply chain and a new organization which needed to become operational. The main objective was to drive organic growth, and in 2018 it was time to deliver on the strategy.**

In terms of organic growth, 2018 ended up being a very strong year, with order intake growing almost 20 percent to SEK 45.0 billion, an all-time high level for the Group. Sales grew about 12 percent to SEK 40.7 billion and we reported an adjusted EBITA margin of 16.5 percent, an improvement over 2017 – driven by higher volumes and increased productivity. Compared to 2016, order intake increased 36 percent. Asia was an important factor for the development in 2017-2018 – partly driven by the development in the marine industry – and the region accounted for 41 percent of the Group's order intake by year end. The current and future importance of the Asian markets are reflected in the ongoing supply-chain investment program.

External factors have clearly contributed to the momentum over the past two years. A strong global economy, a partial recovery in the shipbuilding market – combined with an uptick in demand for environmental solutions – and a positive trend in the energy markets created positive conditions for Alfa Laval. In addition, our focus on improving the customer offering and responsiveness made a significant contribution.

**The world's focus on the environment and energy efficiency created opportunities**

When reflecting on 2018, the exceptional trend in environmental solutions for the marine industry must be mentioned. New regulations for ballast water cleaning and sulphur reduction in marine exhaust gases are, after many years of preparation, finally due to be implemented. At Alfa Laval, we have been developing solutions in these areas for more than ten years, and finally, as the deadlines are closing in, we could see demand taking off. We see a substantial global retrofit opportunity for these applications over the coming four to five years, and the market development in 2018 supported this assessment, with Alfa Laval taking important positions in both areas.

Environmental trends are increasingly also driving demand in areas outside the marine industry. Global energy demand is expected to continue to grow over the next decades, mainly as a result of improved living standards in emerging markets. Longer-term energy forecasts assume that 40 percent of energy demand growth will be supplied through increased energy efficiency, an area where heat exchangers play a key role. Already today, Alfa Laval's plate heat exchangers enable efficient energy systems, for example through waste-heat recovery solutions. In 2018, the heat exchangers that we installed for energy recovery purposes enabled an energy savings capacity equivalent to the annual wind power capacity installed every year.

In the future, new solutions are needed to solve the world's energy challenge. One area of specific interest to Alfa Laval is energy storage. For small storage needs, like an electric car, battery technology is viable. For large storage needs, for example when managing volatile output from renewable energy sources, thermal energy storage will likely be more suitable. One of the most important areas to develop for the next generation of heat exchangers is therefore their ability to manage complex heat transfer processes for thermal energy storage. Alfa Laval is fully committed to this, but the development in the sector is too fast and too complex for us to handle alone. Apart from committing to in-house R&D, in 2018 we also made a small investment in a US-based startup company for energy storage. This is one step towards building a network, increasing our competence and also gaining the experience needed to make renewable energy systems more competitive in the future.

Our biggest technology investments are, however, currently earmarked for separation equipment, mainly used in food, beverage and wastewater applications. Separators and decanters are both energy intensive, which is why we focus on launching new products that can carry out the same function at 20–40 percent lower power consumption. Another area of critical importance to separation equipment is connectivity solutions. Both the operational efficiency and maintenance of a high-speed separator improve dramatically with connectivity solutions allowing proactive monitoring. Hundreds of pilot tests are being carried out, in all parts of the world, and commercialization started successfully in 2018.

**Sustainable offering – sustainable processes**

As the world increasingly focuses on reducing mankind's impact on the environment, it creates business opportunities for Alfa Laval, given the ability of our offerings to reduce energy consumption, cut $CO_2$ emissions and also clean water and emissions. While sustainability performance has always been a key feature of our products, we also work hard to improve our own processes. Examples of actions taken in 2018 include the active transition in our Chinese manufacturing towards buying a clear majority of our electricity consumption from renewable sources. We also started a process to gradually install solar cells at our larger manufacturing sites, across the globe. Another initiative was the launch of a sustainability development program for certain suppliers in selected markets. This has so far resulted in significant improvements in health and safety as well as environmental performance. These are just three examples, but we are working across all areas of our operations to improve, be it to limit our environmental footprint or to ensure that we offer a healthy and safe work environment for our employees.

**Looking ahead**

As we head into 2019, I feel that the company is well prepared. The offering will become even stronger as significant product launches will be rolled out throughout the year. At the same time, our large supply-chain investment program will start to generate results and make us more competitive, although much work remains during the year. Our balance sheet is strong, following a few years of deleveraging, and our operational cash flow remains at a solid level. The new organization structure has made us faster in our customer interaction and the announced divestment of our Greenhouse businesses will contribute to making us more focused. And finally, we will continue to focus on our important Service offering, to further strengthen our customer relationships.

Concerns regarding the global economic development in 2019 escalated towards the end of the year. Still, almost all of Alfa Laval's end markets remained firm throughout the year. With a record-high order book going into 2019, the outlook continues to be favorable. And we will have time to react to a more negative market scenario should the markets deteriorate in the year to come.

Finally, the progress we made in 2018 is due to our employees. Both the work load and the stress level have been higher than normal. I would like to thank the whole team at Alfa Laval for a very long list of significant achievements during 2018!

Lund, February 2019

**Tom Erixon**
President and CEO

# Vision, business concept and goals

## Vision and drivers

To “help create better everyday conditions for people” by offering efficient and environmentally responsible products and solutions in the areas of heat transfer, separation and fluid handling.

## Business concept

The vision is at the core of the company’s efforts to realize its business concept: “To optimize the performance of our customers’ processes, time and time again.” This is achieved by helping customers to become more productive and competitive through the delivery of high-quality products and solutions in the three key technologies.

## Financial goals

Alfa Laval is governed with the aim of realizing its business concept, while at the same time meeting the financial goals established with regard to growth, profitability and return. By achieving or exceeding these goals, Alfa Laval creates the necessary scope for its continued development as well as generating increased value for its shareholders in the form of an annual dividend and by boosting the value of the company.

### Growth

5% Alfa Laval’s goal is to achieve average annual sales growth of at least 5 percent measured over a business cycle. This target is regarded as realistic, viewed in light of the prevailing business scenario and against the backdrop of Alfa Laval’s achievements in recent years.

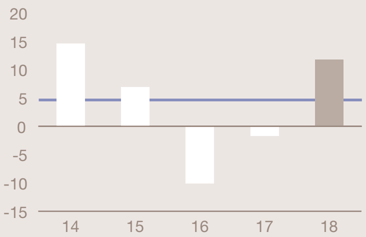
### Profitability

15% Alfa Laval is to achieve an operating margin – adjusted EBITA – of 15 percent measured over a business cycle. This goal was established based on historical margins, while also taking the company’s growth ambitions into consideration.

### Capital utilization

20% The goal is to have a return on capital employed of at least 20 percent, a realistic ambition based on a combination of organic and acquired growth.

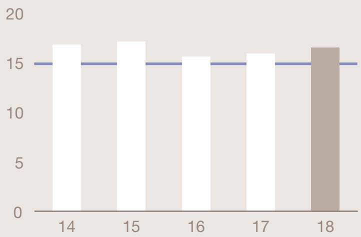
### Outcome




Invoicing rose 11.8 percent* in 2018.

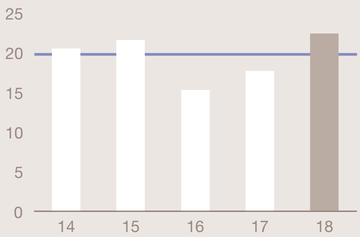
* Excluding exchange rate variations

### Outcome

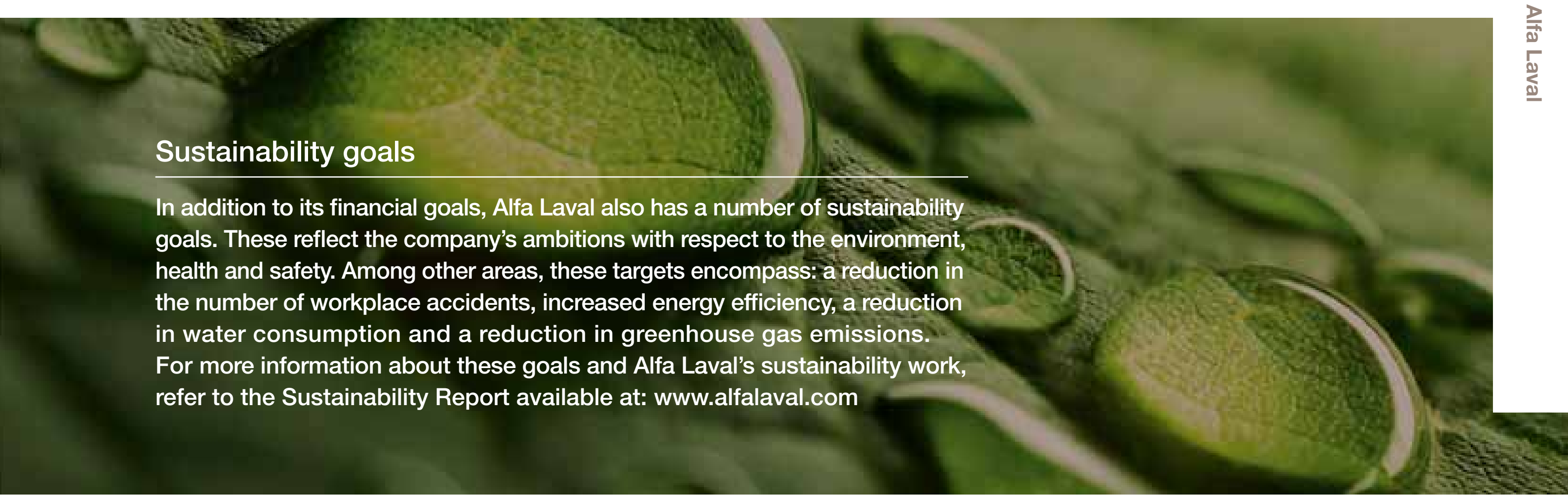



The adjusted operating margin for 2018 was 16.5 percent, compared with 15.9 percent for full-year 2017.

### Outcome




The return on capital employed for 2018 was 22.4 percent.



## Sustainability goals

In addition to its financial goals, Alfa Laval also has a number of sustainability goals. These reflect the company's ambitions with respect to the environment, health and safety. Among other areas, these targets encompass: a reduction in the number of workplace accidents, increased energy efficiency, a reduction in water consumption and a reduction in greenhouse gas emissions. For more information about these goals and Alfa Laval's sustainability work, refer to the Sustainability Report available at: www.alfalaval.com

## Financial benchmark values

In addition to the Group's financial goals, the Board has established benchmark values for three key financial ratios, which further specify the framework and goals for the operation of the company.

### Net debt in relation to EBITDA

**2x** In the long term, net debt in relation to EBITDA, meaning operating profit before depreciation and amortization of step-up values, is not to be more than 2. Although the ratio may exceed the goal in connection with major acquisitions, this should be viewed as a temporary situation, since the company's cash flow is expected to offset this effect.

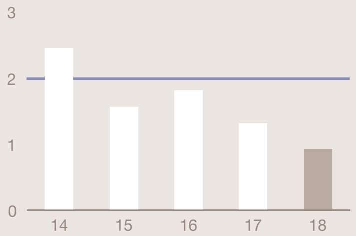
### Investments

**2%** The long-term benchmark value has been, and will continue to be, for 2 percent of sales to go to investments. In 2018 and 2019, however, the limit is temporarily lifted to enable the investments that the company considers necessary for expanding and changing the production structure. Thereafter, investments are expected to move back towards the benchmark value – a level that creates the necessary scope for replacement investments as well as certain capacity expansions in order to match the organic growth of the Group's key products.

### Cash flow from operating activities

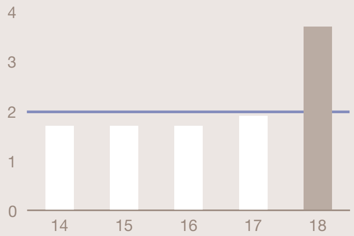
**10%** Cash flow from operating activities is to amount to 10 percent of sales, including investments in fixed assets. This value is lower than the goal for the operating margin, since organic growth normally requires an increase in working capital. In addition, taxes are paid in an amount corresponding to approximately 26 percent of earnings before tax.

### Outcome




Net debt/EBITDA at year-end 2018 was 0.93.

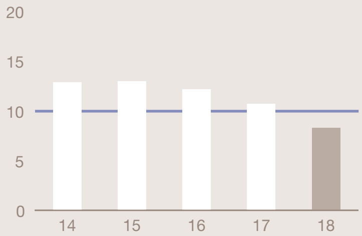
### Outcome*




Investments in 2018 amounted to 3.7 percent.

* As a percentage of sales

### Outcome*




In 2018, cash flow from operating activities totaled 8.3 percent**.

* As a percentage of sales
** Including investments in fixed assets

# Strategic priorities

## Strategy

**To achieve its vision, implement its business concept and attain its growth, profitability and capital utilization goals, Alfa Laval has established various strategic priorities that encompass customer collaboration, a focus on products and working to further strengthen the after-market offering.**

**Customers**
Alfa Laval endeavors to optimize its customers' processes. Naturally, the company's products play a key role in this. But customers tend to weigh other criteria as well when they evaluate their overall experience with a supplier. They look at the product's quality and efficiency, of course, but also at the seller's service and knowledge, how easy they are to reach and how quickly they respond with answers to any questions. They evaluate how helpful the supplier can be if something happens and they need to order spare parts and service. They also look at how punctual the supplier's deliveries are and, in many cases, even at the supplier's sustainability work, to name a few examples. Alfa Laval endeavors to be a company that is easy to do business with. By meeting the customer's expectations and needs, from the initial contact through the sales process to delivery and even in the aftermarket, the conditions are created for a positive customer experience, making it more likely that Alfa Laval will become their first choice for their next procurement.

Alfa Laval works on a broad scale to simplify customer collaboration. One aspect of this involves an organizational structure created to ensure short decision-making paths and thus faster customer contacts. Another involves the establishment of three standardized business models to address customers' differing needs, challenges and purchasing processes.

1. Standard – sale of standardized components through channels and online, with a focus on easy accessibility and lead times.
2. Configured – standardized components with standard configuration formats for adaptation to specific applications, capacities, etc.
3. Project – customized systems and solutions for customers with specific requirements.

**CUSTOMERS**
Improve our interaction with customers

**PRODUCTS**
Capitalize on our technical competence

**SERVICE**
Continue to develop our service offering

There are also other ways to make things easier for customers. Alfa Laval therefore works actively to improve and develop its digital platforms, including everything from the company's website and e-commerce platform to marketing initiatives and social media. The goal is to reach the customer early in the decision-making process, help them find Alfa Laval's website, make it easier for them to find what they need there and even offer them a way of configuring as well as ordering products online. Purchasing patterns change and it is essential to keep up.

**Products**

Alfa Laval's product offering in the three key technologies of heat transfer, separation and fluid handling serve as the foundation for achieving the company's goal for profitable, organic growth. The efficiency and quality of these products are considered – and expected to remain – key criteria for customers who want to improve their competitiveness while reducing their energy consumption and environmental impact. To ensure that Alfa Laval's product offering is constantly one step ahead of its competitors, the company invests approximately 2.5 percent of its sales in R&D. This level reflects an intensification of the company's development efforts in order to increase the number of products launched during the coming years. This may include everything from brand new products to improved versions of existing ones. Another important aspect of development work is identifying new areas of application for existing products. When it comes to products, the company also turned up the pace by introducing more focused activities to ensure that the time from concept to product launch is substantially shortened. This is an overall change that affects all product groups, but heat exchangers and high-speed separators are two examples where the focus is on new, differentiated platforms for various areas of application. A number of new products were launched during the year, encompassing everything from heat exchangers, fresh water generators and separators to membranes, ballast water systems and systems for monitoring separator performance.

At the same time, the consolidation of production to fewer units in Europe, the US and Asia continued under the Footprint program with the aim to strengthen Alfa Laval's products and competitiveness over time.

While the focus is mainly on organic growth, the product offering can naturally also be strengthened and expanded through acquisitions – primarily of supplementary products in the three key areas, but also of products that are new to the company and complement the offering in application areas where Alfa Laval is already represented.

**Service**

The aftermarket – meaning service and spare parts – is a significant part of the company's business. It involves local activity with a global presence comprising more than 100 service centers worldwide. Alfa Laval's products have a long service life, which forms the foundation for a large installed base that – to varying degrees and with varying frequency – requires both spare parts and service. Thus, the installed base has inherent revenue potential that the company aims to capitalize on through various reinforced activities. These may comprise an expansion of additional service centers or the introduction of further automation or standardization of the service execution. Alfa Laval has a comprehensive aftermarket portfolio and can tailor its offering to individual customers. The work to further refine this packaging of aftermarket products will continue, including elements of digitization. At the same time, this focus on service goes hand-in-hand with the other two strategies – being swift in dialogue and collaboration with the customer and supporting the offering of high-quality products with an equally high-quality offering of spare parts and service. It should be easy to do business with Alfa Laval.

An initiative that can be used to illustrate new manners of working is the Marine Division's global service organization – International Marine Service. It offers constant support and service to marine customers, regardless of where in the world they are located. The structure is based on six service hubs that cover three regions, with seamless transfers over time zones. Coordinators and service technicians at these service hubs can provide technical advice remotely. The organization also includes service engineers positioned at various ports around the world – ready to mobilize.

**Acquisitions and divestments**

Between 2014 and 2018, Alfa Laval made three acquisitions with combined sales of SEK 3,664 million, corresponding to average annual growth of SEK 733 million.

| YEAR | ACQUISITIONS | DIVESTMENTS | REASON | SALES, SEK MILLION* |
|---|---|---|---|---|
| 2014 | Frank Mohn AS | – | Product | 3,600 |
| 2015 | Service Multibrand | – | Channel | 50*** |
| 2016 | – | – | – | – |
| 2017 | – | – | – | – |
| 2018 | | Greenhouse – shell-and-tube heat exchangers | Product | 120*** |
| | | Greenhouse – heat exchanger systems | Product | 300*** |
| | Asymmetrical heat exchangers | | Product | 14**** |

* Refers to sales for the year preceding the acquisition or divestment. ** Expected sales for 2015 on the acquisition date.
*** Sales in 2017. **** Sales between June 2017 and June 2018.

# Alfa Laval's share during 2018

The price trend for the Alfa Laval share was slightly negative in 2018. A share price of SEK 189.65 (193.80) was quoted at the close of the final trading day of the year, down SEK 4.15, corresponding to 2.1 percent. OMX Stockholm Industrials, the sector index for industrial shares in which Alfa Laval is listed, fell 14.2 percent in 2018, while the Stockholm Stock Exchange as a whole lost 7.8 percent. Dividends amounted to SEK 4.25 per share, which corresponded to a total return of 0.2 percent. The highest closing price for the share was SEK 248.10, quoted on September 21. The lowest closing price was SEK 188.50, quoted on December 21. Alfa Laval's market capitalization at year-end was SEK 79.5 billion (81.3). The Alfa Laval share is listed on Nasdaq Stockholm and is included in the large cap segment in Stockholm and the Nordic region as well as OMXS30, which includes 30 companies with the most-traded shares in Stockholm.

**Strong long-term return**

Since Alfa Laval was re-listed on the Stockholm Stock Exchange on May 17, 2002, the company's share, including reinvested dividends, has generated a yield of 1,070 percent. Measured over the full listing period, this corresponds to an average annual effective yield of 15 percent, compared with an annual effective yield of 7.5 percent for the Stockholm Stock Exchange (SIX Return Index) during the same period.

**Share turnover**

Alfa Laval's share is not traded exclusively on Nasdaq Stockholm, but also on Cboe European Equities (formerly BATS), Turquoise and the London Stock Exchange, to name a few examples of major alternative marketplaces. In 2018, the Stockholm Stock Exchange accounted for 38.1 percent (37.3) of all trading in the share. Trading on Cboe European Equities accounted for the largest share at 45.9 percent (39.2). Despite a slight decline in 2018, the liquidity of the Alfa Laval share remains favorable. The number of shares traded declined to 823.2 million (887.3) and this trading corresponded to a combined value of SEK 177.5 billion (160), including all alternative marketplaces. This corresponds to a share turnover rate of 2.0 (2.1) times the total number of shares outstanding. In 2018, the average number of transactions completed in Alfa Laval shares increased to 9,264 (8,467) per trading day.

**Dividend policy**

The Board of Directors' goal is to regularly propose a dividend that reflects the Group's performance, financial status, and current and expected capital requirements. Taking into account the Group's cash-generating capacity, the goal is to pay a dividend of between 40 and 50 percent of adjusted earnings per share over a business cycle. For 2018, the Board has proposed that the Annual General Meeting approve a dividend of SEK 5.00 (4.25). The proposed dividend corresponds to 39.4 percent (48.0) of earnings per share, adjusted for surplus value.

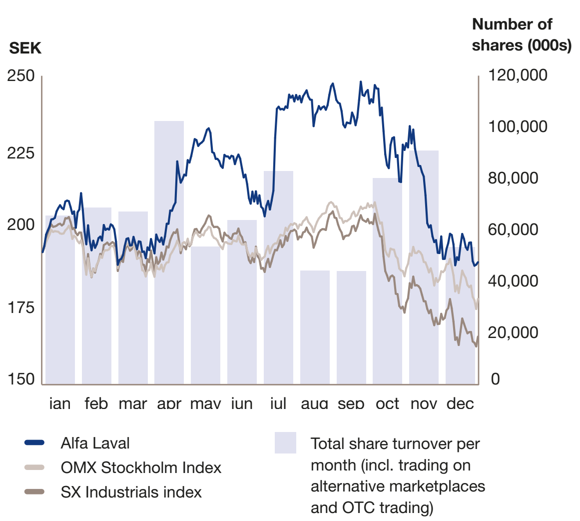
**Share capital**

The par value at year-end was SEK 2.66 (2.66) per share. All shares carry equal voting rights and equal right to the company's assets. Alfa Laval has no options outstanding that could create a dilution effect for shareholders. The total number of shares during the year was unchanged at 419,456,315.

**Shareholders**

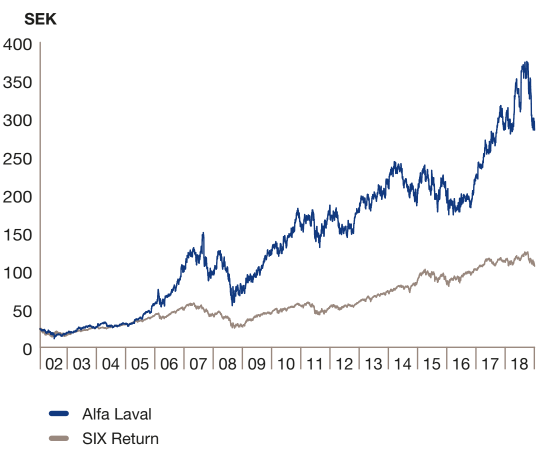
At year-end 2018, Alfa Laval had 34,180 (32,967) shareholders, corresponding to an increase of 1,213 shareholders (decrease: 2,873). The ten largest shareholders controlled 47.0 percent (47.9) of the shares, excluding nominee-registered shares. The single largest shareholder was Tetra Laval B.V., whose holding remained unchanged during the year at 29.1 percent. BlackRock Global Funds, Livförsäkringsbolaget Skandia and the Fourth Swedish Pension Fund were no longer among the ten largest shareholders at year-end, while the Second Swedish Pension Fund, SPP Fonder AB and Länsförsäkringar Fondförvaltning AB became the sixth, ninth and tenth largest shareholders, respectively, in 2018.

**Price trend, January 1 – December 31, 2018**




Source: SIX / Fidessa

**Total return, May 17, 2002 – December 31, 2018**




Source: SIX

## Ownership distribution by size at December 31, 2018

| | No. of share-holders | No. of share-holders, % | No. of shares | Holding, % |
|---|---|---|---|---|
| 1 – 500 | 25,505 | 74.6 | 3,645,527 | 0.87 |
| 501 – 1,000 | 3,905 | 11.4 | 3,228,692 | 0.77 |
| 1,001 – 5,000 | 3,493 | 10.2 | 8,013,782 | 1.91 |
| 5,001 – 10,000 | 518 | 1.5 | 3,850,260 | 0.92 |
| 10,001 – 20,000 | 245 | 0.7 | 3 ,607,978 | 0.86 |
| 20,001 – 50,000 | 204 | 0.6 | 6,490,367 | 1.55 |
| 50,001 – | 310 | 0.9 | 390,619,709 | 93.13 |
| **Total** | **34,180** | | **419,456,315** | |

Source: Euroclear

## Ownership categories at December 31, 2018

| | No. of shares | Holding, % |
|---|---|---|
| Financial companies | 77,794,285 | 18.5 |
| Other financial companies | 153,266 | 0.0 |
| Social insurance funds | 3,833,928 | 0.9 |
| Government | 409,488 | 0.1 |
| Municipal sector | 49,241 | 0.0 |
| Trade organizations | 3,727,036 | 0.9 |
| Other Swedish legal entities | 5,782,980 | 1.4 |
| Shareholders domiciled abroad (legal entities and individuals) | 307,852,438 | 73.4 |
| Swedish individuals | 19,041,745 | 4.5 |
| Uncategorized legal entities | 811,908 | 0.2 |

Source: Euroclear

## Data per share

| | 2018 | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|---|
| Share price at year-end, SEK | 189.65 | 193.80 | 150.80 | 155.00 | 148.30 |
| Highest paid, SEK | 248.10 | 213.90 | 154.40 | 176.90 | 187.00 |
| Lowest paid, SEK | 188.50 | 152.60 | 121.30 | 126.10 | 138.70 |
| Shareholders' equity, SEK | 56.26 | 48.87 | 48.34 | 43.92 | 41.01 |
| Earnings per share | 10.77 | 7.09 | 5.46 | 9.15 | 7.02 |
| Dividend, SEK | 5.00[1] | 4.25 | 4.25 | 4.25 | 4.00 |
| Free cash flow, SEK [2] | 8.56 | 8.92 | 9.97 | 12.25 | -23.48 |
| Price change during the year, % | -2.1 | 29 | -3 | 5 | -10 |
| Dividend as % of EPS, % | 46.4 | 59.9 | 77.8 | 46.0 | 57.0 |
| Direct return, % [3] | 2.6 | 2.2 | 2.8 | 2.7 | 2.7 |
| Share price/shareholders' equity, multiple | 3.4 | 4.0 | 3.1 | 3.5 | 3.6 |
| P/E ratio [4] | 18 | 27 | 28 | 17 | 21 |
| No. of shareholders | 34,180 | 32,967 | 35,840 | 37,097 | 40,505 |

Source: SIX

[1] Board motion to the Annual General Meeting.
[2] Free cash flow is the sum of cash flow from operating and investing activities.
[3] Measured as the proposed dividend in relation to closing price on the last trading day.
[4] Closing price on the last trading day in relation to earnings per share.

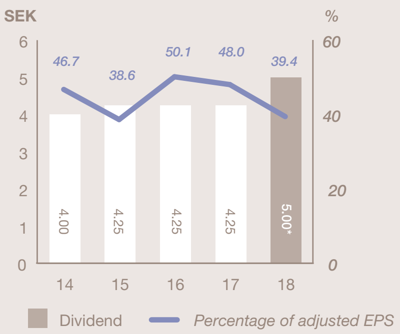
## Ten largest shareholders at December 31, 2018*

| | No. of shares | Capital/voting rights,% | Change in holding in 2018, percentage points |
|---|---|---|---|
| Tetra Laval BV | 122,037,736 | 29.1% | 0.0 |
| Alecta | 21,909,962 | 5.2% | -0.2 |
| Swedbank Robur Funds | 15,694,305 | 3.7% | -0.5 |
| CBNY – Norges Bank | 12,662,498 | 3.0% | 0.4 |
| AMF Insurance and Funds | 9,122,145 | 2.2% | -0.6 |
| SEB Investment Management | 4,091,525 | 1.0% | 0.1 |
| Second Swedish National Pension Fund | 3,522,639 | 0.8% | 0.6 |
| Folksam | 3,369,647 | 0.8% | 0.1 |
| SPP Funds | 2,580,710 | 0.6% | 0.0 |
| Länsförsäkringar fondförvaltning | 2,502,038 | 0.6% | 0.2 |
| **Total ten largest shareholders** | **197,493,205** | **47.0%** | |

Source: Euroclear

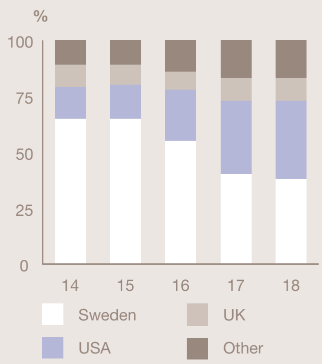
* The table is adjusted for nominee-registered shares.

## Dividend and percentage of adjusted EPS**




* Board motion to the Annual General Meeting.
** Adjusted for step up amortization net of taxes.

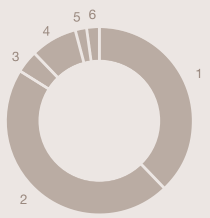
## Geographic distribution of the free float, % of capital and voting rights




Excluding Tetra Laval (Netherlands) 29.1%.

Source: Euroclear

## Share turnover on various marketplaces




| | | |
|---|---|---|
| 1 | Nasdaq OMX | 38% |
| 2 | CBOE | 46% |
| 3 | Turquoise | 4% |
| 4 | London Stock Exchange | 8% |
| 5 | Aquis | 2% |
| 6 | Other | 2% |

Source: Fidessa

# World-leading in three key technologies

Alfa Laval's operations are based on three key technologies – heat transfer, separation and fluid handling. These technologies play a key role in a number of industrial processes and Alfa Laval commands a world-leading position in all three areas.

## Heat transfer

**Heating and cooling are basic needs for both the individual and most industrial processes. There is a large number of industries today in which heat transfer solutions are required for heating, cooling, ventilation, evaporation and/or condensation. All of this can be achieved efficiently using a heat exchanger. Therefore, heat transfer products from Alfa Laval are now found in numerous areas – within everything from food production and petrochemicals to the creation of a pleasant indoor climate or hot tap water in private households, to name only a few examples.**

### The key word is efficiency

Heat exchangers transfer heat or cooling, often from one liquid to another. The main product in Alfa Laval's offering – the compact plate heat exchanger – is more efficient than alternative technologies, allowing it to play a crucial role in boosting the overall efficiency of the customer's manufacturing process. Energy efficiency reduces not only costs but also the impact on the environment. Plate heat exchangers are made up of a series of plates assembled closely to each other. Between these plates run two channels containing media at different temperatures – often liquids. These flow on either side of the thin plates and in opposite directions to each other, resulting in a transfer of heating or cooling.

### A complete offering

There are different types of plate heat exchangers – gasketed, brazed and welded – each designed to withstand different pressure and temperature levels. With the industry's broadest product portfolio, Alfa Laval offers efficient, compact products – that are easy to service and maintain – for nearly all industries worldwide.

**Business units with heat transfer products in their range**

ENERGY DIVISION
– Brazed & Fusion Bonded Heat Exchangers
– Gasketed Plate Heat Exchangers
– Welded Heat Exchangers

FOOD & WATER DIVISION
– Food Heat Transfer
– Food Systems

MARINE DIVISION
– Marine Separation & Heat Transfer Equipment
– Boilers & Gas Systems

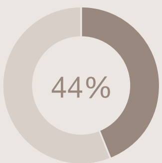
### Competitors

- Kelvion (Germany)
- HISAKA (Japan)
- SPX FLOW/APV (US)
- SWEP (US)
- KANGRIM (Korea)
- SAACKE (Germany)
- MIURA (Japan)
- HEATMASTER (Netherlands)
- OSAKA (Japan)
- Danfoss A/S (Denmark)

### Market position

More than 30 percent of the world market

### Sales




Share of Group sales

## Separation

**Separation is the technology that represents the origin of the Alfa Laval we see today. The business began in 1883, based solely on separation, and this technology remains a core feature to this day. With precision and a high degree of reliability, liquids, solid particles and gases are separated from one another, which is a requirement in a large number of industries.**

### High-speed separators and decanter centrifuges

Alfa Laval's separation products are dominated by high-speed separators and decanter centrifuges. Separators have high rotation speeds, are generally mounted vertically and can separate small particles from liquids and gases. Decanter centrifuges are normally mounted horizontally, operate at lower speeds and are used to separate larger particles from liquids. They are used, for example, in the dewatering of sludge in wastewater treatment plants. Other separation products include membrane filters, which are the established solution for separating very small particles, and belt filter presses, which are used for mechanical dewatering, mainly of municipal wastewater.

### Key role in a number of processes

Separators and decanter centrifuges play a crucial role in numerous industrial processes, such as:

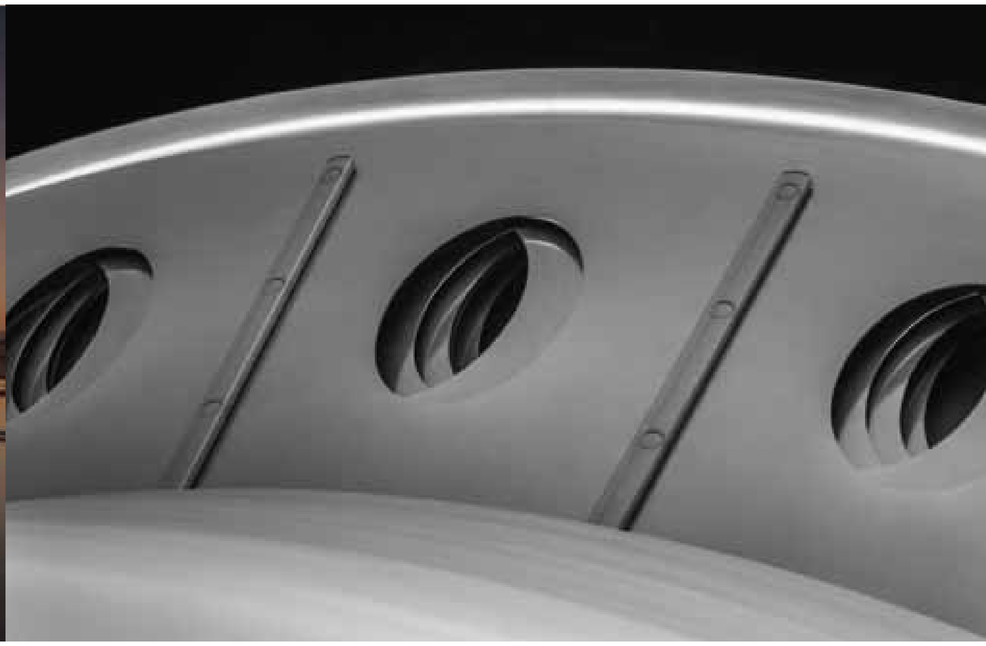
- food, pharmaceutical, bioengineering, chemical and petrochemical processes.
- extraction and production of crude oil, and treatment and recovery of drilling mud.
- handling and treatment of fuel and lubricants aboard vessels and at diesel/gas power plants.
- dewatering of sludge and treatment of process water in private and municipal facilities.

### Business units with separation products in their range

ENERGY DIVISION
– Energy Separation

FOOD & WATER DIVISION
– High Speed Separators
– Decanters
– Food Systems

MARINE DIVISION
– Marine Separation & Heat Transfer Equipment



### Competitors

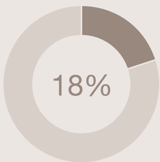
**Separators**
- GEA (Germany)
- MITSUBISHI KAKOKI KAISHA (Japan)
- PIERALISI (Italy)
- SPX FLOW/Seital (US)

**Decanters**
- GEA (Germany)
- GUINARD/ANDRITZ (France, Austria)
- Flottweg (Germany)
- PIERALISI (Italy)

### Market position


25–30 percent of the world market

### Sales




Share of Group sales

## Fluid handling

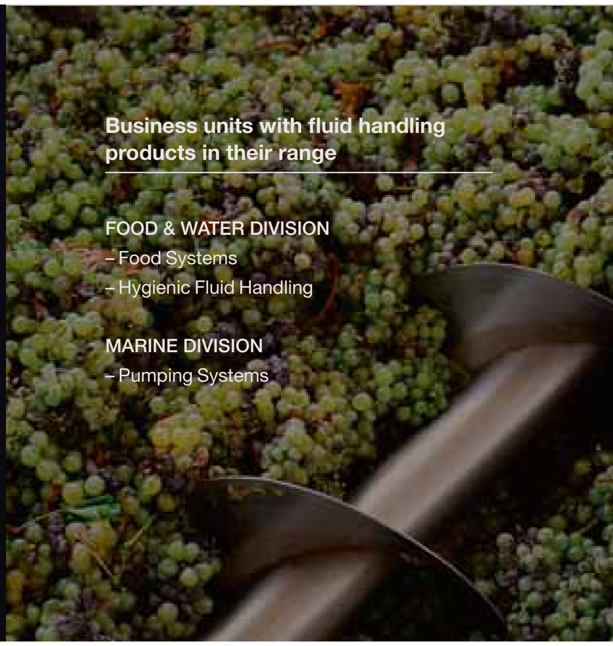
**The transportation and regulation of fluids in an efficient and safe manner is crucial to many industries. Alfa Laval focuses on fluid handling products, such as pumps and valves, for industries with stringent hygiene requirements and on pumping systems for the marine industry and the offshore market.**

**Efficient and precise**

The company's pumps, valves and installation material are used in production processes with strict hygiene requirements, such as the production of beverages, dairy products, food and pharmaceuticals.

Pumps drive the flow of liquids, while valves are used to guide the flow by opening and closing. For hygienic applications, Alfa Laval mainly offers centrifugal, liquid ring and rotary lobe pumps. The most common types of valves include control valves, constant-pressure valves, butterfly valves and diaphragm valves. The offering also includes hygienic tank equipment ranging from mixers to cleaning equipment. Mixers can be used to mix both high and low-viscosity fluids, such as milk, wine, juice, yoghurt, desserts and fruit drinks.

For the marine sector, Alfa Laval offers submerged, hydraulic pumping systems for product and chemical tankers. These systems enable safe and flexible load handling, which results in less time in port and fewer journeys without commercial loads. For the offshore industry, the offering includes pumping systems for collecting sea water for various onboard applications, water injection in drill holes and fire extinguishing, which contribute to safe and efficient operation.



**Business units with fluid handling products in their range**

FOOD & WATER DIVISION
– Food Systems
– Hygienic Fluid Handling

MARINE DIVISION
– Pumping Systems

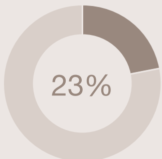
### Competitors

- GEA (Germany)
- SPX FLOW/APV/Waukesha Cherry-Burrell (US)
- Fristam (Germany)
- Hamworthy/WÄRTSILÄ (Finland)
- SULZER (Switzerland)

### Market position


10–12 percent of the world market

### Sales




Share of Group sales

# Driving development and change

**Many factors can contribute to profitable growth. One of them is research and development. Alfa Laval's goal is to offer products and process solutions that can enhance the efficiency of customers' processes and thereby increase their competitiveness. In a world increasingly focused on competition, Alfa Laval wants to be customers' first choice. To maintain this position, continuous investments in research and development are necessary to ensure that the company's products and solutions are the latest and most efficient on the market.**

Follow our product launches on www.alfalaval.com

## 2.5%

Investments in R&D will amount to 2.5 percent of sales per year.

## 35–70

Every year, the patent department handles a large number of internal reports on new inventions, of which approximately 35–70 lead to new patent applications.

## >3,500

At year-end 2018, Alfa Laval had more than 3,500 patents in its portfolio

Alfa Laval has always attached great importance to R&D. Over the last few years, however, the pace has been turned up further and considerable investments have been made. These will result in the launch of two new platforms for separators and heat exchangers as well as the development of various digital solutions, to name a few examples. The work performed over the past few years is the result of a review carried out of the entire group in 2016. Everything was questioned, from the company's R&D processes to the product range itself. Was it sharp enough? Was development fast enough? Were investments made in areas with the potential to generate favorable returns? Were they properly researched? Can they be modularized? How much are we considering the aftermarket offering when developing new products? What role does digitization play for Alfa Laval?

Product launches held a high pace during 2018, and new, even more efficient products were rolled out every quarter. The focus is on delivering improvements for the customer, whether in terms of energy efficiency or the ability to digitally monitor product performance.

Life cycle analysis can help define and implement methodologies that take environmental aspects into consideration during the development and design of the company's key technologies. The ambition is that every new product has a smaller impact on the environment than the product it replaces. It is not only about the product's own life cycle, however – it is also about developing an offering that can help make the customer's processes more resource efficient.

**Alfa Laval's product centers serve as a hub**

Development work involves many different roles. Service technicians, for example, may observe signals indicating a change in needs and goals when they visit customers, and bring the information back to the development units. Customers may discuss their thoughts directly with a sales representative. But the development units – Alfa Laval's product centers – are at the real core of the work. These units are responsible for research, development and product management as well as market research and application areas. There are a number of product and business centers responsible for everything from compact heat exchangers and fluid handling products to separators and boilers, to name a few examples. Product development includes such areas as concept development, development of new and existing products, documentation and testing, while product management refers to strategy, pricing, business forecasts, sales tools and training.

**The patent department follows up**

The development of new products, new designs or new functions also involves Alfa Laval's patent department. Considering all of the efforts and investments made, patent protection is essential. Every year, this organization handles a large number of internal reports on new inventions, of which around 35–70 lead to patent applications. It also deals with trademark registration and research as well as monitoring and handling patent infringements.

**Development in response to a changing world**

Development is more than R&D; it must continuously permeate all areas of Alfa Laval for the company to be able to respond to a world in constant change. In terms of the supply chain – that is, the Operations Division – this work is handled by Operations Development. This unit is responsible for implementing sustainable improvements within all areas of the division, from procurement and production to distribution and logistics. Representatives for the unit are spread globally across Alfa Laval's major production facilities. They help find different solutions to give the company competitive advantages. Hundreds of projects are managed in a year, including everything from major structural changes to minor adjustments.

Another unit that also works with development is Corporate Development. This unit takes a strategic, long-term view of technical development in terms of potential future growth areas and new market concepts for the company as a whole. It supports long-term activities that run throughout different functions in the company, but also looks at possibilities regarding new technologies or areas that can entail challenges or create opportunities in the future.

## Operations Development

Contributes to the development and optimization of the supply chain. Refines procurement processes and investigates, develops and evaluates new cost-efficient production technologies.

## Corporate Development

Takes a strategic, long-term view of technical development in terms of potential future growth areas and new market concepts for the company as a whole.

# Three industry-based divisions and a shared supply chain

**Realizing Alfa Laval's business concept – "to optimize the performance of our customers' processes, time and time again" – requires a solid product offering, high technological competence and a structure that is fast moving and has a high level of insight into the customers' needs, purchasing behavior and processes. Accordingly, Alfa Laval has established three industry-based sales divisions: Food & Water, Energy and Marine, which are supported by Operations, the Group's shared supply organization with responsibility for procurement, manufacturing and distribution.**

## Food & Water

The division targets customers in industries such as: food, pharmaceuticals, biotech, vegetable oils, breweries, dairy and personal care products. In addition, it focuses on public and industrial water treatment as well as wastewater and waste treatment.

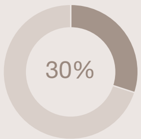
## Energy

The division targets customers in: oil and gas extraction, oil and gas processing and transport, refineries, petrochemicals and power generation. It also works with construction-related applications, such as heating, ventilation and cooling, and has an offering for customers in the mining and metal industries and lighter industries, to name a few examples. Energy efficiency is a focus area in which the division helps its customers to reduce their energy consumption, which is beneficial both from a financial and environmental point of view.

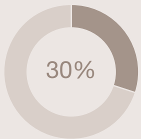
## Marine

The division's customers include shipowners, ship yards, manufacturers of diesel and gas engines and companies that specialize in offshore extraction of oil and gas.

Share of Group order intake



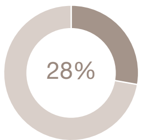

Aftermarket's share of the division



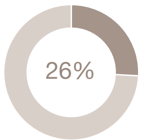

Operating margin

16.0%

Share of Group order intake



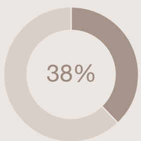

Aftermarket's share of the division



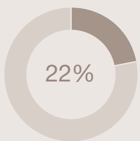

Operating margin

14.3%

Share of Group order intake




Aftermarket's share of the division




Operating margin

17.1%

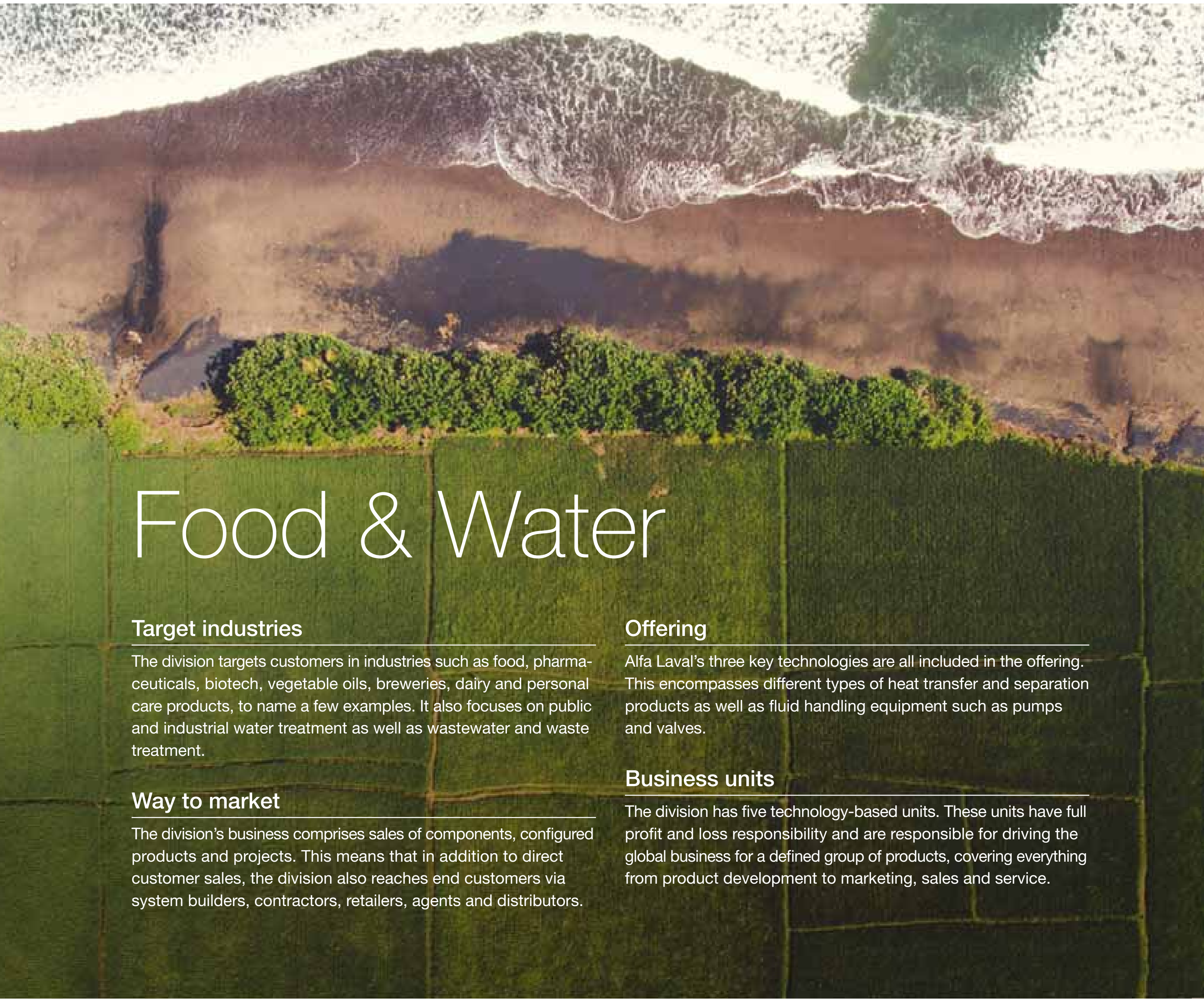
## Operations

The division is responsible for the Group's production-related procurement, manufacturing, distribution and logistics. This centralized, coordinated and global supply chain creates the necessary prerequisites to ensure reliable access to the company's products worldwide.

Procurement

Manufacturing

Distribution/Logistics



# Food & Water

## Target industries

The division targets customers in industries such as food, pharmaceuticals, biotech, vegetable oils, breweries, dairy and personal care products, to name a few examples. It also focuses on public and industrial water treatment as well as wastewater and waste treatment.

## Way to market

The division's business comprises sales of components, configured products and projects. This means that in addition to direct customer sales, the division also reaches end customers via system builders, contractors, retailers, agents and distributors.

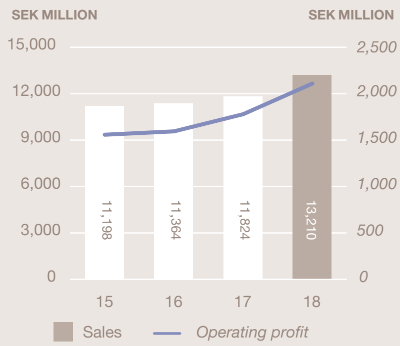
## Offering

Alfa Laval's three key technologies are all included in the offering. This encompasses different types of heat transfer and separation products as well as fluid handling equipment such as pumps and valves.

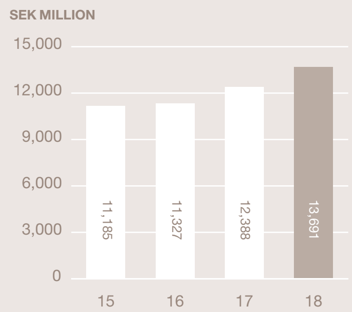
## Business units

The division has five technology-based units. These units have full profit and loss responsibility and are responsible for driving the global business for a defined group of products, covering everything from product development to marketing, sales and service.

### Sales and operating profit

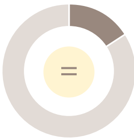



### Order intake

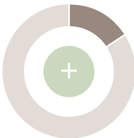



| | |
|---|---|
| Sweden | 4% |
| Other EU | 26% |
| Other Europe | 5% |
| North America | 24% |
| Latin America | 9% |
| Asia | 28% |
| Other | 4% |

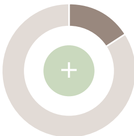
### High Speed Separators
High-speed separators for breweries, dairies and vegetable oil refineries as well as for applications in pharmaceuticals, biotech, ethanol, starch and sugar.



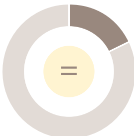
### Food Heat Transfer
Provider of gasketed, tubular, brazed, welded and scraped-surface heat exchangers – to name a few examples – to a wide range of industries such as food, breweries, dairies, pharmaceuticals, ethanol, sugar and starch.



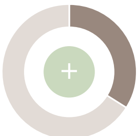
### Food Systems
This unit integrates Alfa Laval's core technologies into process solutions for the food sector, especially targeting breweries, vegetable oils, meat and fish processing, fruit and vegetable processing as well as fermentation and starch and sugar processing.



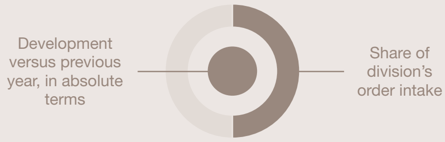
### Decanters
Decanter centrifuges, presses, filters and membranes as components or modules for food or life science applications as well as waste management such as dewatering of sludge in municipal wastewater treatment plants, or water treatment for industrial wastewater.



### Hygienic Fluid Handling
Component sales of pumps, valves, installation material and tank equipment for hygienic applications in the food and pharmaceutical industry.



### Order intake, business units




## Major end markets

### share of order intake

| | |
|---|---|
| Dairy | 20% |
| Brewery | 9% |
| Vegetable oil | 8% |
| Pharma and biotech | 6% |
| Ethanol, starch and sugar | 5% |
| Water and waste | 5% |

### Significant events in 2018

Nish Patel
President, Food & Water Division

– The division has put significant focus on innovation, and the high research & development activity resulted in an increased pace of product launches during the year. In combination with continued penetration of key industries, this contributed to a good order growth.

– The division booked its largest order to date during the year, a 300 MSEK order for a brewery system in Latin America. That, combined with a favourable end-market sentiment, gave further support to Alfa Laval's growth, especially in brewery, but also in dairy, protein and more general food applications.

– Macro drivers were overall unchanged; a growing population and middle class as well as the continued roll-out of ever stricter environmental and food-related regulations, continued to generate business opportunities for the division. And while investments in capacity and process efficiency were indeed prevailing, compliance to new legislation is a driver which is becoming increasingly important. In this area the division's product offering is wide and well suited for its end markets.

– An important part of the division's strategy is to further expand the sales channel network of distributors and integrators, and here new target levels where successfully reached during the year.

– The Service business grew, supported by new initiatives aimed at simplifying for customers in specific applications and industries.

# Structural growth drivers
## for the businesses within Food & Water

### Food

**A growing number of people are joining the middle class, urbanization is continuing at an undiminished rate and women now account for a higher percentage of the workforce. This is contributing to growing demand for ready-made food and the development of more efficient supply chains with the capacity to reduce waste.**

Alfa Laval's history began in 1883 with the development of a separator for separating cream from milk. Since then, the company's offering for hygienic applications in the food industry has been expanded to include heat exchangers, pumps and valves. These products meet the strictest hygiene requirements and can help to optimize the use of raw materials. Alfa Laval can also help to reduce waste by offering cooling solutions for transport and storage.

### Environment

**Human impact on the environment is coming under greater scrutiny, resulting in new, increasingly stringent laws. In parallel with this, a sustainability mindset has also evolved and is encouraging companies to voluntarily take steps that contribute to environmental improvements.**

Alfa Laval has a wide range of products for managing various environmental problems. The Food & Water division offering includes decanter centrifuges to dewater sludge in municipal wastewater treatment plants and they are also involved in handling industrial waste and water. Within food manufacturing, Alfa Laval offers processes and solutions that can reduce waste by increasing the yield.

# Water scarcity a global challenge

**We take it for granted, and it's so cheap that most of us barely notice the cost. Yet clean water is our most precious resource – and one that's becoming increasingly scarce. More than 80 percent of human wastewater is discharged untreated. At the same time, global agricultural expansion is contributing to depleting water tables, from the US and Brazil to India and China. As a consequence, a large portion of the world's population is left without access to clean water. Meanwhile, demand is rising. But smart new technologies hold hope when it comes to tackling the world's growing water shortage.**

Water scarcity knows no boundaries and can afflict the wealthiest countries as well as the poorest. Around 880 million people are currently without access to safe drinking water and 2.5 billion lack basic sanitation. Astonishingly, more people own a mobile phone than have access to a working toilet. Unclean water causes more than two million deaths a year, most of them children. Such statistics have prompted the United Nations to declare access to clean, safe water a human right. But fulfilling that right is getting ever harder. Over the coming decades, population growth, urbanization and changing lifestyles will require 55 percent more water than currently available.

By 2030, the world's water supplies will satisfy only 60 percent of global demand, according to McKinsey, and less than 50 percent in many developing regions where water supply is already under stress. And even though enormous progress has been made in improving the water supply, the population has increased at roughly the same rate, meaning we never really catch up. How can this problem be solved?

There is no magic bullet, and a raft of initiatives is needed. One way is to use water more efficiently. Even in developed countries like the UK, many homes lack water meters. This means people can use as much water as they like at no extra cost, leaving no incentive to limit consumption. Implementing water meters and a system where you pay for what you consume could be one way of ensuring more efficient water usage. Other initiatives include reducing inequalities in access to water and sanitation services, and promoting sustainable development by integrating water, sanitation and hygiene with water resource and waste management. Water purification is another important area, as are water recycling, desalination and the recovery and treatment of rainwater. Across these areas, technology has a pivotal role to play – whether in the home, in industry or in water distribution systems.

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Alfa Laval offers a wide spectrum of solutions that can contribute to clean water, produce fresh water and cut the total water consumption: heat exchangers that desalinate salt water, decanter centrifuges that treat biological wastewater and dewater sludge as well as membranes that can filter out the smallest impurities. Furthermore, Alfa Laval offers products and systems that can contribute to more efficient water usage in a wide range of industries, such as breweries.

# Energy

## Target industries

The division targets customers in markets such as: oil and gas extraction, oil and gas processing and transport, refineries, petrochemicals and power generation. The division also works with construction-related applications, such as heating, ventilation and cooling, and has an offering for customers in the mining and metal industries and lighter industries, to name a few examples. Energy efficiency is a focus area in which the division helps its customers to reduce their energy consumption, which is beneficial both from a financial and environmental point of view.

## Way to market

The Energy division's business comprises sales of components, configured products and projects. This means that in addition to direct customer sales, the division also reaches customers via system builders, contractors, retailers, agents and distributors.

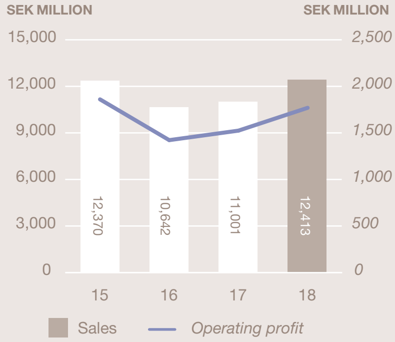
## Offering

Heat transfer is the main technology offered, comprising everything from gasketed plate heat exchangers for gentler applications to different types of welded heat exchangers for more demanding applications. Separation technology is the other main technology offered – both high-speed separators and decanter centrifuges.

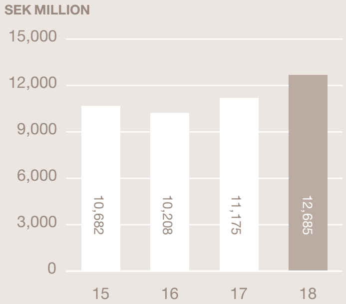
## Business units

The division has four technology-based business units. These units have full profit and loss responsibility and are in charge of driving the global business for a defined group of products, covering everything from product development to marketing, sales and service.

### Sales and operating profit



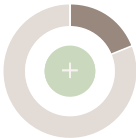

### Order intake




| | |
|---|---|
| Sweden | 3% |
| Other EU | 25% |
| Other Europe | 5% |
| North America | 27% |
| Latin America | 3% |
| Asia | 34% |
| Other | 3% |

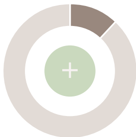
### Brazed & Fusion Bonded Heat Exchangers

A clear majority of the business targets HVAC applications – heating, ventilation, air conditioning and cooling – meaning that the unit, to a large extent, is exposed to the construction industry as well as to public investments in district heating. A smaller part of the business is involved in engine or industrial applications, such as engine cooling for off-road vehicles or pleasure boats as well as cooling and cleaning of liquids in light manufacturing.



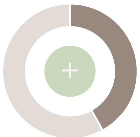

### Energy Separation

Separation equipment and solutions for both upstream and downstream elements of the hydro carbon chain as well as for the chemical industry, power production, mining, minerals, pulp and paper and several other industries. The main technologies offered are high-speed separators and decanter centrifuges, but the offering also includes mixing equipment and fresh water generators.



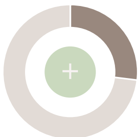

### Gasketed Plate Heat Exchangers

While this business unit is responsible for supporting all three divisions and thus has an extremely wide product range, its focus in the Energy division is on supplying gasketed plate heat exchangers for HVAC, cooling, engine cooling, chemical processing, oil production and power generation.

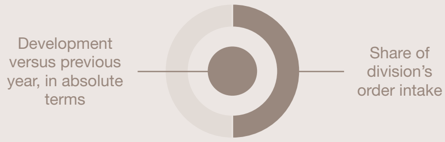



### Welded Heat Exchangers

All types of welded heat exchangers including compact plate heat exchangers, spirals, plate-and-shell, wet-surface air coolers, Packinox, shell-and-tube as well as air heat exchangers for demanding process applications with high pressures and temperatures in the refinery, petrochemical, gas processing, pulp, paper and mining industries.




### Order intake, business units




## Major end markets

### share of order intake

| | |
|---|---|
| HVAC | 21% |
| Oil & gas | 13% |
| Petrochemicals | 10% |
| Manufacturing | 9% |
| Refinery | 6% |
| Inorganics, metals and paper | 6% |
| Refrigeration | 5% |

### Significant events in 2018

**Susanne Pahlén Åklundh**
President, Energy Division

- The entire division saw an increased order intake in 2018 due to an overall favorable economic climate and improved activity levels in the oil and gas industry compared with 2017.
- Investments in energy efficiency within the refining and petrochemical industry helped generate several major orders for welded heat exchangers throughout the year.
- Brazed heat exchangers also experienced favorable growth, with an increased order intake from most of our key customers. During the year, we invested in increased capacity in our existing production units, and manufacturing will start in the US at the beginning of 2019.
- The launch of a new product platform for gasketed heat exchangers was successful, with a strong increase in order intake, primarily within data centers.
- The division's service business grew 9 percent, driven by all product areas.
- Overall, most of our primary industries experienced a favorable trend. We made important breakthroughs in the decanter business for cleaning process and tailing water in mining operations.
- Toward the end of 2018, we partnered with a US-based startup company that focuses on large-scale energy storage solutions aimed at facilitating the implementation of renewable energy. We also acquired patented technology for asymmetrical plate heat exchangers designed especially for handling gas. The technology will be integrated into the Brazed & Fusion Bonded Heat Exchangers business unit.

# Structural growth drivers
## for the businesses within Energy

### Energy

**The world's energy needs are continuing to intensify – at a faster rate in some areas of the world than others. There are two ways to handle this challenge: increase the total energy production and make greater use of technologies that enable more efficient use or recycling of the energy generated.**

Alfa Laval's offering encompasses products and solutions for oil and gas extraction, power production, renewable fuels, refinement and much more. With its compact heat exchangers at the heart of its solutions, the company's products also play an important role in the efforts to make the world's industrial processes more energy efficient.

### Environment

**Human impact on the environment is coming under greater scrutiny, resulting in new, increasingly stringent laws. In parallel with this, a sustainability mindset has also evolved and is encouraging companies to voluntarily take steps that contribute to environmental improvements.**

Alfa Laval has a wide range of products for managing various environmental problems. The Energy division's efficient heat exchangers and its focus on recovering waste heat create an opportunity for substantial energy savings and a reduction in $CO_2$ emissions for the customer.

# 50,000,000,000 watts

**That's how much power is needed to keep all the homes of the Nordic region running. And it's the same amount of energy that industries around the world are saving every year thanks to Alfa Laval heat exchangers. Now that's what we call alternative energy use.**

The fact is that huge amounts of energy are still being lost in industrial processes – including in the form of waste heat. Thanks to our high-tech heat exchangers, the energy efficiency of these processes can be increased by 10 to 50 percent, which amounts to a reduced global power requirement of 50 gigawatts. As a bonus, $CO_2$ emissions are also being reduced by around 150 million tonnes each year – the same amount as 30 million cars release into the atmosphere annually. It's simply about using watts wisely.

## Aiming high

In 2018, St Petersburg, Russia, became home to the tallest building in Europe: the Lakhta Centre. At 462 meters tall, the new multifunctional complex dominates the skyline of the city and will form the center of a new business district.

However, the project's ambitions extend well beyond breaking height records – it has also set bold targets when it comes to the building's environmental impact, both in its construction and in its continued operation.

One of the most distinguishing features of the Lakhta Centre is its double-skin façade, which allows for thermal insulation and natural ventilation. It is estimated this will reduce heating and air conditioning consumption by 50 percent. In addition, conventional heating devices have been replaced by infrared radiators that can reuse heat emitted from other devices, and sensors will automatically adjust temperature and lighting according to the number of people in each room.

Among the other energy-saving components of the Lakhta Centre's construction are 61 Alfa Laval gasketed plate heat exchangers, which will be used for heating, ventilation, hot water and air conditioning. Due to their high heat-transfer efficiency, the heat exchangers will minimize heat loss. They will also reduce the water consumption needed for power transfer and, by extension, reduce the energy consumption for water pumps.

The Lakhta Centre is just the latest of many exceedingly tall skyscrapers where Alfa Laval equipment is used for climate control. Others include the Burj Khalifa in Dubai, the Shanghai Tower (the tallest and second-tallest buildings in the world, respectively) and the Bank of America Tower in New York.

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Heat exchangers transfer heat or cooling, often from one liquid to another. The main product in Alfa Laval's offering – the compact plate heat exchanger – is more efficient than alternative technologies, allowing it to play a crucial role in boosting the overall efficiency of the customer's manufacturing process. Energy efficiency results in lower costs and also reduces the environmental impact.

There are different types of plate heat exchangers – gasketed, brazed and welded, for example – each designed to withstand different pressure and temperature levels. With the industry's broadest product portfolio, Alfa Laval offers efficient, compact products – that are easy to service and maintain – for most industries worldwide.

# Marine

## Target industries

The division's customers include shipowners, ship yards, manufacturers of diesel and gas engines and companies that specialize in offshore extraction of oil and gas.

## Offering

The offering includes heat transfer equipment, high-speed separators and pumping systems as well as different environmental products such as ballast water treatment systems.

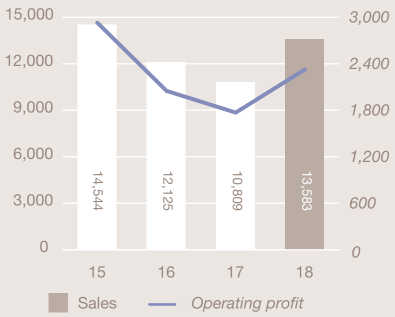
## Way to market

The division's sales force targets customers directly. Its customers are well defined and limited in number – so a direct approach is possible with a limited sales force.

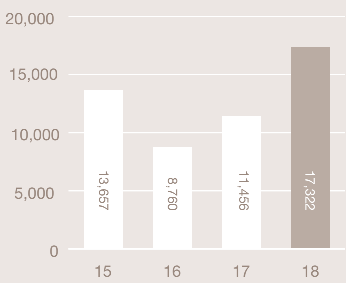
## Business units

The division has three technology-based business units. These units have full profit and loss responsibility and are responsible for driving the global business for a defined group of products, covering everything from product development to marketing, sales and service.

### Sales and operating profit



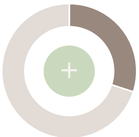

### Order intake




| | |
|---|---|
| Sweden | 0% |
| Other EU | 23% |
| Other Europe | 10% |
| North America | 4% |
| Latin America | 3% |
| Asia | 59% |
| Other | 1% |

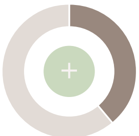
### Pumping Systems

Cargo pumping systems for product and chemical tankers and pumping systems for utilities and safety applications on board offshore platforms.



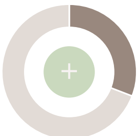
### Boilers & Gas Systems

The unit supplies boilers, waste-heat recovery systems, inert gas systems, gas combustion units, exhaust gas scrubbers and thermal fluid systems to customers in the marine and offshore industries.

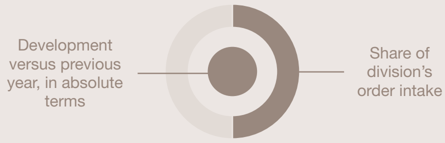


### Marine Separation & Heat Transfer Equipment

High-speed separators, heat exchangers, ballast water treatment systems and filters are some of the products that this unit offers to the marine industry and diesel and gas-engine manufacturers.



### Order intake, business units




## Major end markets

### share of order intake

| | |
|---|---|
| Environment and energy | 36% |
| Ship building | 29% |
| Offshore oil & gas | 10% |

### Significant events in 2018

**Peter Leifland**
President, Marine Division

– The deadlines for the implementation of new regulations for ballast water cleaning and sulphur reduction are finally closing in – after many years of preparation. This led to a general increase in market activity for ballast water treatment as well as exhaust gas cleaning – generating a substantial uptick in order intake for Alfa Laval's marine environmental portfolio.

– Many shipowners will have to make fuel changes from 2020 when the global sulphur cap demands they install a scrubber or swap from heavy fuel oil to either gas or low-sulphur fuel with a maximum sulphur content of 0.5 percent. This fuel still does not exist, which means it will have to be developed or blended. There are question marks in the industry as to how to treat these fuels properly so that they do not generate problems. Hence, there is an increased interest in fuel-treatment expertise and the offering of products and solutions that enable running on new and also on multiple fuels.

– During 2018, we made further investments in our service availability, enabling customers to reach Alfa Laval's international marine service team through one point of contact. The team coordinates all international marine service requests and ensures customers get remote service or, when needed, a service engineer on board.

– We saw a certain pickup in the offshore oil and gas sector after several years of low activity. This generated a significant increase in order intake for our offshore-related offering.

# Structural growth drivers
## for the businesses within Marine

### International trade – globalization

**Global trade helps to connect a world where raw materials are extracted in one country and processed in another, after which the end products are transported to customers across the globe. Shipping is the most efficient – and at the same time economical – transport solution, which is why approximately 90 percent of commercial tonnage is now shipped by sea.**

Alfa Laval has delivered equipment to the marine industry since 1917. It started in the engine room with separators for cleaning lube oil and has since grown to include everything from heat exchangers for generating fresh water to pumping systems for efficient loading and unloading.

### Environment

**Human impact on the environment is coming under greater scrutiny, resulting in new, increasingly stringent laws. In parallel with this, a sustainability mindset has also evolved and is encouraging companies to voluntarily take steps that contribute to environmental improvements.**

Alfa Laval's Marine division offers a number of solutions that reduce the impact on the environment, such as systems for treating ballast water, lowering the sulphur content in ships' exhaust or cleaning the bilge water on board.

# A marine contribution to cleaner air

**Ships offer a more energy-efficient way of transporting goods compared to trucks and airplanes. But ships run on heavy fuel oil, which produces sulphur oxides (SOx) as well as soot and ash – so-called particulate matter – during combustion. SOx are known to contribute to acid rain, irritate the eyes and affect the respiratory system.**

In an effort to protect the environment and human health, a global sulphur cap will come into force in 2020, limiting the sulphur emissions from ships' exhaust gases. The new legislation will have a significant impact on the marine industry.

To comply with the stricter emission regulation, shipowners basically have three options:
– Switch to liquefied natural gas (LNG)
– Switch to a low-sulphur fuel
– Install an exhaust gas scrubber, such as Alfa Laval PureSOx

Each of these choices offers various pros and cons.

### Switching to LNG

In emission terms, LNG is an elegant solution as it contains no sulphur, which eliminates the problem altogether. The issue lies in the complexity of making the change. In order to run on LNG, an existing vessel will need a retrofit that is both complicated and expensive. Not all engines can be modified for LNG use, and cargo or passenger space may have to be reduced in order to accommodate the much larger fuel tanks. Moreover, the LNG infrastructure is still underdeveloped. Combined, this means LNG is an option most feasible for new builds.

### Switching to low-sulphur fuel

This is the easiest alternative, but one that is also costly. The financial implications will depend on whether you view it as a temporary solution or a permanent route to compliance. Since the cost of low-sulphur fuel is higher than that of heavy fuel oil, significant usage will result in higher fuel costs, thus changing the shipowner's business conditions. In short, while switching to low-sulphur fuel only involves a small initial investment, it will reduce the long-term competitive power of the shipowner.

### Installing a scrubber

The International Maritime Organization (IMO) has approved the continued use of heavy fuel oil provided an exhaust gas cleaning system is installed and used, as long as the system lowers the SOx emissions down to the required levels. However, a SOx scrubber is a substantial investment requiring significant space on board as well as a number of weeks to retrofit. The advantage is that with a scrubber installed, a shipowner can continue operating on heavy fuel oil, enjoying the best possible fuel economy and hence substantial fuel savings.

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**Alfa Laval PureSOx**

Alfa Laval's scrubber system is designed for marine SOx abatement. It has been used at sea since 2009 and was commercially launched in 2012. Since then, it has been continuously developed and optimized. PureSOx can reliably remove more than 98 percent of the SOx content in exhaust gases and up to 80 percent of the particulate matter.

# Contributing to the UN's Global Goals

The United Nations has adopted 17 Sustainable Development Goals for 2030, known as the Global Goals, that world leaders have pledged to achieve. On the previous pages, we provided a few examples of how Alfa Laval contribute. In fact, Alfa Laval's products and solutions can contribute to as many as 11 of the 17 goals. Brief descriptions of how we can contribute to these 11 goals are provided below. More information and examples can be found on www.alfalaval.com

## Examples of how Alfa Laval's products can help meet the UN Sustainable Development Goals

### 2 ZERO HUNGER
Alfa Laval's products and solutions contribute to hygienic and safe food manufacturing. They can also improve shelf life and reduce waste in the manufacturing process.

### 3 GOOD HEALTH AND WELL-BEING
Alfa Laval delivers equipment that contributes to safe and resource-efficient processes in the pharmaceutical industry.

### 6 CLEAN WATER AND SANITATION
Alfa Laval has a wide offering for wastewater treatment. The portfolio also includes fresh water generators. Alfa Laval can thus contribute to improving access to clean water and fresh water.

### 7 AFFORDABLE AND CLEAN ENERGY
Alfa Laval's products are involved in renewable production processes. They can also store heat generated by the sun, enabling electricity generation even after the sun has set.

### 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Alfa Laval continuously invests in R&D. The pace has increased over the past few years, which is expected to result in a range of new products – among them new, even more energy-efficient heat exchangers.

### 11 SUSTAINABLE CITIES AND COMMUNITIES
Alfa Laval contributes to energy-efficient heating and cooling. This includes systems for the reuse of waste heat which, through a district heating grid, can contribute to heating whole cities.

### 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Alfa Laval's goal is that every new product should have a smaller environmental impact – from a life cycle perspective – than the product it replaces.

### 13 CLIMATE ACTION
Alfa Laval's heat exchangers can improve energy efficiency in customers' processes, reducing the need for fossil fuels and helping to lower $CO_2$ emissions.

### 14 LIFE BELOW WATER
Alfa Laval offers its marine customers a range of products within energy and the environment. One example is PureBallast – a system which prevents organisms that travel along with ballast water from being released in areas where they lack natural enemies and hence could damage ecosystems.

### 15 LIFE ON LAND
Alfa Laval's innovative technologies can contribute to optimizing resource efficiency. They can also reduce the impact on different ecosystems and cut greenhouse gas emissions. One concrete example of how Alfa Laval's equipment can contribute is a cooling solution to protect the world's largest seed collection, providing a backup in case a natural catastrophe, climate change or war should deplete earth's crop diversity.

### 17 PARTNERSHIPS FOR THE GOALS
Alfa Laval has been a signatory of the UN Global Compact since 2011. This is a voluntary initiative, where members commit to implementing the UN's sustainability principles.

# High activity characterized the year

**Alfa Laval has a Group-wide organization – the Operations Division – that handles the Group's manufacturing-related procurement and production as well as logistics and distribution. In other words, Operations is a unit that ensures, on a global basis, that anything sold by the three divisions (Marine, Food & Water and Energy) – everything from heat exchangers and separators to pumps, valves and membranes – is produced and delivered in line with the promise made to the customer.**

### Manufacturing

Alfa Laval's production structure is based on its three key technologies and organized to provide the most even capacity utilization possible across its production units. Separators, for example, are sold within all divisions and are therefore ultimately found in a number of different application areas and processes. But the technology is essentially the same, which makes it possible to consolidate production to shared units – regardless of whether the individual separators are for the marine sector or food processing. In other words, Alfa Laval's production structure is based on technology, not the end market. At year-end 2018, Alfa Laval had 39 major manufacturing units, spread across Europe, Asia, the US and Latin America.

During the year, Operations experienced a strong upswing in order intake and deliveries, which was a challenge in itself. On top of this, the organization performed selective capacity expansions in certain areas – such as establishing new production capacity for brazed heat exchangers and exhaust gas scrubbers – in combination with ongoing efforts to concentrate certain manufacturing to fewer sites. From a short-term perspective – that is, in the daily work – the focus was on sustainability, lead times, quality, productivity and cost. From a long-term perspective, considerable time was devoted to strengthening the manufacturing process by ensuring the right competence is in place, investing in new production technologies, assessing opportunities related to automation, digitization and 3D printing, while ensuring that the results also lead to improvements from a health, safety and environmental perspective.

### Procurement

The procurement organization handles all of Alfa Laval's needs for direct as well as indirect materials, for all factories and distribution centers. The largest item in the cost of goods sold is direct materials – accounting for a full 70 percent – and any improvements possible within this area are therefore extremely valuable. The organization handles procurement of a variety of goods and raw materials, such as aluminum, stainless steel, titanium, cast metal, forged iron, electrical equipment and fasteners, to name a few examples. It is also responsible for the purchase of goods outside the manufacturing process, such as software, consulting services, hardware, telecommunications and company cars.

When it comes to procurement, there are many parameters to take into consideration. Cost is a factor, but it is one of many. It must be weighed against quality, dependability, delivery capacity and reliability; at the same time, the supplier needs to meet Alfa Laval's Business Principles concerning the environment, health and safety. Alfa Laval has a platform for auditing suppliers, which simplifies assessments so that comparable results are obtained.

Alfa Laval's shared supply chain is a strength. The company can consolidate the demand for metals and other products/goods for all production units, achieve economies of scale and gain leverage in negotiations right from the start. At the same time, the right work method can generate considerable savings. Training and process development are carried out on an ongoing basis to ensure a uniform and structured work method, regardless of where in the world the buyer is located. This includes incorporating an ever-larger portion of the total procurement volumes into global contracts, which reduces the number of suppliers, reduces costs and minimizes complexity. Internal projects are also carried out to identify new ways to minimize both material consumption and waste.

### Distribution and logistics

Logistics and the distribution of components, spare parts and new products include everything from order handling and inventory management to stock picking, delivery and invoicing. It is not enough for a product to be of high quality and in line with specifications – it must also reach the recipient at the right time, in a secure way and with as little impact

### Production units

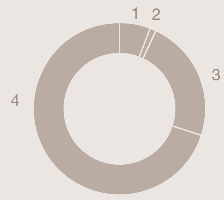
Alfa Laval's production includes 39 major manufacturing units:

- US (6)
- Brazil (2)
- Sweden (4)
- Norway (3)
- Denmark (3)
- Finland (1)
- Russia (1)
- India (4)
- Korea (2)
- China (4)
- Japan (1)
- UK (1)
- France (4)
- Italy (2)
- Poland (1)

### Distribution centers

- US (2)
- Sweden (2)
- Denmark (1)
- China (1)
- Singapore (2)
- Japan (1)
- India (1)
- Netherlands (1)
- Norway (1)

### Distribution 2018

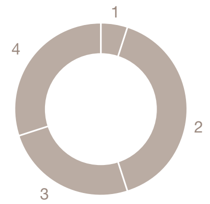



| | | |
|---|---|---|
| 1 | Air | 6% |
| 2 | Railway | 1% |
| 3 | Sea | 23% |
| 4 | Road | 70% |

on the environment as possible. Alfa Laval has eight distribution centers, spread over Europe, Asia and North America. These centers process millions of orders every year, which results in the distribution of an even larger number of products and spare parts. Distribution and logistics is also responsible for Alfa Laval's overall transport needs. Consolidating transport needs enables economies of scale, which is a cost-effective solution. But costs are only one parameter that must be considered. The environment is another important component. Alfa Laval actively works to reduce the company's freight-related $CO_2$ emissions and therefore aims to transport as little as possible by air. Alfa Laval also chooses to explain the effects of different modes of transport to its customers.

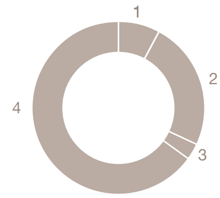
However, sometimes the customer's needs are so acute that air freight is the only possible solution. Just a few extra shipments by air can have a significant effect on the company's total emissions. During 2018, Alfa Laval's deliveries to most end markets increased considerably. Despite the high volumes, Alfa Laval managed to keep the share of air freight unchanged compared to 2017. At the end of the year, 70 percent had been shipped by road, 23 percent by sea and 6 percent by air.

### Investments by geographic market, %



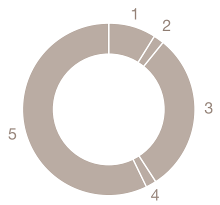

| | |
|---|---|
| 1 North America | 5% |
| 2 Western Europe | 40% |
| 3 Central and Eastern Europe | 25% |
| 4 Asia | 30% |

### Procurement by geographic market, %




| | |
|---|---|
| 1 North and Latin America | 8% |
| 2 Asia | 24% |
| 3 Central and Eastern Europe | 3% |
| 4 Western Europe | 65% |

### Geographic distribution of the number of directly worked hours in production, %




| | |
|---|---|
| 1 North America | 9% |
| 2 Latin America | 2% |
| 3 Western Europe | 30% |
| 4 Central and Eastern Europe | 2% |
| 5 Asia | 57% |

### Significant events in 2018

**Mikael Tydén**
President, Operations Division

- During the year, we continued our efforts to further strengthen our competitive abilities and delivery capacity while our procurement organization continued to make good progress in its work to ensure reliable access to materials and components.
- We invested in equipment to increase our capacity and productivity in the supply chain for brazed and gasketed heat exchangers, exhaust gas scrubbers and separators.
- The structural changes under the Footprint program were carried out according to plan, and we increased the level of automation and digitization in our production and distribution units. We also focused on further reductions in water and energy consumption at our production units and to increase our use of energy from renewable sources.
- We continued to make improvements within a number of areas, including health and safety, quality, productivity and lead times. We were successful thanks to our employees' commitment, our focus on Lean Six Sigma and the continued training of both employees and managers.

# A tailor-made offering for optimal performance

**Alfa Laval's business concept is "to optimize the performance of our customers' processes, time and time again." This idea permeates the entire company, from the development of new products to the broad offering of spare parts and services. Do you want to ensure peak performance and minimize the risk of unplanned stoppages? Then Alfa Laval's products, systems and solutions are a good start – even better when complemented with a service agreement, which has the potential to truly maximize the return on investment.**

Investing in service and high-quality spare parts saves both time and money: time to spend on core operations, rather than worrying about unplanned stoppages, high energy consumption or low performance; money through well-planned service and preventive maintenance that costs less than sudden stoppages and the subsequent crisis response.

Alfa Laval's offering is comprehensive and can be tailored based entirely on the customer's preferences. The Service organization handles everything from installation, testing and start-up to cleaning, spare parts and reconditioning. Some customers prefer to purchase everything, while others have their own service organization, which means their needs are limited to spare parts. At the same time, the company's technologies, by nature, have varying service needs, depending on whether or not they include moving parts. Another factor that impacts the need for service is the processes in which the product is used. A separator on board a ship that cleans fuel 24 hours a day, seven days a week, will need to be serviced sooner than a heat exchanger that heats water in an apartment building. At the same time, a heat exchanger in a chemical process will need spare parts and service more frequently than a separator that performs seasonal work only a few months out of the year. But regardless of size, end market or process, Alfa Laval has something for everyone.

### Alfa Laval's ambassadors

With eight strategically located distribution centers and more than 100 service centers worldwide, Alfa Laval is located close to its customers and is ready to mobilize and offer them what they want, when they want it. Employees in the service organization in particular interact more with customers than any other area of Alfa Laval and are in many ways the company's foremost ambassadors. What matters is therefore not only that they deliver, but also how they deliver. It is the total experience with Alfa Laval that can prove essential the next time the customer decides to invest in new equipment.

The organization consists of service centers and field service engineers who, through close cooperation and expertise, deliver a high level of service to the company's customers. The keywords are security, quality, speed and flexibility. To ensure that these goals are fulfilled, competence development, technical development and standardized processes are focus areas within Service. Ultimately, it is about delivering what the customer wants, because satisfied customers pave the way for growth.

Health and safety are constant considerations throughout the operations. Continuously reviewing and developing work methods, equipment and processes can prevent health and safety risks, regardless of whether this work is carried out at an Alfa Laval service center or out at a customer's site.

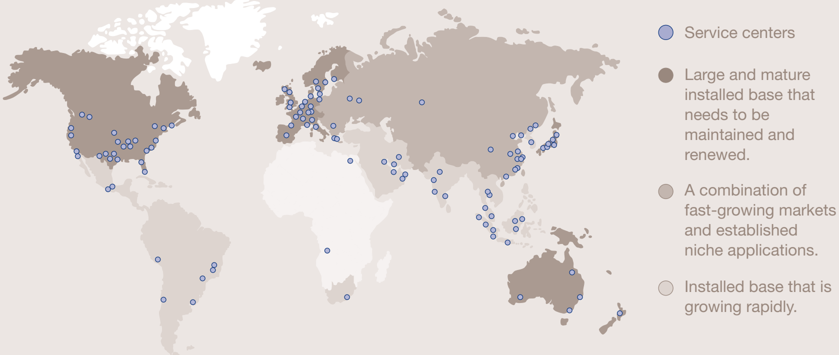
### Service provides stability

Access to service and spare parts is very important for customers. But it also has a positive effect for Alfa Laval. Every year, a large number of products and systems are sold, adding to the company's global installed base. They will all – sooner or later, in varying degrees and at varying rates – need spare parts or some form of service. The installed base thus has inherent revenue potential which, when properly leveraged, has a stabilizing effect on Alfa Laval's overall invoicing. The aftermarket is a strategically important part of the operations.

As a part of the company's development work, gradual measures are therefore being taken to expand the offering of digitized services that can continuously monitor and report on product performance. This type of service is attractive for customers who want to ensure that the product works efficiently and optimally. Customers who have installed a product or system to meet specific legal requirements can also benefit from a digitized solution.

**Service centers**

More than 100 service centers with the capacity to deliver services in over 160 countries



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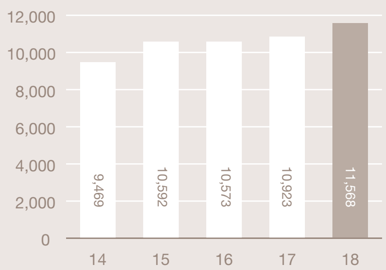
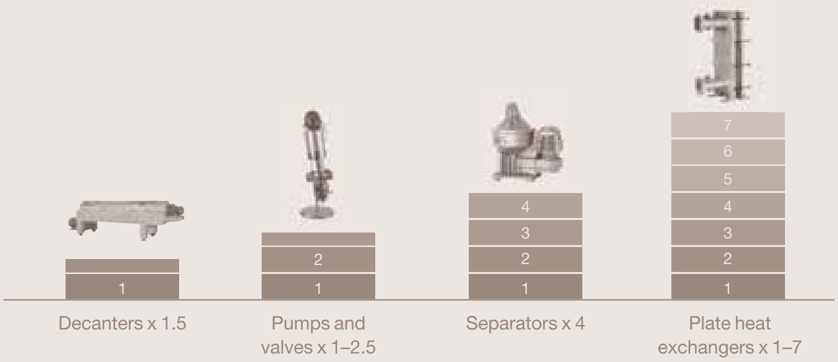
## Digitized services

One example is Alfa Laval PureSOx, a system that makes it possible for ship owners to meet rules that limit the sulphur content in exhaust. In connection with PureSOx, Alfa Laval offers a digitized solution that continuously reads the system's measured data to generate reports, which ship owners can provide to the authorities to demonstrate compliance.

### Order intake, SEK million




### Long-term potential – Value of the aftermarket relative to new sales



# Employees

**Alfa Laval's success depends on its employees. It is therefore incredibly important to create an attractive work environment and a culture that helps the company reach its strategies and attract and retain talent. But because every individual has different abilities, motivations and needs, it is also a challenge.**

There are certain factors that are fundamental – for example, that employees feel safe and secure at their workplace and that the work environment is inclusive and free from discrimination. At the same time, it is important to offer possibilities for development so that employees are equipped to handle both existing and future challenges. All of this is high on Alfa Laval's agenda.

But Alfa Laval can also offer something else – the chance for an individual to feel they are contributing to something good, whether it is cleaning water, reducing waste, cleaning exhaust or saving energy.

### A safe, healthy workplace

Because the foundation for success lies with the employees, it is only natural to ensure their health and safety. Alfa Laval works continuously to create a healthy, safe and attractive working environment for its employees, contractors, customers and visitors. The company has a vision of a workplace that is free from accidents and work-related illnesses so that everyone can return home safely every day. Comprehensive work is being conducted in the line organization to ensure that the work environment is designed to minimize these risks. This work follows a manual developed to ensure that safety is incorporated into the company's daily routines. At the same time, employees must also receive training so that they have the right attitude towards safety issues. Because the human factor is the most common cause of accidents, individual behavior is one of the most important building blocks in the effort to eliminate risks. During the year, a health and safety program was developed that, in addition to including clear guidelines, also focuses on leadership, training and communication. Going forward, each Alfa Laval unit will be expected to follow this program, in addition to local laws and regulations, and to maintain an organization that actively works to ensure a safe, healthy workplace.

### Right focus through diversity

Alfa Laval conducts international operations with local organizations that reflect its local markets. The company therefore employs a large number of nationalities. So, to a certain extent, diversification and diversity come naturally. But beyond the purely nationality-based aspects, there are of course a number of other differences that characterize people

Alfa Laval has a unique role to play in a world where energy efficiency is becoming all the more important and regulations are increasingly being introduced to reduce human impact on the environment.

Want to join us?
**www.alfalaval.com/career**


**Employee training and development – 70-20-10**

70 percent is to come from the challenges faced during the course of the individual's day-to-day work.

20 percent is to come from various types of developmental relationships, meaning what the individual learns from managers, more experienced colleagues or mentors.

10 percent of what an individual learns is to come from formal training programs, either online or in a classroom setting.


Alfa Laval works continuously to create a healthy, safe and attractive working environment for its employees, contractors, customers and visitors. The company has a vision of a workplace that is free from accidents and work-related illnesses so that everyone can return home safely every day.

– age, gender, sexual orientation, ethnicity, disability and religious practice. These must never lead to discrimination – on the contrary, variation is something Alfa Laval strives for. An engineering company is driven by a focus on development and can only achieve this if it succeeds in attracting and creating a mix of people who think differently. The best results for a global market are not reached by a homogeneous group of individuals with the same experiences or backgrounds, but by leveraging different opinions and experiences that lead to questions and insights. This lays the groundwork for an organization that is flexible and creative, with the ability to identify and manage the changing forces affecting the company's business. Open internal recruiting and encouraging everyone to apply is important for achieving this. Inclusivity is an essential step for reaching Alfa Laval's overall goals.

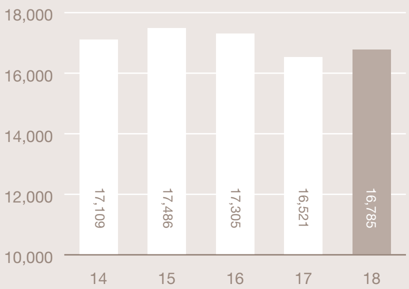
**Development is a foundation for success**

If "development" is interpreted to mean "research and development," then it is something that has been crucial for Alfa Laval's success throughout history. But R&D is driven by people, and it is their individual abilities that have helped the company advance. To keep moving forward, the individuals who are to develop the business must also be given development opportunities themselves. And then we are no longer talking only about R&D, but rather about employee development within all areas of Alfa Laval's operations.

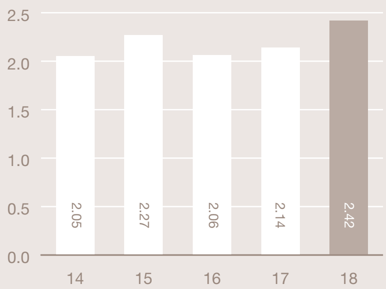
The world is changing: customers want new, even more efficient products, new regulations are being introduced, new preferences are developing, and people want to manage procurement in new ways. All of this imposes demands on Alfa Laval and its employees. To succeed, Alfa Laval needs to stay one step ahead and this is possible when people are able lift their gaze and think differently, when they thrive at their jobs and have the tools they need to succeed.

Development is one of these tools. Alfa Laval uses the 70-20-10 model. 70 percent of development opportunities are to come from the challenges faced during the course of the individual's day-to-day work. 20 percent is to come from various types of developmental relationships, meaning what the individual learns from managers, more experienced colleagues or mentors, and 10 percent of what an individual learns is to come from formal training programs, either online or in a classroom setting. Alfa Laval offers a broad range of training opportunities, some of which are managed locally, while others are part of a central program. The hub for these is a training portal, available on the company intranet. This portal offers a large number of courses, many of which are Internet-based (e-learning). These can be completed in groups in real time or be carried out individually at the pace and the time that best suits the participant. The offering is continuously developed to reflect the needs of both the employees and the company.

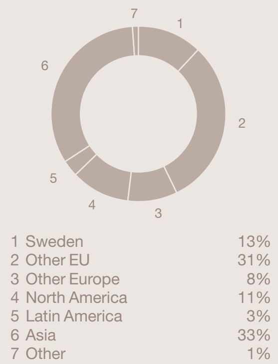
**Average number of employees**




**Sales per employee, SEK million**




**Employees by region**



# Sustainability and reporting

Alfa Laval publishes a separate Sustainability Report that complies with Swedish legal requirements, the Global Reporting Initiative and the UN Global Compact. The report is available in English: **www.alfalaval.com/about-us/sustainability**

Below is a brief introduction to the foundations of Alfa Laval's sustainability work as well as a few words on this year's focus areas.

## Alfa Laval's Business Principles

**Alfa Laval's four Business Principles represent the foundation of the company's sustainability work. They are aimed at continuously improving Alfa Laval's social, environmental and ethical work as well as its transparency. Alfa Laval's Business Principles incorporate the "Protect, Respect and Remedy" framework introduced in the UN Guiding Principles on Business and Human Rights as well as the OECD Guidelines for Multinational Enterprises.**


**Social responsibility – respect for human rights is fundamental**
One of our foremost priorities is to prevent the occurrence of workplace accidents. The company has a vision of a workplace that is free from accidents and work-related illnesses. During the year, we developed a program for health and safety that includes clear guidelines, leadership, training and communication.

**Business integrity – high ethical standards guide our conduct**
The foundation for this principle is that the company is to comply with the laws in effect where we operate. The principle covers such areas as anti-bribery and anti-corruption (ABAC) efforts. During the year, Alfa Laval launched a mandatory anti-corruption training for white-collar employees.

**The environment – we optimize the use of natural resources**
It is important that our production and service operations continuously enhance the efficiency of their energy and water use. During the year, we focused on improving reporting and identifying areas for improvement. Equally as important as Alfa Laval's internal work – and with infinitely greater potential – is the provision of products, services and solutions that can optimize our customers' use of natural resources.

**Transparency – our commitment to open dialogue builds trust**
Alfa Laval's ambition is to build trust through open dialogue with various stakeholders, for example, by addressing the opportunities and challenges within the area of sustainability. Read more about our stakeholder dialogue and materiality analysis in our separate Sustainability Report.

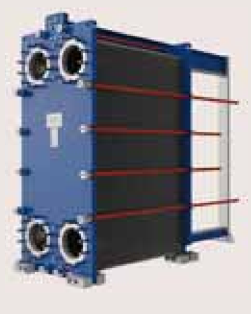
### 3,500 homes heated by waste heat

Alfa Laval's products and solutions contribute to many of the UN's Sustainable Development Goals for 2030. The example presented below explains how we contribute to reaching the goal of affordable and clean energy for all. More examples can be found in our separate Sustainability Report.

**Relevant UN goal**


**Project description:**

Using Alfa Laval's gasketed heat exchangers, waste heat from a smelting works can be converted and heat 3,500 homes in Hamburg. The system is expected to reduce $CO_2$ emissions by 20,000 tons annually.



Alfa Laval's gasketed heat exchanger

# Contents – Corporate Governance Report



# Introduction by the Chairman of the Board

**Alfa Laval**

Alfa Laval offers products, systems and services that help reduce the environmental impact of different processes on a global basis. At the same time, continuous efforts are being made to minimize the environmental impact of the company's own production processes. These efforts, related to Alfa Laval's own processes, stretch beyond environmental considerations to encompass all areas of the company, whose operations and actions are to be characterized by ethics and integrity. Alfa Laval aims to achieve profitable growth, but to do so, everyone who represents the company must follow relevant laws and regulations as well as the company's own Business Principles, which describe how to act with respect to the environment, ethics, transparency and social responsibility.

The Board of Directors is tasked with creating the conditions for growth and profitability, thereby enabling long-term value growth for our owners. The Board therefore bears the ultimate responsibility for the organization, administration and actions of the company. This is a broad responsibility. It includes ensuring that the company is run correctly, with the owners' best interests in mind. As part of this work, the Board has implemented clear guidelines and a governance model that includes distinct areas of responsibility, appropriate structures and continuous review and follow-up.

**The year in brief**

The year 2018 saw a continuation of the positive development that began in the preceding year. With the wind in our sails thanks to favorable end markets and a new structure that further energized the organization, our order intake grew considerably. The increase was broad-based, with contributions from all three divisions, but particularly from the Marine Division as a result of the marine industry's increased investments in equipment to meet new environmental requirements for ballast water and sulphur emissions.

This broad growth placed increased pressure on Operations, our Group-wide production structure. The consolidation of the structure that began in earlier years continued. At the same time, investments were increased in order to selectively expand our production capacity within certain areas, such as brazed heat exchangers and exhaust gas scrubbers. With a focus on delivering increased volumes, the division not only led capacity-raising projects but also tirelessly continued its work related to the environment, health and safety. Employees are the foundation for Alfa Laval's success, so their health and safety are always prioritized.

Another area characterized by a high level of activity was research and development. The work that started in 2017 began to bear fruit and resulted in an increased number of product launches. These will continue to accelerate during the coming years, as new products are rolled out from the platforms developed for gasketed plate heat exchangers and separators.

Overall, 2018 was a year generally marked by political maneuvering and tariff barriers. The effect on Alfa Laval's business was marginal. Over the longer term, should the situation escalate further, it could obviously become a source of concern for the general economic climate. Still, to sum it up from Alfa Laval's perspective, 2018 was a year when most things went our way. Our end markets were favorable and the structure we implemented in 2017 created a positive energy level among our employees. Given the changes we have made and announced in recent years and the structure we have in place today, I look forward to the future with a sense of optimism.

Lund, February 2019

**Anders Narvinger**
*Chairman of the Board*

# Corporate Governance Report 2018

Alfa Laval offers efficient and environmentally responsible products and solutions in the areas of heat transfer, separation and fluid handling. The business is driven by clear goals for growth, profitability and returns, at the same time as there are distinct requirements on Alfa Laval to act in a manner that is sustainable from a long-term perspective for its shareholders, employees, customers, suppliers and other stakeholders.

The framework for the company's corporate governance is based on various laws and regulations, such as the Swedish Companies Act, the Swedish Annual Accounts Act, the rules of the stock exchange and the Swedish Corporate Governance Code (the "Code"). These are supplemented by the company's Business Principles regarding the environment, human rights, ethics and transparency. The company's control is also subject to internal regulations, including governing documents with guidelines and instructions as well as procedures for control and risk management. The work of the Board and the President is governed by formal work plans. This Corporate Governance Report aims to describe the guidelines that are in place, the division of responsibility within the company and the interaction between the Annual General Meeting, the Board of Directors and the President. The Report was reviewed by the company's auditors.



## Alfa Laval – The company

The registered name of the company is Alfa Laval AB (publ) and the registered office of the Board of Directors shall be in Lund Municipality in Sweden. The company's share capital shall amount to not less than SEK 745,000,000 and not more than SEK 2,980,000,000. The number of shares shall be not less than 298,000,000 and not more than 1,192,000,000. The company is listed on Nasdaq Stockholm AB. The fiscal year is the calendar year. The objective of the company's operations is to, directly or through subsidiaries and joint venture companies in and outside Sweden, develop, manufacture and sell equipment and installations, primarily in the areas of separation, heat transfer and fluid handling, and to administer fixed and movable property, and other related operations. The Articles of Association do not include any limitations regarding the number of votes a shareholder can cast at a General Meeting. Nor does it include any specific rules regarding the appointment and dismissal of Board members or changes in the Articles of Association. Alfa Laval's currently prevailing Articles of Association were adopted at the Annual General Meeting on April 20, 2009 and are available in their entirety on www.alfalaval.com.


## Share and ownership structure

At December 31, 2018, Alfa Laval had 419,456,315 shares outstanding, allocated among 34,180 shareholders according to Euroclear Sweden's shareholders' register. Alfa Laval has only one class of shares and each share corresponds to one vote. Tetra Laval was the largest owner, with 29.1 percent of the shares in Alfa Laval at year-end, and the only owner with a stake larger than 10 percent. The second largest owner was Alecta with 5.2 percent, followed by Swedbank Robur with a holding of 3.7 percent. Legal entities accounted for slightly more than 95 percent of holdings, while individuals accounted for the remainder. From a geographic perspective, the following five countries represented a total of 91.2 percent of the shareholdings: the Netherlands, Sweden, the US, the UK and Luxembourg. For more information about Alfa Laval's share, share performance and ownership structure, refer to the Share section on pages12–13.

## Annual General Meeting

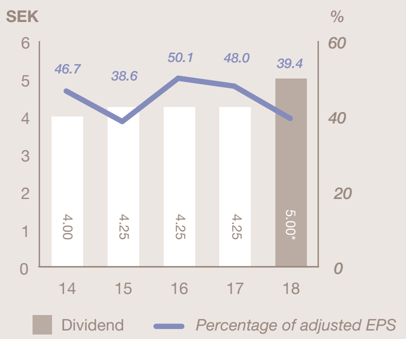
The Annual General Meeting is the company's highest decision-making body in which all shareholders are entitled to participate and each share entitles its holder to one vote. The majority of motions addressed at the Annual General Meeting are decided by a simple majority. However, certain points sometimes require a qualified majority, for example, amendments to the company's Articles of Association or resolutions to buy back shares. The Annual General Meeting is to be held annually within six months of the close of the fiscal year in either Lund or Stockholm. Normally, the Annual General Meeting takes place in late April in Lund. The date and location are announced not later than in conjunction with the publication of the interim report for the third quarter.

To be entitled to participate and vote in the Annual General Meeting, shareholders must be registered in the shareholders' register maintained by Euroclear Sweden AB. Any shareholder who is unable to attend in person may participate through a proxy with a power of attorney. Shareholders with nominee-registered shares must have the shares temporarily registered under their own name. The Annual General Meeting is held in Swedish and all documentation is available in Swedish and English. Alfa Laval endeavors to ensure that all Board members participate as well as, in so far as it is possible, all members of Group management. The company's auditors are always present.

## Annual General Meeting for the 2017 fiscal year

The Annual General Meeting for the 2017 fiscal year was held at Sparbanken Skåne Arena in Lund on April 23, 2018. The Annual General Meeting was attended by 346 people,

### Dividend and percentage of adjusted EPS**



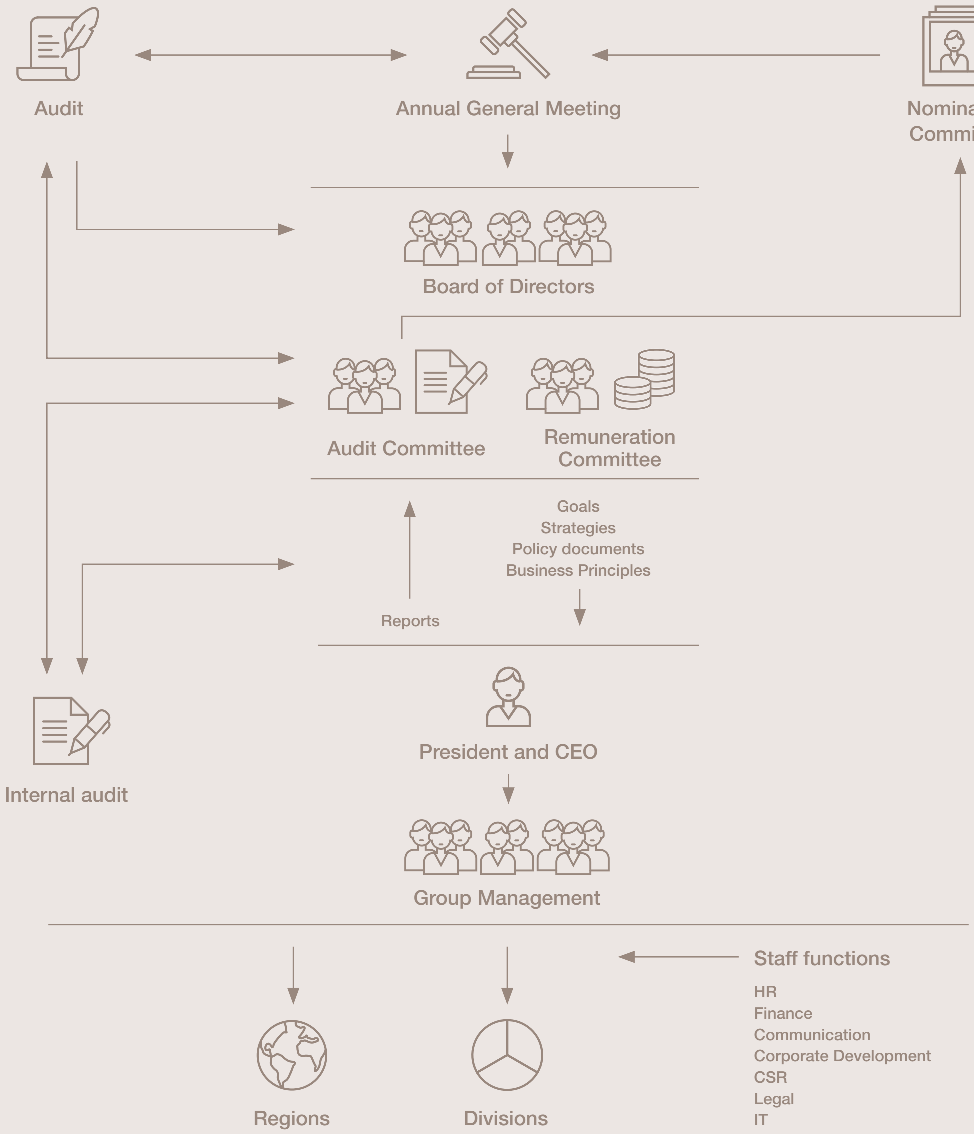

* Board motion to the Annual General Meeting.
** Adjusted for step up amortization net of taxes.

### Ownership categories at December 31, 2018

| | No. of shares | Holding, % |
|---|---|---|
| Financial companies | 77,794,285 | 18.5 |
| Other financial companies | 153,266 | 0.0 |
| Social insurance funds | 3,833,928 | 0.9 |
| Government | 409,488 | 0.1 |
| Municipal sector | 49,241 | 0.0 |
| Trade organizations | 3,727,036 | 0.9 |
| Other Swedish legal entities | 5,782,980 | 1.4 |
| Shareholders domiciled abroad (legal entities and individuals) | 307,852,438 | 73.4 |
| Swedish individuals | 19,041,745 | 4.5 |
| Uncategorized legal entities | 811,908 | 0.2 |

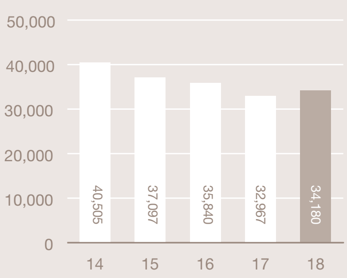
Source: Euroclear

## Corporate governance






## Total number of shareholders




Source: Euroclear

## Ten largest shareholders at December 31, 2018*

| | No. of shares | Capital/voting rights,% | Change in holding in 2018, percentage points |
|---|---|---|---|
| Tetra Laval BV | 122,037,736 | 29.1% | 0.0 |
| Alecta | 21,909,962 | 5.2% | -0.2 |
| Swedbank Robur Funds | 15,694,305 | 3.7% | -0.5 |
| CBNY – Norges Bank | 12,662,498 | 3.0% | 0.4 |
| AMF Insurance and Funds | 9,122,145 | 2.2% | -0.6 |
| SEB Investment Management | 4,091,525 | 1.0% | 0.1 |
| Second Swedish National Pension Fund | 3,522,639 | 0.8% | 0.6 |
| Folksam | 3,369,647 | 0.8% | 0.1 |
| SPP Funds | 2,580,710 | 0.6% | 0.0 |
| Länsförsäkringar fondförvaltning | 2,502,038 | 0.6% | 0.2 |
| **Total ten largest shareholders** | **197,493,205** | **47.0%** | |

* The table is adjusted for nominee-registered shares.

including shareholders, proxies, assistants, guests and officials. The total number of votes represented corresponded to 58.8 percent of the total number of votes in the company. Chairman of the Board Anders Narvinger was elected as the Meeting Chairman. The minutes from the Annual General Meeting, and all other information related to the Meeting, are available at www.alfalaval.com/investors/corporate-governance. The resolutions passed at the Meeting included the following:

– A resolution was passed to adopt the income statement and balance sheet and discharge the Board of Directors and President from liability.

– A resolution was passed in accordance with the Board's motion that a dividend of SEK 4.25 per share be paid.

– A resolution was passed that the number of Board members is to amount to seven, with no deputies.

– A resolution was passed to re-elect Board members Anders Narvinger, Finn Rausing, Jörn Rausing, Ulf Wiinberg, Margareth Øvrum and Anna Ohlsson-Leijon. Ulla Litzén declined re-election. Henrik Lange was elected as a new Board member.

– A resolution was passed in favor of the Nominating Committee's motion for auditors, resulting in the election of Authorized Public Accountants Staffan Landén and Karoline Tedevall. Authorized Public Accountants Henrik Jonzén and Nina Bergman were elected as deputy auditors.

– A resolution was passed that fees paid to non-executive directors on the Board would amount to SEK 5,035,000. In addition, fees are payable for work on the Board's committees.

– A resolution was passed accepting the Board's motion for remuneration principles for senior executives. These principles comprise fixed remuneration and short-term and long-term programs for variable remuneration.

## Nominating Committee

### Work of the Nominating Committee

The Nominating Committee, which comprises representatives of the largest shareholders, is responsible for preparing and submitting motions regarding candidates for Board members and, if applicable, auditors. The supporting documentation utilized for the Committee's work includes the annual evaluation of the work of the Board, which is initiated by the Chairman of the Board. Other key factors to be considered, against the background of the company's strategy, include the type of competence required. The Nominating Committee can call upon the assistance of external resources in its search for suitable candidates and can also conduct interviews with individual Board members. The Nominating Committee is also responsible for submitting motions in respect of remuneration to members of the Board and its committees.

### Composition for the 2019 Annual General Meeting

The composition of the Nominating Committee is determined in accordance with the process approved by the Annual General Meeting. The Chairman of the Board contacts representatives of the institutions which, as of the end of August, are among the largest shareholders and requests that they each appoint one member. The Nominating Committee may decide whether or not to include the Chairman of the Board or other Board members. The composition is then announced in a press release, in the third-quarter interim report and on Alfa Laval's website. Ahead of the 2019 Annual General Meeting, the composition of the Nominating Committee was announced on October 3, 2018. It was also included in Alfa Laval's third-quarter interim report, which was published on October 25. The Nominating Committee for the Annual General Meeting for the 2018 fiscal year comprised the following individuals: Jörn Rausing (Tetra Laval), Ramsay Brufer (Alecta), Jan Andersson (Swedbank Robur Funds), Lars-Åke Bokenberger (AMF) and Vegard Torsnes (Norges Bank Investment Management). The holdings of the Nominating Committee represented 43.8 percent of the number of shares outstanding at August 31, 2018. The Chairman of the Board Anders Narvinger was elected as member and secretary, and Jörn Rausing was elected as Chairman of the Nominating Committee. Due to Jörn Rausing's position as a Board member, his role as Chairman is a deviation from the Code. The reason for this deviation is that the Nominating Committee deemed Jörn Rausing to be particularly well suited to lead the work of the Committee and obtain the best possible results for the company's owners.

### Proposals to the Nominating Committee

Shareholders wishing to submit proposals to the Nominating Committee prior to the

### Annual General Meeting for the 2018 fiscal year

The Annual General Meeting of Alfa Laval AB (publ) will be held on Wednesday, April 24, 2019, at 4:00 p.m. at Scandic Star Lund, Glimmervägen 5, in Lund. Light refreshments will be served after the Meeting. In accordance with the company's Articles of Association, notice of the Annual General Meeting will be inserted as an announcement in the Swedish Official Gazette and on the company's website not more than six and not less than four weeks prior to the Meeting. An announcement that notification has been issued will be placed in Dagens Nyheter. As a service to existing shareholders, information about the Annual General Meeting can also be sent to them by mail.

### Composition of the Nominating Committee ahead of the Annual General Meeting for the 2018 fiscal year

| Name | Representing | Shareholding in Alfa Laval, %* |
|---|---|---|
| Jörn Rausing | Tetra Laval | 29.1 |
| Ramsay Brufer | Alecta | 5.1 |
| Jan Andersson | Swedbank Robur Funds | 3.9 |
| Vegard Torsnes | Norges Bank Investment Management | 3.2 |
| Lars-Åke Bokenberger | AMF | 2.5 |

*As of August 31, 2018.

Annual General Meeting were able to contact Alfa Laval's Board Chairman Anders Narvinger, or one of the owner representatives. Contact could also take place directly via e-mail at valberedningen@alfalaval.com. The final day for submitting matters to be addressed by the Annual General Meeting was March 6.

### Work of the Nominating Committee ahead of the 2018 Annual General Meeting

The Nominating Committee held five meetings ahead of the Annual General Meeting for the 2017 fiscal year, which took place in April 2018. The focus of the Committee's meetings included an assessment of the composition of the Board, based on the evaluation of the work of the Board carried out by the Chairman of the Board as well as the potential future competence requirements of the Board. The reasoned statement of the Nominating Committee ahead of the Annual General Meeting stated that the Nominating Committee applied Rule 4.1 of the Code as its diversity policy when preparing its motion. The aim of the policy is to ensure that the composition of the Board of Directors is appropriate to the company's operations, phase of development and other relevant circumstances, and that it is characterized by diversity and breadth of qualifications, experience and background, and that an even gender balance is sought after. The Nominating Committee was tasked with finding two new members for Alfa Laval's Board of Directors before the Annual General Meeting took place in April 2018. The Nominating Committee focused their efforts on identifying women candidates. However, these candidates declined, so the Nominating Committee proceeded to fill only one of the available positions, which resulted in the number of Board members decreasing from eight to seven. These seven consisted of five men and two women, a composition that did not reflect the ambitions of the Swedish Corporate Governance Board. The Nominating Committee therefore communicated that it is important that its work towards gender balance, continues during the rest of the year.

## Board of Directors

### Work and responsibilities

The Board administers the company on behalf of the shareholders and thus bears the ultimate responsibility for the organization and administration of the company. The work and responsibilities of the Board are governed by the Swedish Companies Act, the Swedish Board Representation (Private Sector Employees) Act, the Articles of Association, the Board's own formal work plan, Nasdaq's Rule Book for Issuers and the Code. The Board establishes and evaluates Alfa Laval's overall long-term objectives and strategies. This includes establishing business and financial plans, reviewing and approving financial statements, adopting guidelines, making decisions on issues relating to acquisitions and divestments, and deciding on major investments and significant changes to Alfa Laval's organization and operations. The Board is also responsible for Alfa Laval's Business Principles, which determine how the company and its employees are to conduct themselves in society, taking into consideration the environment, ethics, social responsibility and transparency. The Board is responsible for the Corporate Governance Report. The Board is also responsible for ensuring that processes are in place for monitoring compliance with relevant laws and rules. The Board appoints, evaluates and dismisses the company's President, establishes the instructions for the President with respect to the Group's daily operations and approves the President's commitments outside the company. Through the Audit Committee, the Board procures auditing services, maintains ongoing contact with the company's auditors and works to ensure that a sound internal control function and formalized procedures are in place to enable monitoring and assessment of the company's financial situation. Through the Remuneration Committee, the Board determines salaries and remuneration for the President and senior executives.

### Composition

The Board of Directors is to comprise a minimum of four and maximum of ten members, with a maximum of four deputy members. At the 2018 Annual General Meeting, seven members were elected, and no deputies. The members are elected annually for the period until the conclusion of the next Annual General Meeting and are to dedicate the requisite time and diligence to the assignment as well as have the necessary knowledge to best look after the interests of the company and its owners. The trade-union organizations appoint three employee representatives and three deputy employee representatives. Salaried employees in the company are invited to Board meetings as presenters and experts. The company's Chief Financial Officer participates in all meetings, as does its Chief Legal Counsel, who serves as Board Secretary. For more information about the goals regarding Board composition, refer to "Work of the Nominating Committee ahead of the 2018 Annual General Meeting".



### Proposals to the Nominating Committee

Shareholders wishing to submit proposals to the Nominating Committee prior to the Annual General Meeting were able to contact Alfa Laval's Board Chairman Anders Narvinger, or one of the owner representatives. Contact could also take place directly via e-mail at valberedningen@alfalaval.com. The final day for submitting matters to be addressed by the Annual General Meeting was March 6, 2019.

### Board training

All new Board members receive an extensive introduction program. In addition, a combined training course and field trip takes place each year. In 2018, the destination for the trip was London, England.

### Independence of Board members

All members of the Alfa Laval Board elected by the Annual General Meeting are considered independent of the company. All members are also considered independent of the company's major shareholders, except Finn Rausing and Jörn Rausing, who cannot be considered independent due to their relation to Tetra Laval, which owned 29.1 percent of the shares in the company as of December 31, 2018.

### The Board's formal work plan

The work of the Board is governed by a formal work plan that is determined annually at the statutory meeting. This formal work plan describes the Board's work assignments and the division of responsibility between the Board, the committees and the President. It also defines the role of the Chairman of the Board and includes separate instructions for the company's President regarding the financial reporting to be submitted to the Board to enable ongoing assessment of the financial position.

### Work of the Board in 2018

The Board held eight meetings in 2018, all of which were scheduled meetings. Two meetings were held by phone, while the other meetings were held in Lund and Stockholm in Sweden and London, England. The company's President prepares an agenda for each meeting in consultation with the Chairman of the Board. Normal agenda items include earnings results, order trends, investments and acquisitions. In addition, considerable time was devoted to following up on: the restructuring of the supply chain, investments in new production capacity, R&D and various areas pertaining to sustainability as well as health and safety. The Board also focused on reviewing personnel issues such as management development and succession planning.

### Board training

All new Board members receive an extensive introduction program. In addition, a combined training course and field trip takes place each year. In 2018, the destination for the trip was London, England.

### Evaluation of the Board's work

The Chairman of the Board ensures that an annual evaluation is conducted of the work of the Board. The evaluation focuses on work methods and work climate as well as its access to and the need for particular Board competence in order to lay the foundation for a well-functioning and efficient Board. External resources are brought in at regular intervals to evaluate the work of the Board. Regardless of whether it is conducted internally or externally, the evaluation forms a foundation for the Nominating Committee's work related to the nomination of Board members and proposed remuneration levels. In 2018, the evaluation was conducted by the Chairman of Board, who held individual discussions with the Board members. The evaluation followed a clear structure based on standard models. The results were reported to the Board and communicated to the Nominating Committee.

### Responsibilities of the Chairman of the Board

The Chairman of the Board directs the work of the Board in a manner that ensures it complies with prevailing laws and regulations, the Code and the Board's formal work plan. The Chairman must ensure that the work is well organized and conducted efficiently, and that the Board fulfills its tasks. In dialogue with the company's President, the Chairman monitors operational developments and is responsible for ensuring that the other members continuously receive all information necessary for the work of the Board to be performed in the most effective manner. Together with the company's President, the Chairman also approves the proposed agenda for Board meetings. The Chairman is responsible for ensuring that new Board members receive an introduction to the company and any other training agreed on by the Chairman and the individual member within six months from the member's election. In addition to being responsible for evaluating the Board's work, the Chairman also participates in evaluation and development matters with respect to the Group's senior executives. The Chairman ensures that the Board's decisions are executed and represents the company in ownership issues.

### Remuneration of the Board

Remuneration to the Board is determined by the Annual General Meeting based on the motions submitted by the Nominating Committee. The Chairman and members of the Audit Committee and the Remuneration Committee receive supplementary remuneration. No Board member is entitled to pension payments from the company.

## Committees

Alfa Laval's Articles of Association stipulate that there must be a Remuneration Committee and an Audit Committee that report to the Board. Committee members are appointed from among the Board members for a period of one year.

## Remuneration of Board members and attendance at Board meetings

| | Name | Present | Remuneration |
|---|---|---|---|
| **Appointed by the AGM** | Anders Narvinger | ● 8 | 1,675,000 |
| | Henrik Lange* | 3 | 560,000 |
| | Ulf Wiinberg | 6 | 560,000 |
| | Margareth Øvrum | 6 | 560,000 |
| | Finn Rausing | 8 | 560,000 |
| | Jörn Rausing | 7 | 560,000 |
| | Anna Ohlsson-Leijon | 7 | 560,000 |
| | Ulla Litzén** | 3 | – |
| | **Total** | **8** | **5,035,000** |

| | Name | Present |
|---|---|---|
| **Employee representatives** | Bror García Lantz | 8 |
| | Susanne Jonsson | 8 |
| | Henrik Nielsen | 8 |
| | **Total** | **8** |

● Chairman *Appointed at Annual General Meeting **Declined re-election at the AGM

### Audit Committee

*Areas of responsibility*

The Audit Committee ensures compliance with the principles for financial reporting and internal control. The Committee formulates guidelines for the company's financial reporting and follow-up, and has the right to determine the focus of the internal audit. The Committee examines the procedures for reporting and financial controls as well as the work, qualifications and independence of the external auditors. For further information regarding the responsibilities of the Audit Committee, refer to "The Board of Directors' report on internal control" on page 56.

*Members and meetings in 2018*

Members are appointed annually at the Board's statutory meeting. In 2018, the Committee comprised Finn Rausing (Chairman), Anna Ohlsson-Leijon and Henrik Lange, with the company's Chief Legal Counsel serving as secretary. Five meetings were held during the year, four of which were conducted by phone. The company's Chief Financial Officer, the Head of the Internal Audit Function and the company's auditors also attend the Committee's meetings. Among other items, the meetings addressed the following: a review of the procedures for corporate governance, a review and follow-up of the results of the annual feedback from, at present, approximately 250 managers regarding governance, updates regarding new IFRS developments, amendments to the Code, a review of Group provisions and allocations, and a review of Group surplus values. The Committee also updated the work instructions for the internal audit. The external audit was planned and the fees to the external auditors were discussed.

### Remuneration Committee

*Areas of responsibility*

The Remuneration Committee is involved in recruitment, appointments, and matters pertaining to other conditions of employment relating to the President and Group management. The Committee is responsible for preparing the guidelines for remuneration to senior executives to be resolved on by the Annual General Meeting and for submitting motions to the Board of Directors regarding salary and employment terms for the President. In addition, the Committee addresses matters regarding salary and employment terms for senior executives who report directly to the President.

*Members and meetings in 2018*

The Remuneration Committee is appointed annually at the Board's statutory meeting. In 2018, the Committee comprised Anders Narvinger (Chairman), Jörn Rausing and Ulf Wiinberg. The Committee held four meetings during the year. Phone meetings were also held to address ongoing issues. Minutes are taken at all meetings and the contents are distributed to the Board members, except in certain cases when the minutes are noted directly in the corresponding Board minutes. During the year, the Remuneration Committee, among other things, conducted a review and follow-up of the guidelines for remuneration to senior executives, management development and replacement planning.

### The company's auditors

The auditors comprise a supervisory body appointed by the Annual General Meeting. The assignment includes the following: auditing the accounting and financial statements of individual companies, evaluating the accounting policies applied, assessing the administration of company management, reviewing the interim report for the third quarter and evaluating the overall presentation in the Annual Report. The results of the audit – the Audit Report – are communicated to shareholders in the Annual Report and at the Annual General Meeting. In addition, the auditors present a statement regarding the discharge from liability of the Board of Directors, a statement regarding the adoption of the income statement and balance sheet by the Annual General Meeting and a statement regarding the Corporate Governance Report. The Group must have a minimum of one and maximum of two auditors, with not more than two deputy auditors. An authorized public accountant or registered auditing firm is to be appointed as the company's auditor and, where applicable, as deputy auditor. At the Annual General Meeting on April 23, 2018, Authorized Public Accountants Staffan Landén and Karoline Tedevall were elected as the company's auditors. Henrik Jonzén and Nina Bergman were elected as deputy auditors. According to Alfa Laval's assessment, none of these auditors has any relationship to Alfa Laval, or any company related to Alfa Laval, that could affect their independent status. In 2018, the entire Board received reports from the company's external auditors on two occasions. On one occasion, this occurred without the presence of the President or other members of Group management. The Audit Committee received separate reports on five occasions.

### Remuneration to auditors

Refer to Note 7 on page 111.

### Remuneration Committee: fees and attendance

| Name | Present | Remuneration |
|---|---|---|
| Anders Narvinger | ● 4 | 50,000 |
| Jörn Rausing | 4 | 50,000 |
| Ulf Wiinberg* | 1 | 50,000 |
| **Total** | **4** | **150,000** |

● Chairman

* Appointed after the AGM, 2018.

### Audit Committee: fees and attendance

| Name | Present | Remuneration |
|---|---|---|
| Finn Rausing | ● 5 | 175,000 |
| Anna Ohlsson-Leijon | 5 | 125,000 |
| Henrik Lange* | 4 | 125,000 |
| Ulla Litzén** | 1 | – |
| **Total** | **5** | **425,000** |

● Chairman

*Appointed after the AGM

**Declined re-election at the AGM

# Board of Directors and auditors

## Appointed by the Annual General Meeting

**Anders Narvinger**
**Chairman since 2003.**
*Born: 1948*

Formerly President of Teknikföretagen and President and CEO of ABB Sweden.

**Education:** BSc. Eng. from the Faculty of Engineering at Lund University, BSc. Econ from Uppsala University.

**Chairman of the Board:** ÅF AB.

Independent of the company and major shareholders.

**Number of shares in Alfa Laval:** 40,000* (40,000**)

**Ulf Wiinberg**
**Board member since 2013.**
*Born: 1958*

President of X-Vax Inc. Formerly CEO of H. Lundbeck A/S, Director of Wyeth Pharmaceuticals, EMEA/Canada & BioPharma, and a number of other senior positions in Wyeth.

**Chairman of the Board:** Hansa Medical AB and Sigrid Therapeutics.

**Board member:** UCB Pharma and Agenus Inc.

Independent of the company and major shareholders.

**Number of shares in Alfa Laval:** 20,000* (20,000**)

**Margareth Øvrum**
**Board member since 2015.**
*Born: 1958*

Executive Vice President and member of Group management at Equinor ASA.

Previously held senior positions in a number of areas at Equinor (formerly Statoil), including technology, projects, production, maintenance, health, safety, environment and purchasing.

**Education:** Master's degree in Technical Physics from the Norwegian University of Science and Technology in Trondheim.

**Board member:** FMC Corporation.

Independent of the company and major shareholders.

**Number of shares in Alfa Laval:** –

**Henrik Lange**
**Board member since 2018.**
*Born: 1961*

President and CEO of Gunnebo AB.

Previously held several senior positions within the SKF Group, including Industry Division Manager and CFO, and served as CEO of Johnson Pump AB.

**Education:** BSc. Econ. from the Gothenburg School of Business, Economics and Law

**Board member:** Velux A/S.

Independent of the company and major shareholders.

**Number of shares in Alfa Laval:** 4,000* (–**)

**Finn Rausing**
**Board member since 2000.**
*Born: 1955*

**Education:** B.L., MBA from INSEAD.

**Board member:** Tetra Laval Group, DeLaval Holding AB, EQT AB, Swede Ship Marine AB and Excillum AB.

Independent of the company.

**Number of shares in Alfa Laval:** –

**Jörn Rausing**
**Board member since 2000.**
*Born: 1960*

Head of Mergers and Acquisitions (M&A) in the Tetra Laval Group.

**Education:** BSc. Econ.

**Board member:** Tetra Laval Group, Ocado PLC and DeLaval Holding AB.

Independent of the company.

**Number of shares in Alfa Laval:** –

**Anna Ohlsson-Leijon**
**Board member since 2017.**
*Born: 1968*

Head of Major Appliances Europe and Executive Vice President, AB Electrolux.

Former positions include CFO of AB Electrolux, CFO of Electrolux Major Appliances EMEA, Head of Corporate Control and Services at Electrolux, Group Treasurer and Head of Internal Audit at Electrolux.

**Education:** BSc. Econ. from Linköping University.

Independent of the company and major shareholders.

**Number of shares in Alfa Laval:** 2,000* (–**)

**Ulla Litzén**
**Board member from 2006 until the Annual General Meeting in April 2018.**
*Born: 1956*

Former positions include President of W Capital Management and various senior positions at Investor.

Declined re-election at the 2018 Annual General Meeting.

*Holdings at December 31, 2018. **Holdings at December 31, 2017.

## Employee representatives

**Henrik Nielsen**
**Employee representative since 2015.**

*Born: 1968*

Employed by Alfa Laval since 1994.

Employee representative for the Swedish Metal Workers' Union (IF Metall).

**Number of shares in Alfa Laval:**
–

**Susanne Jonsson**
**Employee representative since 2016.**

*Born: 1965*

Employed by Alfa Laval since 2008.

Employee representative for the Swedish Confederation of Professional Associations (SACO).

**Number of shares in Alfa Laval:**
–

**Bror García Lantz**
**Employee representative since 2012.**

*Born: 1965*

Employed by Alfa Laval since 1990.

Employee representative for the Swedish Union of Clerical and Technical Employees in Industry (Unionen).

**Number of shares in Alfa Laval:**
100* (100**)

## Deputy employee representatives

**Leif Norkvist**
**Deputy member since 2009.**

*Born: 1961*

Employed by Alfa Laval since 1993.

Deputy employee representative for the Swedish Metal Workers' Union (IF Metall).

**Stefan Sandell**
**Deputy member since 2005.**

*Born: 1971*

Employed by Alfa Laval since 1989.

Deputy employee representative for the Swedish Organization for Managers (Ledarna).

**Johnny Hultén**
**Styrelsesuppleant sedan 2017.**

**Deputy member since 2017.**

*Born: 1961*

Employed by Alfa Laval since 1977.

Deputy employee representative for the Swedish Metal Workers' Union (IF Metall).

## Auditors

**Staffan Landén**
**Authorized Public Accountant, EY.**

*Born: 1963*

Company auditor since 2018.

**Karoline Tedevall**
**Authorized Public Accountant, EY.**

*Born: 1978*

Company auditor since 2018.

## Deputy Auditors

**Henrik Jonzén**
**Authorized Public Accountant, EY.**

*Born: 1977*

Deputy auditor since 2018.

**Nina Bergman**
**Authorized Public Accountant, EY.**

*Born: 1979*

Deputy auditor since 2018.

*Holdings at December 31, 2018. **Holdings at December 31, 2017.

# President and Group management

**Tom Erixon**
**President and CEO.**
*Born: 1960*

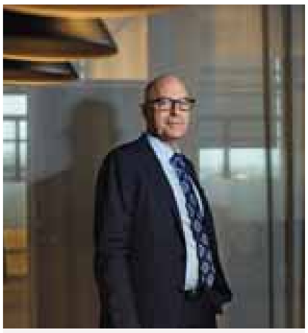
CEO since March 1, 2016.

Former positions include President and CEO of OVAKO AB and President of Sandvik Coromant.

**Board member:** Boliden AB.

**Education:** MA Law from the University of Lund in Sweden and MBA Business Administration from IESE in Spain.

**Number of shares in Alfa Laval:**
81,200* (61,200**)



**Jan Allde**
**Chief Financial Officer.**
*Born: 1967*

Employed by Alfa Laval since 2018.

Chief Financial Officer since 2018.

Former positions include several international positions at ABB from 1991 to 2017, most recently as Chief Financial Officer for the Americas.

**Education:** BSc. Econ from Stockholm University.

**Number of shares in Alfa Laval:**
–

**Pascale Gimenez**
**Senior Vice President, Human Resources.**
*Born: 1966*

Employed by Alfa Laval since August 1, 2018.

Former positions include Senior Vice President of Human Resources at various units within Sandvik and Electrolux.

**Education:** Master's degree in marketing from ESSEC Business School and a degree in engineering from the Institut Supérieur Agricole de Beauvais.

**Number of shares in Alfa Laval:**
–

**Peter Torstensson**
**Senior Vice President, Corporate Communications.**
*Born: 1955*

Employed by Alfa Laval since 1999.

Senior Vice President, Corporate Communications since 1999. Former positions include President of Borstahusen Informationsdesign.

**Number of shares in Alfa Laval:**
66,000* (66,000**)

**Mikael Tydén**
**President, Operations Division.**
*Born: 1967*

Employed by Alfa Laval since 1995.

President of the Operations Division since January 2017. Former positions include head of global manufacturing and supply of separators, decanters, hygienic fluid handling equipment and air heat exchangers 2005–2016.

**Education:** BSc. Eng.

**Number of shares in Alfa Laval:**
1,000* (1,000**)

*Holdings at December 31, 2018. **Holdings at December 31, 2017.

## Areas of responsibility

The President directs the daily operations and is responsible for ensuring that the Board has access to the necessary information and supporting documentation for its decision-making purposes. The President is also responsible for ensuring that the company's accounting complies with applicable laws and regulations, and that the ethical guidelines included in Alfa Laval's Business Principles are reflected in the conduct of the company. The President has the support of the Group management, to which responsibilities and authority are delegated. The members of Group management include a head of global sales and service, four divisional managers and the heads of HR, Communications and Finance.

## Group management meetings in 2018

Group management held seven scheduled meetings in 2018 during which minutes were taken. In addition, quarterly reviews were performed to discuss the business developments in the divisions and regions. These reviews addressed the business climate, earnings, earnings projections for the next 12 months and specific issues affecting the respective business areas. Separate strategy meetings were also held to address, among other areas, management's proposals concerning the future direction with regard to organic growth and growth through acquisitions. In 2018, Group management meetings concentrated on discussing risks and opportunities in individual business units, products, application areas and geographic regions as well as the consequences on the supply chain. Group management also addressed research, development and product launches as well as the company's strategies and the future direction of the individual divisions. Additional topics of discussion included structures concerning processes, system support and the service business as well as opportunities within digital market communications and the development of solutions for electronic development and control of the company's products. Sustainability was also discussed during the meetings, with a focus on health and safety.

**Joakim Vilson**
**Senior Vice President, Global Sales & Service.**

*Born: 1965*

Employed by Alfa Laval since 1990.

Former positions include Executive Vice President in charge of the Central and Eastern Europe, Latin America, Middle East and Africa Regions, Head of Mid Europe Region and Head of the Process Industry segment.

**Education:** BSc. Eng.

**Number of shares in Alfa Laval:** 6,520* (6,520**)

**Susanne Pahlén Åklundh**
**President, Energy Division.**

*Born: 1960*

Employed by Alfa Laval since 1983.

President of the Energy Division since 2017. Former positions include President of the Equipment Division, Head of Mid Europe and Nordic, and Head of the Process Industry segment.

**Board member:** Trelleborg AB.

**Education:** BSc. Eng.

**Number of shares in Alfa Laval:** 10,000* (10,000**)

**Nish Patel**
**President, Food & Water Division.**

*Born: 1962*

Employed by Alfa Laval since 1984.

Former positions include Executive Vice President in charge of the Western Europe and North America Regions, and Head of India and the UK.

**Education:** BSc. Eng.

**Number of shares in Alfa Laval:** 47,552* (47,552**)

**Peter Leifland**
**President, Marine Division.**

*Born: 1954*

Employed by Alfa Laval since 1985.

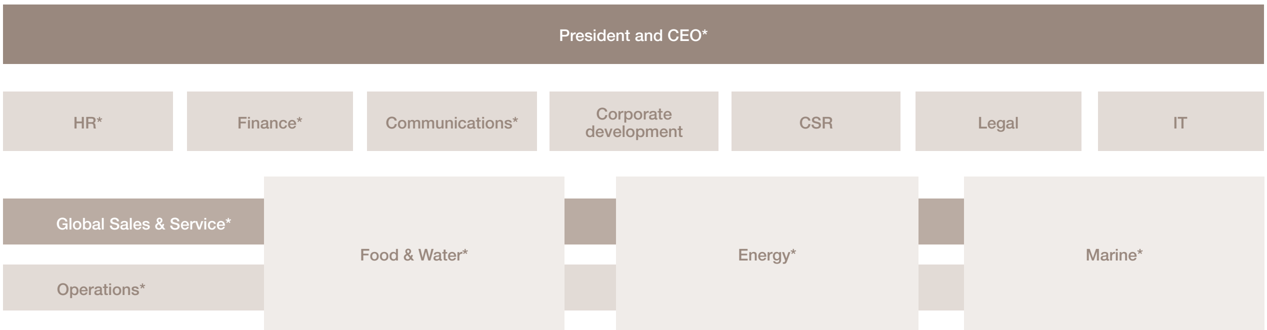
President of the Marine Division since 2011. Former positions include Regional Manager in charge of the Western Europe and North America Region 2004–2011, the Asia and Latin America Region 2001–2004 and the Eastern Europe and Latin America Region 1999–2001.

**Education:** B.L., lic.spec. IMD (PED).

**Number of shares in Alfa Laval:** 400,000* (400,000**)

*Holdings at December 31, 2018. **Holdings at December 31, 2017.

## Operational control




*Members of Group management

## Remuneration to senior executives, pensions and severance pay/termination of employment

The remuneration principles for the President and other members of Group management are determined by the Annual General Meeting. For additional information, refer to pages 109–111.

## Operational control

Alfa Laval's operational control model comprises a matrix in which the Group's divisions are presented vertically, intersecting with the Group's geographic regions, which are presented horizontally. The Operations Division, which is responsible for production-related procurement, production, logistics and distribution, serves as a shared supply chain for the sales divisions.

# Board of Directors' report on internal control

**The Board is responsible for the internal control of the company, with the aim of safeguarding its assets and thus the interests of the shareholders. Through sound internal control, the Board ensures the reliability of Alfa Laval's reporting and its compliance with legislation, regulations, applicable accounting policies and the company's Business Principles. All communication and financial reporting is to be correct, relevant, objective and transparent.**

**Control environment**

The control environment includes the internal governance instruments adopted by the Board for the company's daily operations. The control instruments comprise policy documents, which are continuously assessed, reviewed and updated. These documents include, for example, the Board's formal work plan, the President's instructions, reporting instructions, the company's finance policy, business principles, investment policy and communication policy.

**The Board** has overriding responsibility for financial reporting, among other things, and must therefore assess the performance and earnings of the operations through a package of reports including results, forecasts and analyses of key indicators. The Board also reviews the company's interim reports and year-end report and is to meet with the external auditors at least once a year without the presence of the President or other members of Group management.

**The Board's Audit Committee** is tasked with ensuring compliance with the principles for financial reporting and internal control. The Committee follows up the effectiveness of the internal control system and reviews the financial procedures to ensure that the information can be traced back to underlying financial systems and that it is in line with legislation and relevant standards.

The Committee examines procedures for reporting and financial controls as well as addressing the company's financial reports. It also monitors, evaluates and discusses significant issues related to accounting and financial reporting. The Committee evaluates and manages information pertaining to disputes and potential improprieties, and assists management with identifying and evaluating mainly financial and similar risks that are relevant to the operations in order to ensure that the focus is on managing these risks. It also reviews the company's information security system and the contingency plans in place to ensure delivery of financial information.

The Audit Committee has the right to determine the focus of the internal audit and is responsible for ensuring the efficiency of the function by assessing its activities, resources and structure. The Committee is also responsible for reviewing the results and recommendations of the internal audit to ensure that they are handled in an appropriate manner. It is responsible for reviewing the internal audit plan every six months to ensure that it addresses the relevant risk areas and for ensuring that there is suitable coordination between the internal and external audit. The Audit Committee holds regular meetings with the external auditors and reviews their work, qualifications and independence, and the results of this review are reported to the company's Nominating Committee on an annual basis. The Audit Committee supports the Nominating Committee in its work to nominate auditors and conducts an annual review of the proposed scope of the audit. Reports are provided to the Board regarding internal meetings as well as meetings with the internal auditors, the external auditors and various specialists in Group management and its support functions. The Committee is responsible for reviewing significant results from the external audit and the recommendations issued by the external auditors as a result. It is also responsible for establishing guidelines that ensure the independence of the external auditors.

**The President** is subject to instructions issued by the Board and is responsible for ensuring an effective control environment. The President is also responsible for the ongoing control work and for ensuring that the company's accounting complies with legislation and that the management of assets is adequately performed. The President is also responsible for ensuring that all Board members regularly receive sufficient information to be able to assess the company's financial position.

**Group management** is responsible for managing and maintaining the internal control systems required to manage significant risks in the company's operating activities. Management is also responsible for clearly ensuring that all employees understand the requirements for and the individual's role in maintaining sound internal control.

**The internal auditors** review and implement improvements to the internal control function, conduct internal audits – which are reported to the Audit Committee – and propose plans for the coming six to eight months. The internal auditors also issue reports from individual audits to the appropriate members of Group management. Procedures are in place for performing regular reviews of the agreed actions to guarantee that specific actions are taken following the internal audit. These are based on an agreed schedule set with the party responsible for the individual activities. The Internal Audit Function comprises three internal auditors, internal specialist resources and external auditors. Internal audits encompass a broad spectrum of functions and issues determined by the Board. The areas audited include: compliance with the systems, guidelines, policies and processes established for the Group's business operations; the existence of systems to ensure that financial transactions are carried out, archived and reported in an accurate and lawful manner; and opportunities to improve management control, the company's profitability and the organization, which may be identified during audits. In 2018, 25 internal audits were performed.

**Risk assessment**

Within the framework of the company's operating activities and review functions, procedures are in place for risk assessments pertaining to the financial reporting. These procedures aim to identify and evaluate the risks that may affect internal control. The procedures encompass risk assessments in conjunction with strategic planning and acquisition activities as well as processes for identifying amendments to the accounting policies to ensure that they are accurately reflected in the financial reporting.

**Control structures**

Control structures are in place in all areas of the organization in order to prevent, identify and adjust errors or deviations. They manage the risks that the Board and management consider to be significant to the business, internal control and financial reporting. These structures comprise both an organization with clearly defined roles that enables an effective and – from an internal control perspective – appropriate division of responsibility, and specific control activities that enable the identification and timely prevention of risks becoming a reality. Control activities also include clearly defined decision-making processes and a policy for decision-making with respect to, for example, investments, agreements, acquisitions and divestments, earnings analyses and other forms of analytical reviews, reconciliations, inventory-taking and automatic controls in the IT systems.

**Information and communication**

The company's regulations, guidelines and manuals are communicated through several internal channels and the efficiency of this communication is monitored on an ongoing basis. There are formal and informal information channels that enable employees to communicate important information to relevant recipients and ultimately, if necessary, to the Board of Directors. Clear guidelines have also been established for external communications, the aim of which is to provide the most accurate and relevant overview possible while at the same time ensuring that all obligations are met.

**Follow-up**

The internal control process is mainly followed up by two bodies: the Audit Committee and the Internal Audit Function. The Audit Committee establishes the principles that apply for the company with respect to accounting and financial reporting, and monitors compliance with these regulations. The Committee meets with the external auditors to obtain information about the focus and scope of the audit and to discuss results and coordination of the external and internal audits. In addition, the Committee establishes the direction, scope and time schedules for the work of the internal audit team, whose audits are reported to the Audit Committee and continuously to Group management so that any necessary measures may be taken. The scope of the internal audit includes, among other factors, operational efficiency, compliance with regulations and guidelines, and the quality of financial reporting from the subsidiaries.

An annual feedback function is also in place, which is geared toward the company's senior executives. This feedback function is designed to ensure that Alfa Laval's internal instructions and rules are fully implemented. All managers who report directly to a member of Group management are expected to review the guidelines and rules that apply to their respective areas. They must sign and submit documents confirming their understanding of the significance of these guidelines and compliance with these guidelines in their area of responsibility. If there are any deviations compared with the instructions, they must specify what actions they intend to take to ensure compliance.

This process also aims to increase transparency and thus facilitate assessments by the external and internal auditors.

Lund, February 2019
***Board of Directors***

# Auditor's report on the corporate governance statement

**To the general meeting of the shareholders of Alfa Laval AB (publ), corporate identity number 556587-8054**

**Engagement and responsibility**
It is the Board of Directors who is responsible for the corporate governance statement for the year 2018 on pages 44–57 and that it has been prepared in accordance with the Annual Accounts Act.

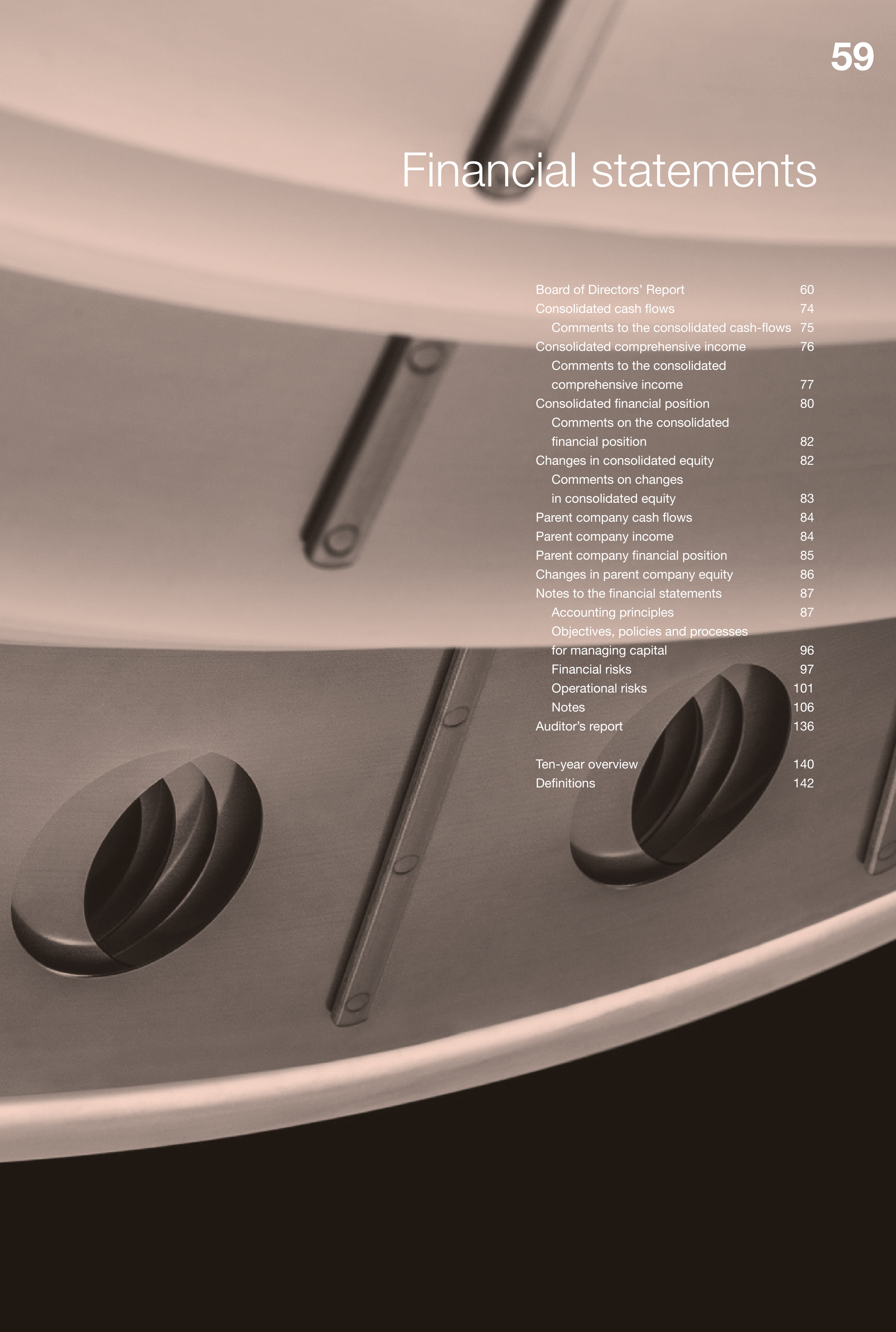
**The scope of the audit**
Our examination has been conducted in accordance with FAR's auditing standard RevU 16 The auditor's examination of the corporate governance statement. This means that our examination of the corporate governance statement is different and substantially less in scope than an audit conducted in accordance with International Standards on Auditing and generally accepted auditing standards in Sweden. We believe that the examination has provided us with sufficient basis for our opinions.

**Opinions**
A corporate governance statement has been prepared. Disclosures in accordance with chapter 6 section 6 the second paragraph points 2–6 the Annual Accounts Act and chapter 7 section 31 the second paragraph the same law are consistent with the annual accounts and the consolidated accounts and are in accordance with the Annual Accounts Act.

Lund 8 March 2019

Staffan Landén
Authorized Public Accountant
Ernst & Young AB

Karoline Tedevall
Authorized Public Accountant
Ernst & Young AB



# Financial statements

# Board of Directors' Report

**The Board of Directors and the President of Alfa Laval AB (publ) hereby submit their annual report for the year of operation January 1, 2018 to December 31, 2018.**

The information in this annual report is such information that Alfa Laval AB (publ) must publish in accordance with the Securities Market Act. The information was made public by publishing the annual report on Alfa Laval's website on March 26, 2019 at 10.00 CET and by sending the printed annual report to the shareholders starting in week 15, 2019.

Alfa Laval AB is a public limited liability company. The seat of the Board is in Lund and the company is registered in Sweden under corporate registration number 556587-8054. The visiting address of the head office is Rudeboksvägen 1 in Lund and the postal address is Box 73, 221 00 Lund, Sweden. Alfa Laval's website is: www.alfalaval.com.

### Financial statements

The following parts of the annual report are financial statements: the Board of Directors' Report, the ten-year overview, the consolidated cash flows, the consolidated comprehensive income, the consolidated financial position, the changes in consolidated equity, the parent company cash flows, the parent company income, the parent company financial position, the changes in parent company equity and the notes. All of these have been audited by the auditors.

The Corporate Governance Report, which also has been audited, is to be found on page 43.

The company's statutory sustainability report 2018 is found in the Sustainability Report together with the risk section of the annual report. These two reports constitute the statutory sustainability report for the parent company and the consolidated Group. Acquisitions must within three years report sustainability data according to the Group's routines for sustainability reporting. The separate Sustainability Report was published at the same time as the annual report and is to be found on Alfa Laval's website www.alfalaval.com/about-us/sustainability/sustainability-reports/.

### Ownership and legal structure

Alfa Laval AB (publ) is the parent company of the Alfa Laval Group.

The company had 34,180 (32,967) shareholders on December 31, 2018. The largest owner is Tetra Laval B.V., the Netherlands, who owns 29.1 (29.1) percent. Next to the largest owner, there are nine institutional investors with ownership in the range of 5.2 to 0.6 percent. These ten largest shareholders owned 47.1 (47.9) percent of the shares.

### Operations

The Alfa Laval Group is engaged in the development, production and sales of products and systems based on three main technologies: separation/filtration, heat transfer and fluid handling.

Alfa Laval's business is divided into four Business Divisions "Energy", "Food & Water", "Marine" and "Greenhouse" that sell to external customers and one division "Operations & Other" covering procurement, production and logistics as well as corporate overhead and non-core businesses. These five divisions constitute Alfa Laval's five operating segments.

The customers to the Energy Division purchase products and systems for energy applications, whereas the customers to the Food & Water Division purchase products and systems for food and water applications. The customers to the Marine Division purchase products and systems for marine and offshore applications.

The three first Business Divisions are in turn split into a number of Business Units. The Energy Division consists of four Business Units: Brazed & Fusion Bonded Heat Exchangers, Energy Separation, Gasketed Plate Heat Exchangers and Welded Heat Exchangers. The Food & Water Division consists of five Business Units: Decanters, Food Heat Transfer, Food Systems, Hygienic Fluid Handling and High Speed Separators. The Marine Division consists of three Business Units: Boiler & Gas Systems, Marine Separation & Heat Transfer Equipment and Pumping Systems.

### Material factors of risk and uncertainty

The main factors of risk and uncertainty facing the Group concern the price development of metals, fluctuations in major currencies and the business cycle. For additional information, see the sections on financial and operational risks and the section on critical accounting principles, the section on key sources of estimation uncertainty and the section on judgements under accounting principles.

### Acquisition of businesses

On December 18, 2018 Alfa Laval announced that it has signed an agreement to acquire certain technologies and activities from Airec – a Malmö, Sweden-based innovation company with patented technology for dimple asymmetry heat exchangers. The new company will be integrated into the Brazed & Fusion Bonded Heat Exchangers unit of the Energy Division. The acquired technology represents untapped opportunities in combination with Alfa Laval's existing heat transfer know-how, manufacturing footprint and global market presence. The transaction was closed on January 2, 2019. Airec had sales of SEK 14 million between July 2017 and June 2018.

Alfa Laval has acquired 13 percent of the shares in the newly created technology company Malta Inc for SEK 72 million. The company has developed an innovative energy storage solution to substantially grow the implementation of renewable energy.

### Divestment of businesses

During the year two businesses within Greenhouse have been sold and another one is in the process of being sold.

The sale of the Alonte based commercial tubular heat exchanger business in the Greenhouse division to the BITZER Group was closed on May 1, 2018. The sale of the heat exchanger systems business in the Greenhouse division to the NIBE Group was closed on May 31, 2018. The divestments have resulted in a total gain of SEK 26 million that is reported as a comparison distortion item.

Alfa Laval has signed an agreement to sell part of its air heat exchanger business related to commercial/industrial air heat exchangers in the Greenhouse division to the LU-VE Group. The closing of the agreement is expected during the first half of 2019. This operation is as of the fourth quarter and full year 2018 report reported as a disposal group held for sale according to IFRS 5.

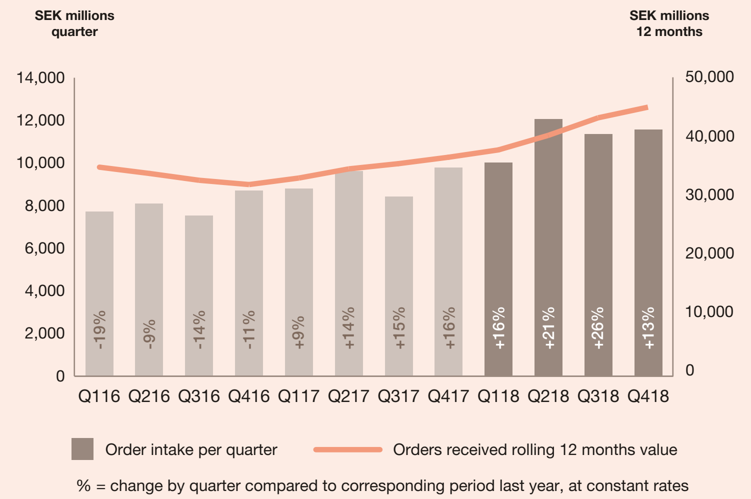
This means that all assets and liabilities relating to this operation are presented separately in the statement of financial position. The balance sheet items are measured at the lower of their book values and fair values less costs to sell, except for deferred tax items and defined benefit obligations. Since the transaction is estimated to result in a realised gain, no write down to fair value has been necessary.

**Sale of real estate**

During 2018 a property in Lima in Peru, the property in Spijkenisse in the Netherlands and a few minor properties in different countries have been sold for SEK 74 (12) million with a realised result of SEK 70 (8) million, which has been reported in other operating income. The gain on the sale of the property in Lima of SEK 70 million is reported as a comparison distortion item.

The operations in Lykens in the U.S. will move to Broken Arrow during 2019. After the move the property in Lykens will be sold. A small property in France is empty and has been for sale for several years. They are not expected to be sold within the next year. This means that none of these properties have been re-classified as current assets held for sale. Last year current assets held for sale were SEK 2 million. The fair value of the properties for sale exceeds the book value by approximately SEK 2 (74) million.

**Orders received**




Orders received amounted to SEK 45,005 (36,628) million during 2018.

**Order bridge**

Consolidated

| SEK millions, unless otherwise stated | 2018 | 2017 |
|---|---|---|
| **Order intake last year** | 36,628 | 32,060 |
| Structural change [1)] | -0.6% | – |
| Organic development [2)] | 19.8% | 13.3% |
| Currency effects | 3.7% | 0.9% |
| Total | 22.9% | 14.2% |
| **Order intake current year** | 45,005 | 36,628 |

Orders received from the aftermarket Service[3] constituted 25.7 (29.8) percent of the Group's total orders received for 2018. Excluding currency effects and divestment of businesses, the order intake for Service increased by 3.6 percent during 2018 compared to last year.

1) Structural change relates to acquisition of businesses.
2) Organic development relates to change excluding acquisition of businesses.
3) Parts & Service.

## Large orders

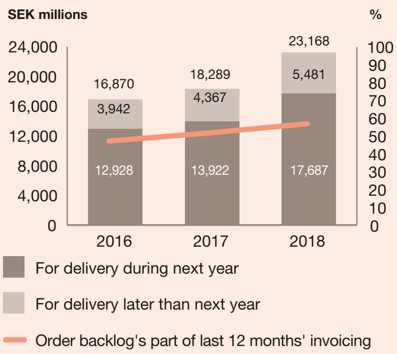
Large orders are orders with a value over EUR 5 million. The volume of large orders is an important indicator of the demand situation and is therefore monitored separately within Alfa Laval. A large volume of large orders normally also means a good load in the factories. During 2018 Alfa Laval has received the following large orders:

Large orders

| Division / Business Unit / Scope of supply | Order received in | Delivery date | Order amount | Total per Business Unit 2018 | 2017 |
|---|---|---|---|---|---|
| | | | SEK millions | | |
| **Energy** | | | | | |
| Welded Heat Exchangers | | | | | |
| Alfa Laval Packinox heat exchangers to a refinery in the US. | Q2 | 2019 | 85 | | |
| Large heat exchangers to a petrochemical plant in China. | Q2 | 2018/2019 | 120 | | |
| Heat exchangers for heat recovery and cooling in a petrochemical plant in the Middle East. * | Q2 | 2019 | 34 | | |
| Air cooler systems to a gas processing plant in the US. | Q3 | 2018/2019 | 100 | | |
| Compact heat exchangers to a petrochemical plant in the US. | Q3 | 2019 | 85 | | |
| Air cooler systems to a gas processing plant in the U.S. | Q4 | 2019 | 110 | | |
| Compact heat exchangers to a petrochemical plant in the U.S. | Q4 | 2019/2020 | 140 | | |
| Air cooler systems to a gas processing plant in the U.S. | Q4 | 2019 | 110 | 784 | 945 |
| Gasketed Plate Heat Exchangers | | | | | |
| Heat exchangers for heat recovery and cooling in a petrochemical plant in the Middle East. * | Q2 | 2019 | 21 | 21 | 90 |
| **Food & Water** | | | | | |
| Decanters | | | | | |
| Separation equipment to a food processing company in the U.S. | Q4 | 2019 | 60 | 60 | – |
| Food Systems | | | | | |
| A complete process line to a brewery plant in Mexico. | Q1 | 2018 | 300 | | |
| Several process lines for edible oil plants in South East Asia. | Q2 | 2018 | 55 | 355 | 185 |
| **Marine** | | | | | |
| Marine Separation & Heat Transfer Equipment | | | | | |
| Ballast water treatment systems to a shipowner in Turkey. | Q4 | 2019–2021 | 95 | 95 | – |
| Boiler & Gas Systems | | | | | |
| Waste heat recovery systems to a power plant in Bangladesh. | Q2 | 2018 | 70 | 70 | 255 |
| Pumping Systems | | | | | |
| Framo pumping systems and emergency generators to an oil platform in the North Sea. | Q1 | 2018 | 170 | | |
| Framo pumping systems to an FPSO** vessel to be built in China. | Q1 | 2018 | 70 | | |
| Framo pumping systems to an FLNG*** vessel to be built in South Korea. | Q1 | 2018 | 50 | | |
| Framo pumping systems to an FPSO** vessel in the North Sea. | Q1 | 2018 | 125 | | |
| Framo pumping systems to an oil platform in the North Sea. | Q2 | 2018 | 60 | | |
| Framo pumping systems to an FPSO** in the North Sea. | Q2 | 2018 | 65 | | |
| Framo pumping systems to an FPSO** vessel to be built in China. | Q3 | 2019 | 70 | | |
| Framo pumping systems to oil platforms in the North Sea. | Q4 | 2019 | 175 | | |
| Framo pumping systems to an oil facility in the Middle East and to an FPSO** vessel to be built in China. | Q4 | 2019 | 180 | 965 | 60 |
| **Total** | | | | **2,350** | **1,535** |

* One order with both welded and gasketed heat exchangers.
** FPSO = Floating Production, Storage and Offloading.
*** FLNG = Floating Liquid Natural Gas.

### Order backlog December 31




Excluding currency effects and adjusted for divestment of businesses the order backlog was 23.3 percent larger than the order backlog at the end of 2017.

## Net sales

Net sales amounted to SEK 40,666 (35,314) million during 2018.

### Sales bridge

| Consolidated | | |
|---|---|---|
| SEK millions, unless otherwise stated | 2018 | 2017 |
| **Net sales last year** | 35,314 | 35,634 |
| Structural change | -0.6% | – |
| Organic development | 12.4% | -1.7% |
| Currency effects | 3.4% | 0.8% |
| Total | 15.2% | -0.9% |
| **Net sales current year** | 40,666 | 35,314 |

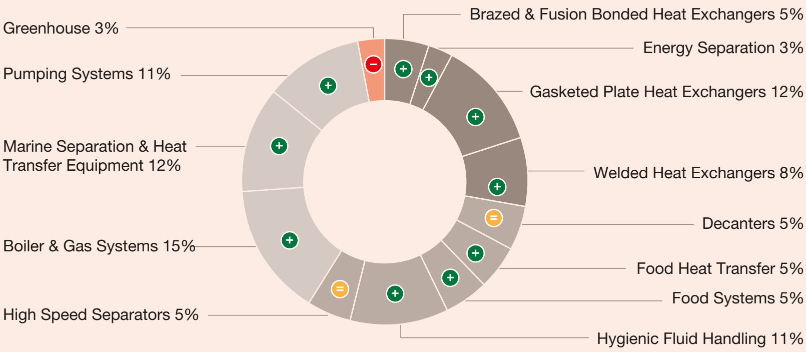
Net invoicing relating to Service constituted 28.2 (30.5) percent of the Group's total net invoicing for 2018. Excluding currency effects and divestment of businesses, the net invoicing for Service increased by 4.2 percent during 2018 compared to last year.

## Operating segments

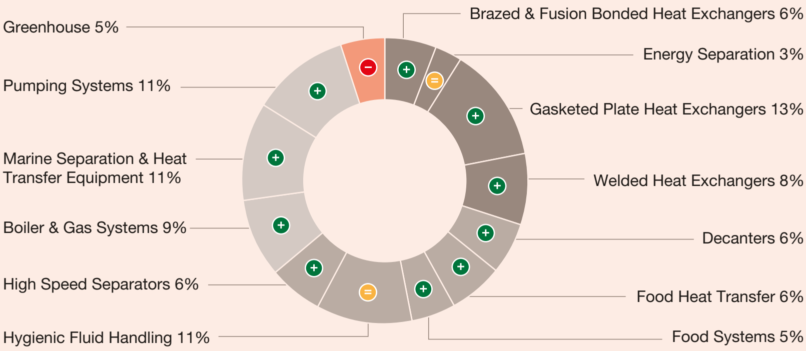
The development of the order intake for the divisions and their business units appears in the following charts.

### Orders received by Business Unit

**Orders received by Business Unit 2018**




**Orders received by Business Unit 2017**



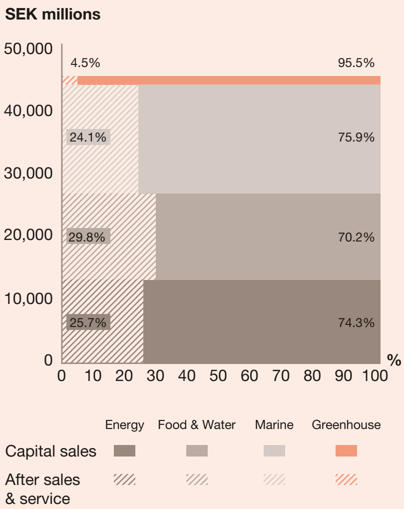

Energy
Food & Water
Marine
Greenhouse

increase
decrease
unchanged (+/- 3%)

Compared to previous year, at constant rates adjusted for acquisition/divestment of businesses.

The split between capital sales and after sales and service has a large impact on profitability. Capital sales also varies a lot more due to business climate and the number of large orders. The split by Business Division appears in the following graph:

### Order intake split on capital sales and after sales & service by Business Division



*ENERGY DIVISION*

The Energy Division consists of four Business Units: Brazed & Fusion Bonded Heat Exchangers, Energy Separation, Gasketed Plate Heat Exchangers and Welded Heat Exchangers.

*Order intake*

Taking a quarterly view, the development for Energy Division during 2018 has been as follows, excluding currency effects:

The Energy Division's overall order volume remained unchanged in the **first quarter** compared to the fourth, despite the lack of large orders. The flat development was hence explained by a strong base business*, which grew significantly in all industries and across all geographies. Welded Heat Exchangers contracted compared to the previous quarter as the large refinery and petrochemical orders booked in the fourth quarter, were not repeated. The base business, however, grew through a good development in gas production. For the Energy Separation Business Unit, the overall order volumes were up due to a very good development throughout the hydrocarbon chain and due to some larger project orders for decanters in mining as well as waste water treatment related to mining. Business Unit Gasketed Heat Exchangers also reported growth compared to the previous quarter, again driven by the base business which developed favourably in many industries like HVAC, refrigeration, sulphuric acid and power. The Brazed & Fusion Bonded Heat Exchangers Business Unit saw order volumes grow compared to the fourth quarter 2017, the main driver being demand from manufacturers of heat pumps, engines as well as A/C for refrigeration applications.

Service reported strong growth compared to the fourth quarter. The development was general, but particularly positive in the up- and midstream section of the hydrocarbon chain, as well as downstream, in refinery.

The Energy Division's overall order volume increased in the **second quarter** compared to the previous quarter, driven by a good inflow of mid-sized and large orders. Demand grew among petrochemical customers, resulting in two large orders as well as good base-business growth. HVAC, which is in peak season, also contributed to the strong development. A further boost came from the refinery sector, with a large order for Alfa Laval Packinox heat exchangers. Business Unit Welded Heat Exchangers was boosted by the large refinery and petrochemical orders, leading to a very strong development in major markets like the U.S., China and the Middle East. Gasketed Heat Exchangers also grew, partly as a result of the large petrochemical order and partly due to the seasonally positive development among HVAC customers. For Energy Separation, the overall order volumes were slightly lower compared to the previous quarter, as there was slightly less of orders from drilling and mining. Oil processing, however recorded growth. Brazed & Fusion Bonded Heat Exchangers saw order volumes come down slightly from a high level. However, seasonal growth was noted in important markets like China, the Nordic region and Eastern Europe.

Service reported somewhat lower order intake compared to the previous quarter. The main reason for this was non-repeat parts orders from the oil-related industry in North America.

The Energy Division's overall order volume decreased somewhat in the **third quarter** compared to the previous quarter. This was partly due to some seasonality for applications within HVAC (Heating, Ventilation & Air Conditioning) and partly due to less of mid-sized and large orders from petrochemical and refinery industries. The latter had an effect on the business linked to the hydro carbon chain, which in total declined during the quarter. The development for large orders should, however, not be seen as an indicator for the underlying downstream activity level, which was still good and was reflected in a stable base business. At the same time, demand from the midstream part of the oil- and gas sector showed continued strength, supported by a large order for products to a U.S. gas processing plant. In general, the division saw a continued positive business sentiment across its end markets.

Service order intake showed modest growth compared to the second quarter. The base business was flat, while the demand for service contracts from the oil-related industry in mainly North America and the Nordic region increased.

The Energy Division's overall order volumes increased during the **fourth quarter** compared to the third quarter, as strong demand from refinery customers generated good growth in both the base business and mid-sized orders. Another area developing well was oil & gas production – supported by some large orders in gas production. Demand from the drilling sector was unchanged compared to the third quarter. The same applied to demand from customers in the petrochemical industry, where a slightly lower base business was compensated by larger orders for welded heat exchangers. The inorganic chemicals industry, meanwhile did very well, with increasing volumes for both base business and mid-sized orders. Order intake from the

**Energy Division**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Orders received | 12,685 | 11,175 |
| Order backlog* | 4,857 | 4,471 |
| Net sales | 12,413 | 11,001 |
| Operating income** | 1,770 | 1,525 |
| Operating margin | 14.3% | 13.9% |
| Depreciation and amortisation | 304 | 317 |
| Investments | 83 | 84 |
| Assets* | 10,362 | 9,555 |
| Liabilities* | 4,323 | 3,743 |
| Number of employees* | 3,112 | 3,016 |

* At the end of the period. ** In management accounts.

**Change excluding currency effects**

Consolidated

| | Order intake | | | Net sales | | |
|---|---|---|---|---|---|---|
| % | Structural change | Organic development | Total | Structural change | Organic development | Total |
| 2018/2017 | – | 10.5 | 10.5 | – | 9.7 | 9.7 |
| 2017/2016 | – | 9.8 | 9.8 | – | 3.3 | 3.3 |

* Base business and base orders refer to orders with an order value of less than EUR 0.5 million.

HVAC sector showed modest growth compared to the previous quarter.

Service reported somewhat lower volumes compared to the third quarter, when some larger service contracts were booked. Overall, the service business had very good growth compared to the fourth quarter of the previous year.

**Operating income**

| Consolidated | Bridge |
|---|---|
| SEK millions | Full year |
| Operating income 2017 | 1,525 |
| Volume [1] | 362 |
| Mix [1] | -73 |
| Costs [1] | -44 |
| Currency | 0 |
| Operating income 2018 | 1,770 |

[1] Change excluding currency effects

The increase in operating income is explained by higher sales volume, mitigated by a negative mix effect and increased sales and administration costs.

### *FOOD & WATER DIVISION*

The Food & Water Division consists of five Business Units: Decanters, Food Heat Transfer, Food Systems, Hygienic Fluid Handling and High Speed Separators.

*Order intake*

Taking a quarterly view, the development for Food & Water Division during 2018 has been as follows, excluding currency effects:

Food & Water recorded good growth in order intake in the **first quarter** compared to the previous quarter. The growth was mainly driven by a large brewery order, but also supported by a positive development for the base business. Brewery, dairy, water & waste as well as protein represented particularly strong industries. Geographically, Latin America, Northern Europe and North-East Asia, in particular China, accounted for the growth. Business Unit High Speed Separators was unchanged compared to the previous quarter. Dairy was strong, accompanied by a good development for starch and more general food applications. The pharma and biotech sectors however declined, as did edible oil and brewery. Business Unit Decanters showed an overall decline, but underneath the development was mixed. A very healthy development was noted within water treatment & waste water and edible oil, whereas ethanol and more general food applications noted contractions. Business Unit Food Heat Transfer delivered solid growth, evident in a number of applications, but perhaps most pronounced in dairy. Business Unit Hygienic Fluid Handling also reported a healthy increase in order intake compared to the fourth quarter of last year. Dairy and the broader food markets, which combined constitute a significant part of the business, both developed favourably. Business Unit Food Systems ended up well above the previous quarter, primarily due to the SEK 300 million order for a brewery system in Mexico.

The aftermarket showed good growth compared to the previous quarter, driven by a particularly strong increase in repair and reconditioning activities in the service centres.

Order intake in the Division was unchanged in the **second quarter** compared to the previous quarter – a very positive outcome given that the first quarter included a record-large order in Latin America. The development was explained by an unexpectedly strong growth in the base business across most end markets – together with one large edible oil order. While all major end markets developed well, order intake from the brewery sector was clearly lower, as the order mentioned above was not repeated. For the rest, a particularly strong development was seen in edible oil, pharma & biotech as well as ethanol, starch and sugar. Business Unit High Speed Separators reported strong growth compared to the previous quarter, with the pharma and biotech sector being the single most important contributor. Decanters also recorded very strong growth, to a large extent generated from increased demand in the water & waste market. Food Heat Transfer ended up on the same level as in the previous quarter as a decline for general food applications was compensated by growth in ethanol, starch and sugar. Hygienic Fluid Handling reported a good increase in order intake, primarily coming from a strong dairy market, supported by a generally good demand in the broader food markets. Food Systems declined due to the non-repeat of the SEK 300 million brewery order. But excluding this order, an underlying good growth was noted – not least in the base business.

The aftermarket was on the same level as the first quarter.

The Food & Water division's order intake in the **third quarter** was lower than the previous quarter following two strong quarters. The sentiment in the end market industries remained good. While order intake from several end markets was below the record

**Food & Water Division**

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Orders received | 13,691 | 12,388 |
| Order backlog* | 4,860 | 4,317 |
| Net sales | 13,210 | 11,824 |
| Operating income** | 2,110 | 1,780 |
| Operating margin | 16.0% | 15.1% |
| Depreciation and amortisation | 145 | 142 |
| Investments | 132 | 73 |
| Assets* | 9,675 | 8,124 |
| Liabilities* | 4,612 | 3,652 |
| Number of employees* | 4,194 | 3,997 |

* At the end of the period. ** In management accounts.

**Change excluding currency effects**

| Consolidated | Order intake | | | Net sales | | |
|---|---|---|---|---|---|---|
| % | Structural change | Organic development | Total | Structural change | Organic development | Total |
| 2018/2017 | – | 7.9 | 7.9 | – | 9.0 | 9.0 |
| 2017/2016 | – | 9.4 | 9.4 | – | 3.9 | 3.9 |

second quarter, brewery was strong. The industry is still in a consolidation phase and is mainly focusing on productivity and product quality related investments, rather than capacity investments. Dairy declined somewhat from a high level. Demand from the biotech sector – a project type of business which typically shows swings between quarters – also declined. Water and waste markets were slower, generating less of larger orders. The development was mainly explained by the European markets, whereas the North American market remained on previous levels. Order intake from edible oil also declined, as a large order in Asia in the second quarter was not repeated. Even as edible oil capacity has been built out over a long period of time, there are still opportunities in the market. Ethanol, starch and sugar showed a modest decline.

The aftermarket also showed a slight decline compared to the previous quarter, mainly explained by Europe and Asia, while growth was recorded in the Americas.

The Division's order intake showed strong growth in the **fourth quarter** compared to the previous quarter. All major end market industries contributed, except for water and waste. The base business grew at a healthy pace, but it was the larger orders that accounted for the most significant increase in the quarter. The project activity was very good within brewery, mainly driven by the customers' investments into efficiency and quality, rather than capacity. Business sentiment in pharma and biotech was also continued positive, generating strong growth for Alfa Laval's offering to these industries in general, and for high-speed separators in particular. Dairy also had good growth in the quarter, from an already high level, positively impacting high-speed separators and also hygienic fluid handling. Water and waste markets showed a certain contraction, mainly as a result of somewhat lower activity in the North American market. Order intake from customers within edible oil was overall higher. While the project side in this particular market was unchanged, the base business was very healthy, confirming the opportunities that exist also outside of large capacity-related investments.

The aftermarket grew somewhat compared to the previous quarter, mainly explained by a positive business sentiment in Europe and Asia, while unchanged levels were noted in Americas.

**Operating income**

| Consolidated | Bridge |
|---|---|
| SEK millions | Full year |
| Operating income 2017 | 1,780 |
| Volume [1] | 371 |
| Mix [1] | 66 |
| Costs [1] | -141 |
| Currency | 34 |
| Operating income 2018 | 2,110 |

[1] Change excluding currency effects

The increase in operating income is explained by a higher sales volume, positive mix and currency effects, mitigated by higher costs for sales and administration.

*MARINE DIVISION*

The Marine Division consists of three Business Units: Boiler & Gas Systems, Marine Separation & Heat Transfer Equipment and Pumping Systems.

*Order intake*

Taking a quarterly view, the development for Marine Division Division during 2018 has been as follows, excluding currency effects:

Order intake for the Marine Division decreased in the **first quarter** compared with the fourth quarter 2017. The main reason was marine pumping systems, which declined from the very high order level in the previous quarter. Business Unit Marine Separation & Heat Transfer Equipment reported a good quarter with increased demand for most product groups, reflecting the growth in ship contracting during 2017. The strongest growth was recorded for gasketed plate heat exchangers and PureBallast. Fresh water generators, which recorded a very high level of order intake in the previous quarter, came back to a more normal level. The Boiler & Gas Systems Business Unit reported an unchanged level of order intake in the quarter. While demand for marine boilers grew, it was off-set by a decline for exhaust gas cleaning systems – a business that is more project-oriented and hence can swing between quarters. Demand for inert gas systems was flat. The order intake for the Pumping Systems Business Unit declined compared to the very strong previous quarter, reflecting a lower level of contracting of chemical tankers. This was partly off-set by an increase in order intake from the offshore sector, where four large orders were booked.

The order intake for Service increased, due to strong demand for upgrading as well as repair.

Order intake for the Marine Division increased significantly in the **second quarter** compared with the first. The main reason was a substantial growth for PureSOx, as well as a very good development for marine pumping systems. Business Unit Marine Separation & Heat Transfer Equipment reported a good quarter with increased

**Marine Division**

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Orders received | 17,322 | 11,456 |
| Order backlog* | 13,118 | 9,027 |
| Net sales | 13,583 | 10,809 |
| Operating income** | 2,328 | 1,771 |
| Operating margin | 17.1% | 16.4% |
| Depreciation and amortisation | 785 | 772 |
| Investments | 90 | 59 |
| Assets* | 24,244 | 23,861 |
| Liabilities* | 7,168 | 5,963 |
| Number of employees* | 3,098 | 2,914 |

* At the end of the period. ** In management accounts.

**Change excluding currency effects**

| Consolidated | Order intake | | | Net sales | | |
|---|---|---|---|---|---|---|
| % | Structural change | Organic development | Total | Structural change | Organic development | Total |
| 2018/2017 | – | 45.7 | 45.7 | – | 21.4 | 21.4 |
| 2017/2016 | – | 30.1 | 30.1 | – | -11.2 | -11.2 |

demand for most product groups, following the growth in ship contracting noted during 2017. PureBallast, however, accounted for the strongest growth. The Boiler & Gas Systems Business Unit also reported an increased order intake in the quarter. While demand for marine boilers was unchanged, the demand for PureSOx increased significantly compared to the first quarter. With a clear perception in the market that the 2020 regulation will come into force, the oil price development and the market players wish to stay competitive, contributed to drive the demand. The order intake for the Pumping Systems Business Unit increased compared to the previous quarter, following a higher level of contracting for chemical tankers. The increase was partly off-set by fewer large offshore orders compared to the last quarter.

The order intake for Service decreased, due to weaker demand for spare parts and repairs.

Order intake for the Marine Division increased slightly in the **third quarter** compared to the second, due to a very high demand for PureSOx. The demand for equipment and systems, related to contracting of new vessels, was lower in the third quarter compared to the previous quarter, reflecting the more muted contracting numbers seen at the beginning of the year. The decrease in order intake came on the back of a very strong second quarter and was seen across all product groups. The largest decline was noted for Pumping Systems, which had a particularly strong order intake in the previous quarter. The environmental offering saw a significant increase in order intake, due to high demand for PureSOx as the global sulphur cap in 2020 is getting closer. The increased demand was seen for new build vessels and existing vessels alike, with a particularly strong uptake among large ships with high fuel consumption. It is likely that the market development in the quarter reflected a situation where shipowners booked to get slots for delivery before 2020. PureBallast had somewhat lower order intake compared to the previous quarter, but the level was still good. Order intake for offshore and engine power decreased as most product groups saw lower demand in a market characterized by irregular order intake. There is, however, a continued high activity level in the offshore industry in the wake of a higher oil price.

Order intake for Service was unchanged compared to the second quarter as lower demand for boiler parts and repair work was offset by higher offshore service demand for Pumping Systems.

Order intake for the Marine Division decreased in the **fourth quarter** compared to the previous quarter, mainly as a result of PureSOx coming in lower, following an extraordinary development in the preceding quarter. Both offshore pumping systems and ballast water equipment reported significant growth compared to the third quarter, but not enough to compensate for the swing in PureSOx. Regarding the environmental portfolio of products, the market's interest in PureSOx was on a continued good level as there was no change to the market's view that the scrubber technology is a long-term financially attractive solution. Actual order intake was however lower after the extraordinary third quarter, when most suppliers filled up their backlog for delivery in 2019. Meanwhile, PureBallast saw a lift in order intake compared to the third quarter, as the legislation comes closer to be enforced for the sailing fleet in September 2019. Order intake for equipment tied to the building of new vessels was on an overall level unchanged, reflecting the contracting development earlier in the year. Offshore orders increased significantly in the quarter as a number of contracts for pumping systems was booked, reflecting a certain pick up for offshore floating production facilities, but also more maintenance related investments. Engine power orders decreased in the fourth quarter compared to the third as most product groups saw lower demand in a market characterized by irregular order intake.

Order intake for Service was unchanged compared to the third quarter as lower demand for service of separators was offset by higher demand for boiler service.

**Operating income**

| Consolidated | Bridge |
|---|---|
| SEK millions | Full year |
| Operating income 2017 | 1,771 |
| Volume [1] | 783 |
| Mix [1] | -98 |
| Costs [1] | -181 |
| Currency | 53 |
| Operating income 2018 | 2,328 |

[1] Change excluding currency effects

The main contribution to the increased operating income is a strong volume effect, reinforced by positive currency effects. The negative mix effect is due to a lower share of aftermarket sales. The increase in cost is mainly driven by the higher activity level within marine environmental products.

*GREENHOUSE DIVISION*

*Order intake*

Taking a quarterly view, the development for Greenhouse Division during 2018 has been as follows, excluding currency effects:

The overall order intake for Greenhouse increased slightly in the **first quarter** compared to the previous quarter, with steady demand across the product groups. Air heat exchangers decreased somewhat due to weaker performance in commercial refrigeration. Demand for industrial cooling applications in the conventional power industry was at the same time stable and applications in industrial refrigeration and HVAC showed a good development. The order intake for heat exchanger systems increased in the quarter, reflecting higher demand for district heating systems. The regions that reported continued good development were Norway, Finland, the UK and Central Europe. Demand for tubular heat exchangers increased in the quarter, with a particularly good development in engine cooling applications in the U.S. as well as a steady development in the refrigeration and air conditioning markets in the Adriatic region and Western Europe.

Overall Greenhouse order intake decreased in the **second quarter** compared to the first quarter, due to the finalisation of the divestment of two product groups within the quarter. For one of the product groups – Heat Exchanger Systems – this included the transfer of the order backlog to the new owner. Meanwhile, the remaining and largest product group, Air Heat Exchangers performed very well, with continuing high demand for industrial cooling applications in the conventional power industry. It also saw a good development across all refrigeration and HVAC applications. The Nordic region and Western Europe did well and North America also made an important contribution.

Greenhouse order intake decreased in the **third quarter** compared to the previous quarter, as project orders for industrial cooling applications for conventional power in the second quarter were not repeated. Air heat exchangers was the unit to be affected by the non-repeats as well as seasonally lower demand for commercial refrigeration. At the same time, it saw a continued good development across industrial refrigeration and data centre cooling applications. The Nordic region developed well, with weaker performance seen in Southern, Central and Eastern Europe. The remaining tubular heat exchangers business reported growth, as recently secured OEM agreements resulted in increased order intake for engine cooling applications in the U.S.

Greenhouse order intake was unchanged in the **fourth quarter** compared to the previous quarter as growth for the air heat exchanger business was offset by a decline for tubular heat exchangers. Air heat exchangers' positive development was mainly driven by good demand in HVAC applications and industrial refrigeration. Good development was seen in Southern, Central and Eastern Europe as well as in India. Tubular heat exchangers decreased due to the phasing out of a long-term contract in marine engine cooling applications in the U.S.

### Operating income

| Consolidated | Bridge |
|---|---|
| SEK millions | Full year |
| Operating income 2017 | -12 |
| Volume [1)] | -45 |
| Mix [1)] | 83 |
| Costs [1)] | 52 |
| Currency | 2 |
| Operating income 2018 | 80 |

[1)] Change excluding currency effects

Net sales have decreased due to the divestments of two product groups – heat exchanger systems and the Alonte based commercial tubular heat exchanger business, partially offset by increased sales of air heat exchangers. The air heat exchangers profitability has continued to improve mainly due to good manufacturing capacity utilization but also good cost control. The divestments are also the main explanation to the cost development.

*OPERATIONS & OTHER*

Operations & Other is covering procurement, production and logistics as well as corporate overhead and non-core businesses.

The lower operating income during 2018 compared to last year is mainly explained by higher group-wide and project related costs.

### Greenhouse Division

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Orders received | 1,259 | 1,609 |
| Order backlog* | 328 | 474 |
| Net sales | 1,418 | 1,680 |
| Operating income** | 80 | -12 |
| Operating margin | 5.6% | -0.7% |
| Depreciation and amortisation | 14 | 26 |
| Investments | 21 | 17 |
| Assets* | 680 | 806 |
| Liabilities* | 431 | 593 |
| Number of employees* | 502 | 642 |

* At the end of the period. ** In management accounts.

### Change excluding currency effects

| Consolidated | Order intake | | | Net sales | | |
|---|---|---|---|---|---|---|
| % | Structural change | Organic development | Total | Structural change | Organic development | Total |
| 2018/2017 | -10.0 | -14.7 | -24.7 | -10.3 | -8.5 | -18.8 |
| 2017/2016 | – | -11.2 | -11.2 | – | 9.2 | 9.2 |

### Operations & Other

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Orders received | 48 | 0 |
| Order backlog* | 5 | 0 |
| Net sales | 42 | 0 |
| Operating income** | -674 | -533 |
| Depreciation and amortisation | 416 | 393 |
| Investments | 1,164 | 442 |
| Assets* | 6,778 | 5,372 |
| Liabilities* | 2,853 | 2,591 |
| Number of employees* | 6,322 | 5,798 |

* At the end of the period. ** In management accounts.

**Information about geographical areas**
All comments are reflecting the quarterly development during the year and are excluding currency effects.

*Western Europe including Nordic*
The region as a whole reported growth in the **first quarter** compared to the previous quarter, driven by orders for offshore pumping systems to the North Sea and by a good development for the service business in most parts of the region and across all three divisions. In addition, the Nordic region reported strong growth in the Food & Water Division. Western Europe declined somewhat due to the non-repeat of larger orders, while the base business* showed good growth.

The region as a whole reported strong growth in the **second quarter** compared to the previous quarter, driven by orders for PureSOx in Marine and by a good order intake across the region for the Food & Water Division. The majority of the PureSOx orders were booked in Adriatic, which contributed to a very strong development and in Nordic, which still could not compensate for the large non-repeat orders for pumping systems booked in the previous quarter.

The region reported a rather broad-based decline in the **third quarter** compared to the very strong order intake in the second quarter. The main exception was the Marine Division in the Nordic, which grew supported by strong order intake for PureBallast and PureSOx.

The region grew in the **fourth quarter** compared to the previous quarter, driven by Energy and Food & Water. In the Marine division, a good development for offshore pumping systems and service could not fully compensate for lower order intake for PureSOx och PureBallast in the quarter. Service grew in all three divisions compared to the previous quarter.

*Central and Eastern Europe*
Order intake declined somewhat in the **first quarter** compared to the previous quarter, as the growth recorded in the base business could not fully compensate for a lower level of larger orders in the quarter. The exception was Central & South Eastern Europe, where larger orders in both Energy and Food & Water added to the good base business development. Russia showed a modest decline due to Food & Water. Both Energy and Marine, however, reported growth.

Order intake grew in the **second quarter** compared to the previous quarter, driven by a good base business development in all three divisions. Within the region, Russia and Poland were the main drivers for the overall development, with growth in all three divisions.

Order intake declined somewhat in the **third quarter** compared with the second, mainly due to lower order intake in the Food & Water Division and a non-repeat order for Pumping Systems. Turkey was the only market to grow, driven by good order intake for capital equipment as well as service in the Energy and Marine Divisions.

Order intake increased in the **fourth quarter** compared with the third, due to a good base business development in all three divisions and several larger orders in Marine and Energy. Russia reported strong growth compared to the previous quarter, driven by a good base business in all three divisions and a number of larger orders in the Energy division. In spite of a tougher market climate, also Turkey reported strong growth compared to the previous quarter, driven by larger orders in the Marine Division.

*North America*
North America performed very well in the **first quarter**, with both the U.S. and Canada contributing to the development. Canada, in particular, saw very strong growth numbers, visible across the three divisions and especially for the Energy Division. The growth in the U.S. came mainly from Marine. Food & Water was flat and Energy declined a bit, more than explained by the non-repeat of a large order booked in fourth quarter. Excluding this, the Energy Division saw good growth.

North America performed well during the **second quarter** compared to the first, as growth in the U.S. more than compensated for a decline in Canada. An increased volume of larger orders in the Oil & Gas and Food-related industries, together with a continued high level of base business, explained the positive development in the U.S.

Order intake declined in the **third quarter** compared to the previous quarter, as growth in Canada could not compensate for somewhat lower order intake in the U.S. While order intake declined somewhat in all three divisions in the U.S, the business sentiment was unchanged and the service business grew across the three divisions. Canada's positive development was driven by good order intake for service as well as orders for capital equipment in the Energy Division.

North America had a strong **fourth quarter** compared to the third, driven by larger orders in oil & gas and food in the U.S. The base business was slightly muted compared to the third quarter reflecting uncertainties regarding the macro political situation.

*Latin America*
The region came in higher in the **first quarter** than in the fourth, lifted by the SEK 300 million brewery order that was booked in Mexico. Another positive factor was the service business, which reported growth across all three divisions. Brazil declined due to non-repeat project orders, but there were signs of a recovery as the base business showed a strong development.

The region reported a decline during the **second quarter** compared to the previous quarter, due to the large non-repeat brewery order booked in the first quarter. The base business, however, had a positive development across the region and across divisions. Brazil grew, lifted by Food & Water, which not only booked larger orders from the agro-industrial sector, but also reported a generally good base-business development.

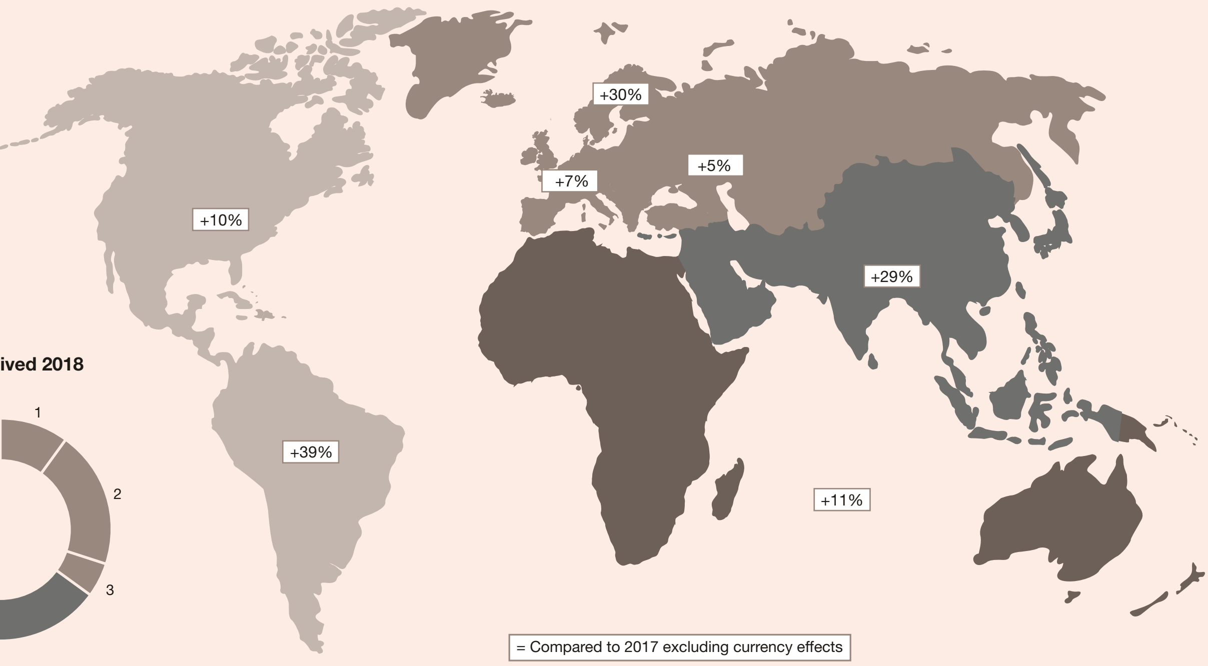
The region reported growth in the **third quarter**, mainly driven by PureSOx and a number of larger orders from the oil & gas industry in Brazil. The base business in Brazil also developed well due to increased demand for capital equipment in the Energy Division, as well as a strong order intake for service across all three divisions. Growth was also noted in Mexico, driven by food-related orders and in the region Colombia, Venezuela & Panama, driven by Marine.

The order intake declined in the **fourth quarter** compared to the previous quarter, as a strong base business across the region was unable to fully compensate for the fact that there were fewer larger orders than in the previous quarter. The strong base business was driven by service in Brazil, Argentina and Chile and by a strong capital sales business across the region in all three divisions. Brazil reported its third consecutive quarter of base-business growth.

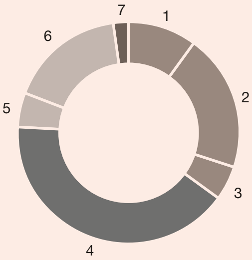
*Asia*
The region reported a decline in the **first quarter** compared to the previous quarter, explained by marine pumping systems which came in lower than the very high level recorded in the fourth quarter. Excluding this, the region grew, supported by Food & Water as well as the other areas in the Marine Division. The base business developed very well with growth across all three divisions. It was mainly China that was affected by the decline in marine pumping. Excluding this, the country grew lifted by the other

* Base business and base orders refer to orders with an order value of less than EUR 0.5 million.

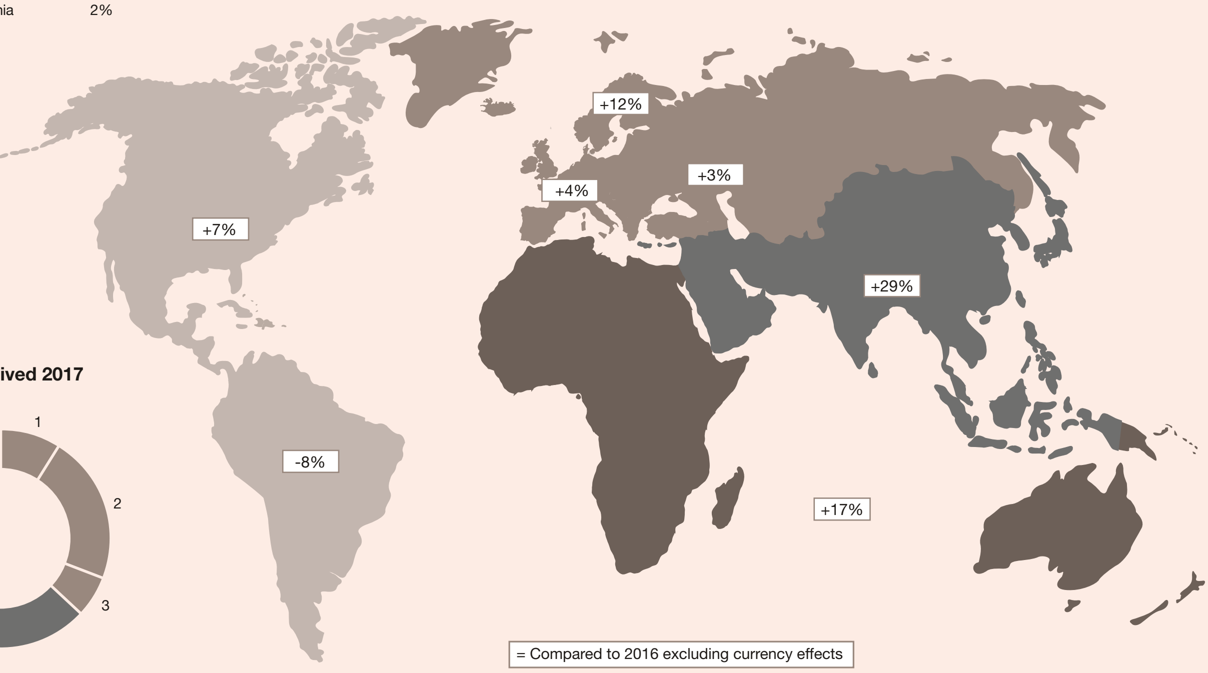
## Information about geographical areas



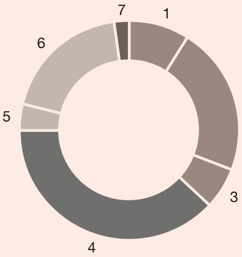

### Orders received 2018




| | | |
|---|---|---|
| 1 | Nordic | 10% |
| 2 | Western Europe | 20% |
| 3 | Central & Eastern Europe | 5% |
| 4 | Asia | 41% |
| 5 | Latin America | 5% |
| 6 | North America | 17% |
| 7 | Africa & Oceania | 2% |




### Orders received 2017




| | | |
|---|---|---|
| 1 | Nordic | 9% |
| 2 | Western Europe | 22% |
| 3 | Central & Eastern Europe | 6% |
| 4 | Asia | 38% |
| 5 | Latin America | 4% |
| 6 | North America | 19% |
| 7 | Africa & Oceania | 2% |

Marine businesses as well as Food & Water. South Korea had a very good first quarter with growth across all divisions.

The region reported very strong growth across most countries and also across the three divisions in the **second quarter** compared to the previous quarter. In the Marine Division all areas grew, including service. The strongest performance, however, was seen among PureSOx and pumping systems. In the Energy Division, the growth came from the base business as well as from a number of large orders booked in the quarter.

In the **third quarter**, the region was virtually unchanged from the record-high second quarter. A decline in India, the Middle East and Japan was almost fully compensated for by continued strong order intake for the Marine Division across the region, with the environmental portfolio being the main driver. China was on the same level as the very strong second quarter, supported by PureSOx and continued good base-business development in both Food & Water and Energy. The drop in India compared to the second quarter was mainly due to non-repeat orders, while the base business reported growth.

The order intake declined in the **fourth quarter** compared to the third quarter as there were fewer PureSOx orders, particularly impacting countries such as China and South Korea. Excluding PureSOx, the region grew, supported by a positive development across most countries. In China, Food & Water had a strong quarter, driven by a good base business development and larger orders. Both South East Asia and India reported growth across all three divisions.

*Africa and Oceania*

The order intake increased in the **first quarter** compared to the previous quarter due to a strong development for the Energy Division in Australia.

The region reported a decline in the **second quarter** compared to the previous quarter, as growth in Food & Water could not compensate for a decline in the other two divisions.

The region reported a decline in the **third quarter** compared to the previous quarter, mainly due to fewer larger orders booked in the quarter.

A decline in order intake in Oceania in the **fourth quarter** compared to the previous quarter was compensated by strong growth in Africa, which was supported by its land-based service business as well as a strong development in Food & Water.

**Personnel**

The parent company does not have any employees.

The Group has on average had 16,785 (16,521) employees. At the end of December 2018, the Group had 17,228 (16,367) employees. The employee turnover rate for 2018 is 10.8 (11.1) percent and mainly relates to employees within central management & administration, warehouse & logistical units and piece part production units.

Alfa Laval has the ambition to develop the employees on all levels within the Group. The largest part of the competence development takes place in the daily work when our employees continuously get more demanding tasks as well as get the opportunity to participate in different projects together with more experienced colleagues.

Local training and development efforts in the different factories and sales companies around the world are equally important, for instance ALPS (Alfa Laval Production System) that is based on the well-known concepts of Lean and Six Sigma and ALPAS (Alfa Laval Product & Application School). The ALPAS trainings are designed and developed by the product responsible Business Unit.

All training programmes and development projects are performed within the Alfa Laval Academy framework, to ensure they follow the Alfa Laval Learning Principles. Further examples of such training programmes are Challenger (for young talents with international leadership potential), Impact (for women in the middle of the career), Project Management, Information Security (mandatory training via E-learning) and Pure Leadership (for middle management).

Alfa Laval has a global certification in "Learning Facilitation Capabilities" called "Licence to Train" to secure quality and consistency in the way we deliver our learning programmes internally as well as towards customers and partners.

Alfa Laval is working to achieve equal career opportunities independent of for instance gender or ethnic origin. The latter is not the least important in an international company. Likewise, the number of female managers shall increase in order to better reflect the females' part of the total number of employees. To facilitate this, a mentor programme has started for women with capacity to become future leaders.

The distribution of employees per country and per municipality in Sweden and between males and females can be found in Note 5 in the notes to the financial statements. The specification of salaries, wages, remunerations, social costs and pension costs are provided in Note 6 in the notes to the financial statements.

**Guidelines for remunerations to executive officers**

The guidelines for remunerations to executive officers are established by the Annual General Meeting, see further description in Note 6.

The Annual General Meeting 2018 decided to implement a modified cash based long term incentive programme for maximum 95 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers. The outcome of the modified programme depends on how the adjusted EBITA margin and the growth in net invoicing have developed during the three-year period, with a 50/50 weight between the targets. This means that there will be no award during the first two years since it is first in year three that it can be determined to what extent the targets have been achieved. Maximum outcome is awarded when the targets are exceeded. The remuneration from the modified long-term incentive programme can constitute between maximum 20 and 50 percent of the fixed remuneration depending on position. Payment to the participants in the programme is made after year three and only provided that they are still employed at the date of payment.

The Board of Directors will propose the Annual General Meeting 2019 to implement step two of the modified cash-based long-term incentive programme for the period January 1, 2019 – December 31, 2021 for maximum 95 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers. No other changes of these guidelines are proposed by the Board of Directors.

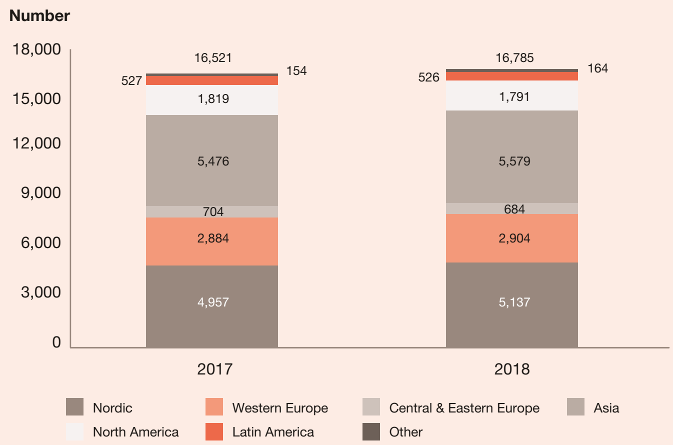
**Research and development**

As the result of an intensive and consistent commitment over many years to research and development, Alfa Laval has achieved a world-leading position within the areas of separation and heat transfer. The product development within fluid handling has resulted in a strong market position for a number of products. In order to strengthen the Group's

## Employees

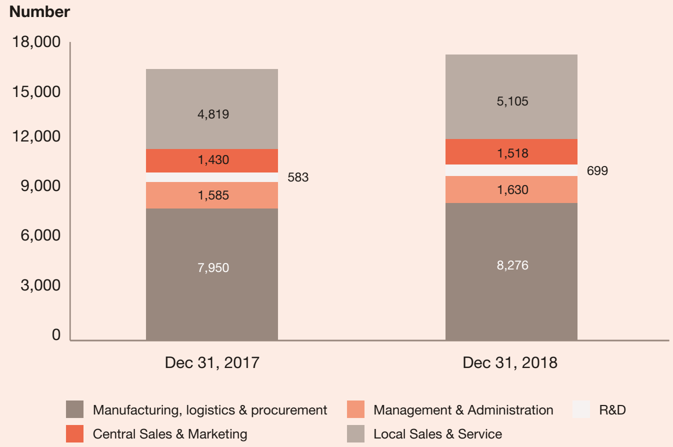
The distribution of the number of employees by region is:

### Average number of employees – by region



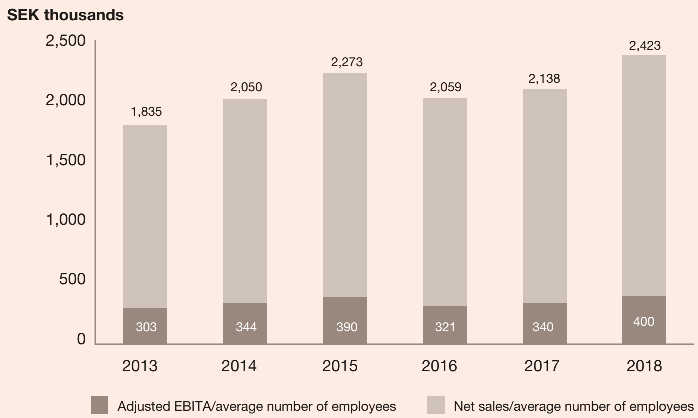

The distribution of the number of employees by personnel category at year end is:

### Employees – by category




The productivity by employee has developed as follows:

### Employees – Productivity development




The outcome for 2013 was affected by the strengthening of the Swedish krona. The outcome for 2015 was affected by the weakening of the Swedish krona and the acquisition of Frank Mohn. The outcome for 2016 was affected by the receding demand, mitigated by the continued weakening of the Swedish krona. The improvement for 2017 is entirely explained by the change programme that was launched during the autumn 2016. This also affects the outcome for 2018 but reinforced by the stronger demand within primarily environmental products.

position and to support the organic growth, by identifying new applications for existing products as well as developing new products, research and development is always an activity of high priority. Research and development is conducted at approximately twenty facilities around the world.

The costs for research and development have amounted to SEK 1,020 (874) million, corresponding to 2.5 (2.5) percent of net sales. Excluding currency effects and divestments of businesses, the costs for research and development have increased by 13.9 percent compared to last year.

**Ethics and social responsibility**

Two of Alfa Laval's four business principles are: "Respect for human rights is fundamental" and "High ethical standards guide our conduct". This means that Alfa Laval respects human rights and the very different social cultures in which the company works and supplies its products and services and that Alfa Laval conducts its business with honesty, integrity and respect for others.

Globalisation gives Alfa Laval new business opportunities for increased sales as well as lower costs for manufacturing the products. But when part of the supply chain is moved to countries with lower costs the company is often confronted with ethical questions in a more obvious manner. Health, security and working conditions for the employees at the company's suppliers are some of Alfa Laval's main topics. When Alfa Laval procures products from quickly growing economies like China and India it is important for the company to secure that the cost reduction opportunities are not at the expense of those performing the work in each country. Alfa Laval regards it as an obligation to make sure that its suppliers develop quickly if the work, health and security conditions are not acceptable.

Alfa Laval has developed an internal training programme to give sales people and purchase departments knowledge on legal business practice.

**Environment**

One of Alfa Laval's four business principles is: "Optimizing the use of natural resources in the most efficient manner is our business." The company's products make a significant contribution to reducing the environmental impact of industrial processes and are used to produce renewable energy.

All sites have an environmental management system in place. More than 95 percent of the delivery value comes from production sites with ISO 14001 certification.

The subsidiary Alfa Laval Corporate AB is involved in operational activities that are subject to an obligation to report and compulsory licensing according to Swedish environmental legislation. The permits mainly relate to the manufacturing of heat exchangers in Lund and Ronneby and the manufacturing of separators in Tumba and Eskilstuna. The external environment is affected through limited discharges into the air and water, through waste and noise.

The foreign manufacturing sites within the Alfa Laval Group are engaged in operational activities with a similar effect on the external environment. To what extent this activity is subject to an obligation to report and/or compulsory licensing according to local environmental legislation varies from country to country. Alfa Laval has an overall intention to operate well within the limits that are set by local legislation.

**Asbestos-related lawsuits**

The Alfa Laval Group was as of December 31, 2018, named as a co-defendant in a total of 820 asbestos-related lawsuits with a total of approximately 820 plaintiffs. Alfa Laval strongly believes the claims against the Group are without merit and intends to vigorously contest each lawsuit.

Based on current information and Alfa Laval's understanding of these lawsuits, Alfa Laval continues to believe that these lawsuits will not have a material adverse effect on the Group's financial condition or results of operation.

**Result for the parent company**

The parent company's result after financial items was SEK 647 (1,073) million, out of which dividends from subsidiaries SEK 668 (1,094) million, net interests SEK -0 (0) million, realised and unrealised exchange rate gains and losses SEK 1 (-0) million, costs related to the listing SEK -4 (-4) million, fees to the Board SEK -9 (-8) million, cost for annual report and annual general meeting SEK -2 (-2) million and other operating income and operating costs the remaining SEK -7 (-7) million. Change of tax allocation reserve has been made with SEK -698 (-251) million. Group contributions amount to SEK 2,810 (1,439) million. Tax on this year's result amount to SEK -461 (-258) million. Net income for the year was SEK 2,298 (2,003) million.

**Unrestricted equity for the parent company**

The unrestricted equity of Alfa Laval AB (publ) was SEK 9,932 (9,417) million.

**Proposed disposition of earnings**

The Board of Directors propose a dividend of SEK 5.00 (4.25) per share corresponding to SEK 2,097 (1,783) million and that the remaining income available for distribution in Alfa Laval AB (publ) of SEK 7,835 (7,635) million be carried forward, see Note 38.

The Board of Directors are of the opinion that the proposed dividend is in line with the requirements that the type and size of operations, the associated risks, the capital needs, liquidity and financial position put on the company.

**Disclosure on share related information**

Paragraph 2a in chapter 6 of the Swedish Annual Accounts Act requires listed companies to disclose certain information relating to the company's shares in the Board of Directors' Report. This information is found in the following paragraphs, in the "Changes in consolidated equity" and in Note 6.

**Outlook for the first quarter**

In the fourth quarter and full year 2018 report issued on February 5, 2019 the President and Chief Executive Officer Tom Erixon stated:

"We expect demand in the first quarter to be somewhat higher than in the fourth quarter."

Earlier published outlook (October 25, 2018): "The demand in the fourth quarter is expected to be somewhat higher than in the third quarter."

**Date for the next financial reports during 2019**

Alfa Laval will publish interim reports during 2019 at the following dates:

| | |
|---|---|
| Interim report for the first quarter | April 24 |
| Interim report for the second quarter | July 17 |
| Interim report for the third quarter | October 24 |

# Consolidated cash flows

| Consolidated cash flows | | | |
|---|---|---|---|
| SEK millions | *Note* | 2018 | 2017 |
| **Operating activities** | | | |
| Operating income | | 5,831 | 4,589 |
| Adjustment for depreciation, amortisation and write down | | 1,664 | 1,650 |
| Adjustment for other non-cash items | | -208 | 107 |
| | | 7,287 | 6,346 |
| Taxes paid | | -1,642 | -1,583 |
| | | 5,645 | 4,763 |
| Changes in working capital: | | | |
| Increase(-)/decrease(+) of receivables | | -1,026 | -517 |
| Increase(-)/decrease(+) of inventories | | -895 | -774 |
| Increase(+)/decrease(-) of liabilities | | 1,399 | 1,273 |
| Increase(+)/decrease(-) of provisions | | -240 | -282 |
| **Increase(-)/decrease(+) in working capital** | | **-762** | **-300** |
| | | **4,883** | **4,463** |
| **Investing activities** | | | |
| Investments in fixed assets (Capex) | | -1,490 | -675 |
| Divestment of fixed assets | | 120 | 23 |
| Acquisition of businesses | *16* | – | -69 |
| Divestment of businesses | | 77 | – |
| | | **-1,293** | **-721** |
| **Financing activities** | | | |
| Received interests and dividends | | 142 | 168 |
| Paid interests | | -192 | -214 |
| Realised financial exchange gains | | 182 | 77 |
| Realised financial exchange losses | | -267 | -245 |
| Dividends to owners of the parent | | -1,783 | -1,783 |
| Dividends to non-controlling interests | | 0 | -14 |
| Increase(-) of financial assets | | -116 | -187 |
| Decrease(+) of financial assets | | 601 | 0 |
| Increase of loans | | 726 | 715 |
| Amortisation of loans | | -1,738 | -1,676 |
| | | **-2,445** | **-3,159** |
| **Cash flow for the year** | | **1,145** | **583** |
| Cash and cash equivalents at the beginning of the year | | 3,137 | 2,619 |
| Translation difference in cash and cash equivalents | | 13 | -65 |
| **Cash and cash equivalents at the end of the year** | *25* | **4,295** | **3,137** |
| Free cash flow per share (SEK) * | | 8.56 | 8.92 |
| Capex in relation to net sales | | 3.7% | 1.9% |
| Average number of shares | | 419,456,315 | 419,456,315 |

* Free cash flow is the sum of cash flows from operating and investing activities.

# Comments to the consolidated cash-flows

For further comments on certain individual lines in the cash-flow statement, reference is made to Notes 16 and 25.

**Cash flows from operating activities**
The increase in cash flows from operating activities in 2018 is explained by:

+ higher operating income before depreciation and amortisation,

- mitigated by an increase in working capital, as a result of an increased order intake and

- higher tax payments linked to the higher taxable income.

**Cash and cash equivalents**
The item cash and cash equivalents is mainly relating to bank deposits and liquid deposits.

**Cash flow**
Cash flow from operating and investing activities amounted to SEK 3,590 (3,742) million during 2018. Out of this, acquisitions of businesses were SEK - (-69) million whereas divestments generated cash of SEK 197 (23) million.

**Adjustment for other non-cash items**
Other non-cash items are mainly referring to realised gains and losses in connection with sale of assets. These have to be eliminated since the cash impact of divestments of fixed assets and businesses are reported separately under cash flow from investing activities.

**Working capital**
Working capital increased by SEK 762 (300) million during 2018.

**Investments**
Investments in property, plant and equipment amounted to SEK 1,490 (675) million during 2018. The investments made for the individual product groups are as follows:

*Heat exchangers*
Investments have been made in machines for increased capacity and manufacturing of new products and in productivity enhancing equipment in Alonte in Italy, Ronneby in Sweden and Jiang Yin in China for brazed heat exchangers. Investments have been made in Jiang Yin in China and in Lund in Sweden in equipment to widen the product range and increase the productivity for gasketed heat exchangers.

*High speed separators*
Capacity investments in machining equipment for separators have been made in Eskilstuna in Sweden.

*Decanters*
Capacity and productivity enhancing investments have been made in Krakow in Poland.

*PureSOx*
Capacity and productivity investments to meet the increased demand have been made in Qingdao in China.

**Depreciations**
Depreciation, excluding allocated step-up values, amounted to SEK 626 (629) million during the year.

**Acquisitions and disposals**
For a further analysis of the impact on the cash flow by acquisitions and disposals, see Note 16.

**Free cash flow per share**
The free cash flow per share is SEK 8.56 (8.92).

# Consolidated comprehensive income

**Consolidated comprehensive income**

| SEK millions | *Note* | 2018 | 2017 |
|---|---|---|---|
| Net sales | *1, 2, 3, 4, 36* | 40,666 | 35,314 |
| Cost of goods sold | *9* | -26,930 | -23,379 |
| Gross profit | | 13,736 | 11,935 |
| | | | |
| Sales costs | *5, 6, 9* | -4,539 | -4,127 |
| Administration costs | *5, 6, 7, 9* | -1,987 | -1,809 |
| Research and development costs | *9* | -1,020 | -874 |
| Other operating income | *8* | 906 | 588 |
| Other operating costs | *8, 9* | -1,280 | -1,135 |
| Share of result in joint ventures | *33* | 15 | 11 |
| Operating income | | 5,831 | 4,589 |
| | | | |
| Dividends and other financial income | *10* | 27 | 47 |
| Interest income and financial exchange rate gains | *11* | 377 | 237 |
| Interest expense and financial exchange rate losses | *11* | -339 | -502 |
| Result after financial items | | 5,896 | 4,371 |
| | | | |
| Tax on this year's result | *15* | -1,332 | -1,357 |
| Other taxes | *15* | -27 | -26 |
| **Net income for the year** | | **4,537** | **2,988** |
| | | | |
| Other comprehensive income: | | | |
| Items that will subsequently be reclassified to net income | | | |
| Cash flow hedges | | -505 | 257 |
| Market valuation of external shares | | 0 | 2 |
| Translation difference | | 641 | -1,339 |
| Deferred tax on other comprehensive income | *15* | 83 | 152 |
| Sum | | 219 | -928 |
| Items that will subsequently not be reclassified to net income | | | |
| Revaluations of defined benefit obligations | | 200 | 15 |
| Deferred tax on other comprehensive income | *15* | -60 | 4 |
| Sum | | 140 | 19 |
| **Comprehensive income for the year** | | **4,896** | **2,079** |
| | | | |
| **Net income attributable to:** | | | |
| Owners of the parent | | 4,519 | 2,976 |
| Non-controlling interests | | 18 | 12 |
| Earnings per share (SEK) | | 10.77 | 7.09 |
| Average number of shares | | 419,456,315 | 419,456,315 |
| | | | |
| **Comprehensive income attributable to:** | | | |
| Owners of the parent | | 4,876 | 2,069 |
| Non-controlling interests | | 20 | 10 |

# Comments to the consolidated comprehensive income

For comments on the individual lines in the consolidated comprehensive income statement, reference is made to Notes 1 to 15 and Note 28. For comments on the operating segments, see Note 1.

As a basis for comments on the various main items of the consolidated comprehensive income statement, please find a comparison between the last two years:

**Income analysis**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Net sales | 40,666 | 35,314 |
| Adjusted gross profit * | 14,774 | 12,956 |
| ***- adjusted gross margin (%) **** | ***36.3*** | ***36.7*** |
| Expenses ** | -7,430 | -6,717 |
| *- in % of net sales* | *18.3* | *19.0* |
| **Adjusted EBITDA *** | **7,344** | **6,239** |
| *- adjusted EBITDA margin (%) ** | *18.1* | *17.7* |
| Depreciation | -626 | -629 |
| **Adjusted EBITA *** | **6,718** | **5,610** |
| ***- adjusted EBITA margin (%) **** | ***16.5*** | ***15.9*** |
| Amortisation of step-up values | -1,038 | -1,021 |
| Comparison distortion items | 151 | – |
| Operating income | 5,831 | 4,589 |

* Alternative performance measures. ** Excluding comparison distortion items.

The gross margin has decreased by 0.4 percentage units between 2017 and 2018. The decrease of the gross margin is explained by currency effects, an unfavourable mix between capital sales and service and an uneven capacity utilisation within parts of the manufacturing of heat exchangers.

Sales and administration expenses amounted to SEK 6,526 (5,936) million. Excluding currency effects and divestment of businesses, sales and administration expenses were 6.6 percent higher than last year.

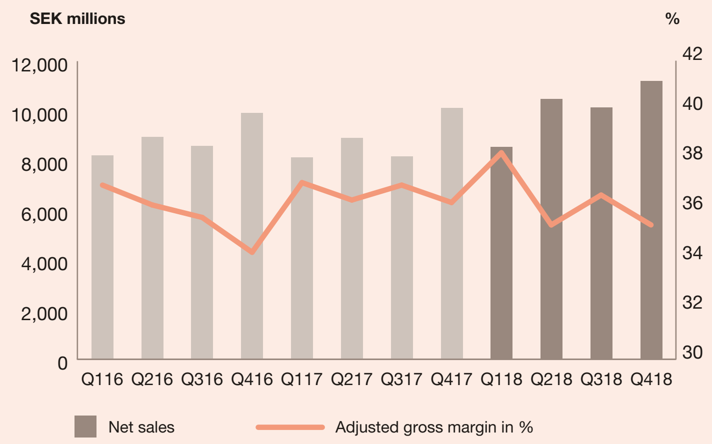
The costs for research and development have amounted to SEK 1,020 (874) million, corresponding to 2.5 (2.5) percent of net sales. Excluding currency effects and divestment of businesses, the costs for research and development have increased by 13.9 percent compared to last year.

The net income attributable to the owners of the parent, excluding depreciation of step-up values and the corresponding tax, is SEK 12.69 (8.85) per share.

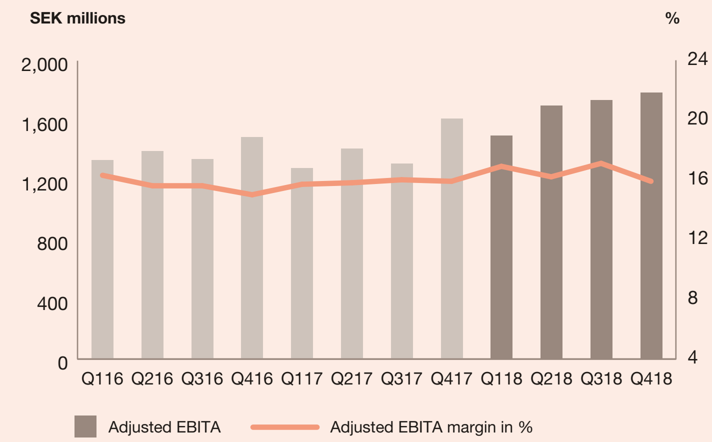
Compared with last year Alfa Laval has been affected during 2018 by exchange rate differences, both through translation differences and through the net exposure when trading in foreign currencies. The effect on adjusted EBITA has been calculated to totally about SEK -85 (223) million for 2018 compared with last year. The effect of the exchange rate variations has been limited through exchange rate hedging and through the distribution of the company’s financial debts in relation to its net assets in different currencies.

In order to illustrate the quarterly development, the last 12 quarters are shown below for four of the parameters in the income analysis:

### Net sales & adjusted gross margin




### Adjusted EBITA




Other operating income has been affected by comparison distortion items of SEK 151 (-) million. The comparison distortion income during 2018 is relating to three items:

- The divestments of the Alonte based commercial tubular heat exchanger business and the heat exchanger systems business have resulted in a total gain of SEK 26 million.
- The sale of a property in Lima in Peru resulted in a realised gain of SEK 70 million.
- Based on a court decision in a litigation against the former owners of Ashbrook Simon-Hartley, Alfa Laval has received a purchase price reduction of SEK 55 million. The acquisition of Ashbrook Simon-Hartley took place in 2012.

**Consolidated financial net and taxes**

The financial net was SEK -54 (-54) million, excluding realised and unrealised exchange rate losses and gains. The main elements of costs were interest on the debt to the banking syndicate of SEK -3 (-5) million, interest on the bilateral term loans of SEK -43 (-41) million, interest on the commercial papers of SEK 0 (0) million, interest on the corporate bonds of SEK -82 (-79) million and a net of dividends, changes in fair value and other interest income and interest costs of SEK 74 (71) million.

The net of realised and unrealised exchange rate differences was SEK 119 (-164) million.

The tax on the result after financial items was SEK -1,359 (-1,383) million in 2018. The tax cost for 2018 has been affected by the following non-recurring items:

- revaluation of future tax deductions with SEK +130 million concerning and
- adjustments of deferred taxes relating to step up values of about SEK +35 million, due to reduced company taxes in several countries in Europe and thereby decreased deferred tax liabilities.

The tax cost for 2017 was affected by the following non-recurring items:

- a dividend distribution tax in India of SEK -100 million,
- additional tax of SEK -113 million relating to prior years concerning acquired businesses according to a settlement with the former owners and
- adjustments of deferred taxes relating to step up values of about SEK +29 million, due to reduced company taxes in the U.S. and thereby decreased deferred tax liabilities.

Cash flow hedges in other comprehensive income are explained by the following components:

**Fair value changes in cash flow hedges**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Opening balance | -191 | -448 |
| Booked into other comprehensive income during the year | -508 | 241 |
| Reversed from other comprehensive income due to inefficiency: | | |
| booked against cost of goods sold | 13 | 1 |
| Reversed from other comprehensive income: | | |
| booked against cost of goods sold | -14 | 16 |
| booked against interest income/interest costs | 4 | -1 |
| **Closing balance** | **-696** | **-191** |
| Change reported against other comprehensive income | -505 | 257 |

The Group has not had any cash flow hedges that have affected the initially recognised carrying amount of non-financial assets.

**Accumulated translation differences ***

Consolidated

SEK millions

| Year | Main explanation to translation differences | Change | Accumulated | Pre-tax effect on change by hedging measures |
|---|---|---|---|---|
| Formation of the Group | | | | |
| 2000 | The EUR was appreciated by 6 %, which affected the EUR based acquisition loans | -94 | -94 | -312 |
| 2001 | The USD was appreciated by 10.7 % | 97 | 3 | -105 |
| 2002 | The USD was depreciated by 16.7 % | -190 | -187 | 165 |
| 2003 | The USD was depreciated by 17.5 % | -38 | -225 | 195 |
| 2004 | The USD was depreciated by 9.0 % | -103 | -328 | -19 |
| 2005 | The USD was appreciated by 20.3 % and the EUR was appreciated by 4.8 % | 264 | -64 | -65 |
| 2006 | The USD was depreciated by 13.5 % and the EUR was depreciated by 4.0 % | -269 | -333 | 56 |
| 2007 | The USD was depreciated by 5.7 % whereas the EUR was appreciated by 4.7 % | 224 | -109 | 13 |
| 2008 | The USD was appreciated by 20.5 % and the EUR was appreciated by 16.2 % | 850 | 744 | -468 |
| 2009 | The USD was depreciated by 7.5 % and the EUR was depreciated by 6.0 % | -392 | 352 | 220 |
| 2010 | The USD was depreciated by 5.7 % and the EUR was depreciated by 12.9 % | -554 | -202 | 99 |
| 2011 | The USD was appreciated by 1.4 % whereas the EUR was depreciated by 0.8 % | -254 | -456 | 34 |
| 2012 | The USD was depreciated by 5.8 % and the EUR was depreciated by 3.6 % | -798 | -1,254 | 214 |
| 2013 | The USD was appreciated by 0.3 % and the EUR was appreciated by 4.1 % | 39 | -1,215 | -83 |
| 2014 | The USD was appreciated by 20.5 % and the EUR was appreciated by 6.3 % | 439 | -776 | -1,033 |
| 2015 | The USD was appreciated by 6.6 % whereas the EUR was depreciated by 4.0 % | -1,056 | -1,832 | 301 |
| 2016 | The USD was appreciated by 8.6 % and the EUR was appreciated by 4.6 % | 1,882 | 50 | -643 |
| 2017 | The USD was depreciated by 9.4 % and the EUR was appreciated by 2.8 % | -1,339 | -1,289 | -207 |
| 2018 | The USD was appreciated by 8.8 % and the EUR was appreciated by 4.2 % | 641 | -648 | -571 |

* Reported against other comprehensive income. Prior to 2009 these translation differences were reported against equity.

# Consolidated financial position

## Consolidated financial position

| ASSETS<br>SEK millions | Note | 2018 | 2017 |
|---|---|---|---|
| **Non-current assets** | | | |
| ***Intangible assets*** | *16, 17* | | |
| Patents and unpatented know-how | | 1,367 | 1,653 |
| Trademarks | | 2,474 | 3,002 |
| Licenses, renting rights and similar rights | | 32 | 37 |
| Goodwill | | 20,537 | 19,775 |
| | | 24,410 | 24,467 |
| ***Property, plant and equipment*** | *16, 18* | | |
| Real estate | | 2,707 | 2,491 |
| Machinery and other technical installations | | 1,757 | 1,493 |
| Equipment, tools and installations | | 634 | 567 |
| Construction in progress and advances to suppliers concerning property, plant and equipment | | 634 | 300 |
| | | 5,732 | 4,851 |
| ***Other non-current assets*** | | | |
| Other long-term securities | *13, 14, 19* | 120 | 35 |
| Pension assets | *26* | 37 | 6 |
| Derivative assets | *13, 14* | 46 | 24 |
| Deferred tax assets | *15* | 1,755 | 1,589 |
| | | 1,958 | 1,654 |
| **Total non-current assets** | | **32,100** | **30,972** |
| **Current assets** | | | |
| ***Inventories*** | *20* | 9,253 | 8,424 |
| ***Assets held for sale*** | *18* | – | 2 |
| ***Assets related to disposal groups held for sale*** | *34* | 526 | – |
| ***Current receivables*** | | | |
| Accounts receivable | *13, 21, 36* | 6,496 | 5,941 |
| Current tax assets | | 927 | 791 |
| Other receivables | *13, 22* | 3,362 | 1,525 |
| Prepaid costs and accrued income | *13, 23* | 405 | 384 |
| Derivative assets | *13, 14* | 91 | 165 |
| | | 11,281 | 8,806 |
| ***Current deposits*** | | | |
| Other current deposits | *13, 24* | 617 | 1,208 |
| ***Cash and cash equivalents*** | *13, 25* | 4,295 | 3,137 |
| **Total current assets** | | **25,972** | **21,577** |
| **TOTAL ASSETS** | | **58,072** | **52,549** |

Consolidated financial position, continued

| EQUITY AND LIABILITIES | | | |
|---|---|---|---|
| SEK millions | *Note* | 2018 | 2017 |
| **Equity** | | | |
| ***Attributable to owners of the parent*** | | | |
| Share capital | | 1,117 | 1,117 |
| Other contributed capital | | 2,770 | 2,770 |
| Other reserves | | -2,292 | -2,649 |
| Retained earnings | | 21,882 | 19,160 |
| | | 23,477 | 20,398 |
| ***Attributable to non-controlling interests*** | *12* | 122 | 102 |
| **Total equity** | | **23,599** | **20,500** |
| ***Non-current liabilities*** | | | |
| Liabilities to credit institutions etc | *13, 28* | 8,540 | 11,092 |
| Provisions for pensions and similar commitments | *26* | 2,118 | 2,297 |
| Provision for deferred tax | *15* | 1,945 | 2,100 |
| Other provisions | *27* | 665 | 661 |
| Derivative liabilities | *13, 14* | 123 | 16 |
| **Total non-current liabilities** | | **13,391** | **16,166** |
| ***Current liabilities*** | | | |
| ***Liabilities related to disposal groups held for sale*** | *34* | 351 | – |
| ***Other current liabilites*** | | | |
| Liabilities to credit institutions etc | *13, 28* | 3,323 | 1,404 |
| Advances from customers | | 5,221 | 3,537 |
| Accounts payable | *13* | 2,972 | 2,802 |
| Notes payable | *13* | 164 | 162 |
| Current tax liabilities | | 1,209 | 1,033 |
| Other liabilities | *13, 29* | 3,086 | 2,211 |
| Other provisions | *27* | 1,929 | 2,024 |
| Accrued costs and prepaid income | *13, 30* | 2,387 | 2,539 |
| Derivative liabilities | *13, 14* | 440 | 171 |
| | | 20,731 | 15,883 |
| **Total current liabilities** | | **21,082** | **15,883** |
| **Total liabilities** | | **34,473** | **32,049** |
| **TOTAL EQUITY AND LIABILITIES** | | **58,072** | **52,549** |

# Comments on the consolidated financial position

For comments on the individual lines in the statement on financial position, reference is made to Notes 12 to 34. For comments on the operating segments, see Note 1.

### Capital employed

The average capital employed including goodwill and step-up values amounted to SEK 30,729 (31,698) million during the year.

### Return on capital employed

The return on average capital employed including goodwill and step-up values amounted to 22.4 (17.7) percent during the year.

### Capital turnover rate

The capital turnover rate calculated on the average capital employed including goodwill and step-up values amounted to 1.3 (1.1) times for the year.

### Return on equity

Net income in relation to the average equity was 20.3 (13.9) percent during the year.

### Solidity

The solidity, that is the equity in relation to total assets, was 40.6 (39.0) percent at the end of the year.

### Net debt

The net debt was SEK 6,985 (8,200) million at the end of the year.

### Net debt to EBITDA

Net debt in relation to EBITDA was 0.93 (1.31) times at the end of December.

### Debt ratio

The debt ratio, that is the net debt in relation to equity, was 0.30 (0.40) times at the end of December.

# Changes in consolidated equity

**Changes in consolidated equity**

| Attributable to: | Owners of the parent | | | | | | | | Non-controlling interests | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Other reserves | | | | | | | | | |
| SEK millions | Share capital | Other contributed capital | Cash flow hedges | Market valuation of external shares | Translation differences | Revaluations | Retained earnings | Subtotal | Translation differences | Retained earnings | Subtotal | |
| **As of December 31, 2016** | **1,117** | **2,770** | **-354** | **1** | **26** | **-1,415** | **18,014** | **20,159** | **15** | **102** | **117** | **20,276** |
| **2017** | | | | | | | | | | | | |
| **Comprehensive income** | | | | | | | | | | | | |
| Net income | – | – | – | – | – | – | 2,976 | 2,976 | – | 12 | 12 | 2,988 |
| Other comprehensive income | – | – | 201 | 1 | -1,128 | 19 | – | -907 | -2 | – | -2 | -909 |
| Comprehensive income | – | – | 201 | 1 | -1,128 | 19 | 2,976 | 2,069 | -2 | 12 | 10 | 2,079 |
| **Transactions with shareholders** | | | | | | | | | | | | |
| Decrease of non-controlling interests | – | – | – | – | – | – | -47 | -47 | – | -11 | -11 | -58 |
| Dividends to owners of the parent | – | – | – | – | – | – | -1,783 | -1,783 | – | – | – | -1,783 |
| Dividends to non-controlling interests | – | – | – | – | – | – | – | – | – | -14 | -14 | -14 |
| **As of December 31, 2017** | **1,117** | **2,770** | **-153** | **2** | **-1,102** | **-1,396** | **19,160** | **20,398** | **13** | **89** | **102** | **20,500** |
| **2018** | | | | | | | | | | | | |
| **Adjustment of opening balance** | | | | | | | | | | | | |
| IFRS 15 | – | – | – | – | – | – | -14 | -14 | – | – | – | -14 |
| **Comprehensive income** | | | | | | | | | | | | |
| Net income | – | – | – | – | – | – | 4,519 | 4,519 | – | 18 | 18 | 4,537 |
| Other comprehensive income | – | – | -394 | 0 | 611 | 140 | – | 357 | 2 | – | 2 | 359 |
| Comprehensive income | – | – | -394 | 0 | 611 | 140 | 4,519 | 4,876 | 2 | 18 | 20 | 4,896 |
| **Transactions with shareholders** | | | | | | | | | | | | |
| Dividends to owners of the parent | – | – | – | – | – | – | -1,783 | -1,783 | – | – | – | -1,783 |
| Dividends to non-controlling interests | – | – | – | – | – | – | – | – | – | 0 | 0 | 0 |
| **As of December 31, 2018** | **1,117** | **2,770** | **-547** | **2** | **-491** | **-1,256** | **21,882** | **23,477** | **15** | **107** | **122** | **23,599** |

**Specification of changes in number of shares and share capital**

| Year | Event | Date | Change in number of shares | Total number of shares | Change in share capital SEK millions | Total share capital SEK millions |
|---|---|---|---|---|---|---|
| 2000 | Company formation | March 27, 2000 | 10,000,000 | 10,000,000 | 0.1 | 0.1 |
| | New issue of shares | August 24, 2000 | 27,496,325 | 37,496,325 | 0.3 | 0.4 |
| 2002 | Bonus issue of shares | May 3, 2002 | 37,496,325 | 74,992,650 | 0.4 | 1 |
| | Bonus issue of shares | May 16, 2002 | – | – | 749 | 750 |
| | New issue of shares | May 16, 2002 | 3,712,310 | 78,704,960 | 37 | 787 |
| | New issue of shares | May 17, 2002 | 32,967,033 | 111,671,993 | 330 | 1,117 |
| 2008 | Cancellation of repurchased shares | May 27, 2008 | -4,323,639 | 107,348,354 | -43 | |
| | Bonus issue of shares | May 27, 2008 | – | 107,348,354 | 43 | 1,117 |
| | Split 4:1 | June 10, 2008 | 322,045,062 | 429,393,416 | – | 1,117 |
| 2009 | Cancellation of repurchased shares | July 9, 2009 | -7,353,950 | 422,039,466 | -19 | |
| | Bonus issue of shares | July 9, 2009 | – | 422,039,466 | 19 | 1,117 |
| 2011 | Cancellation of repurchased shares | May 16, 2011 | -2,583,151 | 419,456,315 | -7 | |
| | Bonus issue of shares | May 16, 2011 | – | 419,456,315 | 7 | 1,117 |

# Comments on changes in consolidated equity

The articles of association of Alfa Laval AB (publ) state that the share capital should be between SEK 745,000,000 and 2,980,000,000 and that the number of shares should be between 298,000,000 and 1,192,000,000.

At January 1, 2018 the share capital of SEK 1,116,719,930 was divided into 419,456,315 shares. Since then no changes have been made.

The company has only issued one type of shares and all these have equal rights. There are no restrictions in law or in the articles of association in the negotiability of the shares.

The only shareholder holding more than 10 percent of the shares is Tetra Laval B.V., the Netherlands who owns 29.1 (29.1) percent. The employees of the company do not own any shares in the company through company pension trusts.

No restrictions exist in how many votes that each shareholder can represent at a general meeting of shareholders. The company has no knowledge of any agreements between shareholders that would limit the negotiability of their shares.

The articles of association stipulate that members of the Board are elected at the Annual General Meeting. Election or discharge of members of the Board is otherwise regulated by the provisions in the Swedish Companies Act and the Swedish Corporate Governance Code. According to the Companies Act changes in the articles of association are decided at general meetings of shareholders.

The senior credit facility with the banking syndicate, the corporate bonds and the bilateral term loans with Swedish Export Credit and the European Investment Bank contain conditions that give the lenders the opportunity to terminate the loans and declare them due and payable if there is a change of control of the company through an acquisition of more than 30 percent of the total number of shares.

The possibilities to distribute unappropriated profits from foreign subsidiaries are limited in certain countries due to local legislation. These limitations are not material. The limitations relate to:

- the existence of general restrictions concerning restricted equity in many countries,
- that subsidiaries in for instance China and India cannot take up loans to pay dividends, which limits the size of the dividends and
- rules on interest deduction limitations and thin capitalisation in many countries, for instance the U.S., Denmark and Norway limit the possibilities for these countries to increase debt to pay dividends.

# Parent company cash flows and income

## Parent company cash flows

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Cash flow from operating activities** | | |
| Operating income | -22 | -21 |
| Taxes paid | -446 | -377 |
| | -468 | -398 |
| Changes in working capital: | | |
| Increase(-)/decrease(+) of receivables | 146 | -917 |
| Increase(+)/decrease(-) of liabilities | -2 | 2 |
| **Increase(-)/decrease(+) in working capital** | **144** | **-915** |
| | **-324** | **-1,313** |
| **Cash flow from investing activities** | | |
| Investment in subsidiaries | – | – |
| | **–** | **–** |
| **Cash flow from financing activities** | | |
| Received interests | 0 | 0 |
| Received dividends from subsidiaries | 668 | 1,094 |
| Paid dividends | -1,783 | -1,783 |
| Received group contribution | 1,458 | 2,035 |
| Paid group contribution | -19 | -33 |
| | **324** | **1,313** |
| **Cash flow for the year** | **–** | **–** |
| Cash and cash equivalents at the beginning of the year | – | – |
| **Cash and cash equivalents at the end of the year** | **–** | **–** |

## Parent company income *

| SEK millions | *Note* | 2018 | 2017 |
|---|---|---|---|
| Administration costs | | -15 | -14 |
| Other operating income | | 0 | 0 |
| Other operating costs | | -7 | -7 |
| Operating income | | -22 | -21 |
| Dividends from subsidiaries | | 668 | 1,094 |
| Interest income and similar result items | *11* | 1 | 2 |
| Interest expenses and similar result items | *11* | 0 | -2 |
| Result after financial items | | 647 | 1,073 |
| Change of tax allocation reserve | | -698 | -251 |
| Group contributions | | 2,810 | 1,439 |
| Result before tax | | 2,759 | 2,261 |
| Tax on this year's result | | -461 | -258 |
| **Net income for the year** | | **2,298** | **2,003** |

* The parent company income statement also constitutes its comprehensive income statement.

# Parent company financial position

| Parent company financial position | | | |
|---|---|---|---|
| SEK millions | *Note* | 2018 | 2017 |
| **ASSETS** | | | |
| **Non-current assets** | | | |
| ***Financial non-current assets*** | | | |
| Shares in group companies | *19* | 4,669 | 4,669 |
| **Current assets** | | | |
| ***Current receivables*** | | | |
| Receivables on group companies | | 10,111 | 8,891 |
| Other receivables | | 5 | 3 |
| | | 10,116 | 8,894 |
| ***Cash and cash equivalents*** | | **–** | **–** |
| **Total current assets** | | **10,116** | **8,894** |
| **TOTAL ASSETS** | | **14,785** | **13,563** |
| **EQUITY AND LIABILITIES** | | | |
| **Equity** | | | |
| ***Restricted equity*** | | | |
| Share capital | | 1,117 | 1,117 |
| Statutory reserve | | 1,270 | 1,270 |
| | | 2,387 | 2,387 |
| ***Unrestricted equity*** | | | |
| Profit brought forward | | 7,634 | 7,414 |
| Net income for the year | | 2,298 | 2,003 |
| | | 9,932 | 9,417 |
| **Total equity** | | **12,319** | **11,804** |
| **Untaxed reserves** | | | |
| Tax allocation reserve, taxation 2014 | | 320 | 320 |
| Tax allocation reserve, taxation 2015 | | 304 | 304 |
| Tax allocation reserve, taxation 2016 | | 68 | 68 |
| Tax allocation reserve, taxation 2017 | | 578 | 577 |
| Tax allocation reserve, taxation 2018 | | 391 | 391 |
| Tax allocation reserve, taxation 2019 | | 698 | – |
| | | 2,359 | 1,660 |
| **Current liabilities** | | | |
| Liabilities to group companies | | 29 | 38 |
| Accounts payable | | – | 0 |
| Current tax liabilities | | 76 | 61 |
| Other liabilities | | 2 | – |
| | | 107 | 99 |
| **TOTAL EQUITY AND LIABILITIES** | | **14,785** | **13,563** |

# Changes in parent company equity

**Changes in parent company equity**

| SEK millions | Share capital | Statutory reserve | Unrestricted equity | Total |
|---|---|---|---|---|
| **As of December 31, 2016** | **1,117** | **1,270** | **9,197** | **11,584** |
| **2017** | | | | |
| **Comprehensive income** | | | | |
| Net income | – | – | 2,003 | 2,003 |
| | – | – | 2,003 | 2,003 |
| **Transactions with shareholders** | | | | |
| Dividends | – | – | -1,783 | -1,783 |
| **As of December 31, 2017** | **1,117** | **1,270** | **9,417** | **11,804** |
| **2018** | | | | |
| **Comprehensive income** | | | | |
| Net income | – | – | 2,298 | 2,298 |
| | – | – | 2,298 | 2,298 |
| **Transactions with shareholders** | | | | |
| Dividends | – | – | -1,783 | -1,783 |
| **As of December 31, 2018** | **1,117** | **1,270** | **9,932** | **12,319** |

The share capital of SEK 1,116,719,930 (1,116,719,930) is divided among 419,456,315 (419,456,315) shares.

# Notes to the financial statements

## Accounting principles

The accounting principles mentioned below are only the ones that are relevant for the parent company and the consolidated group.

**Basis of preparation**
The consolidated financial statements have been prepared on a historical cost basis, except for certain financial instruments including derivatives that are valued at fair value. The statements are presented in SEK millions, unless otherwise stated.

**Statement of compliance**
Alfa Laval applies International Financial Reporting Standards (IFRS) as adopted by the European Union. Furthermore, recommendation RFR 1 "Supplementary accounting principles for consolidated groups" from the Council for Financial Reporting in Sweden is applied. Alfa Laval follows the Guidelines on Alternative Performance Measures issued by ESMA (European Securities and Markets Authority).

The accounting and valuation principles of the parent company comply with the Swedish Annual Accounts Act and the recommendation RFR 2 "Accounting for legal entities" issued by the Council for Financial Reporting in Sweden.

**Changed/implemented accounting principles**
The company has chosen to only comment the changed accounting principles that are relevant for the company's financial reporting.

During 2018 IFRS 9, IFRS 15 and IFRIC 22 have been implemented.

IFRS 9 "Financial Instruments" has replaced the former standard IAS 39 "Financial Instruments: Recognition and Measurement". The changes mainly relate to three areas: classification and measurement, impairments and hedge accounting.

The standard means that the company's business model and the characteristics of the asset influence the classification and measurement of financial assets. The standard means a reduction of the number of valuation categories for financial assets and contains the main categories reported at cost (amortised cost) and fair value through profit or loss.

IAS 39 only considered incurred losses, while IFRS 9 instead has a model for expected credit losses.

The requirement that the efficiency should be between 80–125 percent has been removed in the standard. The possibilities to hedge different types of risk for raw materials have also increased.

IFRS 9 means:

- a reallocation of the financial assets on fewer categories than previously,
- that the possibilities for hedge accounting and to achieve efficiency have increased and
- that the efficiency test in itself has become easier.

IFRS 9 offers the opportunity to continue with the rules for hedge accounting under IAS 39 even if the company in all other respects implements IFRS 9. Alfa Laval has chosen to apply IFRS 9 in full and not continue with IAS 39 concerning the hedge accounting. IFRS 9, however, means that it is no longer possible to voluntarily stop using hedge accounting.

Alfa Laval has applied IFRS 9 retrospectively with the cumulative effect of initially applying it recognised as an adjustment to the opening balance of unrestricted equity at January 1, 2018. The retrospective application only applied to financial instruments and risks for credit losses that existed at January 1, 2018. The adjustment to the opening balance of unrestricted equity at January 1, 2018 was SEK 0 million.

IFRS 15 "Revenue from Contracts with Customers" covers how revenue recognition on contracts with customers shall be made. IFRS 15 supersedes mainly IAS 11 "Construction Contracts" and IAS 18 "Revenue". See the below section on Revenue recognition for a description of the new rules.

IFRS 15 means that the amount of disclosures concerning the revenue recognition has increased.

Alfa Laval has applied IFRS 15 retrospectively with the cumulative effect of initially applying it recognised as an adjustment with SEK -14 million to the opening balance of unrestricted equity at January 1, 2018. The opening backlog has also been adjusted with SEK +74 million as per January 1, 2018. The retrospective application only applied to contracts with customers that were not completed contracts at January 1, 2018.

*Impact of IFRS 15 during 2018*
The impact on the different lines in the financial statements of IFRS 15 compared to the old rules under IAS 11 and IAS 18 can be summarised as follows:

**Effect of IFRS 15**
Consolidated

| SEK millions | Full year/December 31 2018 |
|---|---|
| Order backlog | 137 |
| **Comprehensive income** | |
| Net sales | -63 |
| Cost of goods sold | 56 |
| Gross profit | -7 |
| Operating income | -7 |
| Result after financial items | -7 |
| Taxes | 0 |
| **Net income for the period** | **-7** |
| Other comprehensive income | 1 |
| **Comprehensive income for the period** | **-6** |
| | |
| **Financial position** | |
| **Assets** | |
| Inventories | -9 |
| Other receivables | 2 |
| **Total** | **-7** |
| | |
| **Shareholders' equity and liabilities** | |
| Other liabilities | 13 |
| Equity | |
| Opening equity adjustment | -14 |
| Comprehensive income for the period | -6 |
| | -20 |
| **Total** | **-7** |

IFRIC 22 "Foreign currency transactions and advance consideration" is an interpretation of how to determine the date of the transaction and the exchange rate to use on the initial recognition of an advance payment in a foreign currency.

During 2017 the amendments to IAS 7 "Statement of Cash Flows" was implemented. The amendments mean that changes in loans that are part of the financing activities in the cash flow statement must be specified both on changes that have a cash flow effect and changes that do not. The disclosures can be made via a movement schedule of the changes between the opening balance and the closing balance of the loans, split on increase in loans, amortisation of loans, changes due to sale/acquisition of subsidiaries, currency translation effects and other changes.

**Alternative Performance Measures**

In the annual report, alternative performance measures are used. See page 142 for definitions. Alfa Laval follows the Guidelines on Alternative Performance Measures issued by ESMA (European Securities and Markets Authority).

**Critical accounting principles**

IFRS 3 "Business Combinations" means that goodwill and intangible assets with indefinite useful life are not amortised. They are instead tested for impairment both annually and when there is an indication. The effect of IFRS 3 can be considerable for the Group if the profitability within the Group or parts of the Group goes down in the future, since this could trigger a substantial impairment write down of the goodwill according to IAS 36 "Impairment of Assets". Such a write down will affect net income and thereby the financial position of the Group. The reported goodwill is SEK 20,537 (19,775) million at the end of the year. No intangible assets with indefinite useful life other than goodwill exist.

The Group has defined benefit plans, which are reported according to IAS 19 "Employee Benefits". This means that the plan assets are valued at fair value and that the present value of the benefit obligations in the defined benefit plans is decided through yearly actuarial calculations made by independent actuaries. If the value of the plan assets starts to decrease at the same time as the actuarial assumptions increase the benefit obligations the combined effect could result in a substantial deficit. The monetary magnitude comes from the fact that the deficit is the difference between two large numbers. The effect on profit and loss however only affects other comprehensive income and not net income. The risk has been limited since many of these defined benefit schemes are closed for new participants and replaced by defined contribution schemes. The Group's reporting of provisions according to IAS 37 means that SEK 2,594 (2,685) million is reported as other provisions. This constitutes 4.5 (5.1) percent of the Group's assets and is important for the assessment of the Group's financial position, not the least since provisions normally are based on judgements of probability and estimates of costs and risks. If the accounting principles for provision would be changed sometime in the future, this could have a substantial impact on the Group's financial position.

**Key sources of estimation uncertainty**

The key source of estimation uncertainty is related to the impairment test of goodwill, since the testing is based on certain assumptions concerning future cash-flows. See the section on critical accounting principles above for further details.

**Judgements**

In applying the accounting policies Management has made various judgements, apart from those involving estimations, that can significantly affect the amounts recognised in the financial statements. These judgements mainly relate to:

- probability in connection with business risks;
- the probable outcome of claims;
- the probable outcome of litigations;
- determination of percentage of completion in contracts with customers recognised over time;
- recoverability of accounts receivable;
- obsolescence in inventory;
- classification of financial instruments; and
- whether a lease entered into with an external lessor is a financial lease or an operational lease.

**Associates**

The Group does not own shares in any material companies that fulfil the definition of an associate in IAS 28 "Investments in Associates", that is where the ownership is between 20 and 50 percent.

**Borrowing costs**

Borrowing costs are accounted for according to IAS 23 "Borrowing Costs", which means that the borrowing costs are charged to the profit and loss in the period to which they relate.

Transaction costs that arise in connection with raising a loan are capitalised and amortised over the maturity of the loan. The capitalised amount is reported net against the raised loan.

**Business combinations – consolidation principles**

The consolidated financial statements have been prepared according to IFRS 3 "Business Combinations" and IFRS 10 "Consolidated financial statements".

An entity shall be consolidated if a decisive influence is present. Control (decisive influence) is present when Alfa Laval has:

- power over the investee, which is described as having rights to direct the activities that significantly affect the investee's returns;
- exposure or rights to variable returns from the involvement in the investee; and
- the ability to use its power over the investee to affect the amount of the investor's returns.

A decisive influence does not need to arise purely through ownership of shares (voting rights). An investor can have a decisive influence over another entity without holding the majority of the shares. An entity must be consolidated until the day the control ceases, even if the control is present only during a limited period.

The consolidated financial statements include the parent company Alfa Laval AB (publ) and the subsidiaries in which it has a decisive influence.

The statement on consolidated financial position has been prepared in accordance with the purchase method, which means that the book value of shares in the subsidiaries is eliminated from the reported equity in the subsidiaries at the time of their acquisition. This means that the equity in the subsidiaries at the time of acquisition is not included in the consolidated equity.

The difference between the purchase price paid and the net assets of the acquired companies is allocated to the step-up values related to each type of asset, with any remainder accounted for as goodwill.

During the first 12 months after the acquisition the value of the goodwill is often preliminary. The reason to this is that experience has shown that there is some uncertainty linked to the different components of the purchase price allocation concerning:

- primarily the calculation of the allocation to different intangible step-up values, that are dependent on different judgemental questions and estimations;
- the calculation of tangible step-up values, that are dependent on external market valuations, which can extend in time before they can be finalised;

– adjustments of the purchase price contingent on contractual terms, that are dependent on the final size of the operating capital at the acquisition date, once this has been audited and the outcome has been approved by the parties; and
– the final value of the acquired equity, which is also dependent on the audit of the acquired closing balance sheet.

Since the goodwill is a residual that emerges once all other parameters in the purchase price allocation have been established, it will be preliminary and open for changes until all other values are final.

At acquisitions where there is a goodwill it should be stated what the goodwill is relating to. Since goodwill by definition is a residual this is not always that easy. Generally speaking the goodwill is usually relating to estimated synergies in procurement, logistics and corporate overheads. It can also be claimed that the goodwill is relating to the acquired entity's ability to over time recreate its intangible assets. Since the value of the intangible assets at the time of acquisition only can be calculated on the assets that exist then, no value can be attached to the patents etc. that the operations manage to create in the future partially as a replacement for the current ones and these are therefore referred to goodwill.

Goodwill and intangible assets with indefinite useful life are not amortised. These assets are instead tested for impairment both annually and when there is an indication. The impairment test is made according to IAS 36 "Impairment on assets".

Transaction costs are reported in net income. If the value of an additional purchase price is changed the change is reported in net income. In business combinations achieved in stages the goodwill is calculated and valued when the acquirer obtains control over a business. If the acquirer previously has reported an equity interest in the company the accumulated change in value of the holding is recognised in net income at the acquisition date. Changes in holdings in subsidiaries, where the majority owner does not lose its decisive influence, are reported in equity. This means that these transactions no longer will generate goodwill or lead to any gains or losses. In addition, the transaction will result in a transfer between owners of the parent and non-controlling interests in equity. If the non-controlling interest's share of reported losses is higher than its reported share of the equity, a negative non-controlling interest is reported.

**Comparison distortion items**

Items that do not have any link to the normal operations of the Group or that are of a non-recurring nature are classified as comparison distortion items. In the consolidated comprehensive income statement these are reported gross as a part of the most concerned lines, but are specified separately in Note 8. To report these together with other items in the consolidated comprehensive income statement without this separate reporting in a note would have given a comparison distortion effect that would have made it difficult to judge the development of the ordinary operations for an outside viewer. Comparison distortion items affecting operating income are reported as a part of operating income, while comparison distortion items affecting the result after financial items are reported as a part of the financial net.

**Comprehensive income**

Alfa Laval has chosen to report the items in other comprehensive income as a part of one statement over comprehensive income instead of reporting the result down to net income for the year in one statement and the result below this down to comprehensive income in a separate statement.

Other comprehensive income is referring to items that are not transactions with shareholders and relates to for instance cash flow hedges, market valuation of external shares, translation differences and revaluations and deferred tax related to these.

**Disclosures of interest in other entities**

Information about interests in subsidiaries, associates, joint arrangements and unconsolidated structured entities must be disclosed in accordance with IFRS 12 "Disclosures of interest in other entities". The purpose with these disclosures is to enable the users of the financial reports to understand:
– the composition of the group;
– the effect of the interests on the financial statements; and
– any risks with the current interests.

Substantial qualitative and quantitative disclosures must be made of each interest. The disclosure requirements include the following:
– Financial information regarding subsidiaries with a considerable part of non-controlling interests.
– Disclosures on the judgments and estimation that have been made in judging whether an entity shall be consolidated or not and if an associate shall be accounted for or whether a joint arrangement is considered to be joint operation or a joint venture.
– Financial disclosures on interests in material associates and joint arrangements.

**Disclosures relating to the company's shares**

Paragraph 2a in chapter 6 of the Swedish Annual Accounts Act requires listed companies to disclose certain information relating to the company's shares in the Board of Directors' Report. This information is found at the end of the Board of Directors' Report, in the "Changes in consolidated equity" and in Note 6.

**Employee benefits**

Employee benefits are reported according to IAS 19 "Employee Benefits".

The present value of the benefit obligations in the defined benefit plans is decided through yearly actuarial calculations made by independent actuaries. The plan assets are valued at fair value. The net plan asset or liability is arrived at in the following way.

| | |
|---|---|
| + | the present value of the defined benefit obligation at December 31 |
| - | the fair value of the plan assets at December 31 |
| = | a net liability if positive / a net asset if negative |

If the calculation per plan gives a negative amount, thus resulting in an asset, the amount to be recognised as an asset for this particular plan is the lower of the two following figures:
– The above net negative amount.
– The present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan. This is referred to as the asset ceiling.

The items that relate to the vesting of defined benefit pensions and gains and losses that arise when settling a pension liability and the financial net concerning the defined benefit plan are reported in the income statement above net income. Past service costs are recognised in the income statement already when the plan is amended or curtailed.

Actuarial gains and losses are accounted for currently in other comprehensive income. Changes in the obligations that relate to changes in actuarial assumptions are accounted for in other comprehensive income. None of these actuarial items will ever be reported in operating income, but will instead remain in other comprehensive income.

The return on plan assets is calculated with the same interest rate as the discount rate.

The difference between the actual return on plan assets and the interest income in the previous sentence is reported in other comprehensive income.

The plan assets are specified on different types of assets.

Sensitivity analysis must be made concerning reasonable changes in all assumptions made when calculating the pension liability.

The difference between short and long-term remunerations focuses on when the commitment is expected to be settled rather than the link to the employee's vesting of the commitment.

Termination benefits are accounted for at the earliest of the following – the time when the benefit offer cannot be withdrawn, alternatively in accordance with IAS 37 as a part of for instance restructuring the operations.

For Swedish entities the actuarial calculations also include future payments of special salary tax. The Swedish tax on returns from pension funds is reported currently as a cost in the profit and loss and are not included in the actuarial calculation for defined benefit pension plans.

The discount rate used to calculate the obligations is determined based on the market yields in each country at the closing date on high quality corporate bonds with a term that is consistent with the estimated term of the obligations. In countries that lack a deep market in such bonds the country's government bonds are used instead.

The costs for defined contribution plans are reported in Note 6.

The Swedish ITP plan is a multi-employer plan insured by Alecta. It is a defined benefit plan, but since the plan assets and liabilities cannot be allocated on each employer it is reported as a defined contribution plan according to item 30 in IAS 19. The construction of the plan does not enable Alecta to provide each employer with its share of the assets and liabilities or the information to be disclosed. The cost for the plan is reported together with the costs for other defined contribution plans in Note 6. Alecta reported a collective consolidation level at December 31, 2018 of 142 (154) percent. The collective consolidation level is defined as the fair value of Alecta's plan assets in percent of the insured pension commitments calculated according to Alecta's actuarial assumptions, which are not in accordance with IAS 19. Such a surplus can be distributed among the employers or the beneficiaries, but there is no agreement concerning this that enables the company to report a receivable on Alecta.

**Events after the closing date**

Events after the closing date are reported according to IAS 10 and the Swedish Annual Accounts Act in the notes.

**Fair value measurement**

IFRS 13 "Fair Value Measurement" describes how a fair value is established when such value is to be or may be used in accordance with each IFRS standard. In accordance with IFRS a fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e. an exit price).

The standard presents elucidations on the fair value concept including the following areas:

- Concepts such as "highest and best use" and "valuation premise" are described. These are only applicable on non-financial assets.
- Market participants are assumed to act in a way that maximizes the value for all involved parties in situations where there is no guidance concerning the calculation of fair value in individual IFRS standards.
- The effect of so called block discounts (large position in relation to the market) may never be included in the calculation of fair value.
- Deciding fair value when the market activity is falling.

Disclosures must be made to explain what valuation models that are used and what information that is used in these models and which effects the valuation has caused in the result.

**Financial instruments**

The reporting of financial instruments is governed by the following four accounting and financial reporting standards:

- IFRS 9 "Financial Instruments";
- IAS 32 "Financial Instruments: Presentation";
- IFRS 7 "Financial Instruments: Disclosures"; and
- IFRS 13 "Fair Value Measurement".

IFRS 9 means that the company's business model and the characteristics of the asset influence the classification and measurement of financial assets.

Debt instruments are all financial instruments except derivatives and shares. The company's purpose with holding a debt instrument is called its business model. Depending on what business model a company is using for managing its debt instruments the accounting treatment is different. The following business models exists in IFRS 9:

- Held to collect – the debt instrument is held to maturity to collect the contracted cash-flows (interest and principal).
- Trading – the company trades with the debt instruments.
- Mixed model – a mix of the two above models.

Alfa Laval business model for managing its debt instruments is "Held to collect". This classification does not mean that we occasionally cannot sell debt instruments before maturity even for large amounts or that we regularly cannot sell many small debt instruments before maturity.

"Held to collect" financial instruments are valued at amortised cost.

IFRS 9 means that financial derivatives, holdings of bonds and external shares are adjusted to fair value. IFRS 7 contains expanded disclosure requirements related to the significance of financial instruments for the company's financial position and performance and the nature and extent of risks arising from financial instruments.

IFRS 13 describes how a fair value is established when such value is to be or may be used in accordance with each IFRS standard. Disclosures must be made to explain what valuation models that are used and what information that is used in these models and which effects the valuation has caused in the result.

Both IFRS 9 and IFRS 7 formally contain a considerable amount of information that should be presented. According to IFRS 7.B3 the company however should decide how much detail it provides in order not to overburden the financial statements with excessive details.

Both financial assets and financial liabilities are classified into three different portfolios:

- Valued at fair value through profit or loss;
- Valued at fair value through other comprehensive income and
- Valued at amortised cost.

The classification into different portfolios reflects the valuation of the instruments, i.e. if the instrument is valued at fair value or amortised cost and also where in the statement of consolidated comprehensive income that the valuation to fair value is reported.

The amortised cost is normally equal to the amount recognised upon initial recognition, less any principal repayments and plus or minus any effective interest adjustments.

Prepaid costs, prepaid income and advances from customers are not defined as financial instruments since they will not result in future cash flows.

Disclosures must be made on the methods and, when a valuation technique is used, the assumptions applied in determining the fair value of each class of financial assets and liabilities. The methods are to be classified in a hierarchy of three levels:

1. Quoted prices in active markets;
2. Other inputs than quoted prices that are directly observable (prices) or indirectly observable (derived from prices); and
3. Unobservable market data.

The fair values of holdings of bonds are arrived at using market prices according to level 1. The effect of the measurement at fair value is reported in net income. The fair value adjustment of these instruments is reflected directly on the item bonds in the statement of financial position.

The fair values of shares in external companies are arrived at using market prices according to level 1 or other inputs according to level 2. The effect of the measurement at fair value is reported in net income. The fair value adjustment of these instruments is reflected directly on the item other long-term securities in the statement of financial position.

The fair values of the Group's currency forward contracts, currency options, interest-rate swaps, metal forward contracts and electricity futures are arrived at using market prices according to level 1. The fair value changes are arrived at by comparing the conditions of the derivative entered into with the market price for the same instrument at the closing date and with the same maturity date. The effect of the measurement at fair value is reported in other comprehensive income if the derivative constitutes an effective cash flow hedge and otherwise on the concerned line above net income. The fair value adjustment of these instruments is reported as derivative assets or derivative liabilities in the statement of financial position.

For each class of financial instruments disclosures shall be made on credit risk and an analysis of financial assets that are past due or impaired. Within Alfa Laval credit risk is in reality only related to accounts receivable. The disclosures just mentioned are therefore to be found in Note 21.

IFRS 9 has a model for expected credit losses. It is a three steps model that reflects changes in the credit risk. The steps are:

1. Recorded at inception (normally an historical experience based percentage)
2. For credit risks that have increased significantly since initial recognition (the credit risk has increased significantly if the receivable is more than 30 days overdue; otherwise based on indications of the customer having payment difficulties or financial weakness) and
3. Related to objective evidence of impairment (incurred losses).

The model results in a provision for bad debts. Only at a final loss the receivable is written off.

**Group contributions to and from the parent company**

The parent company is accounting for group contributions according to the alternative rule in RFR 2 issued by the Council for Financial Reporting in Sweden. This means that both received and given group contributions are reported as appropriations in the income statement.

**Hedge accounting**

Alfa Laval only applies two types of hedge accounting: cash flow hedges and hedges of net investments in foreign operations.

*Cash flow hedges*

Alfa Laval has implemented documentation requirements to qualify for hedge accounting on derivative financial instruments.

The effect of the fair value adjustment of derivatives is reported as a part of other comprehensive income for the derivatives where hedge accounting is made (according to the cash flow hedging method) and above net income only when the underlying transaction has been realised. Hedge accounting requires the derivative to be appropriate and expected to be effective regarding the identified risks.

For the derivatives where hedge accounting is not made the fair value valuation is reported above net income. The fair value adjustment of derivatives is reported separately from the underlying instrument as a separate item called derivative assets/derivative liabilities in the statement of financial position.

*Hedges of net investments in foreign operations*

In order to finance acquisitions of foreign operations loans are raised, if possible, in the same currency as the net investment. The loans thereby constitute a hedge of the net investment in each currency. Exchange rate differences relating to these loans are therefore booked to other comprehensive income.

**Income Taxes**

Income taxes are reported in accordance with IAS 12 "Income Taxes".

Current tax is the amount of income taxes payable (recoverable) in respect of the taxable profit (tax loss) for a period. Current tax liabilities (receivables) for the current and prior periods are measured at the amount expected to be paid to (recovered from) the tax authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the closing date. In essence, this means that current tax is calculated according to the rules that apply in the countries where the profit was generated.

Deferred tax liabilities are the amounts of income taxes payable in future periods in respect of taxable temporary differences. Deferred tax liabilities are recognised for all taxable temporary differences, except for goodwill.

Deferred tax assets are the amounts of income taxes recoverable in future periods in respect of: (a) deductible temporary differences; (b) the carry-forward of unused tax losses; and (c) the carry-forward of unused tax credits. Deferred tax assets are recognised for all deductible temporary differences to the extent that it is probable (>50 percent) that taxable profit will be available against which the deductible temporary difference can be utilised. Deferred tax assets are recognised for the carry-forward of unused tax losses and unused tax credits to the extent that it is probable (>50 percent) that future taxable profit will be available against which the unused tax losses and unused tax credits can be utilised.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realised or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the closing date.

If it is not any longer probable that sufficient taxable profits will be available against which a deferred tax asset can be utilised, then the deferred tax asset is reduced accordingly.

**Inventories**

The Group's inventory has been accounted for after elimination of inter-company gains. The inventory has been valued according to the "First-In-First-Out" (FIFO) method at the lowest of cost or net realisable value, taking into account obsolescence.

This means that raw material and purchased components normally are valued at the acquisition cost, unless the market price has fallen. Work in progress is valued at the sum of direct material and direct labour costs with a mark-up for the product's share in capital costs in the manufacturing and other indirect manufacturing costs based on a forecasted assumption on the capacity utilisation in the factory. Finished goods are normally valued at the delivery value (i.e. at cost) from the factory if the delivery is forthcoming. Spare parts that can be in the inventory during longer periods of time are normally valued at net realisable value.

**Joint ventures**

Joint ventures are consolidated according to IFRS 11 “Joint arrangements”. Joint arrangements are defined as a contractual arrangement where two or more parties have a joint decisive influence.

It is crucial to be able to judge whether a party has control over another party, that is decisive influence or if it rather is a substantial or common influence. If it is the latter, then it is a so called joint arrangement, which could be either:

– a joint operation; or

– a joint venture.

Jointly owned assets and joint activities are called joint operations. Each owner or party accounts for his share of assets, liabilities, revenues and costs.

Joint ventures are consolidated according to the equity method. This means that the interest is accounted for on one line in the consolidated statement of financial position and that the share of the result is accounted for on one line in the consolidated statement of comprehensive income. It is the net income in the joint ventures that is booked into one line in the operating income. The counter entry is an increase or decrease of the value of shares in joint ventures. Received dividends reduce the value of the shares in joint ventures. The sales volume and other result items and the balance items in the joint ventures will no longer be reported in the statements over consolidated comprehensive income and consolidated financial position in any of the two owner companies.

**Leasing**

Leasing is accounted for in accordance with IAS 17 “Leases”.

When Alfa Laval is the lessor, leased assets that are classified as financial leases are accounted for as a financial receivable from the lessee in the statement on financial position. The leasing fee received from the lessee is accounted for as financial income calculated as interest on the outstanding receivable and as amortisation of the receivable.

When Alfa Laval is the lessee, leased assets that are classified as financial leases are accounted for as capitalised assets and a corresponding financial payable to the lessor in the statement on financial position. The leasing fee to the lessor is accounted for as financial cost calculated as interest on the outstanding payable and as amortisation of the payable. Depreciation according to plan is done in the same manner as purchased assets.

Leased assets classified as operational leases are not capitalised. The leasing fees are expensed as incurred.

**Levies**

Levies relate to levies/taxes that governmental or corresponding bodies are charging companies in accordance with laws or regulations with exception of income taxes, penalties and fines. IFRIC 21 “Levies” is an interpretation that clarifies when a liability for levies is to be accounted for. The obligating event that gives rise to the reporting of a liability is the activity that triggers the payment of the levy. IFRIC 21 only treats the accounting for the liability side and not whether the debit side is a cost or an asset. One example of a levy is the Swedish real estate tax, which is levied on the owner of a property at January 1. At inception of the year the liability is booked and a corresponding prepaid cost, which is then phased as a cost over the year.

**Non-current assets (tangible and intangible)**

Assets have been accounted for at cost, net after deduction of accumulated depreciation according to plan. Depreciation according to plan is based on the assets’ acquisition values and is calculated according to the estimated useful life of the assets.

**The following useful lives have been used:**

| | |
|---|---|
| *Tangible:* | |
| Computer programs, computers | 3.3 years |
| Office equipment | 4 years |
| Vehicles | 5 years |
| Machinery and equipment | 7–14 years |
| Land improvements | 20 years |
| Buildings | 25–33 years |
| *Intangible:* | |
| Patents and unpatented know-how | 10–20 years |
| Trademarks | 10–20 years |
| Licenses, renting rights and similar rights | 10–20 years |

The depreciation is made according to the straight-line method.

Any additions to the purchase price in connection with investments in non-current assets or acquisitions of businesses are amortised over the same period as the original purchase price. This means that the time when the asset is fully depreciated is identical regardless of when payments are made. This is a reflection of the fact that the estimated useful life of the asset is the same.

Upon sale or scrapping of assets, the results are calculated in relation to the net book value after depreciation according to plan. The result on sales is included in operating income.

*Impairment of assets*

When there are indications that the value of a tangible asset or an intangible asset with a definite useful life has decreased, there is a valuation made if it must be written down according to IAS 36 “Impairment of Assets”. If the reported value is higher than the recoverable amount, a write down is made that burdens net income. When assets are up for sale, for instance items of real estate, a clear indication of the recoverable amount is received that can trigger a write down.

Goodwill and intangible assets with indefinite useful life are not amortised. These assets are instead tested for impairment both annually and when there is an indication. The impairment test is made according to IAS 36 “Impairment on assets”.

The recoverable amount for goodwill and intangible assets with indefinite useful life is determined from the value in use based on discounted future cash flows. For other assets the recoverable amount is normally determined from the fair value less costs to sell based on an observable market price.

For the impairment testing of goodwill, four of Alfa Laval’s operating segments, the four business divisions “Energy”, “Food & Water”, “Marine” and “Greenhouse” have been identified as the cash-generating units within Alfa Laval. Technically a recently acquired business activity could be followed independently during an initial period, but acquired businesses are normally integrated into the divisions at a fast rate. This means that the independent traceability is lost fairly soon and then any independent measurement and testing becomes impracticable. The net present value is based on the projected EBITDA figures for the next twenty years, less projected investments and changes in operating capital during the same period. The used discount rate is the pre-tax weighted average cost of capital (WACC). The growth rate for the divisions during the period is the perceived expected average industry growth rate.

**Non-current assets and disposal groups held for sale and discontinued operations**

The Group is applying IFRS 5 “Non-current Assets Held for Sale and Discontinued Operations”. IFRS 5 specifies the accounting for assets and disposal groups held for sale and the disclosures to be made for discontinued operations.

Assets and disposal groups held for sale are measured at the lower of carrying amount and fair value less costs to sell, except for deferred tax items and defined benefit obligations. No depreciation of such assets is made. An asset or disposal group held for sale is an asset whose carrying amount will be recovered basically through a sale rather than through continuing use. It must be available for immediate sale in its current condition. The sale must be highly probable, that is a decision must have been made and an active sales effort must have been initiated. The sale must be expected to be finalised within one year. Non-current assets are reclassified to current assets and presented separately in the statement on financial position. All assets and liabilities relating to disposal groups are presented separately in the statement of financial position.

**Objectives, policies and processes for managing capital**

IAS 1 "Presentation of Financial Statements" paragraphs 134 and 135 contain disclosure requirements on the company's objectives, policies and processes for managing capital. This information is disclosed in a separate section after the description of the accounting principles.

**Other operating income and other operating costs**

Other operating income relates to for instance commission, royalty and license income. Other operating costs refer mainly to restructuring costs and to royalty costs.

Comparison distortion items that affect the operating income are reported in other operating income and other operating costs.

**Provisions**

The Group is applying IAS 37 "Provisions, Contingent Liabilities and Contingent Assets" for the reporting of provisions, contingent liabilities and contingent assets.

A provision is recognised when and only when:

– there is a present legal or constructive obligation as a result of past events;
– it is probable that a cost will be incurred in settling the obligation; and
– a reliable estimate can be made of the amount of the obligation.

The amount recognised as a provision is the best estimate of the cost required to settle the present obligation at the closing date.

In measuring the provision:

– risks and uncertainties are taken into account;
– the provisions are discounted, where the effect of the time value of money is material. When discounting is used, the increase of the provision over time is recognised as an interest cost;
– future events, such as changes in law and technology, are taken into account where there is sufficient objective evidence that they will occur; and
– gains from the expected disposal of assets are not taken into account, even if the expected disposal is closely linked to the event giving rise to the provision.

If a reimbursement of some or all of the costs to settle a provision is expected (e.g. through insurance contracts, indemnity clauses or supplier's warranties), the reimbursement is recognised:

– when and only when, it is virtually certain that the reimbursement will be received if the obligation is settled. The amount recognised for the reimbursement must not exceed the amount of the provision; and
– as a separate asset (gross). In the consolidated comprehensive income statement, however, the income related to the reimbursement is netted against the cost for the provision.

Provisions are reviewed at each closing date and adjusted to reflect the current best estimate. If it is no longer probable that a payment to settle the obligation will be incurred, the provision is reversed.

A provision must only be used for the purpose it was originally recognised for. Provisions are not recognised for future operating losses. An expectation of future operating losses is though an indication that certain assets of the operation may be impaired. If a contract is onerous, the present obligation under the contract is recognised and measured as a provision, once the assets used in order to finalize the contract have been tested for impairment.

A provision for restructuring costs is recognised only when the general recognition criteria are met. A constructive obligation to restructure arises only when there is:

– a detailed formal plan for the restructuring, identifying at least:
  a) the business or part of a business concerned;
  b) the principal locations affected;
  c) the location, function and approximate number of employees who will be compensated for terminating their services;
  d) the costs that will be undertaken; and
  e) when the plan will be implemented; and
– a valid expectation in those affected that the restructuring will be carried out.

A management or board decision to restructure does not give rise to a constructive obligation at the closing date unless the company has, before the closing date:

– started to implement the restructuring plan; or
– communicated the restructuring plan to those affected by it in a sufficiently specific manner to raise a valid expectation in them that the restructuring will happen.

When a restructuring involves the sale of an operation, no obligation arises for the sale until the company is committed to the sale, i.e. through a binding sales agreement.

A restructuring provision only includes the direct costs arising from the restructuring, which are those that are both:

– necessarily entailed by the restructuring; and
– not associated with the ongoing activities of the company.

**Research and development**

Research costs are charged to the result in the year in which they are incurred. Development costs are charged to the result in the year in which they are incurred provided that they do not fulfil the conditions for instead being capitalised according to IAS 38 "Intangible Assets".

**Revenue recognition**

Revenue from contracts with customers and revenues from leasing are reported as "Net sales" in the statement of consolidated comprehensive income. "Net sales" are referring to sales value less sales taxes, cancellations and discounts. Contracts with customers relate to sale of goods, services and projects.

IFRS 15 "Revenue from Contracts with Customers" covers how revenue recognition on contracts with customers shall be made. Revenue recognition is based on five steps:

1. Identify the contract with a customer.
2. Identify the performance obligations in the contract.
3. Determine the transaction price.
4. Allocate the transaction price to the performance obligations in the contract.
5. Recognise revenue when the entity satisfies a performance obligation.

A performance obligation is a promise in a contract with a customer to transfer to the customer either:

– a good or service (or a bundle of goods or services) that is distinct; or
– a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer.

Two or more contracts entered into at or near the same time with the same customer are accounted for as a single contract if:

– the contracts are negotiated as a package; and/or
– the amount of consideration to be paid in the contracts are linked to each other; and/or
– the goods or services in the contracts are a single performance obligation.

A contract modification is treated as a separate contract if added products or services:

– are distinct; and
– have a stand-alone selling price.

Alfa Laval shall recognise the revenue when the performance obligation has been satisfied by transferring control over a promised good or service to the customer.

Performance obligations can be satisfied either over time or at a point in time.

Alfa Laval transfers control of a good or service over time and, therefore, satisfies a performance obligation and recognises revenue over time, if one of the following criteria is met:

– the customer simultaneously receives and consumes the benefits provided by Alfa Laval's performance as Alfa Laval performs. This is normally the case for Alfa Laval's service offerings;
– Alfa Laval creates or enhances an asset that the customer controls as the asset is created or enhanced. This is normally the case when Alfa Laval performs the work at the customer's premises, which mainly relates to installation/commissioning; or
– Alfa Laval's performance does not create an asset with an alternative use to Alfa Laval and Alfa Laval has an enforceable right to payment for performance completed to date.

Alternative use to Alfa Laval means if Alfa Laval can sell the equipment to another customer. The number of engineering hours spent by Alfa Laval on making a product or process solution customer specific with a unique configuration is a good indication of whether there is an alternative use to Alfa Laval or not. As a practical expedient, only orders of more than EUR 1 million and with more than 200 engineering hours are recognised over time.

In order to establish the performance over time an output or input method is used. In Alfa Laval output methods are more applicable to service and component deliveries, whereas input methods are more applicable to projects and module sales. Depending on the nature of the project, the following methods are used:

Input methods:

– The proportion that the project costs incurred for work performed to date bear to the estimated total project costs.
– Surveys of work performed.

Considering the type of projects that Alfa Laval companies are involved in, the first method is usually the preferred.

Output methods:

– Completion of a physical proportion of the performance obligations.

If a performance obligation is not satisfied over time it is satisfied at a point in time. To establish the point in time when the customer obtains control of a promised asset and Alfa Laval satisfies a performance obligation, the following control criteria must be considered:

– Alfa Laval has a present right to payment for the asset.
– The customer has legal title to the asset.
– The customer has physical possession of the asset.
– The customer has the significant risks and rewards of ownership of the asset.
– The customer has accepted the asset.

Alfa Laval uses a variety of delivery terms depending on the customers preference, including Ex Works. Alfa Laval's preference is to use DAP (Delivered At Place) or DDP (Delivered Duty Paid) since these gives Alfa Laval better control that the customer really receives the goods in working order.

It is common that Alfa Laval provides a warranty in connection with the sale. The nature of the warranty can vary significantly across contracts. Normally warranties provide a customer with assurance that the related product will function as the parties intended according to the agreed-upon specifications. This is an assurance-type warranty. Alfa Laval's warranties normally cover a 12 months' period and are accounted for as a provision.

IFRS 15 contains a number of disclosures requirements.

**Operating segments**

IFRS 8 means that the reporting of operating segments must be made according to how the chief operating decision maker monitors the operations, which may deviate from IFRS. Furthermore information according to IFRS for the company as a whole must be given about products and services as well as geographical areas and information about major customers.

The difference between the operating income for the operating segments and the operating income according to IFRS for the company as a whole is explained by two reconciliation items.

Alfa Laval's operating segments are the divisions. The chief operating decision maker within Alfa Laval is its Board of Directors.

**Transactions in foreign currencies**

Receivables and liabilities denominated in foreign currencies have been valued at year-end rates of exchange.

Within the Group, exchange gains and losses on loans denominated in foreign currencies that finance acquisitions of foreign subsidiaries are transferred to other comprehensive income as foreign currency translation adjustments if the loans act as a hedge to the acquired net assets. There they offset the translation adjustments resulting from the consolidation of the foreign subsidiaries. In the parent company, these exchange differences are reported above net income.

IAS 21 "The Effects of Changes in Foreign Exchange Rates" covers among other things the existence of functional currencies. Almost all of Alfa Laval's subsidiaries are affected by changes in foreign exchange rates for their procurement within the Group. They do however usually sell in their local currency and they have more or less all of their non-product related costs and their personnel related costs in their local currency. This means that none of Alfa Laval's subsidiaries qualify for the use of another functional currency than the local currency, with the following exception. Subsidiaries in highly inflationary countries report their closings in the functional hard currency that is valid in each country, which in all cases is USD. During 2018 Venezuela is regarded as a highly inflationary country.

In the consolidation, the foreign subsidiaries have been translated using the current method. This means that assets and liabilities are translated at closing exchange rates and income and expenses are translated at the year's average exchange rate. The translation difference that arises is a result of the fact that net assets in foreign companies are translated at one rate at the beginning of the year and another at year-end and that the result is translated at average rate. The translation differences are part of other comprehensive income.

**Recently issued accounting pronouncements**

International Accounting Standards Board (IASB) has issued the following new or revised accounting pronouncements, which may be applicable on Alfa Laval and are effective for fiscal years beginning on or after January 1, 2019. Alfa Laval has chosen not to make any early adoption of any of these pronouncements.

**IFRS 16**

IFRS 16 "Leases" covers the recognition, measurement, presentation and disclosure of leases by both lessors and lessees. IFRS 16 replaces IAS 17 "Leases".

For lessees the current classification in operational and financial leases disappears and is replaced by a model where assets and liabilities for all leasing contracts must be recognised in the balance sheet. For leasing contracts where the contract period is maximum 12 months or the leased asset is of low value, there is an option to apply a practical expedient, which Alfa Laval has decided to use.

With reference to the materiality rules in IAS 8.8, Alfa Laval has chosen to apply the new rules for leases concerning buildings and land, company cars and other vehicles, fork lifts, large servers and large printers. The present value for other leases is estimated to be non-material.

For lessors the rules in IAS 17 are basically kept why a classification into operational and financial leases like the current should be done also going forward.

Current operational lease contracts can include both a leasing part and a service part. According to IFRS 16, the company in these cases can choose to separate them from each other and thus only recognise the leasing part in the balance sheet or capitalise the entire contract. The choice impacts by which amount the balance sheet will increase in the end. Alfa Laval has chosen to exclude the service part from the new leasing accounting and it is instead expensed as before.

IFRS 16 has been adopted by the European Union and becomes effective for financial years beginning on or after January 1, 2019. Alfa Laval will apply the standard retrospectively with the cumulative effect of the initial application recognised as an adjustment to the opening balance of right-of-use assets, lease liabilities and unrestricted equity at January 1, 2019. In connection with the transition a practical expedient will be applied that means that the new leasing definition is only applied on new lease contracts instead of on all leasing contracts.

The initial application of IFRS 16 will impact the opening balance for 2019 and the full year result for 2019 according to the table below.

In Note 35 the future minimum leasing fees for 2019 for operating leases amount to SEK 498 million, whereas the value for 2019 in the above table is just SEK 459 million. The main reason to the difference is that the service fees are excluded from the above value, but also that some short-term leases and low value leases are excluded together with other leases that are not material for Alfa Laval.

In Note 35 the total future minimum leasing fees for operating leases amount to SEK 2,256 million, whereas the right-of-use assets in the above table is SEK 2,766 million. The main reason to the difference is that the right-of-use assets are based on longer expected lease terms, where the leasing fees have however have been discounted. The service fees are also excluded from the above value as well as some short-term leases and low value leases together with other leases that are not material for Alfa Laval.

IFRS 16 will also mean that the disclosure requirements concerning leases will become more burdening.

**Effect of IFRS 16 on**

| Consolidated | |
|---|---|
| SEK millions | |
| **Opening balance 2019** | |
| Right-of-use assets | 2,766 |
| Leasing liability | 2,766 |
| **Full year result 2019** | |
| **Effect on operating income** | |
| Leasing fees not expensed any longer | 459 |
| Depreciation on right-of use assets | -416 |
| | 43 |
| **Effect on financial net** | |
| Interest on leasing liability | -60 |
| **Net effect on result before tax** | **-17** |

International Accounting Standards Board (IASB) has issued the following financial reporting interpretation developed by the International Financial Reporting Interpretations Committee (IFRIC), which may be applicable on Alfa Laval and are effective for fiscal years beginning on or after January 1, 2019. Early application is allowed.

**IFRIC 23**

IFRIC 23 "Uncertainty over Income Tax Treatments" clarifies how to treat uncertain tax positions. A judgement is to be made whether the deciding instance will accept for instance claimed tax deductions or not and that will impact what tax cost and tax liability that will be reported. Alfa Laval cannot see that the company's current treatment of this deviates from IFRIC 23.

Otherwise Alfa Laval will further evaluate the effects of the application of the new or revised accounting standards or interpretations before each time of application.

# Objectives, policies and processes for managing capital

Alfa Laval defines its managed capital as the sum of consolidated net debt and equity including the part that is attributable to non-controlling interests. At the end of 2018 the managed capital was SEK 30,584 (28,700) million.

The Group's objective when managing capital is to safeguard the Group's ability to continue as a going concern and provide an adequate return for shareholders and benefits for other stakeholders.

When managing the capital, the Group monitors several measures including:

| Measure | | | | Outcome | | Average over last | | |
|---|---|---|---|---|---|---|---|---|
| | Goal | Target standard | Target not set | 2018 | 2017 | 3 years | 5 years | 8 years |
| Invoicing growth per year | ≥5% * | | | 15.2% | -0.9% | 0.8% | 7.3% | 8.1% |
| Adjusted EBITA margin ** | 15% * | | | 16.5% | 15.9% | 16.0% | 16.4% | 16.7% |
| Return on capital employed ** | ≥20% | | | 22.4% | 17.7% | 18.5% | 19.5% | 22.8% |
| Net debt to EBITDA ** | | ≤2.0 | | 0.93 | 1.31 | 1.35 | 1.61 | 1.24 |
| Cash flow from operating activities including investments in fixed assets *** | | 10% | | 8.3% | 10.7% | 10.4% | 11.4% | 11.2% |
| Investments *** | | 2.0% | | 3.7% | 1.9% | 2.5% | 2.2% | 2.1% |
| Return on equity | | | X | 20.3% | 13.9% | 15.3% | 17.1% | 18.6% |
| Solidity | | | X | 40.6% | 39.0% | 39.2% | 36.8% | 39.4% |
| Debt ratio ** | | | X | 0.30 | 0.40 | 0.39 | 0.54 | 0.42 |
| Interest coverage ratio ** | | | X | 39.3 | 28.4 | 30.7 | 26.5 | 25.8 |
| Credit rating | | | X | BBB+ | BBB+ | | | |

* Average over a business cycle. ** Alternative performance measures. *** in % of sales.

These measures are connected to each other as communicating vessels. This means that if actions are taken that primarily aim at a certain measure they will also have an impact on other measures to a varying degree. It is therefore important to consider the whole picture.

In order to maintain a good capital structure, the Group may for instance raise new loans or amortise on existing loans, adjust the amount of dividends paid to shareholders, return capital to shareholders, repurchase own shares, issue new shares or sell assets.

As examples on the Group's active work with managing its capital the following can be mentioned:

- Two tranches of corporate bonds totalling EUR 800 million were issued in September 2014.
- A commercial paper programme of nominally SEK 2,000 million with a duration of 3–5 months was started in the spring 2014.
- The bilateral term loans with Swedish Export Credit from June 2011 and June 2014.
- The senior credit facility with a new banking syndicate from June 2014.
- The finance contracts with the European Investment Bank from September 2009 and December 2013, where bilateral term loans were called for in March 2011 and in June 2014 respectively.

# Financial risks

Financial risks are referring to financial instruments.

### Financial instruments

Alfa Laval has the following financial instruments: cash and cash equivalents, deposits, trade receivables, bank loans, trade payables and a limited number of derivative instruments to hedge primarily currency rates or interests, but also the price of metals and electricity. These include currency forward contracts, currency options, interest-rate swaps, metal forward contracts and electricity futures. See Notes 13 and 14 for more information on these financial instruments.

### Financial policy

In order to control and limit the financial risks, the Board of the Group has established a financial policy. The Group has an aversive attitude toward financial risks. This is expressed in the policy. It establishes the distribution of responsibility between the local companies and the central finance function in Alfa Laval Treasury International, what financial risks the Group can accept and how the risks should be limited.

### Price risk

There are three different types of price risks: currency risk, interest risk and market risk. See below.

### Currency risk

Due to the Alfa Laval Group's international business activities and geographical spread the Group is exposed to currency risks. The exchange rate movements in the major currencies for the Group during the last years are presented below (SEK/foreign currency):

Currency risk is divided into transaction exposure that relates to exchange rate fluctuations that affects the currency flows that arise due to the business activities and translation exposure that relates to the translation of the subsidiaries' statements on financial position from local currency to SEK.

*Transaction exposure*

During 2018 Alfa Laval's sales to countries outside Sweden amounted to 97.7 (97.5) percent of total sales.

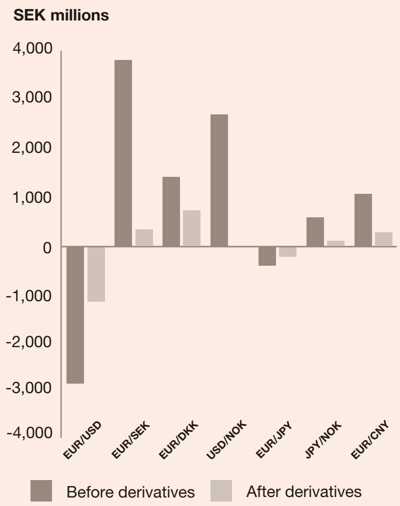
Alfa Laval's local sales companies normally sell in domestic currency to local end customers and have their local cost base in local currency. Exports from production and logistical centres to other Group companies are invoiced in the exporting companies' domestic currencies, except for Sweden, Denmark and UK where the exports are denominated in EUR.

The Group is principally exposed to currency risk from potential changes in contracted and projected flows of payments and receipts. The objective of foreign exchange risk management is to reduce the impact of foreign exchange movements on the Group's income and financial position.

The Group normally has natural risk coverage through sales as well as costs in local currencies. The financial policy states that the local companies are responsible for identifying and hedging exchange rate exposures on all commercial flows via Alfa Laval Treasury International. Contract based exposures must be fully hedged. In addition, the balance of projected flows the next 12 months must be hedged to at least 50 percent. The remaining part of the projected flows can be partially hedged after conferring with the Group's central finance function. Alfa Laval Treasury International can add to or reduce the total hedging initiated by the local companies in the currencies that Alfa Laval has commercial exposure up to but not exceeding 100 percent of one year's commercial exposure for each currency.

The Group's net transaction exposure at December 31, 2018 in the most important currencies before and after derivatives for the coming 12 months amounts to:

**Net transaction exposure per currency pair at December 31, 2018 for the coming 12 months**

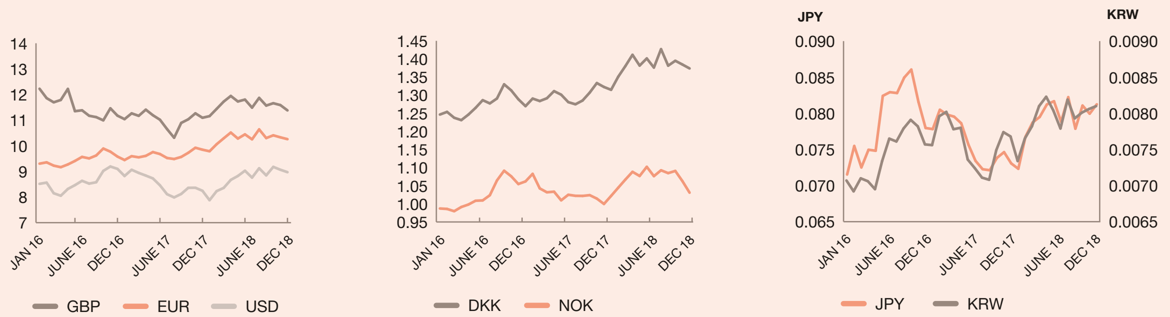



The positive bars are a reflection of:
- subsidiaries in Sweden and Denmark exporting in EUR,
- subsidiaries in Norway exporting mainly in USD but also in JPY and
- subsidiaries in China to exporting in EUR.

The negative bars are a reflection of subsidiaries in the U.S. and Japan importing in EUR.

Currency contracts for projected flows are entered into continuously during the year with 12 months maximum duration. For contract based exposures the derivatives follow the duration of the underlying contract. This means that the company experiences the effects from the market currency rate movements with a varying degree of delay.

**Exchange rate fluctuations**



If the currency rates between SEK and the most important foreign currencies are changed by +/- 10 % it has the following effect on operating income, if no hedging measures are taken:

**Effect on operating income by exchange rate fluctuations excluding hedging measures**

| Consolidated | | | | |
|---|---|---|---|---|
| SEK millions | 2018 | | 2017 | |
| Exchange rate change against SEK | + 10% | - 10% | + 10% | - 10% |
| USD | 506 | -506 | 305 | -305 |
| EUR | 233 | -233 | 247 | -247 |
| CNY | 114 | -114 | 55 | -55 |
| NOK | -294 | 294 | -218 | 218 |
| DKK | -190 | 190 | -166 | 166 |
| JPY | 87 | -87 | 75 | -75 |
| Other | -72 | 72 | -73 | 73 |
| **Total** | **384** | **-384** | **225** | **-225** |

Outstanding currency forward contracts and currency options for the Group amounted to the following at the end of the year:

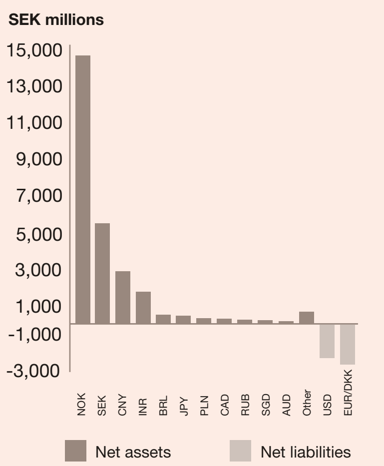
**Outstanding currency forward contracts and currency options**

| Consolidated | | | | |
|---|---|---|---|---|
| Millions | 2018 | | 2017 | |
| | Original currency | SEK | Original currency | SEK |
| **Outflows:** | | | | |
| USD | -763 | -6,840 | -493 | -4,065 |
| EUR | -528 | -5,419 | -278 | -2,736 |
| CAD | -6 | -37 | -4 | -24 |
| CZK | – | – | -14 | -6 |
| JPY | -10,208 | -829 | -11,889 | -869 |
| NZD | -4 | -25 | -2 | -9 |
| **Total** | | **-13,150** | | **-7,709** |
| **Inflows:** | | | | |
| SEK | 4,562 | 4,562 | 1,616 | 1,616 |
| DKK | 535 | 735 | 241 | 318 |
| NOK | 5,310 | 5,474 | 5,162 | 5,160 |
| CNY | 1,510 | 1,969 | 570 | 721 |
| SGD | 10 | 64 | 7 | 44 |
| GBP | 22 | 245 | 8 | 87 |
| RON | 2 | 3 | – | – |
| AUD | 10 | 62 | 10 | 67 |
| RUB | 743 | 96 | 314 | 45 |
| **Total** | | **13,210** | | **8,058** |

*Translation exposure*

When the subsidiaries' statements of financial position in local currency are translated into SEK a translation difference arises that is due to the current year being translated at a different closing rate than last year and that the comprehensive income statement is translated at the average rate during the year whereas the statement of financial position is translated at the closing rate at December 31. The translation differences are reported against other comprehensive income. The translation exposure consists of the risk that the translation difference represents in terms of impact on comprehensive income. The risk is largest for the currencies where the Group has the largest net assets and where the exchange rate movements against SEK are largest. The Group's net assets or liabilities for the major currencies are distributed as follows:

**Net assets and liabilities by currency**




The assets and liabilities in EUR and DKK are seen together since the rate for DKK is fixed against the EUR.

The translation differences are a central responsibility and are managed by distributing the loans on different currencies based on the net assets in each currency and through cross currency swaps. Loans taken in the same currency as there are net assets in the Group, decrease these net assets and thereby decrease the translation exposure.

These hedges of net investments in foreign operations work in the following way. Exchange gains and losses on loans denominated in foreign currencies that finance acquisitions of foreign subsidiaries are reported as a part of other comprehensive income if the loans act as a hedge to the acquired net assets. In other comprehensive income they offset the translation adjustments resulting from the consolidation of the foreign subsidiaries. In the Group, net exchange differences of SEK -571 (-207) million relating to debts in foreign currencies have been charged to other comprehensive income as hedges of net investments in foreign operations. The loans that hedge net investments in foreign operations are denominated in EUR and USD since these foreign currencies have the largest impact on the statement of financial position. Since the Group uses part of its cash flows to amortise the loans in order to improve the financial net, the extent of this hedge tends to decrease over time. A change in the net assets of the foreign subsidiary over time can have the same effect.

**Interest risk**

By interest risk is meant how changes in the interest level affect the financial net of the Group and how the value of financial instruments vary due to changes in market interest rates. The Group attempts to manage interest rate risk by matching fixed interest periods of financial assets and liabilities and through the use of derivative financial instruments such as interest rate swaps.

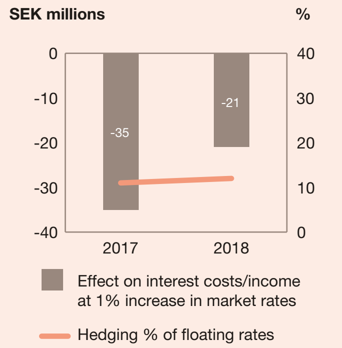
The financial policy states that the interest rate risk and duration are measured by each main currency. The minimum interest duration for the loans should be 10 months and the maximum interest duration should be 24–48 months depending on the currency the loan is raised in according to the policy.

The senior credit facility, the bilateral term loans, the commercial papers and the EUR 300 million tranche of the corporate bonds accrue interest at floating rate. The Group has chosen to hedge 12 (11) percent of the loans to fixed interest rate, with a duration of 10.8 (13.6) months.

The average interest and currency duration for all loans including derivatives is 22.2 (25.1) months at the end of 2018.

Calculated on an overall increase of market rates by 100 basis points (1 percentage unit), the interest net of the Group would change according to the bar chart below.

**Interest sensitivity analysis versus hedging % of floating rates**




## Market risk

Market risk is defined as the risk for changes in the value of a financial instrument due to changed market prices. This applies only to financial instruments that are listed or otherwise traded, which for Alfa Laval concern bonds and other securities and other long-term securities totalling SEK 515 (546) million. The market risk for these is perceived as low. For other financial instruments, the price risk only consists of currency risk and interest risk.

## Liquidity risk and refinancing risk

Liquidity risk is defined as the risk that the Group would incur increased costs due to lack of liquid funds.

Refinancing risk is defined as the risk that the refinancing of maturing loans becomes difficult or costly. The loans of the Group are mainly long term and only mature when the agreed loan period expires. Since the maturity of the loans is distributed over time the refinancing risk is reduced.

Alfa Laval has a senior credit facility of EUR 400 million and USD 544 million, corresponding to SEK 8,981 million with a banking syndicate. At December 31, 2018 the facility was not utilised. The facility matures in June 2021.

During 2014 Alfa Laval issued EUR 800 million of corporate bonds, corresponding to SEK 7,837 million. The bonds are listed on the Irish stock exchange and consist of one tranche of EUR 300 million that matures in September 2019 and one tranche of EUR 500 million that matures in September 2022.

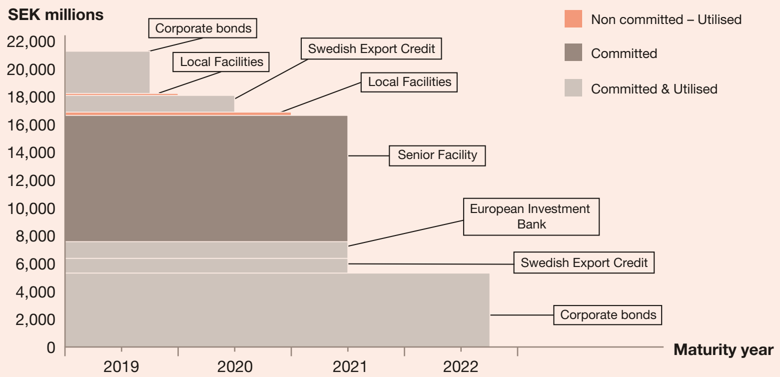
Alfa Laval has a bilateral term loan with Swedish Export Credit that is split on one loan of EUR 100 million that matures in June 2021 and loan of USD 136 million that matures in June 2020, corresponding to SEK 2,246 million in total.

Alfa Laval also has a bilateral term loan from the European Investment Bank of EUR 115 million that matures in June 2021, corresponding to SEK 1,180 million. One loan of EUR 130 million that matured was repaid on March 29, 2018.

The commercial paper programme of SEK 2,000 million was not utilised at December 31, 2018.

In summary the maturity structure of the loans and the loan facilities is as follows:

**Maturity structure of Group funding**




## Cash flow risk

Cash flow risk is defined as the risk that the size of future cash flows linked to financial instruments is fluctuating. This risk is mostly linked to changed interest and currency rates. To the extent that this is perceived as a problem, different derivative instruments are used to fix rates. See description of exposure and hedging measures under interest risk. Maturity analyses of the contractual undiscounted cash flows for loans (including interests), currency derivatives, interest derivatives, metal futures and electricity futures are shown below.

## Counterpart risks

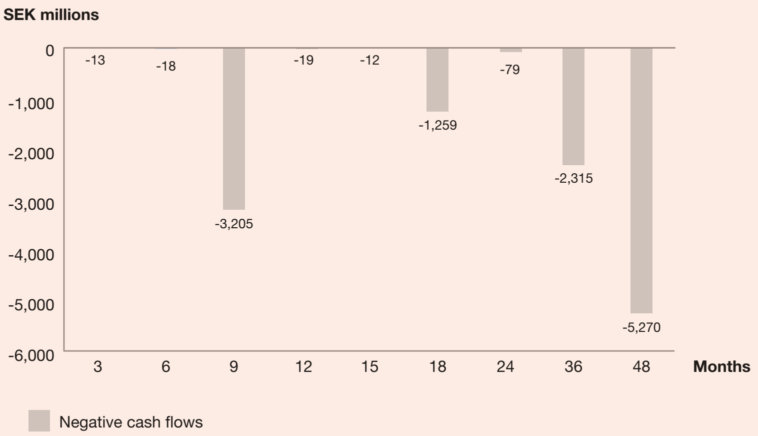
Financial instruments that potentially subject the Group to significant concentrations of credit risk consist principally of cash and cash equivalents, deposits and derivatives.

The Group maintains cash and cash equivalents and current and non-current investments with various financial institutions approved by the Group. These financial institutions are located in major countries throughout the world and the Group's policy is designed to limit exposures to any one institution. The risk for a counterpart not fulfilling its commitments is limited through the selection of financially solid counterparts and by limiting the engagement per counterpart. The Group performs periodic evaluations of the relative credit standing of those financial institutions that are considered in its investment strategy. The Group does not require collateral on these financial instruments.

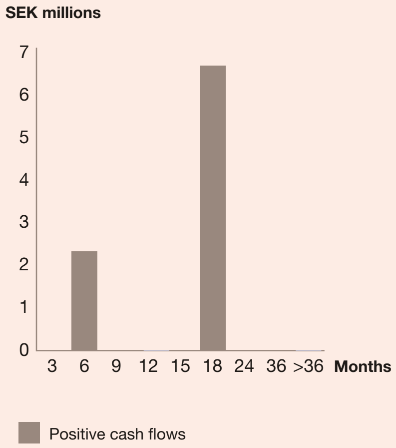
The Group is exposed to credit risk in the event of non-performance by counterparts to derivative instruments. The Group limits this exposure by diversifying among counterparts with high credit ratings and by limiting the volume of transactions with each counter party. Furthermore, the Group has entered into ISDA agreements (International Swaps and Derivatives Association) with the counter parts in order to be able to offset assets and liabilities in case of a counter party default. Alfa Laval has never encountered a counter party default, which means that such an offset never has been made.

In total it is the Group's opinion that the counterpart risks are limited and that there is no concentration of risk in these financial instruments.

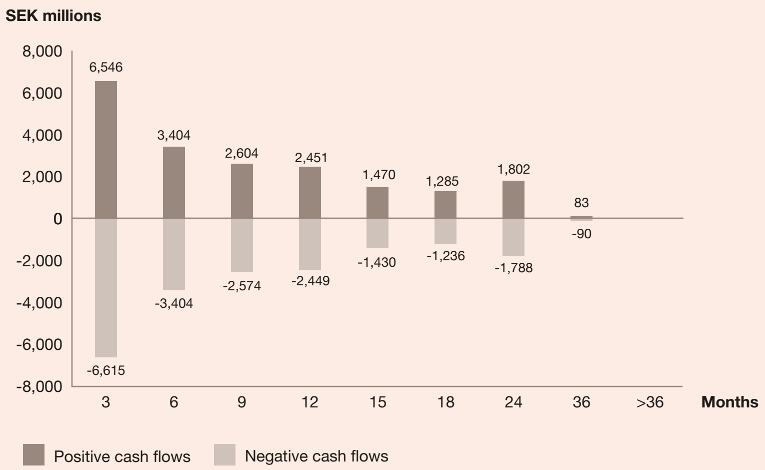
## Maturity analysis for loans



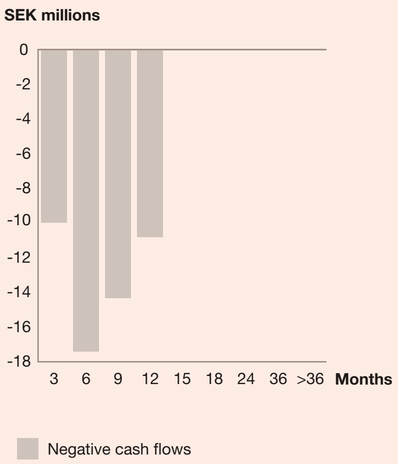

## Maturity analysis for interest derivatives



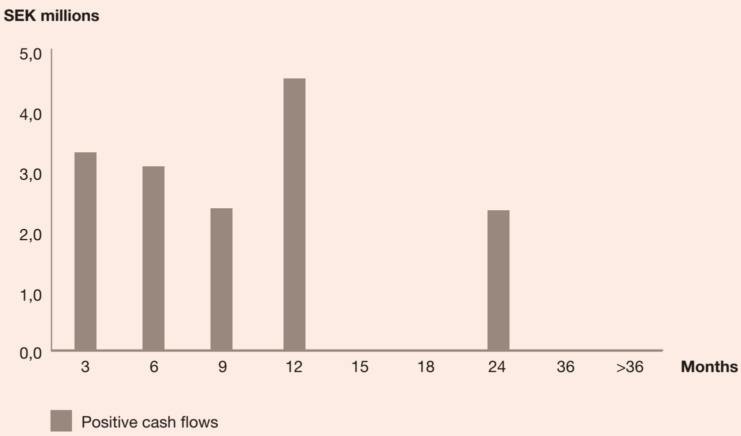

## Maturity analysis for currency derivatives




## Maturity analysis for metal derivatives



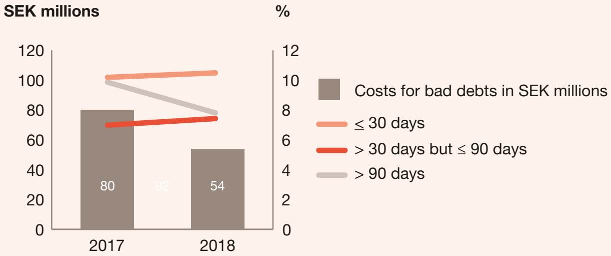

## Maturity analysis for electricity futures



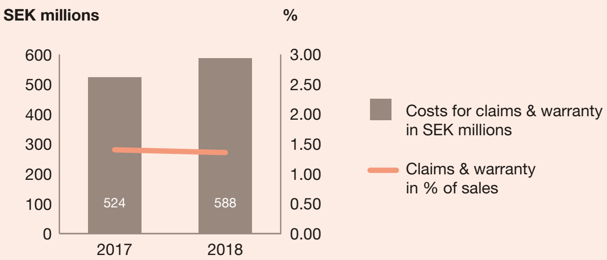
# Operational risks

| Risk | Explanation | Mitigation |
|---|---|---|
| **Business risks** | | |
| **Risk for bad debts** | The risk that the customer cannot pay for delivered goods due to financial difficulties. | The Group sells to a large number of customers in countries all over the world. That some of these customers from time to time face payment problems or go bankrupt is unfortunately part of reality in an operation of Alfa Laval's magnitude. All customers except Tetra Laval represent less than 1 percent of net sales and thereby represent a limited risk. Alfa Laval regularly collects credit information on new customers and, if needed, on old customers. Earlier payment habits have an impact on the acceptance of new orders. On markets with political or financial risks, the Group strives to attain credit insurance solutions.<br>Accounts receivable constitutes the single largest financial asset according to Note 13. With reference to the above description it is management's opinion that there is no material concentration of risk in this financial asset.<br>The amount of accounts receivable being overdue is an indication of the risk the company runs for ending up in a bad debt situation.<br>The Group's costs for bad debts and the overdues in percent of accounts receivable are presented in the following graph. |
| **Risk for claims** | The risk for the costs Alfa Laval would incur to rectify faults in products or systems and possible costs for penalties. | Alfa Laval strives to minimize these costs through an ISO certified quality assurance. The major risks for claim costs appear in connection with new technical solutions and new applications. The risks are limited through extensive tests at the manufacturing site and at the customer site. The Group's net claim costs and their relation to net sales are found in the following graph. |

### Costs for bad debts / overdues in % of accounts receivable




### Claim costs in SEK millions and in % of net sales



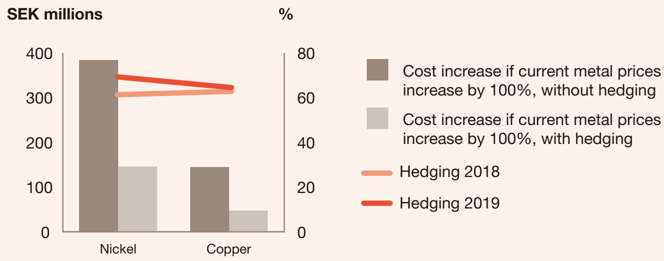
| Risk | Explanation | Mitigation |
|---|---|---|
| **Economic risk** | | |
| ***Competition*** | The Group operates in competitive markets, which can impact the company's development negatively. | In order to address this competition, the Group has for instance:<br>– organized the operations into divisions based on business units in order to get a customer focused market penetration;<br>– a strategy for acquisition of businesses in order to for instance reinforce the presence on certain markets or widen the Group's product offering;<br>– worked with creating a competitive cost level based on its international presence; and<br>– worked with securing the availability of strategic metals and components in order to maintain the ability to deliver. |
| ***Business climate*** | In an overall economic downturn, the Group tends to be affected with a delay of six to twelve months depending on business division. The same applies with an economic upturn. | The fact that the Group is operating on a large number of geographical markets and within a wide range of business units means a diversification that limits the effects of fluctuations in the business climate. Historically, fluctuations in the business climate have not generated decreases in orders received by more than approximately 10–15 percent. The downturn in the business climate in 2009 and 2010 however meant a considerably larger decline in order intake. This was partly due to the fact that the decline happened abruptly from a very high level of demand that was the culmination of a long-lasting boom and that the price level in connection with this peak was inflated by substantial increases in raw material prices. |
| ***Prices of raw material*** | The Group depends on deliveries of stainless steel, carbon steel, copper and titanium etc. for the manufacture of products. The prices in some of these markets are volatile and the supply of titanium has occasionally been limited. There are a limited number of possible suppliers of titanium. The risk for severely increased prices or limited supply constitutes serious risks for the operations. The possibilities to pass on higher input prices to an end customer vary from time to time and between different markets depending on the competition. | The Group is addressing this risk by securing long-term supply commitments and through fixed prices from the suppliers during six to twelve months. During periods of large price increases the customer price on titanium products has been linked to Alfa Laval's procurement costs for titanium. Primarily in the period 2007 to 2011 the Group experienced large price fluctuations for many raw materials, but in particular for stainless steel, carbon steel, copper and titanium. The price volatility for the most important metals is presented below.<br>The Group uses metal futures to secure the price on strategic metals. The fourth graph below shows how much of the purchases of nickel and copper that have been hedged during 2018 and how much of the expected purchases during 2019 that were hedged at the end of 2018. The graph also presents to what extent the Group's costs for these purchases during 2019 would be affected if the prices would double from the level at December 31, 2018. |

### Nickel


### Copper


### Aluminium


### Sensitivity analysis and metal price hedging



| Risk | Explanation | Mitigation |
|---|---|---|
| **Legal and compliance risks** | | |
| **Non-compliance with socioeconomic or environmental legislation** | Alfa Laval's global and diversified business means that the Group is required to adhere to a variety of laws and regulations. Failure to meet socio-economic or environmental requirements could lead to legal and financial consequences, and negatively impact the company's reputation. | Policies, procedures and training programmes are in place to ensure that legal risks relating to its business activities are identified and that decisions are made on the appropriate level in the organisation. The legal counsel supports the business in identifying and handling these legal risks. A whistle-blowing system is in place where employees can report any breaches of laws or Alfa Laval policies anonymously without repercussions. |
| **Bribery and corruption** | If Alfa Laval employees fail to comply with anti-bribery and anti-corruption laws, this could potentially lead to loss of business, financial penalties and reputational damage. | The Alfa Laval Anti-Bribery and Anti-Corruption Policy is applicable to all employees within the Group. The policy sets procedures for preventing, detecting, reporting and investigating acts of bribery and corruption. The focus is on following the policy and each year the company's top 200 managers sign off that they comply with the policy and inform their employees. Training is another focus area to ensure an understanding of the risks associated with improper behaviour in this area. |
| **Material source or type** | Alfa Laval uses metals that may originate from areas classified as "conflict areas". We manufacture products for customers with specific demands due to industry standards, for example marine, food and pharmaceutical customers. | Alfa Laval supports the US Securities and Exchange Commission's rules and other initiatives concerning conflict minerals. Alfa Laval establihed a Conflict Minerals Policy in 2013. Due diligence is conducted in our supply chain to minimize the risk that minerals originate from conflict areas (especially in the Democratic Republic of Congo). Alfa Laval's Supplier Risk & Compliance unit has processes in place to identify risks and monitor potential high-risk suppliers. The Alfa Laval Regulatory Operations unit monitors emerging legislation to ensure adherence in prioritized areas. |
| **Un-fair competition and antitrust** | Infringements of applicable competition rules may result in Alfa Laval having to pay fines and loosing goodwill. | The Fair Competition Policy provides guidelines to assist employees with how to adhere to competition law/antitrust laws, rules and regulation. Employees working with sales or purchasing are obliged to comply with this policy. |
| **Export control and trade sanction regulations** | Breach of export control and trade sanction regulations can lead to a denial of trade privileges, criminal proceedings and reputational damage. | The Alfa Laval Export Control Policy establishes rules for Group-wide handling of the relevant export control regulations, adherence to applicable trade sanctions and it ensures that no products or services supplied by Alfa Laval are used in relation to weapons of mass destruction. |
| **Risk for and in connection with litigations** | This risk for the costs the Group may incur in managing litigations, costs in connection with settlements and costs for imposed penalties. The Group is involved in a few litigations, mainly with customers. | Any estimated loss risks are provided for. |
| *Asbestos-related lawsuits* | The Alfa Laval Group was as of December 31, 2018, named as a co-defendant in a total of 820 asbestos-related lawsuits with a total of approximately 820 plaintiffs. | Alfa Laval strongly believes the claims against the Group are without merit and intends to vigorously contest each lawsuit.<br>Based on current information and Alfa Laval's understanding of these lawsuits, Alfa Laval continues to believe that these lawsuits will not have a material adverse effect on the Group's financial condition or results of operation. |
| **Supply chain risks** | | |
| **Business Principles deviation in the supply chain** | Deviations could have an adverse impact on people, the environment and society that could damage the company's reputation. | Alfa Laval works to have a supply chain that follows laws and the company's business principles. All suppliers sign contracts where they agree to abide by the Alfa Laval Business Principles. Suppliers are assessed based on a risk analysis (country/process) and high-risk suppliers are regularly audited. All employees within the procurement organisation and many suppliers are trained in all areas that are covered by the business principles. |

| Risk | Explanation | Mitigation |
|---|---|---|
| **Human Rights breaches** | The risk that the human rights of individuals linked to Alfa Laval are violated. For example, child labour, forced labour and freedom of association. | Alfa Laval's Business Principles build on the UN Global Compact, the OECD Guidelines for multinational enterprises, the UN Guiding Principles for Business and Human Rights and incorporate the UK Modern Slavery Act. Suppliers sign off on these business principles in their contracts with Alfa Laval. High-risk suppliers are also audited that they follow the business principles. |
| **Production or product related risks** | | |
| **Risk connected to technical development** | This risk that a competitor develops a new technical solution that makes Alfa Laval's products technically obsolete and therefore difficult to sell. | Alfa Laval makes a deliberate investment in research and development aiming at being in the absolute frontline of technical development. |
| **Risk for technically related damages** | This risk for the costs Alfa Laval may incur in connection with a product delivered by the Group breaking down and causing damages to life and property. The main risk in this context concerns high-speed separators, due to the large forces that are involved when the bowl in the separator spins with a very high number of revolutions. In a breakdown the damages can be extensive. | Alfa Laval makes extensive testing and has an ISO certified quality assurance. The Group has product liability insurance. The number of damages is low and few damages have occurred historically. |
| **Health & Safety** | Health and safety risks such as occupational diseases and accidents. The risk that an employee is injured or killed in a workplace accident. | The Alfa Laval Occupational Health & Safety (OHS) Policy guides the work together with our OHS Manual. The purpose with these is to safeguard a healthy and safe working environment by preventing accidents, occupational diseases and other health risks. We have a process to continuously monitor high-risk areas in our operations, train employees and enforce changes. |
| **Environmental risks** | | |
| **Major environmental incident at a site** | An incident that causes a significant environmental damage could lead to long-term environmental impact, negative impact on people, fines and reputational damage to the company. | The Alfa Laval Environmental Policy is applicable to the entire Alfa Laval Group. Environmental performance is monitored and measured through Environmental Management Systems. The large sites are ISO 14001 certified. Smaller sites work according to Environmental Management Systems where risks are identified, and effective counter-measures are implemented. |
| **Use of hazardous chemicals** | Using hazardous chemicals could lead to severe illness or have a serious negative impact on our environment or society. | The Alfa Laval Group Black and Grey Chemicals List is the primary tool to control the use of chemical substances. This list compiles substances that are classified as banned, very high concern or concern. The list is based on EU legislations, such as REACH and RoHS, and global agreements such as for example POPs and IMO. The list is updated each year to reflect any legislative changes. |
| **Climate and water** | Climate change could lead to increased costs and constrain production. Water scarcity in the supply chain or at our sites can constrain production. Cost of energy or carbon emissions can increase due to climate legislation. | Alfa Laval does not use significant amounts of energy in its production. To continuously improve, we have targets to both increase energy efficiency and to reduce carbon emissions. Alfa Laval production is not water intensive and most water facilities are closed loop. The Environmental Strategy for 2020 includes targets for all three areas. Read more in the Environment chapter in Alfa Laval's Sustainability Report. |
| **IT related risks** | | |
| **Loss of intellectual property, financial or personal data** | Loss of intellectual property, financial or personal data due to for instance unauthorized access to Alfa Laval's computer systems. | Alfa Laval holds compulsory trainings on information security awareness. Policies describe what is confidential information and how the information should be classified. Alfa Laval's IT agreements contains the necessary Information Security components. Information security is also monitored in our project model – feasibility, pre-study and project. A template is also sent at an early stage to all potential suppliers to identify if there are any possible infringements of information security. |

| Risk | Explanation | Mitigation |
|---|---|---|
| **Human capital risks** | | |
| **Risk connected to attracting and retaining talents** | Companies that do not succeed in attracting and retaining talents risk experiencing an inferior development compared to companies that succeed with this. | To offer interesting positions, personal and professional development, a good working environment and competitive compensation and benefits are prioritized areas within Alfa Laval. |
| **Other risks** | | |
| **Business interruption risks** | The risk that single units or functions within the Group can be hit by business interruption due to:<br>– strikes and other labour market conflicts;<br>– fires, natural catastrophes etc.;<br>– computer access violations, lack of backups etc.; and<br>– corresponding problems at major sub-suppliers. | Alfa Laval has a well-developed dialog with the local unions, which reduces the risk for conflicts and strikes where Alfa Laval is directly involved. It is however more difficult to protect the company against conflicts in other parts of the labour market, for instance within transportation.<br>Alfa Laval is minimizing the following two risks through an active preventive work at each site in line with the developed global policies in each area under supervision of manufacturing management, the Group's Risk Management function, Real Estate Management, IT and HR.<br>Problems at major sub-suppliers are minimized by Alfa Laval trying to use several suppliers of input goods that when needed can cover up for a drop in production somewhere else. The wish for long term and competitive delivery agreements however puts restrictions on the level of flexibility that can be achieved. When there is a shortage the total supply may be too limited to allow exchangeability.<br>HPR stands for "Highly Protected Risk" and is the insurance industry's highest rating for risk quality. This rating is reserved for those commercial properties where the exposure for physical damages is reduced to a minimum considering building construction, operations and local conditions. HPR means that all physical risks in and around the facility are documented and that these are kept within certain limits. Alfa Laval's production facility in Lund in Sweden, which is the Group's largest and most important facility is HPR classified, as well as the production facilities in Chesapeake, Sarasota and Newburyport in the U.S. A number of other key production facilities are being evaluated and may eventually become HPR classified.<br>A HPR classification means that the facility has state of the art fire and machinery protection systems and that the responsible personnel has adequate security routines to make sure that these protection systems are maintained and in function. In addition, known possible sources of ignition are under strict control to prevent a fire from starting. For an HPR facility the risk for a physical damage is brought to a minimum, which minimises the risk for business interruption that could have extensive consequences for Alfa Laval and its customers. For other production facilities, not HPR-classified, the aim is also to reduce the risk for damage and business interruption to a minimum by keeping, among other things, ignition sources under strict control. Loss prevention visits are conducted according to a schedule based on size and importance for Alfa Laval. |
| **Political risk** | The risk that the authorities, in the countries where the Group is operating, by political decisions or administration make continued operations difficult, expensive or impossible for the Group. | The Group is mainly operating in countries where the political risk is considered to be negligible or minor. The operations that are performed in countries where the political risk is deemed to be higher are not material. |
| **Insurance risks** | These risks refer to the costs that Alfa Laval may incur due to an inadequate insurance coverage for property, business interruption, liability, transport, life and pensions. | The Group strives to maintain an insurance coverage that keeps the risk level at an acceptable level for a Group of Alfa Laval's size and still is cost efficient. As a part in this Alfa Laval has an own captive. At the same time a continuous work is going on to minimise the risks in the operations through proactive measures. |
| **Risks connected to credit terms** | The limited freedom of action that can be imposed on the Group through restrictions connected to credit terms in loan agreements. | Alfa Laval's strong solidity and profitability limits this risk. |

# Notes

## Note 1. Operating segments

Alfa Laval's business is divided into four Business Divisions "Energy", "Food & Water", "Marine" and "Greenhouse" that sell to external customers and one division "Operations & Other" covering procurement, production and logistics as well as corporate overhead and non-core businesses. These five divisions constitute Alfa Laval's five operating segments.

The customers to the Energy Division purchase products and systems for energy applications, whereas the customers to the Food & Water Division purchase products and systems for food and water applications. The customers to the Marine Division purchase products and systems for marine and off-shore applications.

The three first Business Divisions are in turn split into a number of Business Units. The Energy Division consists of four Business Units: Brazed & Fusion Bonded Heat Exchangers, Energy Separation, Gasketed Plate Heat Exchangers and Welded Heat Exchangers. The Food & Water Division consists of five Business Units: Decanters, Food Heat Transfer, Food Systems, Hygienic Fluid Handling and High Speed Separators. The Marine Division consists of three Business Units: Boiler & Gas Systems, Marine Separation & Heat Transfer Equipment and Pumping Systems.

The operating segments are only responsible for the result down to and including operating income excluding comparison distortion items and for the operating capital they are managing. This means that financial assets and liabilities, pension assets, provisions for pensions and similar commitments and current and deferred tax assets and liabilities are a Corporate responsibility and not an operating segment responsibility. This also means that the financial net and income taxes are a Corporate responsibility and not an operating segment responsibility.

The operating segments are only measured based on their transactions with external parties.

### Orders received

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Energy | 12,685 | 11,175 |
| Food & Water | 13,691 | 12,388 |
| Marine | 17,322 | 11,456 |
| Greenhouse | 1,259 | 1,609 |
| Operations & Other | 48 | 0 |
| **Total** | **45,005** | **36,628** |

### Order backlog

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Energy | 4,857 | 4,471 |
| Food & Water | 4,860 | 4,317 |
| Marine | 13,118 | 9,027 |
| Greenhouse | 328 | 474 |
| Operations & Other | 5 | 0 |
| **Total** | **23,168** | **18,289** |

### Net sales

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Energy | 12,413 | 11,001 |
| Food & Water | 13,210 | 11,824 |
| Marine | 13,583 | 10,809 |
| Greenhouse | 1,418 | 1,680 |
| Operations & Other | 42 | 0 |
| **Total** | **40,666** | **35,314** |

### Operating income in management accounts

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Energy | 1,770 | 1,525 |
| Food & Water | 2,110 | 1,780 |
| Marine | 2,328 | 1,771 |
| Greenhouse | 80 | -12 |
| Operations & Other | -674 | -533 |
| Total | 5,614 | 4,531 |
| Reconciliation with Group total: | | |
| Comparison distortion items | 151 | – |
| Consolidation adjustments * | 66 | 58 |
| Total operating income | 5,831 | 4,589 |
| Financial net | 65 | -218 |
| **Result after financial items** | **5,896** | **4,371** |

* Difference between management accounts and IFRS

Operating income in management accounts is very close to operating income under IFRS. There are only two differences. Operating income in management accounts does not include comparison distortion items nor all the consolidation adjustments that are made in the official accounts.

### Assets / Liabilities

| Consolidated | Assets | | Liabilities | |
|---|---|---|---|---|
| SEK millions | 2018 | 2017 | 2018 | 2017 |
| Energy | 10,362 | 9,555 | 4,323 | 3,743 |
| Food & Water | 9,675 | 8,124 | 4,612 | 3,652 |
| Marine | 24,244 | 23,861 | 7,168 | 5,963 |
| Greenhouse | 680 | 806 | 431 | 593 |
| Operations & Other | 6,778 | 5,372 | 2,853 | 2,591 |
| Subtotal | 51,739 | 47,718 | 19,387 | 16,542 |
| Corporate | 6,333 | 4,831 | 15,086 | 15,507 |
| **Total** | **58,072** | **52,549** | **34,473** | **32,049** |

Corporate refers to items in the statement on financial position that are interest bearing or are related to taxes.

### Investments

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Energy | 83 | 84 |
| Food & Water | 132 | 73 |
| Marine | 90 | 59 |
| Greenhouse | 21 | 17 |
| Operations & Other | 1,164 | 442 |
| **Total** | **1,490** | **675** |

### Depreciation

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Energy | 304 | 317 |
| Food & Water | 145 | 142 |
| Marine | 785 | 772 |
| Greenhouse | 14 | 26 |
| Operations & Other | 416 | 393 |
| **Total** | **1,664** | **1,650** |

## Note 2. Information about geographical areas

Countries with more than 10 percent of either net sales, non-current assets or investments are reported separately.

### Net sales

Consolidated

| | 2018 SEK millions | % | 2017 SEK millions | % |
|---|---|---|---|---|
| To customers in: | | | | |
| Sweden | 924 | 2.3 | 888 | 2.5 |
| Other EU | 11,033 | 27.1 | 9,627 | 27.2 |
| Other Europe | 2,918 | 7.2 | 2,726 | 7.7 |
| USA | 6,394 | 15.7 | 5,712 | 16.2 |
| Other North America | 896 | 2.2 | 816 | 2.3 |
| Latin America | 1,835 | 4.5 | 1,614 | 4.6 |
| Africa | 450 | 1.1 | 396 | 1.1 |
| China | 5,263 | 12.9 | 4,309 | 12.2 |
| South Korea | 3,041 | 7.5 | 2,952 | 8.4 |
| Other Asia | 7,346 | 18.1 | 5,754 | 16.3 |
| Oceania | 566 | 1.4 | 520 | 1.5 |
| **Total** | **40,666** | **100.0** | **35,314** | **100.0** |

Net sales are reported by country on the basis of invoicing address, which is normally the same as the delivery address.

### Non-current assets

Consolidated

| | 2018 SEK millions | % | 2017 SEK millions | % |
|---|---|---|---|---|
| Sweden | 1,447 | 4.5 | 1,326 | 4.3 |
| Denmark | 4,728 | 14.7 | 4,654 | 15.0 |
| Other EU | 3,802 | 11.8 | 3,581 | 11.6 |
| Norway | 12,376 | 38.6 | 12,495 | 40.4 |
| Other Europe | 126 | 0.4 | 148 | 0.5 |
| USA | 3,964 | 12.3 | 3,707 | 12.0 |
| Other North America | 129 | 0.4 | 129 | 0.4 |
| Latin America | 259 | 0.8 | 284 | 0.9 |
| Africa | 7 | 0.0 | 9 | 0.0 |
| Asia | 3,262 | 10.2 | 2,919 | 9.4 |
| Oceania | 88 | 0.3 | 90 | 0.3 |
| Subtotal | 30,188 | 94.0 | 29,342 | 94.8 |
| Other long-term securities | 120 | 0.4 | 35 | 0.1 |
| Pension assets | 37 | 0.1 | 6 | 0.0 |
| Deferred tax asset | 1,755 | 5.5 | 1,589 | 5.1 |
| **Total** | **32,100** | **100.0** | **30,972** | **100.0** |

### Investments

Consolidated

| | 2018 SEK millions | % | 2017 SEK millions | % |
|---|---|---|---|---|
| Sweden | 219 | 14.7 | 66 | 9.8 |
| Denmark | 77 | 5.2 | 122 | 18.0 |
| Poland | 169 | 11.3 | 9 | 1.3 |
| Other EU | 204 | 13.7 | 126 | 18.6 |
| Other Europe | 42 | 2.8 | 28 | 4.2 |
| USA | 219 | 14.7 | 82 | 12.2 |
| Other North America | 4 | 0.3 | 2 | 0.3 |
| Latin America | 10 | 0.7 | 6 | 0.8 |
| Africa | 0 | 0.0 | 6 | 1.0 |
| China | 472 | 31.7 | 192 | 28.5 |
| Other Asia | 70 | 4.7 | 32 | 4.7 |
| Oceania | 4 | 0.2 | 4 | 0.6 |
| **Total** | **1,490** | **100.0** | **675** | **100.0** |

## Note 3. Information about products and services

### Net sales by product/service

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Own products within: | | |
| Separation | 7,183 | 6,471 |
| Heat transfer | 17,932 | 16,726 |
| Fluid handling | 9,511 | 7,678 |
| Other | 2,515 | 1,180 |
| Associated products | 1,605 | 1,448 |
| Services | 1,920 | 1,811 |
| **Total** | **40,666** | **35,314** |

The split of own products within separation, heat transfer and fluid handling is a reflection of the current three main technologies. Other is own products outside these main technologies. Associated products are mainly purchased products that compliment Alfa Laval's product offering. Services cover all sorts of service, service agreements etc.

## Note 4. Information about major customers

Alfa Laval does not have any customer that accounts for 10 percent or more of net sales. Tetra Pak within the Tetra Laval Group is Alfa Laval's single largest customer with a volume representing 5.2 (5.3) percent of net sales. See Note 32 for more information.

## Note 5. Employees

### Average number of employees – total

Consolidated

| | Number of female employees 2018 | Number of female employees 2017 | Total number of employees 2018 | Total number of employees 2017 |
|---|---|---|---|---|
| Parent company | – | – | – | – |
| Subsidiaries in Sweden (8) | 541 | 509 | 2,196 | 2,081 |
| Total in Sweden (8) | 541 | 509 | 2,196 | 2,081 |
| Total abroad (133) | 2,901 | 2,821 | 14,589 | 14,440 |
| **Total (141)** | **3,442** | **3,330** | **16,785** | **16,521** |

The figures in brackets in the text column state how many companies had employees as well as salaries and remunerations in 2018.

### Average number of employees – in Sweden by municipality

Consolidated

| | 2018 | 2017 |
|---|---|---|
| Botkyrka | 488 | 460 |
| Eskilstuna | 210 | 189 |
| Lund | 1,104 | 1,047 |
| Ronneby | 246 | 237 |
| Vänersborg | 103 | 93 |
| Other * | 45 | 55 |
| **Total** | **2,196** | **2,081** |

* "Other" refers to municipalities with less than 10 employees and also includes employees at branch offices abroad.

## Average number of employees – by country

Consolidated

| | Number of female employees | | Total number of employees | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| Argentina | 12 | 9 | 35 | 30 |
| Australia | 18 | 14 | 104 | 94 |
| Belgium | 1 | 1 | 24 | 25 |
| Brazil | 53 | 50 | 354 | 366 |
| Bulgaria | 3 | 6 | 9 | 21 |
| Chile | 7 | 7 | 28 | 26 |
| Colombia | 14 | 13 | 27 | 25 |
| Denmark | 417 | 415 | 1,697 | 1,655 |
| Philippines | 6 | 4 | 16 | 13 |
| Finland | 43 | 45 | 225 | 217 |
| France | 156 | 154 | 815 | 829 |
| United Arab Emirates | 24 | 20 | 107 | 114 |
| Greece | 8 | 8 | 22 | 22 |
| Hong Kong | 4 | 4 | 12 | 14 |
| India | 69 | 68 | 1,337 | 1,379 |
| Indonesia | 19 | 20 | 81 | 83 |
| Iran | 1 | 1 | 9 | 9 |
| Italy | 191 | 181 | 947 | 919 |
| Japan | 55 | 54 | 241 | 239 |
| Canada | 21 | 21 | 91 | 90 |
| China | 642 | 624 | 3,013 | 2,858 |
| Korea | 52 | 55 | 296 | 299 |
| Latvia | 6 | 5 | 10 | 10 |
| Malaysia | 38 | 38 | 112 | 114 |
| Mexico | 8 | 8 | 41 | 43 |
| Netherlands | 80 | 69 | 388 | 337 |
| Norway | 186 | 177 | 1,019 | 1,004 |
| New Zeeland | 2 | 3 | 18 | 17 |
| Panama | 7 | 6 | 17 | 15 |
| Peru | 6 | 6 | 24 | 22 |
| Poland | 50 | 45 | 268 | 252 |
| Portugal | 4 | 8 | 9 | 17 |
| Qatar | – | – | 6 | 6 |
| Romania | 2 | 2 | 10 | 9 |
| Russia | 118 | 124 | 256 | 292 |
| Saudi Arabia | – | – | 34 | 36 |
| Switzerland | 3 | 5 | 14 | 13 |
| Singapore | 57 | 56 | 218 | 221 |
| Slovakia | 1 | 1 | 8 | 9 |
| Slovenia | 5 | – | 15 | – |
| Spain | 24 | 23 | 97 | 94 |
| UK | 46 | 48 | 305 | 311 |
| Sweden | 541 | 509 | 2,196 | 2,081 |
| South Africa | 11 | 12 | 42 | 43 |
| Taiwan | 15 | 15 | 38 | 37 |
| Thailand | 18 | 15 | 55 | 52 |
| Czech Republic | 8 | 9 | 35 | 40 |
| Turkey | 10 | 8 | 47 | 46 |
| Germany | 62 | 62 | 266 | 299 |
| Ukraine | 5 | 4 | 13 | 12 |
| Hungary | 3 | 3 | 13 | 13 |
| USA | 306 | 292 | 1,700 | 1,729 |
| Vietnam | 1 | – | 4 | 2 |
| Austria | 3 | 3 | 17 | 18 |
| **Total** | **3,442** | **3,330** | **16,785** | **16,521** |

## Gender distribution

Consolidated

| | 2018 | | | 2017 | | |
|---|---|---|---|---|---|---|
| | Total number | Male % | Female % | Total number | Male % | Female % |
| Board members (excluding deputies) | 10 | 70.0 | 30.0 | 11 | 63.6 | 36.4 |
| President and other executive officers | 9 | 77.8 | 22.2 | 9 | 88.9 | 11.1 |
| Managers in Sweden | 264 | 76.9 | 23.1 | 277 | 78.0 | 22.0 |
| Managers outside Sweden | 1,779 | 79.9 | 20.1 | 1,860 | 80.4 | 19.6 |
| Managers total | 2,043 | 79.5 | 20.5 | 2,137 | 80.1 | 19.9 |
| Employees in Sweden | 2,196 | 75.4 | 24.6 | 2,081 | 75.5 | 24.5 |
| Employees outside Sweden | 14,589 | 80.1 | 19.9 | 14,440 | 80.5 | 19.5 |
| Employees total | 16,785 | 79.5 | 20.5 | 16,521 | 79.8 | 20.2 |

## Note 6. Salaries and remunerations

### Salaries and remunerations – total

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Board of Directors, Presidents and Vice Presidents | 260 | 255 |
| – out of which, variable | 49 | 46 |
| Other | 8,004 | 7,297 |
| Total salaries and remunerations | 8,264 | 7,552 |
| Social security costs | 1,366 | 1,272 |
| Pension costs, defined benefit plans | 143 | 142 |
| Pension costs, defined contribution plans | 593 | 577 |
| **Total personnel costs** | **10,366** | **9,543** |

The Group's pension costs and pension liabilities relating to the Board of Directors, presidents and vice presidents amounts to SEK 32 (32) million and SEK 267 (290) million respectively. SEK 93 (110) million of the pension liabilities is covered by the Alfa Laval Pension Fund.

**Equity compensation benefits**
During the period 2017 to 2018 no equity related benefits existed within Alfa Laval.

**Variable remunerations**
All employees have either a fixed salary or a fixed base salary. For certain personnel categories the remuneration package also includes a variable element. This relates to personnel categorises where it is customary or part of a market offer to pay a variable part. Variable remunerations are most common in sales related jobs and on higher managerial positions. Normally the variable part constitutes a minor part of the total remuneration package.

**Cash-based long-term incentive programme**
The Annual General Meeting 2018 decided to implement a modified cash based long term incentive programme for maximum 95 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers. The outcome of the modified programme depends on how the adjusted EBITA margin and the growth in net invoicing have developed during the three-year period, with a 50/50 weight between the targets. This means that there will be no award during the first two years since it is first in year three that it can be determined to what extent the targets have been achieved. Maximum outcome is awarded when the targets are exceeded. The remuneration from the modified long-term incentive programme can constitute between maximum 20 and 50 percent of the fixed remuneration depending on position. Payment to the participants in the programme is made after year three and only provided that they are still employed at the date of payment.

The Annual General Meetings 2015 to 2017 decided to implement step five to seven of a cash-based long-term incentive programme for maximum 85 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers.

Each of the steps runs over three years and with an individual award for each year. The award for each year is set independently from the other two years. Since each step runs over three years, three steps of the programme will always run in parallel. In 2018 step six, seven and eight of the programme were running in parallel.

The final award for each step is calculated on the employee's yearly base salary at the end of the three-year period. The maximum award is linked to the employee's annual maximum variable remuneration and is set to a percentage of the base salary according to the following:

### Maximum long-term incentive

| Maximum variable remuneration per year in percent of base salary | Maximum long-term incentive in percent of base salary: Per annum per step | Maximum long-term incentive in percent of base salary: In total per step over the three-year period |
|---|---|---|
| 60% | 15% | 45% |
| 40% | 10% | 30% |
| 30% | 8.3% | 25% |
| 25% | 6.7% | 20% |
| 15% | 4% | 12% |

The column "Per annum per step" shows the maximum award per step and year. Since three steps are running in parallel during each year the maximum award in percent during a certain year can be as large as the maximum award in percent for a certain step during the whole three-year period.

The outcome of the programme is linked to the development of earnings per share (EPS) for Alfa Laval. The EPS targets for the individual years within each step are set by the Board of Directors at the inception of the three-year period and are presented in the below table for the steps that were paid out during 2018 (five) or are running (six-seven). In the table the EPS outcome for each year is also presented.

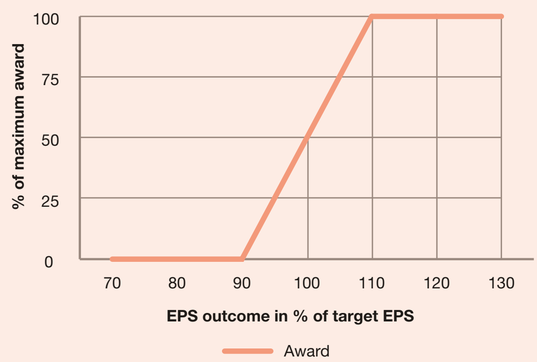
### Earnings per share

Consolidated

| SEK | Target and outcome 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|
| Target EPS for step: | | | | |
| Five | N/A | 10.14 | 9.30 | 8.45 |
| Six | 9.42 | 8.64 | 7.85 | N/A |
| Seven | 6.88 | 6.25 | N/A | N/A |
| **EPS outcome** | **10.77** | **7.09** | **8.43*** | **9.15** |

* Adjusted for comparison distortion items of SEK -1,500 million.

The award is calculated in the following way. When the EPS outcome is within the range of 90 percent to 110 percent of the target EPS, the employee gets the share of the maximum award that is shown in the below graph. An EPS outcome of 90 percent or less of the EPS target gives no award and an EPS outcome of 110 or more gives the maximum award.




To be eligible for payout the employees must be in service on the award date and the vesting date (except in case of termination of employment due to retirement, death or disability). If the employee resigns or is dismissed before the end of the three-year period, the awards will lapse and the employee will not be entitled to any payout. If the employee moves to a position that is not eligible for this programme the tranches that already have been earned are paid out upon the change of position. Paid remunerations from the long-term incentive programme do not affect the pensionable income or the holiday pay.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38
Notes

Based on the reported EPS during the period 2015 to 2018, the different steps have resulted in the following awards:

### Cash-based long-term incentive plan

Consolidated

| SEK millions, unless otherwise stated | | | | | Per year | | | | | Accumulated | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Covering period | | | Actual outcome in % of maximum outcome | | | | | Payable in percent of base salary based on 15% in variable remuneration | Awards | |
| Step | Decided by Annual General Meeting | January 1 | December 31 | Payable in April | 2018 | 2017 | 2016 | 2015 | To date | | Paid | Estimated |
| Five | 2015 | 2015 | 2017 | 2018 | N/A | 0.00% | 3.23% | 91.42% | 31.55% | 3.79% | 9 | N/A |
| Six | 2016 | 2016 | 2018 | 2019 | 100.00% | 0.00% | 86.94% | N/A | 62.31% | 7.48% | N/A | 17 |
| Seven | 2017 | 2017 | 2019 | 2020 | 100.00% | 100.00% | N/A | N/A | 100.00% | 8.00% | N/A | 20 |
| Awards per year | | | | | 19 | 10 | 8 | 9 | Total | | 9 | 37 |

The costs for the awards per step and per year are based on estimated base salaries at the future time of payment.

**Guidelines for remunerations to executive officers**
The remunerations to the Chief Executive Officer/Managing Director are decided by the Board of Directors based on proposals from the Remuneration Committee according to the guidelines established by the Annual General Meeting. The remunerations to the other members of Group Management are decided by the Remuneration Committee according to the same guidelines. The principle used when deciding the remunerations to executive officers is to offer a competitive remuneration where the remuneration package is mainly based on a fixed monthly salary, with an option for a company car and in addition to that a variable remuneration of up to 40 percent of the salary (managing director up to 60 percent of the salary). The outcome of the variable remuneration depends on the level of fulfilment of the established mainly financial targets and to limited extent also qualitative objectives. The guidelines for pension, termination and severance pay differ between the Chief Executive Officer/Managing Director and the other executive officers, see the below table.

The Annual General Meetings 2015 to 2017 decided to implement step five to seven of a cash-based long-term incentive programme for maximum 85 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers.

The Annual General Meeting 2018 decided to implement a modified cash based long term incentive programme for maximum 95 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers. The outcome of the modified programme depends on how the adjusted EBITA margin and the growth in net invoicing have developed during the three-year period, with a 50/50 weight between the targets. This means that there will be no award during the first two years since it is first in year three that it can be determined to what extent the targets have been achieved. Maximum outcome is awarded when the targets are exceeded. The remuneration from the modified long-term incentive programme can constitute between maximum 20 and 50 percent of the fixed remuneration depending on position. Payment to the participants in the programme is made after year three and only provided that they are still employed at the date of payment.

The Board of Directors will propose the Annual General Meeting 2019 to implement step two of the modified cash-based long-term incentive programme for the period January 1, 2019 – December 31, 2021 for maximum 95 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers. No other changes of these guidelines are proposed by the Board of Directors.

### Salaries and remunerations to Group Management

| Consolidated | Group Management | | | |
|---|---|---|---|---|
| | Chief Executive Officer/President Tom Erixon | | Other executive officers | |
| SEK thousands | 2018 | 2017 | 2018 | 2017 |
| **Salary and remunerations** | | | | |
| Base salary | 10,500 | 9,250 | 28,884 | 27,068 |
| Variable salary [1] | 5,522 | 3,003 | 8,737 | 6,849 |
| Cash-based long-term incentive programme [1] | 1,343 | 2,859 | 2,626 | 7,180 |
| Other benefits [2] | 310 | 249 | 3,234 | 2,738 |
| Total salary and remuneration | 17,675 | 15,361 | 43,481 | 43,835 |
| **Pension costs** | | | | |
| Retirement and survivors' pension | 5,274 | 4,649 | 15,643 | 16,971 |
| Life, disability and health care insurance | 72 | 69 | 331 | 287 |
| Total pension costs | 5,346 | 4,718 | 15,974 | 17,258 |
| **Sum including pensions** | **23,021** | **20,079** | **59,455** | **61,093** |
| Number of other executive officers at year end | | | 8 | 8 |
| **Variable salary** | | | | |
| Included | Yes | Yes | Yes | Yes |
| Un-guaranteed target of base salary | 30% | 30% | Not set | Not set |
| Maximum of base salary | 60% | 60% | 40% | 40% |
| **Cash-based long-term incentive programme** | | | | |
| Included | Yes | Yes | Yes | Yes |
| Current year award (SEK thousand) [3] | 3,197 | 1,472 | 3,849 | 2,399 |
| Vested unpaid awards at December 31 (SEK thousand) | 6,189 | 4,027 | 8,087 | 6,312 |
| **Commitment for early retirement [4]** | No | No | Yes | Yes |
| **Commitment for severance pay** | Yes [5] | Yes [5] | Yes [6] | Yes [6] |
| **Commitment for retirement and survivors' pension** | [7] | | [8] | |

1) Refers to what was paid during the year.
2) Value of company car, taxable daily allowances, holiday pay and payment for vacation taken in cash.
3) Based on estimated base salaries at the future time of payment.
4) From the age of 62. A defined contribution solution for early retirement with a premium of 15 percent of the pensionable salary.
5) If Alfa Laval terminates his employment before the age of 61 he will receive 24 months' remuneration, between 61 and 62 he will receive 12 months' remuneration and from 62 he will receive 6 months' remuneration.
6) Maximum 2 years' salary. The commitments define the conditions that must be fulfilled in order for them to become valid.
7) Is not included in the ITP plan. He has a defined contribution benefit comprising 50 percent of the base salary. In addition, he may exchange salary and variable remunerations for a temporary old age and family pension.
8) For salaries above 30 base amounts there is a defined contribution pension solution with a premium of 30 percent of the pensionable salary above 30 base amounts. Until May 1, 2012 the executive officers also had a special family pension that represented a supplement between the old age pension and the family pension according to ITP. For the persons that were executive officers on May 1, 2012 the special family pension has been converted to a premium based supplementary retirement pension based on the premium level in December 2011. In addition, they may exchange salary and variable remunerations for a temporary old age and family pension.

During 2018 and 2017 three of the other executive officers in Group Management have retired or left the company, Thomas Thuresson as per March 1, 2018, Svante Karlsson as per April 1, 2017 and Peter Balliere as per February 1, 2018. Their costs during each year are included in the above table.

**Board of Directors**
For 2018, the Board of Directors receive a total fixed remuneration of SEK 5,610 (5,538) thousand, which is distributed among the members elected at the Annual General Meeting that are not employed by the company. These Directors do not receive any variable remuneration.

Remunerations to Board members *

Consolidated

| SEK thousands | | 2018 | 2017 |
|---|---|---|---|
| **Fees by function:** | | | |
| Chairman of the Board | | 1,675 | 1,575 |
| Other members of the Board | | 560 | 525 |
| Supplement to: | | | |
| Chairman of the Audit Committee | | 175 | 175 |
| Other members of the Audit Committee | | 125 | 125 |
| Chairman of the remuneration committee | | 50 | 50 |
| Other members of the remuneration committee | | 50 | 50 |
| **Fees by name:** | | | |
| Anders Narvinger | Chairman | 1,725 | 1,625 |
| Arne Frank ** | Member | – | 288 |
| Henrik Lange | Member | 685 | – |
| Ulla Litzén | Member | – | 650 |
| Anna Ohlsson-Leijon | Member | 685 | 650 |
| Finn Rausing | Member | 735 | 700 |
| Jörn Rausing | Member | 610 | 575 |
| Ulf Wiinberg | Member | 610 | 525 |
| Margareth Øvrum | Member | 560 | 525 |
| **Total** | | **5,610** | **5,538** |

* Elected at the Annual General Meeting and not employed by the company.
** Deceased during 2017.

The reported remunerations refer to the period between two Annual General Meetings.
The Chairman of the Board does not have any agreement on future retirement or severance pay with Alfa Laval.

The audit committee and the remuneration committee have had the following members during the last two years:

| | 2018 | 2017 |
|---|---|---|
| **Audit Committee:** | | |
| Chairman | Finn Rausing | Finn Rausing |
| Other member | Anna Ohlsson-Leijon | Anna Ohlsson-Leijon |
| Other member | Henrik Lange | Ulla Litzén |
| **Remuneration committee:** | | |
| Chairman | Anders Narvinger | Anders Narvinger |
| Other member | Ulf Wiinberg | Arne Frank |
| Other member | Jörn Rausing | Jörn Rausing |

The members of the committees are appointed at the constituent meeting of the Board of Directors directly after the Annual General Meeting.

## Note 7. Information on auditors and auditors' fee

The line "Group auditors" in the below table is referring to the auditors elected at Annual General Meeting of Alfa Laval AB (publ). The Annual General Meeting 2018 decided to elect EY as the Group's auditors for the coming year. KPMG was the Group's auditors in 2017.

Fees and expense compensation

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Audit engagements | | |
| Group auditors | 34 | 34 |
| Other audit firms | 1 | 0 |
| **Total** | **35** | **34** |
| Audit related services | | |
| Group auditors | 1 | 2 |
| Other audit firms | 1 | 1 |
| **Total** | **2** | **3** |
| Tax services | | |
| Group auditors | 5 | 6 |
| Other audit firms | 7 | 7 |
| **Total** | **12** | **13** |
| Other services | | |
| Group auditors | 2 | 1 |
| Other audit firms | 5 | 8 |
| **Total** | **7** | **9** |
| Expenses | | |
| Group auditors | 2 | 1 |
| Other audit firms | 0 | 0 |
| **Total** | **2** | **1** |
| Total | | |
| Group auditors | 44 | 44 |
| Other audit firms | 14 | 16 |
| **Total** | **58** | **60** |

An audit engagement includes examining the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. It also includes an examination in order to give an opinion on the Board's discharge from liability. Audit related services are audit services that are outside the audit engagement. Tax services refer to advices given in connection with various tax matters. All other assignments are defined as other services. Expenses refer to reimbursements of travel costs, secretarial services etc.

## Note 8. Comparison distortion items

Other operating income has been affected by comparison distortion items of SEK 151 (-) million in 2018. The comparison distortion income during 2018 is relating to three items.
The divestments of the Alonte based commercial tubular heat exchanger business and the heat exchanger systems business have resulted in a total gain of SEK 26 million.
The sale of a property in Lima in Peru resulted in a realised gain of SEK 70 million.
Based on a court decision in a litigation against the former owners of Ashbrook Simon-Hartley, Alfa Laval has received a purchase price reduction of SEK 55 million. The acquisition of Ashbrook Simon-Hartley took place in 2012.

## Note 9. Depreciation and amortisation

**Split by function**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Cost of goods sold | -1,433 | -1,416 |
| Sales | -40 | -36 |
| Administration | -102 | -109 |
| Research and development | -7 | -2 |
| Other income and costs | -82 | -87 |
| **Total** | **-1,664** | **-1,650** |

**Split by type of asset**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Patents and unpatented know-how, trade-marks, etc. | -1,023 | -1,000 |
| Machinery and equipment | -454 | -462 |
| Financial leasing machinery and equipment | -3 | -3 |
| Buildings and ground installations | -176 | -178 |
| Financial leasing buildings | -8 | -7 |
| **Total** | **-1,664** | **-1,650** |

## Note 10. Dividends and other financial income

**Split by type**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Dividends from other | 0 | 0 |
| Gain on sale of marketable securities | 49 | 36 |
| Fair value changes in marketable securities | -22 | 11 |
| **Total** | **27** | **47** |

## Note 11. Interest income/expense and financial exchange rate gains/losses

**Split on type of income/expense or gain/loss**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Interest income** | | |
| Financial leasing | 0 | 0 |
| Other interest | 116 | 119 |
| **Exchange rate gains** | | |
| Unrealised | 79 | 43 |
| Realised | 182 | 75 |
| **Total** | **377** | **237** |
| **Interest expenses** | | |
| Financial leasing | -1 | -1 |
| Other interest | -196 | -219 |
| **Exchange rate losses** | | |
| Unrealised | -50 | -113 |
| Realised | -92 | -169 |
| **Total** | **-339** | **-502** |

**Split on type of income/expense or gain/loss**

Parent company

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Interest income** | | |
| External companies | – | 0 |
| **Exchange rate gains** | | |
| Unrealised | 1 | 2 |
| **Total** | **1** | **2** |
| **Interest costs** | | |
| External companies | 0 | – |
| **Exchange rate losses** | | |
| Unrealised | 0 | -2 |
| **Total** | **0** | **-2** |

In the Group, reported net exchange differences of SEK -571 (-207) million relating to debts in foreign currencies have been charged to other comprehensive income. These debts finance the acquisition of shares in foreign subsidiaries and act as a hedge to the acquired net assets. The amount is charged with tax resulting in a net after tax impact on other comprehensive income of SEK -449 (-161) million.

## Note 12. Non-controlling interests

Alfa Laval has the following subsidiaries with non-controlling interests. None of these non-controlling interests are material.

**Specification of subsidiaries with non-controlling interests**

| SEK millions, unless otherwise stated | | Non-controlling interest % | | Attributable to non-controlling interest | | | |
|---|---|---|---|---|---|---|---|
| | | | | Net income | | Equity | |
| Company name | Country of domicile | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| Framo Bombas Mexico SA de CV | Mexico | 0.002 | 0.002 | 0 | 0 | 0 | 0 |
| Alfa Laval Aalborg Indústria e Comércio Ltda | Brazil | 0.5 | 0.5 | 0 | 0 | 1 | 1 |
| Liyang Sifang Stainless Steel Products Co., Ltd. | China | 35 | 35 | 19 | 13 | 119 | 98 |
| Framo Korea Ltd * | South Korea | – | – | 0 | 1 | – | 0 |
| Aalborg Industries Water Treatment Pte. Ltd., | Singapore | 40 | 40 | 0 | 0 | 0 | 0 |
| Ziepack SA | France | 49 | 49 | -1 | -2 | 2 | 3 |
| AO Alfa Laval Potok | Russia | 0.0007 | 0.0007 | 0 | 0 | 0 | 0 |
| **Total** | | | | **18** | **12** | **122** | **102** |

* All of the non-controlling interest has been acquired.

# Note 13. Classification of financial assets and liabilities

## Financial assets

Consolidated

| | | Measured at | | | | | |
|---|---|---|---|---|---|---|---|
| | | Fair value through | | | | Amortised cost | |
| | Valuation hierarchy level | Profit or loss | | Other comprehensive income | | | |
| SEK millions | | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| **Non-current assets** | | | | | | | |
| ***Other non-current assets*** | | | | | | | |
| Other long-term securities | 1 and 2 | 76 | 4 | – | – | – | – |
| Derivative assets | 2 | 7 | 2 | 39 | 22 | – | – |
| **Current assets** | | | | | | | |
| ***Current receivables*** | | | | | | | |
| Accounts receivable | * | – | – | – | – | 6,496 | 5,941 |
| Notes receivable | * | – | – | – | – | 242 | 442 |
| Other receivables | * | – | – | – | – | 3,113 | 1,076 |
| Accrued income | * | – | – | – | – | 96 | 124 |
| Derivative assets | 2 | 42 | 31 | 49 | 134 | – | – |
| ***Current deposits*** | | | | | | | |
| Deposits with banks | * | – | – | – | – | 163 | 656 |
| Bonds and other securities | 1 | 435 | 542 | – | – | – | – |
| Debt instruments | * | – | – | – | – | 4 | – |
| Other deposits | * | – | – | – | – | 15 | 10 |
| ***Cash and cash equivalents*** | * | – | – | – | – | 4,295 | 3,137 |
| **Total financial assets** | | **560** | **579** | **88** | **156** | **14,424** | **11,386** |

* Valued at amortised cost.
Valuation hierarchy level 1 is according to quoted prices in active markets for identical assets and liabilities.
Valuation hierarchy level 2 is out of directly or indirectly observable market data outside level 1.

## Financial liabilities

Consolidated

| | | Measured at | | | | | |
|---|---|---|---|---|---|---|---|
| | | Fair value through | | | | Amortised cost | |
| | Valuation hierarchy level | Profit or loss | | Other comprehensive income | | | |
| SEK millions | | 2018 | 2017 | 2018 | 2017 | 2018 | 2017 |
| **Non-current liabilities** | | | | | | | |
| Liabilities to credit institutions etc | * | – | – | – | – | 8,540 | 11,092 |
| Derivative liabilities | 2 | 1 | – | 122 | 16 | – | – |
| **Current liabilities** | | | | | | | |
| Liabilities to credit institutions etc | * | – | – | – | – | 3,323 | 1,404 |
| Accounts payable | * | – | – | – | – | 2,972 | 2,802 |
| Notes payable | * | – | – | – | – | 164 | 162 |
| Other liabilities | * | – | – | – | – | 3,052 | 2,162 |
| Accrued costs | * | – | – | – | – | 2,106 | 2,524 |
| Derivative liabilities | 2 | 47 | 75 | 393 | 96 | – | – |
| **Total financial liabilities** | | **48** | **75** | **515** | **112** | **20,157** | **20,146** |

* Valued at amortised cost.
Valuation hierarchy level 1 is according to quoted prices in active markets for identical assets and liabilities.
Valuation hierarchy level 2 is out of directly or indirectly observable market data outside level 1.

Derivatives measured through other comprehensive income only relate to cash flow hedges.

All of the financial instruments above sum up either to the corresponding item in the statement on financial position or to the item specified in the notes referred to in the statement on financial position. The risks linked to these financial instruments including any concentrations of risk are presented in the sections on risks on pages 97–105.

**Result of financial instruments**

The result of the bonds and other current and non-current securities measured at fair value through profit or loss is found in Note 10 as fair value changes in securities.

The result of the derivative assets measured at fair value through profit or loss of SEK 16 (2) million has affected cost of goods sold with SEK 16 (2) million.

The result of financial assets measured at amortised cost is presented in Note 11 as other interest income for deposits with banks, other deposits and cash and cash equivalents. The other financial assets measured at amortised cost do not generate a result but only a cash-in of the principal amount.

The result of the derivative liabilities measured at fair value through profit or loss of SEK -13 (-45) million has affected cost of goods sold with SEK - (-0) million and exchange losses in Note 11 with SEK -13 (-45) million.

The result of the financial liabilities measured at amortised cost is presented in Note 11 as other interest costs for the liabilities to credit institutions etc. The other financial liabilities measured at amortised cost do not generate a result but only a cash-out of the principal amount.

The result of the derivative assets and liabilities measured at fair value through other compenssive income is reported as part of other comprehensive income in the consolidated comprehensive income statement.

## Note 14. Fair value of financial instruments

The fair value changes in shares in external companies are made under other comprehensive income and amounts to SEK 0 (2) million, see the consolidated comprehensive income statement.

The fair value changes in marketable securities are made on the line dividends and other financial income in the consolidated comprehensive income statement and amounts to SEK -22 (11) million, see Note 10.

The net of derivative assets and derivative liabilities in the consolidated financial position is a net liability of SEK -426 million (net asset of SEK 2 million), which are specified below:

### Fair value of derivatives

Consolidated

| | | | Difference between contracted rate and current rate | |
|---|---|---|---|---|
| SEK millions | Currency pairs | | 2018 | 2017 |
| **Derivative assets/liabilities** | | | | |
| Foreign exchange forward contracts: | EUR | USD | -45 | 27 |
| | EUR | SEK | -23 | -47 |
| | EUR | AUD | 0 | 1 |
| | EUR | CAD | 2 | 0 |
| | EUR | CNY | 31 | 13 |
| | EUR | DKK | 1 | 0 |
| | EUR | JPY | -3 | 3 |
| | EUR | SGD | -1 | – |
| | USD | CAD | 1 | -1 |
| | USD | DKK | -32 | 8 |
| | USD | SEK | 0 | -4 |
| | USD | JPY | 0 | 0 |
| | USD | SGD | -1 | – |
| | CAD | SEK | -1 | – |
| | DKK | NOK | -1 | – |
| | DKK | SEK | 0 | 0 |
| | NOK | EUR | 2 | -18 |
| | NOK | SEK | -16 | -33 |
| | NOK | USD | -269 | -10 |
| | CNY | SEK | 3 | 6 |
| | CNY | USD | -2 | 5 |
| | AUD | SEK | -1 | – |
| | AUD | USD | 0 | 0 |
| | JPY | NOK | -31 | 3 |
| | JPY | SEK | 0 | 0 |
| | RUB | SEK | -4 | 1 |
| | Other | Other | -4 | 1 |
| Subtotal | | | -394 | -45 |
| Currency options | | | -3 | -2 |
| Interest Rate Swaps | | | 9 | 5 |
| Metal forward contacts | | | -53 | 42 |
| Electricity futures | | | 15 | 2 |
| **Total, corresponding to a net derivative asset (+) or liability (-)** | | | **-426** | **2** |

For currency options and electricity futures hedge accounting has not been applied. For foreign exchange forward contracts, interest rate swaps and metal forward contracts hedge accounting has been applied when the conditions for hedge accounting have been fulfilled.

The fair value adjustment of derivatives is made through other comprehensive income if hedge accounting can be applied and the derivatives are effective. In all other cases the fair value adjustment is made above net income. The corresponding entries are made on derivative assets and liabilities and not on the underlying financial instruments in the statement on financial position.

## Note 15. Current and deferred taxes

### Tax on this year's net income and other taxes

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Major components of the Group's tax costs** | | |
| Current tax cost | -1,590 | -1,108 |
| Adjustment for current taxes on prior periods | -18 | -114 |
| Deferred tax costs/income on changes in temporary differences | 126 | 78 |
| Deferred tax costs/income on changes in tax rates or new taxes | 19 | 32 |
| Previously unrecognised tax assets related to tax losses and tax credits | 0 | 0 |
| Previously unrecognised deferred tax assets related to tax losses, tax credits and temporary differences | 4 | 0 |
| Deferred tax cost from the write down or reversal of a previous write down of a deferred tax asset | 129 | 0 |
| Dividend distribution tax | -2 | -132 |
| Tax settlement with previous owner | – | -113 |
| Other taxes | -27 | -26 |
| **Total tax cost** | **-1,359** | **-1,383** |

Other taxes are mainly referring to wealth tax.

### Tax on this year's other comprehensive income

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Major components** | | |
| **Deferred tax on:** | | |
| Cash flow hedges | 111 | -56 |
| Market valuation of external shares | 0 | -1 |
| Translation difference | -28 | 209 |
| Revaluations of defined benefit obligations | -60 | 4 |
| **Total tax cost** | **23** | **156** |

The difference between the tax costs of the group and the tax cost based upon applicable tax rates can be explained as follows:

**Tax cost reconciliation**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Result after financial items | 5,896 | 4,371 |
| Tax according to applicable tax rates | -1,522 | -1,040 |
| Tax effect of: | | |
| Non-deductible costs | -78 | -175 |
| Non-taxable income | 83 | 175 |
| Differences between reported official depreciation and depreciation according to tax rules | 5 | 4 |
| Differences between reported other official appropriations and other appropriations according to tax rules | 12 | 0 |
| Tax losses and tax credits | 32 | 6 |
| Adjustment for current tax on prior periods | -18 | -114 |
| Adjustment deferred tax | 156 | 32 |
| Dividend distribution tax | -2 | -132 |
| Tax settlement with previous owner | – | -113 |
| Other | -27 | -26 |
| **Total tax costs** | **-1,359** | **-1,383** |

Alfa Laval has provisions for uncertain tax positions and they are booked as a part of current tax liabilities when for instance a local tax audit or a taxation decision indicate an increased tax burden and the company makes the judgement that the tax authority wholly or partially can gain success in the future litigation.

Temporary differences exist when there is a difference between the book value and the tax base of assets and liabilities. The Group's temporary differences have resulted in a deferred tax asset or a deferred tax liability relating to the following assets and liabilities:

**Deferred tax assets and liabilities**

Consolidated

| | 2018 | | 2017 | |
|---|---|---|---|---|
| SEK millions | assets | liabilities | assets | liabilities |
| **Relating to:** | | | | |
| Intangible non-current assets | 5 | 902 | 2 | 1,068 |
| Tangible non-current assets | 57 | 153 | 51 | 151 |
| Inventory | 184 | 40 | 136 | 39 |
| Other current assets | 18 | 16 | 21 | 2 |
| Financial assets | 83 | 27 | 17 | 23 |
| Short term liabilities | 1,542 | 140 | 1,406 | 38 |
| Tax losses and tax credits * | 4 | 1 | 39 | – |
| Other | 2 | 806 | 5 | 867 |
| Subtotal | 1,895 | 2,085 | 1,677 | 2,188 |
| Possible to net | -140 | -140 | -88 | -88 |
| **Total deferred taxes** | **1,755** | **1,945** | **1,589** | **2,100** |

* The Group has reported a deferred tax asset on unused tax losses and tax grants of SEK 16 (170) million. These unused tax losses and tax grants are essentially not restricted in time.

In the Group there are temporary differences and unused tax losses and tax credits of SEK 715 (1,166) million that have not resulted in corresponding deferred tax assets, since these are not likely to be used. The temporary differences are mainly relating to pensions, where the date of payment is so far into the future that considering discounting and uncertainty concerning future profit levels no asset is deemed to exist. The unused tax losses and tax grants are essentially not restricted in time, but the tax losses that can be utilised per year can be restricted to a certain proportion of the taxable result.

The nominal tax rate has changed in the following countries between 2017 and 2018 or will change during 2019.

**Tax rates by country**

Consolidated

| Percent | 2019 | 2018 | 2017 |
|---|---|---|---|
| Argentina | 30 | 30 | 35 |
| Belgium | 30 | 30 | 34 |
| Chile | 27 | 25 | 25 |
| Colombia | 33 | 34 | 34 |
| France | 31 | 34 | 34 |
| Norway | 22 | 23 | 24 |
| Slovenia | 19 | 17 | 17 |
| Sweden | 21 | 22 | 22 |
| Taiwan | 20 | 20 | 17 |
| Turkey | 22 | 20 | 20 |
| Ukraine | 15 | 18 | 18 |
| USA | 25 | 25 | 38 |

The tax rates for 2018 and 2017 have been used to calculate the actual tax each year, while the tax rates for 2019 and 2018 have been used to calculate the deferred tax for 2018 and 2017 respectively.

The Group's normal effective tax rate is approximately 26 (26) percent based on taxable result, and it is calculated as a weighted average based on each subsidiary's part of the result before tax. One-time items like the ones mentioned below can however increase the tax rate for an individual year.

**Tax cost per country**

Consolidated

| SEK millions (unless otherwise stated) | 2018 Earnings before tax and received dividends | 2018 Tax cost | 2018 Tax percentage (%) | 2017 Earnings before tax and received dividends | 2017 Tax cost | 2017 Tax percentage (%) |
|---|---|---|---|---|---|---|
| **Top ten countries** | | | | | | |
| Sweden | 2,063 | -505 | 24.5% | 1,212 | -275 | 22.7% |
| Norway | 1,058 | -227 | 21.4% | 907 | -333 | 36.7% |
| China | 868 | -196 | 22.6% | 819 | -183 | 22.4% |
| India | 335 | -121 | 36.0% | 400 | -225 | 56.2% |
| France | 270 | -82 | 30.4% | 115 | 2 | -1.4% |
| Japan | 208 | -76 | 36.7% | 147 | -51 | 34.5% |
| Netherlands | 157 | -71 | 44.8% | 126 | -35 | 27.6% |
| Denmark | 243 | -53 | 21.7% | 297 | -108 | 36.3% |
| Brazil | 122 | -42 | 34.2% | 124 | -35 | 28.6% |
| Finland | 158 | -32 | 20.1% | 124 | -24 | 19.5% |
| **Total top ten countries** | **5,482** | **-1,405** | **25.6%** | **4,271** | **-1,267** | **29.7%** |
| **Other countries** | | | | | | |
| With a positive result | 1,298 | -164 | 12.7% | 686 | -218 | 31.7% |
| With losses | -69 | -5 | 7.4% | -452 | 155 | -34.3% |
| **Total all countries** | **6,711** | **-1,574** | **23.4%** | **4,505** | **-1,330** | **29.5%** |
| **Consolidation entries** | | | | | | |
| Elimination of appropriations | -216 | 47 | 21.8% | -705 | 154 | 21.8% |
| Amortisation of step-up values | -1,038 | 235 | 22.6% | -1,021 | 293 | 28.7% |
| Adjustment of deferred taxes relating to step-up values due to reduced company taxes | – | 35 | N/A | – | 29 | N/A |
| Central provisions and consolidation adjustments | 439 | -102 | 23.2% | 1,592 | -529 | 33.2% |
| **Total** | **5,896** | **-1,359** | **23.0%** | **4,371** | **-1,383** | **31.6%** |

The above table presents the earnings before tax and received dividends, the tax cost and the tax percentage per country for the top ten countries separately and the others grouped under profit generating and loss-making respectively and the consolidation entries in order to arrive at the total. The local results include appropriations. The reason why the result is before received dividends is that these mostly are non-taxable. The top ten countries are defined as the ten countries with the highest tax cost in 2018. The comparison figures 2017 are for these ten countries, although they might not have been among the ten countries with highest tax cost also in 2017.

Observe that individual companies in the top ten countries and in the group with a positive result can report losses. The group with losses can contain individual companies with profits. Also observe that the presented result is without correction for any non-deductible costs and non-taxable revenues outside received tax free dividends. The revaluation of future tax deductions with SEK +130 million in 2018 relates to the U.S., which is outside the top ten countries. The tax percentage for India in 2017 has been affected by a dividend distribution tax of SEK -100 million. The tax percentage for Norway in 2017 has been affected by a non-recurring item of SEK -113 million concerning additional tax relating to prior years concerning acquired businesses according to a settlement with the former owners. The tax percentage for France in 2017 has been affected by refund of incorrectly charged withholding tax on dividends.

Companies with losses in countries without tax pooling might have unused tax losses that have not resulted in a corresponding deferred tax asset, since these are not likely to be used. The lack of such a deferred tax income in these cases has an impact on the tax percentage in the concerned countries.

## Note 16. Goodwill and step-up values – acquisition of businesses

The allocation of step-up values to tangible and intangible assets and the residual goodwill in effect means that all acquisitions are valued at market. In order to separate out this valuation effect Alfa Laval focuses on EBITA, where any amortisation of step-up values is excluded. The development of these step-up values and any goodwill is shown in the table below.

**Movement schedule**

Consolidated

| SEK millions | Opening balance 2018 | Planned depreciation/ amortisation | Translation difference | Closing balance 2018 |
|---|---|---|---|---|
| Buildings | 306 | -32 | 8 | 282 |
| Land and land improvements | -52 | – | -11 | -63 |
| Patents and unpatented know-how | 1,621 | -375 | 93 | 1,339 |
| Trademarks | 3,002 | -631 | 109 | 2,480 |
| Subtotal step-up values | 4,877 | -1,038 | 199 | 4,038 |
| Goodwill | 19,775 | – | 762 | 20,537 |
| **Total** | **24,652** | **-1,038** | **961** | **24,575** |

During 2018 the Group has not recorded any impairment losses related to step-up values.

There is no deferred tax liability calculated on the goodwill. The deferred tax liability on the other step-up values is SEK 764 (965) million.

For assets sold, net gains or losses are recognised on the costs basis including any related step-up value.

The next table shows each acquisition separately. Any later adjustments to the allocations are referred to the original year of the acquisition. The figures for the allocations are based on the prevailing rates at the time the transactions took place and any change in exchange rates until December 31, 2018 is shown as a translation difference. The corresponding presentation by asset type is found in Notes 17 and 18.

## Acquisition of businesses since 2000

Consolidated

| SEK millions Year/Businesses | Buildings | Land and land improvements | Inventory | Patents and unpatented know-how | Trademarks | Other | Total step-up values | Goodwill | Total |
|---|---|---|---|---|---|---|---|---|---|
| **2000** | | | | | | | | | |
| Alfa Laval Holding | 1,058 | -228 | 340 | 1,280 | 461 | 1,112 | 4,023 | 3,683 | 7,706 |
| **2002** | | | | | | | | | |
| Danish Separation Systems | – | – | – | – | – | – | – | 118 | 118 |
| **2003** | | | | | | | | | |
| Toftejorg | 1 | – | – | – | – | – | 1 | 35 | 36 |
| **2005** | | | | | | | | | |
| Packinox | – | – | 6 | 99 | 183 | – | 288 | 253 | 541 |
| **2006** | | | | | | | | | |
| Tranter | 17 | – | 6 | 180 | 265 | – | 468 | 530 | 998 |
| **2007** | | | | | | | | | |
| AGC Engineering | – | – | – | – | 12 | – | 12 | 20 | 32 |
| Helpman | 9 | 8 | – | 36 | – | – | 53 | 4 | 57 |
| Public offer Alfa Laval (India) | – | – | – | – | – | – | – | 441 | 441 |
| DSO Fluid Handling | – | – | – | – | 39 | – | 39 | 42 | 81 |
| Fincoil | – | – | – | 233 | – | – | 233 | 241 | 474 |
| **2008** | | | | | | | | | |
| Høyer Promix A/S | – | – | – | – | – | – | – | 16 | 16 |
| Nitrile India Pvt Ltd | – | – | – | – | – | – | – | 6 | 6 |
| Standard Refrigeration | – | – | 5 | 166 | – | – | 171 | 152 | 323 |
| Pressko AG | – | – | 1 | – | – | – | 1 | 69 | 70 |
| Hutchison Hayes Separation | – | – | 1 | 95 | 49 | – | 145 | 46 | 191 |
| P&D's Plattvärmeväxlarservice | – | – | – | – | – | – | – | 10 | 10 |
| Ageratec | – | – | – | – | – | – | – | 44 | 44 |
| **2009** | | | | | | | | | |
| Two providers of parts & service | – | – | – | – | 291 | – | 291 | 210 | 501 |
| Onnuri Industrial Machinery | – | – | – | 40 | 39 | – | 79 | 48 | 127 |
| HES Heat Exchanger Systems | – | – | – | 83 | – | – | 83 | 59 | 142 |
| Public offer Alfa Laval (India) | – | – | – | – | – | – | – | 311 | 311 |
| Termatrans | – | – | – | – | 7 | – | 7 | 6 | 13 |
| Tranter acquisitions in Latin America | – | – | – | – | 20 | – | 20 | 16 | 36 |
| ISO Mix | – | – | – | 22 | – | – | 22 | – | 22 |
| LHE | – | – | – | 298 | 297 | – | 595 | 344 | 939 |
| **2010** | | | | | | | | | |
| Champ Products | – | – | – | 15 | 14 | – | 29 | 2 | 31 |
| A leading U.S. service provider | – | – | – | – | 134 | – | 134 | 82 | 216 |
| G.S Anderson | – | – | – | 35 | – | – | 35 | 23 | 58 |
| Astepo | – | – | – | 24 | 15 | – | 39 | 8 | 47 |
| Si Fang Stainless Steel Products | – | – | – | 27 | 16 | – | 43 | 42 | 85 |
| Definox | – | – | – | 4 | 5 | – | 9 | 2 | 11 |
| Olmi | – | – | 37 | 58 | 32 | – | 127 | – | 127 |
| **2011** | | | | | | | | | |
| Service company in the U.S. | – | – | – | – | 150 | – | 150 | 126 | 276 |
| Aalborg Industries | 248 | – | – | 430 | 860 | – | 1,538 | 3,630 | 5,168 |
| **2012** | | | | | | | | | |
| Vortex Systems | – | – | – | 148 | – | – | 148 | 225 | 373 |
| Ashbrook Simon-Hartley | – | – | – | 86 | – | – | 86 | 55 | 141 |
| Gamajet Cleaning Systems | – | – | – | 47 | – | – | 47 | 37 | 84 |
| Air Cooled Exchangers (ACE) | – | – | – | 585 | – | – | 585 | 346 | 931 |
| **2013** | | | | | | | | | |
| Niagara Blower Company | – | – | – | 202 | – | – | 202 | 203 | 405 |
| **2014** | | | | | | | | | |
| Frank Mohn AS | – | – | 38 | 1,160 | 3,793 | – | 4,991 | 9,831 | 14,822 |
| CorHex Corp | – | – | – | 15 | – | – | 15 | – | 15 |
| **2015** | | | | | | | | | |
| Aftermarket company (separation) | – | – | – | – | 32 | – | 32 | 24 | 56 |
| K-Bar Parts LLC | – | – | – | – | 16 | – | 16 | – | 16 |
| **Accumulated during the period** | | | | | | | | | |
| Realised | -542 | 122 | -435 | – | – | -123 | -978 | – | -978 |
| Write down | -6 | -9 | – | -89 | -5 | – | -109 | -581 | -690 |
| Planned depreciation/amortisation | -503 | – | – | -4,259 | -4,139 | -993 | -9,894 | -612 | -10,506 |
| Translation difference | – | 44 | 1 | 319 | -106 | 4 | 262 | 390 | 652 |
| **Closing balance** | **282** | **-63** | **–** | **1,339** | **2,480** | **–** | **4,038** | **20,537** | **24,575** |

The acquisition of the Alfa Laval Holding AB group in connection with the acquisition by Industri Kapital of the Alfa Laval Group from Tetra Laval on August 24, 2000 is shown on the first row.

"Other" relates to step-up values from 2000 for "Machinery" of SEK 548 million and "Equipment" of SEK 452 million that have been fully depreciated or realised, for "Research and development" of SEK 54 million and "Capital gain (Industrial Flow)" of SEK 42 million that have been fully realised and for "Construction in process" of SEK 16 million that has been transferred to "Machinery".

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 Notes

**Acquisition of businesses**
***During 2018***
On December 18, 2018 Alfa Laval announced that it has signed an agreement to acquire certain technologies and activities from Airec – a Malmö, Sweden-based innovation company with patented technology for dimple asymmetry heat exchangers. The new company will be integrated into the Brazed & Fusion Bonded Heat Exchangers unit of the Energy Division. The acquired technology represents untapped opportunities in combination with Alfa Laval's existing heat transfer know-how, manufacturing footprint and global market presence. The transaction was closed on January 2, 2019. Airec had sales of SEK 14 million between July 2017 and June 2018.

Alfa Laval has acquired 13 percent of the shares in the newly created technology company Malta Inc for SEK 72 million. The company has developed an innovative energy storage solution to substantially grow the implementation of renewable energy.

***During 2017***
On May 19, 2017 Alfa Laval has acquired the remaining 16.67 percent of the shares in the subsidiary Chang San Engineering Co Ltd in South Korea for SEK 58 million, which made it a fully owned subsidiary. The shareholding in the company was part of the acquisition of Frank Mohn AS in 2014.

The remaining SEK 11 million is relating to payment of retained part of purchase price concerning prior acquisitions.

All acquired assets and liabilities were reported according to IFRS at the time of the acquisitions.

**Impairment testing**
An impairment test has been performed at the end of 2018 indicating that there is not any need to write down the goodwill.

Four of Alfa Laval's operating segments, the four business divisions "Energy", "Food & Water", "Marine" and "Greenhouse" have been identified as the cash-generating units within Alfa Laval. Technically a recently acquired business activity could be followed independently during an initial period, but acquired businesses are normally integrated into the divisions at a fast rate. This means that the independent traceability is lost fairly soon and then any independent measurement and testing becomes impracticable.

The recoverable amount of the cash-generating units is based on their value in use, which is established by calculating the net present value of future cash flows. The net present value is based on the projected EBITDA figures for the next twenty years, less projected investments and changes in operating capital during the same period. This projection for the coming 20 years is based on the following components:

– The projection for 2019 is based on the Groups normal 12 month revolving "Forecast" reporting. This is based on a very large number of rather detailed assumptions throughout the organisation concerning the business cycle, volume growth, market initiatives, product mix, currency rates, cost development, cost structure, R&D etc.
– The projection for the years 2020 and 2021 is based on Management's general assumptions concerning the business cycle, volume growth, market initiatives, product mix, currency rates, cost development, cost structure, R&D etc.
– The projection for the years 2022 to 2038 is based on the perceived expected average industry growth rate.

The reason why a longer period than 5 years has been used for the calculation of the net present value is that Management considers 5 years to be a too short period for an operation where applying the going concern concept can be justified.

The assumptions used for the projections reflect past experiences or information from external sources.

The used discount rate is the pre-tax weighted average cost of capital (WACC) of 9.56 (8.81) percent.

There exists no reasonably possible change in a key assumption in the impairment test that would cause the carrying amount to exceed the recoverable amount. The reason is that the recoverable amounts with a very good margin exceed the carrying amounts. Due to this a sensitivity analysis is not presented.

Alfa Laval does not have any intangible assets with indefinite useful lives other than goodwill.

Goodwill has been allocated to the following cash-generating units:

**Goodwill**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Energy | 3,456 | 3,273 |
| Food & Water | 2,561 | 2,454 |
| Marine | 14,520 | 14,048 |
| **Total** | **20,537** | **19,775** |

# Note 17. Intangible non-current assets

**Patents and unpatented know-how**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 5,888 | 6,099 |
| Purchases | 0 | 0 |
| Sales/disposals | – | -5 |
| Reclassifications | – | -1 |
| Translation difference | 283 | -205 |
| **Closing balance** | **6,171** | **5,888** |
| | | |
| **Accumulated amortisation** | | |
| Opening balance | -4,235 | -3,957 |
| Sales/disposals | – | 2 |
| Reclassifications | 0 | 0 |
| Amortisation of step-up value | -375 | -368 |
| Amortisation for the year | -6 | -6 |
| Translation difference | -188 | 94 |
| **Closing balance** | **-4,804** | **-4,235** |
| | | |
| **Closing balance, net book value** | **1,367** | **1,653** |

**Trademarks**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 6,675 | 6,915 |
| Translation difference | 267 | -240 |
| **Closing balance** | **6,942** | **6,675** |
| | | |
| **Accumulated amortisation** | | |
| Opening balance | -3,673 | -3,149 |
| Reclassifications | -5 | – |
| Amortisation of step-up values | -631 | -621 |
| Amortisation for the year | -1 | – |
| Translation difference | -158 | 97 |
| **Closing balance** | **-4,468** | **-3,673** |
| | | |
| **Closing balance, net book value** | **2,474** | **3,002** |

### Licenses, renting rights and similar rights

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 211 | 217 |
| Purchases | 6 | 1 |
| Sales/disposals | -3 | -1 |
| Reclassifications | 0 | 1 |
| Translation difference | 9 | -7 |
| **Closing balance** | **223** | **211** |
| | | |
| **Accumulated amortisation** | | |
| Opening balance | -174 | -179 |
| Sales/disposals | 2 | 1 |
| Reclassifications | -4 | 1 |
| Amortisation for the year | -11 | -5 |
| Translation difference | -4 | 8 |
| **Closing balance** | **-191** | **-174** |
| | | |
| **Closing balance, net book value** | **32** | **37** |

Alfa Laval does not have any internally generated intangible assets.

### Goodwill

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 20,898 | 21,586 |
| Translation difference | 821 | -688 |
| **Closing balance** | **21,719** | **20,898** |
| | | |
| **Accumulated amortisation** | | |
| Opening balance | -1,123 | -1,150 |
| Translation difference | -59 | 27 |
| **Closing balance** | **-1,182** | **-1,123** |
| | | |
| **Closing balance, net book value** | **20,537** | **19,775** |

## Note 18. Property, plant and equipment

### Real estate

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 4,934 | 4,764 |
| Purchases | 305 | 172 |
| Sales/disposal | -15 | -69 |
| Reclassifications | 15 | 94 |
| Translation difference | 163 | -27 |
| **Closing balance** | **5,402** | **4,934** |
| | | |
| **Accumulated depreciation** | | |
| Opening balance | -2,569 | -2,444 |
| Sales/disposals | 10 | 51 |
| Reclassifications | 2 | 7 |
| Depreciation of step-up value | -32 | -32 |
| Depreciation for the year | -144 | -146 |
| Translation difference | -86 | -5 |
| **Closing balance** | **-2,819** | **-2,569** |
| | | |
| **Closing balance, net book value** | **2,583** | **2,365** |

**Non-current assets held for sale**

Within Alfa Laval these assets are normally relating to real estate.

The operations in Lykens in the U.S. will move to Broken Arrow during 2019. After the move the property in Lykens will be sold. A small property in France is empty and has been for sale for several years. They are not expected to be sold within the next year.

This means that none of these properties have been re-classified as current assets held for sale. Last year current assets held for sale were SEK 2 million.

### Machinery and other technical installations

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 7,043 | 7,113 |
| Purchases | 297 | 183 |
| Transfer to disposal groups | -115 | – |
| Sales/disposal | -234 | -231 |
| Reclassifications | 6 | 120 |
| Translation difference | 222 | -142 |
| **Closing balance** | **7,219** | **7,043** |
| | | |
| **Accumulated depreciation** | | |
| Opening balance | -5,554 | -5,490 |
| Sales/disposals | 200 | 165 |
| Transfer to disposal groups | 56 | – |
| Reclassifications | 337 | -16 |
| Depreciation for the year | -325 | -327 |
| Write-down | -2 | -5 |
| Translation difference | -176 | 119 |
| **Closing balance** | **-5,464** | **-5,554** |
| | | |
| **Closing balance, net book value** | **1,755** | **1,489** |

### Equipment, tools and installations

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 2,702 | 2,722 |
| Purchases | 160 | 100 |
| Sales/disposal | -82 | -106 |
| Reclassifications | -59 | 31 |
| Translation difference | 90 | -45 |
| **Closing balance** | **2,811** | **2,702** |
| | | |
| **Accumulated depreciation** | | |
| Opening balance | -2,135 | -2,143 |
| Sales/disposals | 65 | 89 |
| Reclassifications | 95 | 15 |
| Depreciation for the year | -129 | -135 |
| Write-down | 0 | -1 |
| Translation difference | -74 | 40 |
| **Closing balance** | **-2,178** | **-2,135** |
| | | |
| **Closing balance, net book value** | **633** | **567** |

### Construction in progress and advances to suppliers concerning property, plant and equipment

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Accumulated acquisition values** | | |
| Opening balance | 300 | 281 |
| Purchases | 722 | 219 |
| Reclassifications | -341 | -192 |
| Translation difference | -47 | -8 |
| **Closing balance** | **634** | **300** |
| | | |
| **Closing balance, net book value** | **634** | **300** |

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38

Notes

**Leased real estate**

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| **Accumulated acquisition values** | | |
| Opening balance | 185 | 180 |
| Translation difference | 8 | 5 |
| **Closing balance** | **193** | **185** |
| | | |
| **Accumulated depreciation** | | |
| Opening balance | -59 | -50 |
| Depreciation for the year | -8 | -7 |
| Translation difference | -2 | -2 |
| **Closing balance** | **-69** | **-59** |
| | | |
| **Closing balance, net book value** | **124** | **126** |

**Leased machinery**

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| **Accumulated acquisition values** | | |
| Opening balance | 38 | 37 |
| Translation difference | 2 | 1 |
| **Closing balance** | **40** | **38** |
| | | |
| **Accumulated depreciation** | | |
| Opening balance | -34 | -31 |
| Reclassifications | – | 0 |
| Depreciation for the year | -3 | -3 |
| Translation difference | -1 | 0 |
| **Closing balance** | **-38** | **-34** |
| | | |
| **Closing balance, net book value** | **2** | **4** |

**Leased equipment, tools and installations**

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| **Accumulated acquisition values** | | |
| Opening balance | 3 | 4 |
| Purchases | 1 | – |
| Sales/disposal | 0 | 0 |
| Reclassifications | 0 | -1 |
| Translation difference | 0 | 0 |
| **Closing balance** | **4** | **3** |
| | | |
| **Accumulated depreciation** | | |
| Opening balance | -3 | -3 |
| Sales/disposals | 0 | 0 |
| Depreciation for the year | 0 | 0 |
| Translation difference | 0 | 0 |
| **Closing balance** | **-3** | **-3** |
| | | |
| **Closing balance, net book value** | **1** | **0** |

Leased real estate, machinery and equipment relate to fixed assets which are leased and where the leasing agreement has been considered to be a financial lease. These financial leases are capitalised in the statement on financial position.

## Note 19. Other non-current assets

**Shares in subsidiaries, joint ventures and other companies**

| | Consolidated | | Parent company | |
|---|---|---|---|---|
| SEK millions | 2018 | 2017 | 2018 | 2017 |
| Shares in subsidiaries | – | – | 4,669 | 4,669 |
| Shares in joint ventures | 44 | 31 | – | – |
| Shares in other companies | 76 | 4 | – | – |
| **Total** | **120** | **35** | **4,669** | **4,669** |

Alfa Laval does not hold any shares in unconsolidated structured entities.

The consolidated financial statements include the parent company Alfa Laval AB (publ) and the subsidiaries in which it has a decisive influence, which in all cases refer to companies where the parent company directly or indirectly had an ownership of more than 50 percent during the period. These are consolidated according to the purchase method and are referred to as subsidiaries. Most of the subsidiaries are owned to 100 percent and only 6 (6) companies have non-controlling interests, see Note 12. The subsidiaries are displayed in the table on pages 121–123. Since all consolidated companies are owned to more than 50 percent there is no risk that judgements if a decisive influence exists or not at ownerships below 50 percent means that companies from time to time are included or not included in the consolidation.

Alfa Laval also has interests in 3 (3) small joint ventures that are consolidated according to the equity method since no decisive influence exists. These are displayed in a separate table on page 123. The risks associated with joint ventures are basically business oriented and are not materially different than the risks linked to subsidiaries, with one exception. The exception relates to the risk of disagreeing with the other joint venture partner concerning for instance larger investments, financing and future direction for market penetration and product development, which could result in a sub-optimal development of the operations. Since Alfa Laval's joint ventures are of marginal significance for the Group as a total this risk is judged to be small.

The share of capital in the below tables is in all cases the same as the share of voting rights.

The below specification of shares contains some simplifications, for instance in connection with ownership in multiple layers or when the ownership is split on several owners or at cross-holdings. This is in order not to unnecessarily burden the presentation. A complete specification of shares can be ordered by contacting Alfa Laval's head office in Lund or via the Swedish Companies Registration Office (Bolagsverket).

### Specification of shares in subsidiaries

| Company name | Registration number | Domicile | Number of shares | Share of capital % | Book value SEK millions |
|---|---|---|---|---|---|
| Alfa Laval Holding AB | 556587-8062 | Lund, Sweden | 8,191,000 | 100 | 4,461 |
| Alfa Laval NV | | Maarssen, Netherlands | 887,753 | 100 | – |
| Alfa Laval Inc. | | Newmarket, Canada | 1,000,000 | 67 | – |
| Alfa Laval S.A. DE C.V. | | Tlalnepantla, Mexico | 45,057,057 | 100 | – |
| Alfa Laval S.A. | | San Isidro, Argentina | 1,223,967 | 95 | – |
| Alfa Laval Ltda | | Sao Paulo, Brazil | 21,129,066 | 100 | – |
| Framo do Brasil Ltda. | | Rio de Janeiro, Brazil | 14,850 | 4.67 | – |
| Alfa Laval SpA | | Santiago, Chile | 2,735 | 100 | – |
| Ashbrook Chile S.A. | | Santiago, Chile | 579,999 | 100 | – |
| Alfa Laval S.A. | | Bogota, Colombia | 12,195 | 100 | – |
| Alfa Laval S.A. | | Lima, Peru | 4,346,832 | 100 | – |
| Inmobililaria Tanguis S.A.C. | | Lima, Peru | 1,499 | 100 | – |
| Alfa Laval Venezolana S.A. | | Caracas, Venezuela | 10,000 | 100 | – |
| Alfa Laval Oilfield C.A. | | Caracas, Venezuela | 203 | 81 | – |
| Alfa Laval Taiwan Ltd | | Taipei, Taiwan | 1,499,994 | 100 | – |
| Alfa Laval (China) Ltd | | Hong Kong, China | 79,999 | 100 | – |
| Alfa Laval (Jiangyin) Manufacturing Co Ltd | | Jiang Yin, China | | 100 | – |
| Alfa Laval Flow Equipment (Kunshan) Co Ltd | | Jiangsu, China | | 75 | – |
| Alfa Laval Flow Equipment (Kunshan) Co Ltd | | Jiangsu, China | | 25 | – |
| Alfa Laval (Shanghai) Technologies Co Ltd | | Shanghai, China | | 100 | – |
| Wuxi MCD Gasket Co Ltd | | Jiang Yin, China | | 100 | – |
| Tranter Heat Exchangers (Beijing) Co Ltd | | Beijing, China | | 100 | – |
| Liyang Sifang Stainless Steel Products Co., Ltd | | Liyang City, China | | 65 | – |
| Alfa Laval Iran Ltd | | Teheran, Iran | 32,983 | 100 | – |
| Framo Korea Ltd | | Busan, South Korea | 5,000 | 25 | – |
| Alfa Laval Industry (PVT) Ltd | | Lahore, Pakistan | 119,110 | 100 | – |
| Alfa Laval Philippines Inc. | | Makati, Philippines | 72,000 | 100 | – |
| Alfa Laval Singapore Pte Ltd | | Singapore | 5,000,000 | 100 | – |
| Alfa Laval (Thailand) Ltd | | Bangkok, Thailand | 1,199,999 | 100 | – |
| Alfa Laval Middle East Ltd | | Nicosia, Cyprus | 40,000 | 100 | – |
| Alfa Laval Service Operations Qatar LLC | | Doha, Qatar | 9,800 | 49 | – |
| Alfa Laval Benelux NV/SA | | Brussels, Belgium | 98,284 | 100 | – |
| Alfa Laval EOOD | | Sofia, Bulgaria | 100 | 100 | – |
| Alfa Laval Slovakia S.R.O. | | Bratislava, Slovakia | | 1 | – |
| Alfa Laval Spol S.R.O. | | Prague, Czech Republic | | 20 | – |
| Alfa Laval Nordic OY | | Espoo, Finland | 20,000 | 100 | – |
| Alfa Laval Vantaa OY | | Vantaa, Finland | 7,000 | 100 | – |
| Alfa Laval Nederland BV | | Maarssen, Netherlands | 10,000 | 100 | – |
| Alfa Laval Benelux BV | | Maarssen, Netherlands | 20,000 | 100 | – |
| Helpman Capital BV | | Breda, Netherlands | 35,578 | 100 | – |
| Helpman Holding BV | | Naarden, Netherlands | 80 | 100 | – |
| Alfa Laval Groningen BV | | Groningen, Netherlands | 15,885 | 100 | – |
| PHE Holding AB | 556306-2404 | Lund, Sweden | 2,500 | 100 | – |
| Tranter Heat Exchangers Canada Inc. | | Edmonton, Canada | 100 | 100 | – |
| Tranter Latin America S.A. de C.V. | | Queretaro, Mexico | 49,999 | 100 | – |
| Tranter Indùstria e Comércio de Equipamentos Ltda | | Sao Paulo, Brazil | 2,018,370 | 100 | – |
| Tranter India Pvt Ltd | | Pune, India | 3,009,999 | 100 | – |
| Alfa Laval India Pvt Ltd | | Pune, India | 1 | 0 | – |
| Alfa Laval Korea Ltd | | Seoul, South Korea | 36,400 | 10 | – |
| Alfa Laval Korea Holding Company Ltd | | Chungnam, South Korea | 13,318,600 | 100 | – |
| Alfa Laval Korea Ltd | | Seoul, South Korea | 327,600 | 90 | – |
| Alfa Laval Corhex Ltd | | Daejeon, South Korea | 50,000 | 100 | – |
| LHE Co. Ltd | | Gim Hae, South Korea | 4,560,000 | 100 | – |
| Tranter Heat Exchangers Middle East (Cyprus) Ltd | | Nicosia, Cyprus | 20,000 | 100 | – |
| Tranter International AB | 556559-1764 | Vänersborg, Sweden | 100,000 | 100 | – |
| Multbran AB | 556662-3988 | Lund, Sweden | 2,723 | 100 | – |
| Alfa Laval India Pvt Ltd | | Pune, India | 1 | 0 | – |
| Breezewind AB | 556773-6532 | Lund, Sweden | 1,000 | 100 | – |
| Alfa Laval India Pvt Ltd | | Pune, India | 1 | 0 | – |
| OOO Tranter CIS | | Moscow, Russia | | 100 | – |
| Alfa Laval Corporate AB | 556007-7785 | Lund, Sweden | 13,920,000 | 100 | – |
| Alfa Laval S.A. | | San Isidro, Argentina | 64,419 | 5 | – |
| Tranter Latin America S.A. de C.V. | | Queretaro, Mexico | 1 | 0 | – |
| Definox (Beijing) Stainless Steel Equipment Ltd | | Beijing, China | | 100 | – |
| Alfa Laval (Kunshan) Manufacturing Co Ltd | | Kunshan, China | | 100 | – |
| Alfa Laval India Pvt Ltd | | Pune, India | 17,832,712 | 100 | – |
| Alfa Laval Support Services Pvt Ltd | | Pune, India | 100,000 | 100 | – |
| Tranter India Pvt Ltd | | Pune, India | 1 | 0 | – |
| PT Alfa Laval Indonesia | | Jakarta, Indonesia | 16,240 | 100 | – |

### Specification of shares in subsidiaries, continued

| Company name | Registration number | Domicile | Number of shares | Share of capital % | Book value SEK millions |
|---|---|---|---|---|---|
| Alfa Laval Malaysia Sdn Bhd | | Shah Alam, Malaysia | 10,000 | 100 | – |
| Alfa Laval d.o.o. | | Trzin, Slovenia | 0 | 100 | – |
| Alfa Laval Kolding A/S | | Kolding, Denmark | 40 | 100 | – |
| Alfa Laval Nordic A/S | | Rödovre, Denmark | 1 | 100 | – |
| Alfa Laval Copenhagen A/S | | Söborg, Denmark | 1 | 100 | – |
| Alfa Laval Nakskov A/S | | Nakskov, Denmark | 242,713 | 100 | – |
| Alfa Laval Aalborg A/S | | Aalborg, Denmark | 2,560,972 | 100 | – |
| Alfa Laval Aalborg Indústria e Comércio Ltda | | Petrópolis, Brazil | 5,969,400 | 99.5 | – |
| Aalborg Industries Ltda | | Itu, Brazil | 4,644,373 | 100 | – |
| Alfa Laval Aalborg Ltd | | Shanghai, China | | 100 | – |
| Alfa Laval Qingdao Ltd | | Jiaozhou City, China | | 100 | – |
| Aalborg Industries Engineering Bhd | | Kuala Lumpur, Malaysia | | 100 | – |
| Aalborg Industries Water Treatment Pte Ltd | | Singapore | 4,800,000 | 60 | – |
| Alfa Laval Aalborg Oy | | Rauma, Finland | 3,000 | 100 | – |
| Alfa Laval Nijmegen BV | | Nijmegen, Netherlands | 182 | 100 | – |
| Alfa Laval Aalborg Holding Pty Ltd | | North Wyong, Australia | 2,875,010 | 100 | – |
| Alfa Laval Aalborg Pty Ltd | | North Wyong, Australia | 225,000 | 100 | – |
| Alfa Laval Olmi SpA | | Suisio, Italy | 500,000 | 100 | – |
| Alfa Laval Italy Srl | | Milan, Italy | | 33.3 | – |
| Alfa Laval Nordic AS | | Oslo, Norway | 100 | 100 | – |
| Framo AS | | Nesttun, Norway | 95,347,695 | 100 | – |
| Framo do Brasil Ltda. | | Rio de Janeiro, Brazil | 303,002 | 95.33 | – |
| Framo Shanghai Ltd. | | Shanghai, China | 0 | 100 | – |
| Framo Korea Ltd | | Busan, South Korea | 15,000 | 75 | – |
| Framo Singapore PTE Ltd. | | Singapore | 1,000,000 | 100 | – |
| Framo Nederland BV | | Spijkenisse, Netherlands | 500 | 100 | – |
| Framo Nippon KK | | Tokyo, Japan | 600 | 100 | – |
| Framo Fusa AS | | Fusa, Norway | 86,236 | 100 | – |
| Framo Holsnøy AS | | Frekhaug, Norway | 25,000 | 100 | – |
| Framo Flatøy AS | | Frekhaug, Norway | 45,330 | 100 | – |
| Framo Services AS | | Nesttun, Norway | 10,000 | 100 | – |
| PHE Holding AS | | Nesttun, Norway | 45,000 | 100 | – |
| Alfa Laval Nordic AB | 556243-2061 | Tumba, Sweden | 1,000 | 100 | – |
| Alfa Laval Treasury International (publ) AB | 556432-2484 | Lund, Sweden | 50,000 | 100 | – |
| Alfa Laval India Pvt Ltd | | Pune, India | 1 | 0 | – |
| Alfa Laval Europe AB | 556128-7847 | Lund, Sweden | 500 | 100 | – |
| Alfa Laval Lund AB | 556016-8642 | Lund, Sweden | 100 | 100 | – |
| Alfa Laval India Pvt Ltd | | Pune, India | 1 | 0 | – |
| Alfa Laval International Engineering AB | 556039-8934 | Lund, Sweden | 4,500 | 100 | – |
| Alfa Laval Tumba AB | 556021-3893 | Tumba, Sweden | 1,000 | 100 | – |
| Alfa Laval Oilfield C.A. | | Caracas, Venezuela | 47 | 19 | – |
| AO Alfa Laval Potok | | Koroljov, Russia | 31,092,892 | 100 | – |
| Alfa Laval Makine Sanayii ve Ticaret Ltd Sti | | Istanbul, Turkey | 27,001,755 | 99 | – |
| Alfa Laval SIA | | Riga, Latvia | 125 | 100 | – |
| Alfa Laval Australia Pty Ltd | | Homebush, Australia | 2,088,076 | 100 | – |
| Alfa Laval New Zeeland Pty Ltd | | Hamilton, New Zeeland | 1,000 | 100 | – |
| Alfa Laval Holding BV | | Maarssen, Netherlands | 60,035,631 | 100 | – |
| Alfa Laval (Pty) Ltd | | Isando, South Africa | 2,000 | 100 | – |
| Alfa Laval SA (Pty) Ltd | | Isando, South Africa | 100 | 100 | – |
| Alfa Laval Slovakia S.R.O. | | Bratislava, Slovakia | | 99 | – |
| Alfa Laval Spol S.R.O. | | Prague, Czech Republic | | 80 | – |
| Alfa Laval France SAS | | Saint-Priest, France | 2,000,000 | 100 | – |
| Alfa Laval SAS | | Saint-Priest, France | 606,700 | 100 | – |
| Alfa Laval Moatti SAS | | Elancourt, France | 24,000 | 100 | – |
| Alfa Laval Spiral SAS | | Nevers, France | 79,999 | 100 | – |
| MCD SAS | | Guny, France | 71,300 | 100 | – |
| Alfa Laval Vicarb SAS | | Grenoble, France | 200,000 | 100 | – |
| Canada Inc. | | Newmarket, Canada | 480,000 | 100 | – |
| Alfa Laval Inc. | | Newmarket, Canada | 481,600 | 33 | – |
| SCI du Companil | | Grenoble, France | 32,165 | 100 | – |
| Alfa Laval Packinox SAS | | Paris, France | 348,115 | 100 | – |
| Ziepack SA | | Paris, France | 37,701 | 51 | – |
| Tranter SAS | | Nanterre, France | | 100 | – |
| Definox SAS | | Clisson, France | 10,000 | 100 | – |
| Alfa Laval Holding GmbH | | Glinde, Germany | 1 | 100 | – |
| Alfa Laval Mid Europe GmbH | | Wiener Neudorf, Austria | 1 | 100 | – |
| Tranter Warmetauscher GmbH | | Guntramsdorf, Austria | | 100 | – |
| Alfa Laval Mid Europe GmbH | | Glinde, Germany | 1 | 100 | – |
| Alfa Laval Stormarn GmbH | | Glinde, Germany | 1 | 100 | – |
| Tranter GmbH | | Artern, Germany | 1 | 100 | – |
| Alfa Laval Mid Europe AG | | Dietlikon, Switzerland | 647 | 100 | – |
| Alfa Laval AEBE | | Holargos, Greece | 807,000 | 100 | – |

### Specification of shares in subsidiaries, continued

| Company name | Registration number | Domicile | Number of shares | Share of capital % | Book value SEK millions |
|---|---|---|---|---|---|
| Alfa Laval Kft | | Budapest, Hungary | 1 | 100 | – |
| Alfa Laval SpA | | Monza, Italy | 1,992,276 | 99 | – |
| Alfa Laval Italy Srl | | Milan, Italy | | 66.7 | – |
| Alfa Laval Polska Sp.z.o.o. | | Warsaw, Poland | 7,600 | 100 | – |
| Alfa Laval Kraków Sp.z.o.o. | | Krakow, Poland | 80,080 | 100 | – |
| Alfa Laval (Portugal) Ltd | | Linda-A-Velha, Portugal | | 1 | – |
| Alfa Laval SRL | | Bucharest, Romania | 38,566 | 100 | – |
| Alfa Laval Iberia SA | | Madrid, Spain | 99,999 | 99.999 | – |
| Alfa Laval (Portugal) Ltd | | Linda-A-Velha, Portugal | 1 | 99 | – |
| Alfa Laval Holdings Ltd | | Camberley, UK | 14,053,262 | 100 | – |
| Alfa Laval Ltd | | Camberley, UK | 11,700,000 | 100 | – |
| Tranter Ltd | | Doncaster, UK | 10,000 | 100 | – |
| Alfa Laval Eastbourne Ltd | | Eastbourne, UK | 10,000 | 100 | – |
| Ashbrook Simon–Hartley Ltd | | Newcastle-under-Lyme, UK | 2 | 100 | – |
| Alfa Laval Makine Sanayii ve Ticaret Ltd Sti | | Istanbul, Turkey | 1 | 1 | – |
| Alfa Laval USA Inc. | | Richmond, Virginia, USA | 1,000 | 100 | – |
| Alfa Laval US Holding Inc. | | Richmond, Virginia, USA | 180 | 100 | – |
| Alfa Laval Inc. | | Richmond, Virginia, USA | 44,000 | 100 | – |
| Champ Products LLC | | Richmond, Virginia, USA | | 100 | – |
| Alfa Laval Wood Dale LLC | | Richmond, Virginia, USA | | 100 | – |
| Niagara Blower Company Inc | | Buffalo, New York, USA | 4,000,200 | 100 | – |
| Framo Houston Inc. | | La Porte, Texas, USA | 5,000 | 100 | – |
| Alfa Laval US Treasury Inc. | | Richmond, Virginia, USA | 1,000 | 100 | – |
| DSO Fluid Handling Inc. | | Irvington, New Jersey, USA | 100 | 100 | – |
| AGC Heat Transfer Inc. | | Bristow, Virginia, USA | 1,000 | 100 | – |
| Tranter Inc. | | Wichita Falls, Texas, USA | 1,000 | 100 | – |
| MCD Gaskets Inc. | | Richmond, Virginia, USA | 1,000 | 100 | – |
| Hutchison Hayes Separation Inc. | | Houston, Texas, USA | 1,000 | 100 | – |
| Definox Inc. | | New Berlin, Wisconsin, USA | 1,000 | 100 | – |
| Alfa Laval Kathabar Inc. | | Elizabethtown, North Carolina, USA | 1,000 | 100 | – |
| Alfa Laval IC Disc Inc | | Richmond, Virginia, USA | 1,000 | 100 | – |
| Alfa Laval Försäkrings AB | 516406-0682 | Lund, Sweden | 50,000 | 100 | – |
| Alfa Laval Ltda | | Sao Paulo, Brazil | 2 | 0 | – |
| Tranter Indùstria e Comércio de Equipamentos Ltda | | Sao Paulo, Brazil | 1 | 0 | – |
| Alfa Laval Benelux NV/SA | | Brussels, Belgium | 2 | 0 | – |
| Alfa Laval SpA | | Monza, Italy | 20,124 | 1 | – |
| Alfa Laval Iberia SA | | Madrid, Spain | 1 | 0.001 | – |
| Alfa Laval Ukraine | | Kiev, Ukraine | | 100 | – |
| Alfa Laval India Pvt Ltd | | Pune, India | 1 | 0 | – |
| Alfa Laval Vietnam LLC | | Ho Chi Minh City, Vietnam | 0 | 100 | – |
| Alfa Laval KK | | Tokyo, Japan | 1,200,000 | 100 | 208 |
| **Total** | | | | | **4,669** |

### Specification of shares in joint ventures

| Company name | Registration number | Domicile | Number of shares | Share of capital % | Book value SEK millions |
|---|---|---|---|---|---|
| Alfa Laval Holding AB | | | | | |
| Alfdex AB | 556647-7278 | Botkyrka, Sweden | 1,000 | 50 | 40 |
| Alfa Laval Corporate AB | | | | | |
| AlfaWall AB | 556723-6715 | Botkyrka, Sweden | 500 | 50 | 4 |
| Alfa Laval Ltd | | | | | |
| Rolls Laval Heat Exchangers Ltd | | Wolverhampton, UK | 5,000 | 50 | 0 |
| **Total** | | | | | **44** |

**Specification of shares in other companies**

| Company name | Domicile | Number of shares | Share of capital % | Book value SEK thousands |
|---|---|---|---|---|
| Alfa Laval US Holding Inc. | | | | |
| Malta Inc | USA | 8,000,000 | 13 | 71,758 |
| Alfa Laval Aalborg Ltda | | | | |
| Tractebel | Brazil | 1,268 | | 99 |
| Elektrobras | Brazil | 7,107 | | 134 |
| Alfa Laval Philippines Inc. | | | | |
| Philippine Long Distance Telephone | Philippines | 820 | | 14 |
| Alfa Laval Nordic OY | | | | |
| As Oy Koivulantie 7A | Finland | 1 | | 318 |
| Helsinki Halli | Finland | 4 | | 144 |
| Alfa Laval Vantaa OY | | | | |
| Länsi-Vantaan Tenniskeskus | Finland | 4 | | 0 |
| Mikkelin Puhelin Oyj | Finland | 5 | | 21 |
| Alfa Laval Benelux BV | | | | |
| CV Scheepvaartonderneming Finterbaltica | Netherlands | 1 | | 174 |
| Helpman Holding BV | | | | |
| Helpman Sofia OOD | Bulgaria | 500 | 49 | 0 |
| Alfa Laval NV | | | | |
| Dalian Haven Automation Co Ltd | China | 102 | 43 | 913 |
| Framo Nederland BV | | | | |
| Triangle (Air) Freight Forwarders BV | Netherlands | 12 | 33 | 2,052 |
| Framo Flatøy AS | | | | |
| Nordhordaland handverk og industrilag AS | Norway | 50 | 4 | 26 |
| Meland arbeids- og kompetansesenter | Norway | 3 | 3 | 3 |
| Alfa Laval Tumba AB | | | | |
| Smedhälsan Ekonomisk Förening | Sweden | | | 22 |
| Alfa Laval Corporate AB | | | | |
| European Development Capital Corporation (EDCC) NV | Curacao | 36,129 | | 0 |
| Multiprogress | Hungary | 100 | 3 | 0 |
| Kurose Chemical Equipment Ltd | Japan | 180,000 | 11 | 0 |
| Poljopriveda | former Yugoslavia | | | 0 |
| Tecnica Argo-Industrial S.A. | Mexico | 490 | 49 | 0 |
| Adela Investment Co S.A. (preference) | Luxembourg | 1,911 | 0 | 0 |
| Adela Investment Co S.A. | Luxembourg | 1,911 | 0 | 0 |
| Mas Dairies Ltd | Pakistan | 125,000 | 5 | 0 |
| **Total** | | | | **75,678** |

None of these other companies with a share of capital of 20 percent or more are accounted for as associates since they are dormant or have very limited activites and Alfa Laval does not have a significant influence according to IAS 28 item 6.

## Note 20. Inventories

**Type of inventory**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Raw materials and consumables | 2,864 | 2,351 |
| Work in progress | 2,676 | 2,719 |
| Finished goods & goods for resale, new sales | 2,050 | 1,949 |
| Finished goods & goods for resale, spare parts | 1,357 | 1,190 |
| Advance payments to suppliers | 306 | 215 |
| **Total** | **9,253** | **8,424** |

A considerable part of the inventory for spare parts is carried at net realisable value.

Obsolescence related to inventories amounts to and has changed as follows:

**Obsolescence**

Consolidated

| SEK millions | January 1 | Translation difference | Write-down | Reversal of previous write-down | December 31 |
|---|---|---|---|---|---|
| Year: | | | | | |
| 2017 | 1,263 | -37 | 370 | -382 | 1,214 |
| 2018 | 1,214 | 41 | 325 | -337 | 1,243 |

The Group's inventories have been accounted for after deduction for inter-company gains in inventory due to internal sales within the Group. The inter-company profit reserve at the end of 2018 amounts to SEK 507 (535) million.

# Note 21. Accounts receivable

Accounts receivable with a maturity exceeding one year of SEK 149 (198) million have not been accounted for as non-current assets as they are not intended for permanent use.

Accounts receivable are reported net of provisions for bad debts. The provision for bad debts amounts to and has changed as follows:

### Bad Debts

Consolidated

| SEK millions | January 1 | Translation difference | New provisions and increase of existing provisions | Amounts used | Unused amounts reversed | Change due to discounting | December 31 |
|---|---|---|---|---|---|---|---|
| Year: | | | | | | | |
| 2017 | 465 | -14 | 144 | -97 | -64 | 0 | 434 |
| 2018 | 434 | 13 | 107 | -115 | -53 | 0 | 386 |

The amount of accounts receivable being overdue is an indication of the risk the company runs for ending up in bad debts. The percentage is in relation to the total amount of accounts receivable.

### Accounts receivable - overdue

Consolidated

| SEK millions | 2018 | % | 2017 | % |
|---|---|---|---|---|
| **Overdue:** | | | | |
| Maximum 30 days | 690 | 10.6 | 592 | 10.0 |
| More than 30 days but maximum 90 days | 487 | 7.5 | 413 | 6.9 |
| More than 90 days | 513 | 7.9 | 576 | 9.7 |
| **Total** | **1,690** | **26.0** | **1,581** | **26.6** |

### Provision for lifetime expected credit losses

Consolidated

| | Accounts and notes receivables / Other receivables | Recorded at inception | For credit risks that have increased significantly since initial recognition | Related to objective evidence of impairment | Total |
|---|---|---|---|---|---|
| SEK millions | 2018 | 2018 | 2018 | 2018 | 2018 |
| **Accounts and notes receivable** | | | | | |
| Undue | 5,424 | 8 | 65 | 28 | 101 |
| Overdue 1–30 days | 690 | 1 | 1 | 3 | 5 |
| Overdue 31–60 days | 338 | – | 5 | 2 | 7 |
| Overdue 61–90 days | 149 | – | 19 | 4 | 23 |
| Overdue 91–365 days | 312 | – | 67 | 27 | 94 |
| Overdue >365 days | 201 | – | 76 | 70 | 146 |
| **Total** | **7,114** | **9** | **233** | **134** | **376** |
| | | | | | |
| **Other receivables** | | | | | |
| Contract assets | 1,911 | – | 2 | 8 | 10 |
| Financial lessor receivable, external | 7 | – | – | – | – |
| **Total** | **1,918** | **–** | **2** | **8** | **10** |

# Note 22. Other short-term receivables

### Split on type and maturity

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Notes receivable | 242 | 442 |
| Financial leasing receivables | 7 | 7 |
| Other receivables | 3,113 | 1,076 |
| **Total** | **3,362** | **1,525** |
| Of which, not due within one year: | | |
| Notes receivable | 2 | 4 |
| Other receivables | 32 | 26 |
| **Total** | **34** | **30** |

Other receivables relate to a wide range of other receivables, including balanced invoicing relating to satisfied performance obligations that have not yet been invoiced (where the revenue recognition is ahead of the progress invoicing), VAT receivables, receivables on governments for export incitements, receivables on personnel, rent receivables etc.

# Note 23. Prepaid expenses and accrued income

**Split on type**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Prepaid expenses | 309 | 260 |
| Accrued income | 96 | 124 |
| **Total** | **405** | **384** |

# Note 24. Other current deposits

**Split on type and maturity**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Deposits with banks | 163 | 656 |
| Bonds and other securities | 439 | 542 |
| Other deposits | 15 | 10 |
| **Total** | **617** | **1,208** |
| Of which, not due within one year: | | |
| Deposits with banks | 7 | 7 |
| Other deposits | 3 | 0 |
| **Total** | **10** | **7** |

# Note 25. Cash and cash equivalents

The item cash and cash equivalents in the statement on financial position and in the cash-flow statement is mainly relating to bank deposits and liquid deposits.

# Note 26. Defined benefit obligations

The Group has defined benefit commitments to employees and former employees and their survivors. The benefits are referring to old age pension, survivor's pension, disability pension, health care and severance pay.

The defined benefit plans are in place in Austria, Belgium, France, Germany, India, Indonesia, Italy, Japan, Mexico, the Netherlands, Norway, Philippines, South Africa, Sweden, Switzerland, Taiwan, the United Kingdom and the United States. Most plans have been closed for new participants and replaced by defined contribution plans for new employees.

During 2017, Canada has closed down its defined benefit pension plan through purchase of annuities.

***Risks***

The cost for defined benefit obligations are impacted by several factors that are outside the control of the company, such as the discount rate, the return on plan assets, future salary increases, the development of the average length of life and the claim rates under medical plans. The size of and the development of these costs are therefore difficult to predict. According to the IAS 19 all of these remeasurements are reported in other comprehensive income.

The following table presents how the net defined benefit liability is arrived at out of the present values of the different defined benefit plans, less the fair value of the plan assets.

**Net defined benefit liability**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Present value of defined benefit obligation, unfunded | -1,158 | -1,224 |
| Present value of defined benefit obligation, funded | -5,567 | -5,515 |
| Present value of defined benefit obligation at year end | -6,725 | -6,739 |
| Fair value of plan assets | 4,644 | 4,448 |
| Net defined benefit liability | -2,081 | -2,291 |
| Less disallowed assets due to asset ceiling | – | – |
| **(-) liability/(+) asset at December 31** | **-2,081** | **-2,291** |

The net plan cost for the defined benefit plans describes the different cost elements of the plans. The net plan cost is reported in the consolidated comprehensive income statement on the lines where personnel costs are reported. The interest cost/income is not part of the financial net, but instead just a way to categorize the components of the net plan cost. All remeasurements are reported in other comprehensive income and will never be reclassified to net income.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 Notes

### Total plan cost

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Net plan cost** | | |
| Current service cost | -93 | -94 |
| Net interest cost/income | -59 | -69 |
| Past service cost/income from plan amendments and curtailments and gains and losses on settlements | -2 | 2 |
| **Net plan (-) cost/(+) income** | **-154** | **-161** |
| **Remeasurements** | | |
| Actuarial losses/gains arising from changes in demographic assumptions | 42 | 55 |
| Actuarial losses/gains arising from changes in financial assumptions | 146 | -75 |
| Actuarial losses/gains arising from changes in experience | 99 | -57 |
| Return on plan assets less interest on plan assets | -87 | 92 |
| Change in disallowed assets due to asset ceiling | – | – |
| **Other comprehensive income (OCI)** | **200** | **15** |
| **Total plan cost** | **46** | **-146** |

The following table presents how the present value of the defined benefit liability has changed during the year and lists the different components of the change.

### Present value of defined benefit liability

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Present value of defined benefit liability at January 1 | -6,739 | -6,928 |
| Sold businesses | 2 | – |
| Translation difference | -279 | 206 |
| Current service cost | -93 | -94 |
| Interest cost | -173 | -169 |
| Employee contributions | -5 | -5 |
| Actuarial losses/gains arising from changes in demographic assumptions | 42 | 55 |
| Actuarial losses/gains arising from changes in financial assumptions | 146 | -75 |
| Actuarial losses/gains arising from changes in experience | 99 | -57 |
| Past service cost/income from plan amendments and curtailments and gains and losses on settlements | -2 | 2 |
| Benefit payments | 272 | 304 |
| Settlement payments | 5 | 22 |
| **(-) liability at December 31** | **-6,725** | **-6,739** |

The liability has the following duration and maturity:

### Duration and maturity

Consolidated

| | 2018 | 2017 |
|---|---|---|
| Weighted average duration of the defined benefit obligation (years) | 13 | 13 |
| **Maturity analysis of benefit payments (non-discounted amounts) SEK millions** | | |
| maturity ≤ 1 year | 235 | 232 |
| maturity > 1 ≤ 5 years | 1,048 | 1,012 |
| maturity > 5 ≤ 10 years | 1,455 | 1,414 |
| maturity > 10 ≤ 20 years | 2,772 | 2,891 |
| maturity > 20 years | 4,784 | 4,878 |

The following table presents how the fair value of the plan assets has developed during the year and lists the components of the change.

### Fair value of plan assets

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Fair value of plan assets at January 1 | 4,448 | 4,506 |
| Translation difference | 177 | -116 |
| Employer contributions | 213 | 141 |
| Employee contributions | 5 | 5 |
| Interest on plan assets | 114 | 100 |
| Return on plan assets less interest on plan assets | -87 | 92 |
| Benefit payments | -226 | -258 |
| Settlement payments | 0 | -22 |
| **(+) asset at December 31** | **4,644** | **4,448** |

The plan assets are split on the following types of assets:

**Split of plan assets**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Cash and cash equivalents | 318 | 46 |
| Equity instruments | 804 | 1,195 |
| Debt instruments | 2,297 | 2,063 |
| Real estate | 236 | 219 |
| Investment funds | 989 | 925 |
| **Fair value at December 31** | **4,644** | **4,448** |

The plan assets are in all essentials valued at quoted market prices in active markets.

The table below presents how the net defined benefit liability has changed and the factors affecting the change.

**Net defined benefit liability/asset**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Defined benefit liability/asset at January 1 | -2,291 | -2,422 |
| Sold businesses | 2 | – |
| Translation difference | -102 | 90 |
| Net plan cost | -154 | -161 |
| Employer contributions | 213 | 141 |
| Remeasurements (other comprehensive income) | 200 | 15 |
| Benefit payments, unfunded plans | 46 | 46 |
| Settlement payments, unfunded plans | 5 | 0 |
| **(-) liability/(+) asset at December 31** | **-2,081** | **-2,291** |

The gross plan assets and gross defined benefit liabilities of each plan are to be reported as a net amount. The following table shows how the net asset and the net liability are calculated.

**Gross defined benefit liability/asset**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Assets** | | |
| Fair value of plan assets | 4,644 | 4,448 |
| Less disallowed assets due to asset ceiling | – | – |
| | 4,644 | 4,448 |
| Netting | -4,607 | -4,442 |
| **Assets in statement on financial position** | **37** | **6** |
| **Liabilities** | | |
| Present value of defined benefit obligation at year end | -6,725 | -6,739 |
| Netting | 4,607 | 4,442 |
| **Provision in statement on financial position** | **-2,118** | **-2,297** |

The weighted averages for the more significant actuarial assumptions that have been used at the year-end are:

**Actuarial assumptions**

Consolidated

| | 2018 | 2017 |
|---|---|---|
| Discount rate (%) | 2.8 | 2.6 |
| Expected average retirement age (years) | 63 | 63 |
| Life expectancy for a 45-year-old male (years) | 82 | 82 |
| Life expectancy for a 45-year-old female (years) | 85 | 85 |
| Claim rates under medical plans (%) | 5 | 5 |
| Expected rate of salary/wage increase (%) | 3 | 3 |
| Change in health care costs (%) | 5 | 5 |
| Index for future compensation increases (%) | 2 | 2 |

**Future contributions**

Consolidated

| SEK millions | 2019 |
|---|---|
| Expected employer contributions to the plan for the next calendar year | -196 |
| Expected employer contributions for the next calendar year to multi-employer plans reported as defined contribution plans | -67 |

The following table presents how the defined benefit pension schemes are distributed on different countries.

**Regional split**

Consolidated

| SEK millions, unless otherwise stated | United States | United Kingdom | Nether-lands | Germany | Norway | Italy | Belgium | Other | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| **Net defined benefit liability** | | | | | | | | | |
| Present value of the defined benefit obligation, unfunded | -627 | – | – | -188 | -6 | -32 | – | -305 | **-1,158** |
| Present value of the defined benefit obligation, funded | -766 | -2,853 | -659 | – | -888 | – | -78 | -323 | **-5,567** |
| Present value of the defined benefit obligation at year end | -1,393 | -2,853 | -659 | -188 | -894 | -32 | -78 | -628 | **-6,725** |
| Fair value of plan assets | 795 | 1,991 | 656 | – | 852 | – | 55 | 295 | **4,644** |
| Net defined benefit liability | -598 | -862 | -3 | -188 | -42 | -32 | -23 | -333 | **-2,081** |
| Less disallowed assets due to asset ceiling | – | – | – | – | – | – | – | – | **–** |
| (-) liability/(+) asset | -598 | -862 | -3 | -188 | -42 | -32 | -23 | -333 | **-2,081** |
| **Net plan cost** | **-51** | **-61** | **1** | **-3** | **-22** | **0** | **-3** | **-15** | **-154** |
| **Remeasurements (OCI)** | **214** | **-52** | **20** | **-5** | **26** | **–** | **2** | **-5** | **200** |
| **Sensitivity analysis*** | | | | | | | | | |
| Discount rate decreased by 1% point | -135 | -549 | -151 | -21 | -116 | – | -5 | -43 | **-1,020** |
| Life expectancy increased by 1 year | -50 | -136 | -24 | -10 | -29 | – | 0 | -4 | **-253** |
| Expected average retirement age decreased by 1 year | -6 | – | – | 0 | 0 | – | 1 | -4 | **-9** |
| Claim rates under medical plans increased by 1 % point | -3 | – | – | – | – | – | – | – | **-3** |
| Expected rate of salary increases increased by 1% point | 0 | -53 | -1 | – | -25 | – | -11 | -21 | **-111** |
| Medical costs increased by 1% point | -28 | – | – | – | – | – | – | 0 | **-28** |
| Index for future compensation increases increased by 1% point | 0 | -86 | -47 | -20 | -98 | – | – | -10 | **-261** |
| **Cost for actuarial services** | **-2** | **-1** | **0** | **0** | **0** | **0** | **0** | **0** | **-3** |
| **Number of participants in the plans at December 31** | | | | | | | | | |
| Current employees (active members) | 1,037 | 94 | 112 | 1 | 170 | – | 16 | 2,541 | **3,971** |
| Current employees (only vested value for closed plans) | 19 | – | 35 | 3 | – | 250 | – | 10 | **317** |
| Former employees that are not yet pensioners | 95 | 390 | 234 | 7 | – | – | 51 | – | **777** |
| Pensioners | 1,370 | 665 | 96 | 221 | 356 | – | – | 141 | **2,849** |
| **Total** | **2,521** | **1,149** | **477** | **232** | **526** | **250** | **67** | **2,692** | **7,914** |
| **Remaining service period** | | | | | | | | | |
| Average remaining service period for active members (years) | 10 | 8 | 16 | 8 | 5 | – | 10 | 9 | **9** |

* How much would the present value of the defined benefit obligation at December 31 increase if the (all other things being equal):

# Note 27. Other provisions

### Movement schedule

Consolidated

| SEK millions | January 1 | Translation difference | New provisions and increase of existing provisions | Amounts used | Unused amounts reversed | December 31 |
|---|---|---|---|---|---|---|
| **2017** | | | | | | |
| Claims & warranty | 1,217 | -8 | 698 | -415 | -174 | 1,318 |
| Deferred costs | 152 | 0 | 120 | -68 | -69 | 135 |
| Restructuring | 770 | 1 | 100 | -375 | -34 | 462 |
| Onerous contracts | 129 | 1 | 43 | -43 | -31 | 99 |
| Litigations | 320 | -1 | 4 | -41 | -1 | 281 |
| Other | 376 | -14 | 219 | -172 | -19 | 390 |
| **Total** | **2,964** | **-21** | **1,184** | **-1,114** | **-328** | **2,685** |
| Of which: | | | | | | |
| current | 2,365 | | | | | 2,024 |
| non-current | 599 | | | | | 661 |
| **2018** | | | | | | |
| Claims & warranty | 1,318 | 38 | 734 | -578 | -146 | 1,366 |
| Deferred costs | 135 | 4 | 91 | -58 | -43 | 129 |
| Restructuring | 462 | -1 | 12 | -107 | -8 | 358 |
| Onerous contracts | 99 | 1 | 45 | -38 | -22 | 85 |
| Litigations | 281 | 0 | 50 | -127 | -3 | 201 |
| Other | 390 | 15 | 227 | -146 | -31 | 455 |
| **Total** | **2,685** | **57** | **1,159** | **-1,054** | **-253** | **2,594** |
| Of which: | | | | | | |
| current | 2,024 | | | | | 1,929 |
| non-current | 661 | | | | | 665 |

Unused amounts reversed refer to, among other items, changed classifications and reversals of provisions made in prior years that have not been used.

Each type of provision entails everything from a few up to a large number of different items. It is therefore not practicable or particularly meaningful to specify the provisions item by item. As indicated above a clear majority of the provisions will result in disbursements within the next year.

Claims & warranty refers to claims from customers according to the conditions in issued warranties. The claims concern technical problems with the delivered goods or that promised performance has not been achieved.

Deferred costs are partly costs that are known but not yet debited at the time of invoicing, partly costs that are unknown but expected at the time of invoicing. The provision for deferred costs is charged to costs of goods sold in order to get a correct phasing of the gross margin.

Provisions for restructuring are usually relating to closure of plants or closure or move of production lines, businesses, functions etc. or reduction of the number of employees in connection with a downturn in the business climate. The provisions for restructuring are affecting approximately 175 (285) employees.

The provision for onerous contracts is relating to orders where a negative gross margin is expected. Provisions are made as soon as a final loss on the order can be expected. This can in exceptional cases happen already at the time when the order is taken. Normally this provision is relating to larger and complex orders where the final margin is more uncertain.

The provision for litigations refers to ongoing or expected legal disputes. The provision covers expected legal costs and expected amounts for damages or settlements.

Other refers to miscellaneous provisions that do not fall within any of the above categories.

# Note 28. Borrowings and net debt

### Net debt

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Credit institutions | 262 | 142 |
| Swedish Export Credit | 2,246 | 2,106 |
| European Investment Bank | 1,180 | 2,411 |
| Corporate bonds | 8,175 | 7,837 |
| Capitalised financial leases | 34 | 49 |
| Interest-bearing pension liabilities | 0 | 0 |
| Total debt | 11,897 | 12,545 |
| Cash and cash equivalents and current deposits | -4,912 | -4,345 |
| **Net debt *** | **6,985** | **8,200** |

* Alternative performance measures.

The changes in the loans during the year are explained by the following table:

### Loans

Consolidated

| SEK millions | January 1 | Cash flows | Exchange rate effects | December 31 |
|---|---|---|---|---|
| **Year:** | | | | |
| 2017 | 13,247 | -961 | 210 | 12,496 |
| 2018 | 12,496 | -1,012 | 379 | 11,863 |

The loans are distributed among currencies as follows:

### Maturity of loans by currency

Consolidated

| | Current | | Non-current | |
|---|---|---|---|---|
| SEK millions | 2018 | 2017 | 2018 | 2017 |
| **Currency:** | | | | |
| BRL | 12 | 10 | – | – |
| CAD | – | 3 | – | – |
| DKK | – | – | 1 | 2 |
| EUR | 3,159 | 1,344 | 7,311 | 9,969 |
| INR | 13 | 14 | – | – |
| PLN | 139 | – | – | – |
| SEK | – | – | 8 | – |
| USD | – | 33 | 1,220 | 1,121 |
| Other | 0 | 0 | – | – |
| **Total** | **3,323** | **1,404** | **8,540** | **11,092** |
| Of which, not due within five years: | | | – | – |

The maturity structure of the loans is presented in the bar chart in the section "Liquidity risk and refinancing risk" under Financial risks.

**Loans with floating interest rate**
*Loan from credit institutions*
Alfa Laval has a senior credit facility of EUR 400 million and USD 544 million, corresponding to SEK 8,981 million with a banking syndicate. At December 31, 2018 the facility was not utilised. The facility matures in June 2021.

The interest is based on applicable IBOR plus a mark-up based on the relation between net debt and EBITDA and how much of the facility that is utilised.

At year end the mark up is 40 (40) basis points.

*Bilateral term loans with other lenders*
Alfa Laval has a bilateral term loan with Swedish Export Credit that is split on one loan of EUR 100 million that matures in June 2021 and loan of USD 136 million that matures in June 2020, corresponding to SEK 2,246 million in total. The loans accrue interest at floating rate based on applicable IBOR plus a mark-up of 95 and 80 basis points respectively.

Alfa Laval also has a bilateral term loan from the European Investment Bank of EUR 115 million that matures in June 2021, corresponding to SEK 1,180 million. The loan accrue interest at floating rate based on EURIBOR plus a mark-up of 45 basis points. One loan of EUR 130 million that matured was repaid on March 29, 2018.

*Corporate bonds*
Alfa Laval has issued EUR 300 million of corporate bonds corresponding to SEK 3,083 million, with floating interest rate and that matures in September 2019. The floating interest rate is based on EURIBOR plus a mark-up of 55 basis points.

*Interest level of loans with floating interest rate*
The senior credit facility, the bilateral term loans and the EUR 300 million tranche of the corporate bonds accrue interest at floating rate. At the end of 2018 the loans were accruing interest in the range of 0.21 % – 3.62 % (0.18 % – 2.48 %). The average interest rate at the end of 2018 was 0.82 (0.64) percent. The Group has chosen to hedge 12 (11) percent of the loans to fixed interest rate, with a duration of 10.8 (13.6) months.

**Loans with fixed rate**
*Corporate bonds and commercial papers*
Alfa Laval has issued EUR 500 million of corporate bonds corresponding to SEK 5,092 million, with a fixed interest rate of 1.495 percent and that matures in September 2022.

The commercial paper programme of SEK 2,000 million was not utilised at December 31, 2018. When utilised, the interest is fixed at inception and is based on STIBOR flat.

**Transaction costs**
The transaction costs in connection with raising the loans or issuing the bonds have been capitalised and are being amortised over the maturity of the loans. At the end of the year the capitalised amount was SEK 16 (25) million. The current year's cost for the fee amortisation is SEK -9 (-10) million.

**Average interest and currency duration**
The average interest and currency duration for all loans including derivatives is 22.2 (25.1) months at the end of 2018.

**Financial covenants**
The syndicated loan and the bilateral term loans with Swedish Export Credit and the European Investment Bank are linked to one financial covenant that must be fulfilled throughout the life of the loans. The covenant refers to the relationship between net debt and EBITDA in combination with the current official Alfa Laval rating.

If the covenants are not fulfilled, the lenders are entitled to demand immediate repayment of the loans, provided that the breach is not temporary. Alfa Laval has fulfilled the covenants with a good margin ever since the loans were raised.

## Note 29. Other current liabilities

**Split by type**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Financial lessee payable | 34 | 49 |
| VAT liabilities, employee withholding taxes | 185 | 203 |
| Other non-interest bearing liabilities | 2,867 | 1,959 |
| **Total** | **3,086** | **2,211** |

## Note 30. Accrued costs and prepaid income

**Split by type and maturity**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| Accruals for social security | 369 | 347 |
| Reserve for severance pay | 199 | 187 |
| Accrued interest expenses | 23 | 23 |
| Other accrued expenses | 1,515 | 1,967 |
| Prepaid income | 281 | 15 |
| **Total** | **2,387** | **2,539** |
| Of which, not due within one year: | | |
| Accruals for social security | 35 | 33 |
| Reserve for severance pay | 142 | 137 |
| Other accrued expenses | 9 | 118 |
| **Total** | **186** | **288** |

## Note 31. Pledged assets and contingent liabilities

**Split by type**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Pledged assets** | | |
| Other pledges and similar commitments | 11 | 12 |
| **Total** | **11** | **12** |
| **Contingent liabilities** | | |
| Discounted bills | 5 | 21 |
| Performance guarantees | 1,719 | 1,538 |
| Other contingent liabilities | 917 | 770 |
| **Total** | **2,641** | **2,329** |

As of December 31, 2018, the Group had sold receivables with recourse totalling SEK 5 (21) million. These are disclosed as discounted bills above.

Other contingent liabilities are among other items referring to bid guarantees, payment guarantees to suppliers and retention money guarantees.

## Note 32. Transactions with related party

Tetra Pak within the Tetra Laval Group is Alfa Laval's single largest customer with 5.2 (5.3) percent of net sales. In June 1999, Tetra Pak entered into a purchasing agreement with Alfa Laval that governs the distribution, research and development, market and sales information, use of trademarks and intellectual property. The following areas shall be agreed upon from time to time between representatives of the parties: products that are subject to the agreement, prices and discounts of such products, geographical markets and product areas where Tetra Pak is Alfa Laval's preferred distributor, the right of Tetra Pak to affix its trademarks to Alfa Laval products, sales goals for Tetra Pak in defined geographical markets, products and technologies that are the focus of joint research and development and the ownership rights of the research and development result and use of market and sales information. The agreement aims at the applications within liquid food where Tetra Pak has a natural market presence through the deliveries of packaging equipment and packaging material.

The agreement was prolonged by two years from December 31, 2016. It has a 12-month period of notice. The prices Tetra Pak receives are not lower than the prices Alfa Laval would obtain when selling to a comparable third party. The prices are fixed on a calendar year basis.

Alfa Laval rents premises to DeLaval in Russia. The total rent income for this amounts to SEK 2 (2) million.

The Board of Directors for Alfa Laval AB (publ) has two representatives from Tetra Laval - Jörn Rausing and Finn Rausing.

At year-end, Alfa Laval has the following balance items against companies within the Tetra Laval group (Tetra Pak and DeLaval).

### Receivables on/payables to related parties

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| **Receivables:** | | |
| Accounts receivable | 206 | 176 |
| Other receivables | 1 | 3 |
| **Liabilities:** | | |
| Accounts payable | - | 0 |
| Other liabilities | 1 | 0 |

Alfa Laval has had the following transactions with companies within the Tetra Laval group (Tetra Pak and DeLaval).

### Revenues/expenses from related parties

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Net sales | 2,117 | 1,860 |
| Other operating income | 2 | 2 |

## Note 33. Interests in joint ventures

Alfa Laval owns 50 percent in three different joint ventures: Rolls Laval Heat Exchangers Ltd with Rolls Royce as partner, Alfdex AB with Concentric as partner and AlfaWall AB with Wallenius as partner. None of these joint ventures are of material importance and for that reason no disclosures are made of each individual joint venture. Instead disclosures in aggregate are made on the carrying amount of Alfa Laval's interests in these individually immaterial joint ventures. See the below tables.

Since joint ventures as from 2014 are consolidated according to the equity method in IFRS 11 "Joint arrangements", the amounts in the following two tables are no longer part of Alfa Laval's statements over consolidated comprehensive income and consolidated financial position.

### Assets/liabilities

| Joint ventures | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Current assets | 94 | 91 |
| Non-current assets | 18 | 10 |
| Current liabilities | 51 | 56 |
| Non-current liabilities | 14 | 13 |
| Contingent liabilities | 36 | 35 |

### Revenues/expenses

| Joint ventures | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Net sales | 251 | 213 |
| Cost of goods sold | -165 | -138 |
| Other operating income | 60 | 45 |
| Other operating costs | -126 | -105 |
| Financial net | 0 | 0 |
| Result before tax | 20 | 15 |
| Taxes | -5 | -4 |
| Net income | 15 | 11 |
| Other comprehensive income | 0 | 0 |
| **Comprehensive income** | **15** | **11** |

Instead the application of the equity method means that the net income in the joint ventures is booked into one line in the operating income. The counter entry is an increase or decrease of the value of shares in joint ventures. Received dividends reduce the value of the shares in joint ventures.

### Interests in joint ventures

| Consolidated | | |
|---|---|---|
| SEK millions | 2018 | 2017 |
| Operating income | 20 | 15 |
| Taxes | -5 | -4 |
| Net income | 15 | 11 |
| Received dividends | 2 | 1 |
| Shares in joint ventures | 44 | 31 |

The effect on comprehensive income is the same as the net income.

## Note 34. Disposal group

**Disposal group**

Consolidated

| SEK millions | December 31 2018 |
|---|---|
| **Assets** | |
| Property, plant and equipment | 59 |
| Inventories | 166 |
| Accounts receivable | 275 |
| Other receivables | 26 |
| Financial assets | 0 |
| **Total** | **526** |
| | |
| **Liabilities** | |
| Accounts payable | 120 |
| Advances from customers | 44 |
| Other liabilities | 187 |
| Financial liabilities | 0 |
| **Total** | **351** |

Alfa Laval has signed an agreement to sell part of its air heat exchanger business related to commercial/industrial air heat exchangers in the Greenhouse division to the LU-VE Group. The closing of the agreement is expected during the first half of 2019. This operation is as of the fourth quarter and full year 2018 report reported as a disposal group held for sale according to IFRS 5. This means that all assets and liabilities relating to this operation are presented separately in the statement of financial position. The balance sheet items are measured at the lower of their book values and fair values less costs to sell, except for deferred tax items and defined benefit obligations. Since the transaction is estimated to result in a realised gain, no write down to fair value has been necessary.

## Note 35. Leasing

Alfa Laval has entered into non-cancellable operating leases mainly relating to premises and finance lease agreements regarding machinery and equipment with leasing periods of 1-20 years. The leasing fees for non-cancellable operating leases for premises were SEK 451 (463) million. During the year, the Group has entered into finance leases with a capitalised value of SEK 1 (0) million. See Note 18 for information on the capitalised value of finance leases.

The future minimum leasing fees concerning non-cancellable operating leases, distributed on maturity dates, amount to:

**Future minimum leasing fees for operating leases**

Consolidated

| SEK millions | 2018 | 2017 |
|---|---|---|
| **Maturity in year:** | | |
| 2018 | N/A | 455 |
| 2019 | 498 | 388 |
| 2020 | 407 | 307 |
| 2021 | 340 | 261 |
| 2022 | 268 | 194 |
| 2023 | 191 | N/A |
| Later | 552 | 683 |
| **Total** | **2,256** | **2,288** |

The future minimum leasing fees concerning financial leasing agreements and their net present value, distributed on maturity dates, amount to:

**Financial leases**

Consolidated

| | Future minimum leasing fees for financial leases | | Present value of financial leases | |
|---|---|---|---|---|
| SEK millions | 2018 | 2017 | 2018 | 2017 |
| **Maturity in year:** | | | | |
| 2018 | N/A | 18 | N/A | 18 |
| 2019 | 18 | 17 | 18 | 17 |
| 2020 | 15 | 14 | 15 | 14 |
| 2021 | 1 | 0 | 0 | 0 |
| 2022 | 0 | 0 | 0 | 0 |
| 2023 | 0 | N/A | 0 | N/A |
| Later | 0 | 0 | 0 | 0 |
| **Total** | **34** | **49** | **33** | **49** |

# Note 36. Revenue recognition from contracts with customers

**Revenue recognition from contracts with customers**

| Consolidated | |
|---|---|
| SEK millions | 2018 |
| **Protit & Loss** | |
| **Net sales from:** | |
| Contracts with customers | 40,628 |
| Leasing | 38 |
| Total net sales | 40,666 |
| | |
| **Net sales from contracts with customers with a contract duration of:** | |
| ≤ 1 year | 35,713 |
| > 1 year | 4,915 |
| | 40,628 |
| **Performance obligations towards customers satisfied:** | |
| at a point in time | 35,949 |
| over time | 4,679 |
| | 40,628 |
| | |
| **Additional information:** | |
| Net sales: | |
| included in contract liability at January 1 | 909 |
| from performance obligations satisfied or partially satisfied in previous periods | 339 |
| | |
| Amortisation of capitalised costs to obtain or fulfil contracts with external customers | – |
| Impairment losses | – |
| | |
| **Assets** | |
| Accounts and notes receivables, contracts with external customers | 6,506 |
| Accounts and notes receivables, external, other | 232 |
| Contract assets | 1,901 |
| Capitalised costs to obtain a contract with a customer | – |
| Capitalised costs to fulfil a contract with a customer | – |
| | |
| **Liabilites** | |
| Contract liabilities | 5,990 |

Net sales per Business Division, per geography and per product is shown in Note 1, 2 and 3. Since contracts with customers account for 99.9 percent of net sales and leasing just 0.1 percent the figures are shown for total net sales in these notes and not separately for contracts with customers.

A contract asset is Alfa Laval's right to consideration in exchange for goods or services that Alfa Laval has transferred to a customer when that right is conditioned on something other than the passage of time (for example, Alfa Laval's future performance). It could be balanced invoicing relating to satisfied performance obligations that have not yet been invoiced (where the revenue recognition is ahead of the progress invoicing) and inventory linked to revenue recognised over time (like work in progress).

A contract liability is Alfa Laval's obligation to transfer goods or services to a customer for which Alfa Laval has received consideration (or the amount is due) from the customer. It could be advance payments and balanced invoicing relating to unsatisfied performance obligations that have been invoiced (where the progress invoicing is ahead of the revenue recognition).

# Note 37. Events after the closing date

On December 18, 2018 Alfa Laval announced that it has signed an agreement to acquire certain technologies and activities from Airec – a Malmö, Sweden-based innovation company with patented technology for dimple asymmetry heat exchangers. The transaction was closed on January 2, 2019.

The statements on financial position and the comprehensive income statements will be adopted at the Annual General Meeting of shareholders on April 24, 2019.

## Note 38. Proposed disposition of earnings

| The unrestricted equity in Alfa Laval AB (publ) is SEK: | |
|---|---|
| Profit brought forward | 7,634,658,831 |
| Repaid dividend | 17,458 |
| Net income 2018 | 2,297,991,565 |
| | 9,932,667,854 |

The Board of Directors propose a dividend of SEK 5.00 (4.25) per share corresponding to SEK 2,097,281,575 (1,782,689,339) and that the remaining income of SEK 7,835,386,279 (7,634,658,831) be carried forward.

The Board of Directors are of the opinion that the proposed dividend is in line with the requirements that the type and size of operations, the associated risks, the capital needs, liquidity and financial position put on the company.

**True and fair view**

The undersigned certify that the annual report for the Group and the Parent company has been prepared in accordance with International Financial Reporting Standards (IFRS), as adopted for use in the European Union, and generally accepted accounting principles respectively, and gives a true and fair view of the financial positions and results of the Group and the Parent company, and that the Board of Directors' report gives a fair review of the development of the operations, financial positions and results of the Group and the Parent company and describes substantial risks and uncertainties that the Group companies face.

Lund, February 28, 2019

Anders Narvinger
*Chairman*

Susanne Jonsson
*Employee representative*

Henrik Lange
*Director*

Bror García Lantz
*Employee representative*

Anna Ohlsson-Leijon
*Director*

Henrik Nielsen
*Employee representative*

Finn Rausing
*Director*

Jörn Rausing
*Director*

Ulf Wiinberg
*Director*

Margareth Øvrum
*Director*

Tom Erixon
*President and CEO*

Our Auditors' Report concerning this Annual Report has been issued on March 8, 2019.

Staffan Landén
*Authorised Public Accountant*

Karoline Tedevall
*Authorised Public Accountant*

# Auditor's report

To the general meeting of the shareholders of Alfa Laval AB (publ), corporate identity number 556587-8054

## Report on the annual accounts and consolidated accounts

**Opinions**

We have audited the annual accounts and consolidated accounts of Alfa Laval AB (publ) for the year 2018. The annual accounts and consolidated accounts of the company are included on pages 59–135 and 140–142 in this document.

In our opinion, the annual accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the parent company as of 31 December 2018 and its financial performance and cash flow for the year then ended in accordance with the Annual Accounts Act. The consolidated accounts have been prepared in accordance with the Annual Accounts Act and present fairly, in all material respects, the financial position of the group as of 31 December 2018 and their financial performance and cash flow for the year then ended in accordance with International Financial Reporting Standards (IFRS), as adopted by the EU, and the Annual Accounts Act. The statutory administration report is consistent with the other parts of the annual accounts and consolidated accounts.

We therefore recommend that the general meeting of shareholders adopts the income statement and balance sheet for the parent company and the group.

Our opinions in this report on the annual accounts and consolidated accounts are consistent with the content of the additional report that has been submitted to the parent company's audit committee in accordance with the Audit Regulation (537/2014) Article 11.

**Basis for Opinions**

We conducted our audit in accordance with International Standards on Auditing (ISA) and generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements. This includes that, based on the best of our knowledge and belief, no prohibited services referred to in the Audit Regulation (537/2014) Article 5.1 have been provided to the audited company or, where applicable, its parent company or its controlled companies within the EU.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

**Other matters**

The audit of the annual accounts for 2017 was performed by another auditor who submitted an auditor's report dated 8 March 2018 with unmodified opinion in the Report on the annual accounts and consolidated accounts.

**Key Audit Matters**

Key audit matters of the audit are those matters that, in our professional judgment, were of most significance in our audit of the annual accounts and consolidated accounts of the current period. These matters were addressed in the context of our audit of, and in forming our opinion thereon, the annual accounts and consolidated accounts as a whole, but we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the Auditor's responsibilities for the audit of the financial statements section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial statements.

### Valuation of intangible assets

*Description*
Book value of goodwill amounts SEK 20,537 millions per 31 December 2018 which corresponds to 35% of the group's total assets. The company evaluates whether the book value of goodwill exceeds its recoverable amount on an annual basis or upon indications of declining value. The recoverable amount is determined for each cash-generating unit through means of a calculation of net present value of future cash flows. Future cash flows are based on management's business plans and forecasts and includes various assumptions such as development in earnings, growth, investment needs and discount rates.

Changes to the assumptions could have a major impact on the calculation of the recoverable amount and the assumptions applied by the company are thus important to the assessment as to whether impairment is present. We have thus determined valuation of goodwill to represent a key audit matter for the group.

A description of goodwill and the impairment tests is included in note 16.

*How our audit addressed this key audit matter*
During our audit we have evaluated and tested the company's process for constructing the impairment test, for example by evaluating historic growth and current forecasts. We have also benchmarked other companies in order to evaluate the reasonableness of future cash flows and growth assumptions and, through support of our valuation specialists, evaluated the chosen discount rate and assumptions on long-term growth. We have also evaluated the company's model and method for executing the impairment test and made sensitivity analyses.

In our audit we have also examined whether the disclosures in the annual report are appropriate and in accordance with the assumptions applied by group management.

### Other provisions

*Description*
Book value of other provisions amounts SEK 2,594 millions per 31 December 2018. The provisions amongst other relates to provision for expected expenses for warranties, litigation, restructuring and onerous contracts, as expressed in note 27 Other provisions.

The provisions include assumptions about future outcome, primarily as it relates to amount, timing and magnitude of the final settlement. Provisions for this type of expenses are uncertain and are based on various assumptions made by the company. Changes to the assumptions upon which the provisions are based could have a major impact on the reported earnings.

*How our audit addressed this key audit matter*
We have obtained the group's documentation of the provisions. We have evaluated the provisions recorded and discussed the assumptions and risk assessments made by the company for each major provision in order to establish that the provisions are in compliance with applicable accounting standards. We have also followed up the provisions with legal assessments, documented decisions and historic outcome.

In our audit we have also examined whether the disclosures in the annual report are appropriate.

**Other Information than the annual accounts and consolidated accounts**
This document also contains other information than the annual accounts and consolidated accounts and is found on pages 1–42. The Board of Directors and the Managing Director are responsible for this other information.

Our opinion on the annual accounts and consolidated accounts does not cover this other information and we do not express any form of assurance conclusion regarding this other information.

In connection with our audit of the annual accounts and consolidated accounts, our responsibility is to read the information identified above and consider whether the information is materially inconsistent with the annual accounts and consolidated accounts. In this procedure we also take into account our knowledge otherwise obtained in the audit and assess whether the information otherwise appears to be materially misstated.

If we, based on the work performed concerning this information, conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

**Responsibilities of the Board of Directors and the Managing Director**
The Board of Directors and the Managing Director are responsible for the preparation of the annual accounts and consolidated accounts and that they give a fair presentation in accordance with the Annual Accounts Act and, concerning the consolidated accounts, in accordance with IFRS as adopted by the EU. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of annual accounts and consolidated accounts that are free from material misstatement, whether due to fraud or error.

In preparing the annual accounts and consolidated accounts, The Board of Directors and the Managing Director are responsible for the assessment of the company's and the group's ability to continue as a going concern. They disclose, as applicable, matters related to going concern and using the going concern basis of accounting. The going concern basis of accounting is however not applied if the Board of Directors and the Managing Director intends to liquidate the company, to cease operations, or has no realistic alternative but to do so.

The Audit Committee shall, without prejudice to the Board of Director's responsibilities and tasks in general, among other things oversee the company's financial reporting process.

**Auditor's responsibility**
Our objectives are to obtain reasonable assurance about whether the annual accounts and consolidated accounts as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and generally accepted auditing standards in Sweden will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual accounts and consolidated accounts.

As part of an audit in accordance with ISAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual accounts and consolidated accounts, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of the company's internal control relevant to our audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors and the Managing Director.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting in preparing the annual accounts and consolidated accounts. We also draw a conclusion, based on the audit evidence obtained, as to whether any material uncertainty exists related to events or conditions that may cast significant doubt on the company's and the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the annual accounts and consolidated accounts or, if such disclosures are inadequate, to modify our opinion about the annual accounts and consolidated accounts. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause a company and a group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the annual accounts and consolidated accounts, including the disclosures, and whether the annual accounts and consolidated accounts represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient and appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated accounts. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our opinions.

We must inform the Board of Directors of, among other matters, the planned scope and timing of the audit. We must also inform of significant audit findings during our audit, including any significant deficiencies in internal control that we identified.

We must also provide the Board of Directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with the Board of Directors, we determine those matters that were of most significance in the audit of the annual accounts and consolidated accounts, including the most important assessed risks for material misstatement, and are therefore the key audit matters. We describe these matters in the auditor's report unless law or regulation precludes disclosure about the matter.

## Report on other legal and regulatory requirements

**Opinions**
In addition to our audit of the annual accounts and consolidated accounts, we have also audited the administration of the Board of Directors and the Managing Director of Alfa Laval AB (publ) for the year 2018 and the proposed appropriations of the company's profit or loss.

We recommend to the general meeting of shareholders that the profit be appropriated (loss be dealt with) in accordance with the proposal in the statutory administration report and that the members of the Board of Directors and the Managing Director be discharged from liability for the financial year.

**Basis for opinions**
We conducted the audit in accordance with generally accepted auditing standards in Sweden. Our responsibilities under those standards are further described in the Auditor's Responsibilities section. We are independent of the parent company and the group in accordance with professional ethics for accountants in Sweden and have otherwise fulfilled our ethical responsibilities in accordance with these requirements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinions.

**Responsibilities of the Board of Directors and the Managing Director**
The Board of Directors is responsible for the proposal for appropriations of the company's profit or loss. At the proposal of a dividend, this includes an assessment of whether the dividend is justifiable considering the requirements which the company's and the group's type of operations, size and risks place on the size of the parent company's and the group's equity, consolidation requirements, liquidity and position in general.

The Board of Directors is responsible for the company's organization and the administration of the company's affairs. This includes among other things continuous assessment of the company's and the group's financial situation and ensuring that the company's organization is designed so that the accounting, management of assets and the company's financial affairs otherwise are controlled in a reassuring manner. The Managing Director shall manage the ongoing administration according to the Board of Directors' guidelines and instructions and among other matters take measures that are necessary to fulfill the company's accounting in accordance with law and handle the management of assets in a reassuring manner.

**Auditor's responsibility**
Our objective concerning the audit of the administration, and thereby our opinion about discharge from liability, is to obtain audit evidence to assess with a reasonable degree of assurance whether any member of the Board of Directors or the Managing Director in any material respect:
– has undertaken any action or been guilty of any omission which can give rise to liability to the company, or
– in any other way has acted in contravention of the Companies Act, the Annual Accounts Act or the Articles of Association.

Our objective concerning the audit of the proposed appropriations of the company's profit or loss, and thereby our opinion about this, is to assess with reasonable degree of assurance whether the proposal is in accordance with the Companies Act.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with generally accepted auditing standards in Sweden will always detect actions or omissions that can give rise to liability to the company, or that the proposed appropriations of the company's profit or loss are not in accordance with the Companies Act.

As part of an audit in accordance with generally accepted auditing standards in Sweden, we exercise professional judgment and maintain professional skepticism throughout the audit. The examination of the administration and the proposed appropriations of the company's profit or loss is based primarily on the audit of the accounts. Additional audit procedures performed are based on our professional judgment with starting point in risk and materiality. This means that we focus the examination on such actions, areas and relationships that are material for the operations and where deviations and violations would have particular importance for the company's situation. We examine and test decisions undertaken, support for decisions, actions taken and other circumstances that are relevant to our opinion concerning discharge from liability. As a basis for our opinion on the Board of Directors' proposed appropriations of the company's profit or loss we examined the Board of Directors' reasoned statement and a selection of supporting evidence in order to be able to assess whether the proposal is in accordance with the Companies Act.

Staffan Landén, Ernst & Young AB, Box 7850, 103 99 Stockholm, was appointed auditor of Alfa Laval AB by the general meeting of the shareholders on the 23 April 2018 and has been the company's auditor since the 23 April 2018.

Karoline Tedevall, Ernst & Young AB, Box 7850, 103 99 Stockholm, was appointed auditor of Alfa Laval AB by the general meeting of the shareholders on the 23 April 2018 and has been the company's auditor since the 23 April 2018.

Lund 8 March, 2019

Staffan Landén
*Authorized Public Accountant*

Karoline Tedevall
*Authorized Public Accountant*

# Ten-year overview

Ten-year overview

Consolidated

| SEK millions, unless otherwise stated | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 * | 2012 ** | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Profit and loss** | | | | | | | | | | |
| Net sales | 40,666 | 35,314 | 35,634 | 39,746 | 35,067 | 29,801 | 29,813 | 28,652 | 24,720 | 26,039 |
| Comparison distortion items | 151 | – | -1,500 | – | -320 | – | -51 | -170 | 90 | -225 |
| Operating income | 5,831 | 4,589 | 2,989 | 5,717 | 4,667 | 4,353 | 4,396 | 4,691 | 4,401 | 4,030 |
| Financial net | 65 | -218 | 336 | -273 | -550 | -181 | 133 | -15 | -37 | -270 |
| Result after financial items | 5,896 | 4,371 | 3,325 | 5,444 | 4,117 | 4,172 | 4,529 | 4,676 | 4,364 | 3,760 |
| Taxes | -1,359 | -1,383 | -1,013 | -1,583 | -1,149 | -1,132 | -1,306 | -1,425 | -1,248 | -1,023 |
| **Net income for the year** | **4,537** | **2,988** | **2,312** | **3,861** | **2,968** | **3,040** | **3,223** | **3,251** | **3,116** | **2,737** |
| | | | | | | | | | | |
| **Financial position** | | | | | | | | | | |
| Goodwill | 20,537 | 19,775 | 20,436 | 19,498 | 20,408 | 10,061 | 9,792 | 9,543 | 5,952 | 6,143 |
| Other intangible assets | 3,873 | 4,692 | 5,946 | 6,556 | 7,898 | 3,582 | 3,807 | 3,502 | 2,581 | 2,490 |
| Property, plant and equipment | 5,732 | 4,851 | 4,940 | 4,773 | 5,004 | 3,785 | 3,823 | 3,936 | 3,512 | 3,548 |
| Other non-current assets | 1,958 | 1,654 | 2,100 | 1,804 | 2,092 | 1,447 | 1,509 | 1,664 | 1,568 | 1,542 |
| Inventories | 9,253 | 8,424 | 7,831 | 7,405 | 7,883 | 6,312 | 6,176 | 6,148 | 4,769 | 4,485 |
| Current receivables | 11,807 | 8,808 | 8,431 | 8,964 | 9,791 | 7,671 | 8,050 | 7,663 | 6,884 | 6,584 |
| Current deposits | 617 | 1,208 | 1,075 | 1,021 | 697 | 605 | 427 | 483 | 575 | 302 |
| Cash and cash equivalents | 4,295 | 3,137 | 2,619 | 1,876 | 2,013 | 1,446 | 1,404 | 1,564 | 1,328 | 1,112 |
| **TOTAL ASSETS** | **58,072** | **52,549** | **53,378** | **51,897** | **55,786** | **34,909** | **34,988** | **34,503** | **27,169** | **26,206** |
| | | | | | | | | | | |
| Equity | 23,599 | 20,500 | 20,276 | 18,423 | 17,202 | 16,162 | 14,453 | 15,144 | 13,582 | 12,229 |
| Provisions for pensions etc. | 2,118 | 2,297 | 2,425 | 1,931 | 2,221 | 1,494 | 1,727 | 852 | 847 | 920 |
| Provisions for taxes | 1,945 | 2,100 | 2,722 | 2,925 | 3,074 | 1,758 | 1,932 | 1,930 | 1,617 | 1,390 |
| Other non-current liabilities | 788 | 677 | 636 | 521 | 660 | 423 | 473 | 520 | 632 | 439 |
| Non-current loans | 8,540 | 11,092 | 12,169 | 12,484 | 16,454 | 3,529 | 5,393 | 5,060 | 1,041 | 1,626 |
| Current liabilities | 21,082 | 15,883 | 15,150 | 15,613 | 16,175 | 11,543 | 11,010 | 10,997 | 9,450 | 9,602 |
| **TOTAL EQUITY & LIABILITIES** | **58,072** | **52,549** | **53,378** | **51,897** | **55,786** | **34,909** | **34,988** | **34,503** | **27,169** | **26,206** |

* Restated to IFRS 11. ** Restated to the new IAS 19.

**Changes in accounting standards**

A reader of the ten-year overview should observe that accounting standards have changed repeatedly over this period of time. The major changes are the following.

In 2014 IFRS 11 “Joint arrangements” has been implemented as per January 1, 2013, which has meant a restatement of the comparison figures for 2013.

In 2013 the revised IAS 19 “Employee Benefits” has been implemented as per January 1, 2012, which has meant a restatement of the comparison figures for 2012.

## Ten-year overview

| Consolidated<br>SEK millions, unless otherwise stated | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 * | 2012 ** | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Key ratios** | | | | | | | | | | |
| Orders received | 45,005 | 36,628 | 32,060 | 37,098 | 36,660 | 30,202 | 30,339 | 28,671 | 23,869 | 21,539 |
| Order backlog at year end | 23,168 | 18,289 | 16,870 | 20,578 | 22,293 | 14,568 | 14,468 | 13,736 | 11,552 | 11,906 |
| EBITA | 6,869 | 5,610 | 4,680 | 6,811 | 5,571 | 4,914 | 4,883 | 5,117 | 4,772 | 4,360 |
| EBITDA | 7,495 | 6,239 | 5,323 | 7,478 | 6,136 | 5,360 | 5,330 | 5,566 | 5,197 | 4,751 |
| EBITA-margin % | 16.9% | 15.9% | 13.1% | 17.1% | 15.9% | 16.5% | 16.4% | 17.9% | 19.3% | 16.7% |
| EBITDA-margin % | 18.4% | 17.7% | 14.9% | 18.8% | 17.5% | 18.0% | 17.9% | 19.4% | 21.0% | 18.2% |
| Adjusted EBITA | 6,718 | 5,610 | 5,553 | 6,811 | 5,891 | 4,914 | 4,934 | 5,287 | 4,682 | 4,585 |
| Adjusted EBITDA | 7,344 | 6,239 | 6,196 | 7,478 | 6,456 | 5,360 | 5,381 | 5,736 | 5,107 | 4,976 |
| Adjusted EBITA-margin % | 16.5% | 15.9% | 15.6% | 17.1% | 16.8% | 16.5% | 16.5% | 18.5% | 18.9% | 17.6% |
| Adjusted EBITDA-margin % | 18.1% | 17.7% | 17.4% | 18.8% | 18.4% | 18.0% | 18.0% | 20.0% | 20.7% | 19.1% |
| Profit margin % | 14.5% | 12.4% | 9.3% | 13.7% | 11.7% | 14.0% | 15.2% | 16.3% | 17.7% | 14.4% |
| *Excl. goodwill and step-up values:* | | | | | | | | | | |
| Capital turnover rate, times | 7.4 | 5.7 | 8.6 | 10.6 | 7.9 | 6.4 | 6.7 | 6.3 | 5.6 | 5.2 |
| Capital employed | 5,474 | 6,201 | 4,146 | 3,734 | 4,447 | 4,657 | 4,430 | 4,560 | 4,399 | 5,052 |
| Return on capital employed % | 125.5% | 90.5% | 112.9% | 182.4% | 125.3% | 105.5% | 110.2% | 112.2% | 108.5% | 86.3% |
| *Incl. goodwill and step-up values:* | | | | | | | | | | |
| Capital turnover rate, times | 1.3 | 1.1 | 1.2 | 1.3 | 1.3 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 |
| Capital employed | 30,729 | 31,698 | 30,663 | 31,512 | 27,259 | 18,598 | 17,833 | 16,324 | 12,752 | 12,976 |
| Return on capital employed % | 22.4% | 17.7% | 15.3% | 21.6% | 20.4% | 26.4% | 27.4% | 31.3% | 37.4% | 33.6% |
| Return on equity % | 20.3% | 13.9% | 11.8% | 21.7% | 17.6% | 17.9% | 22.9% | 22.9% | 24.4% | 24.5% |
| Solidity % | 40.6% | 39.0% | 38.0% | 35.5% | 30.8% | 46.3% | 41.3% | 43.9% | 50.0% | 46.7% |
| Net debt | 6,985 | 8,200 | 9,619 | 11,688 | 15,068 | 2,611 | 4,270 | 3,264 | -551 | 533 |
| Net debt to EBITDA, times | 0.93 | 1.31 | 1.81 | 1.56 | 2.46 | 0.49 | 0.80 | 0.59 | -0.11 | 0.11 |
| Debt ratio, times | 0.30 | 0.40 | 0.47 | 0.63 | 0.88 | 0.16 | 0.30 | 0.22 | -0.04 | 0.04 |
| Interest coverage ratio, times | 39.3 | 28.4 | 24.5 | 22.3 | 18.2 | 22.1 | 23.2 | 28.6 | 35.9 | 15.2 |
| Cash flow from: | | | | | | | | | | |
| operating activities | 4,883 | 4,463 | 4,979 | 5,850 | 5,123 | 4,233 | 3,586 | 3,429 | 4,098 | 5,347 |
| investing activities | -1,293 | -721 | -795 | -710 | -14,970 | -951 | -3,260 | -5,497 | -1,417 | -2,620 |
| financing activities | -2,445 | -3,159 | -3,566 | -5,229 | 10,250 | -3,191 | -407 | 2,317 | -2,431 | -2,667 |
| Investments | 1,490 | 675 | 617 | 674 | 603 | 492 | 531 | 555 | 429 | 451 |
| Average number of employees | 16,785 | 16,521 | 17,305 | 17,486 | 17,109 | 16,238 | 16,060 | 14,667 | 12,078 | 11,773 |
| Earnings per share, SEK *** | 10.77 | 7.09 | 5.46 | 9.15 | 7.02 | 7.22 | 7.64 | 7.68 | 7.34 | 6.42 |
| Free cash flow per share, SEK *** | 8.56 | 8.92 | 9.97 | 12.25 | -23.48 | 7.82 | 0.78 | -4.93 | 6.38 | 6.46 |

* Restated to IFRS 11. ** Restated to the new IAS 19.
Observe that certain financial measures above constitute alternative performance measures.

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# Alternative performance measures and definitions

## Alternative performance measures

An alternative performance measure is a financial measure of historical financial performance, financial position or cash flows, other than a financial measure defined or specified in the financial reporting framework.

In the annual report, the following alternative performance measures have been used (all of these alternative performance measures relate to actual historical figures and never to expected performance in future periods):

## Measures to achieve full comparability over time

All of these concern the comparison distorting impact from above all amortisation of step-up values both over time and compared to external companies. For the same reasons adjustments are also made for comparison distortion items. How they are calculated is exhibited in the Income analysis table on page 77, except for the last one.

– **EBITA** or Earnings Before Interests, Taxes and Amortisation is defined as operating income before amortisation of step-up values. This measure of result is fully comparable over time independent of the financing costs and the amortisation of step-up values that from time to time burden the Group.

– **EBITA margin (%)** is defined as EBITA in relation to net sales and expressed in percent.

– **EBITDA** or Earnings Before Interest, Taxes, Depreciation and Amortisation is defined as operating income before depreciation and amortisation of step-up values. This measure of result is fully comparable over time independent of the financing costs, the depreciation and the amortisation of step-up values that from time to time burden the Group.

– **EBITDA margin (%)** is defined as EBITDA in relation to net sales and expressed in percent.

– **Adjusted EBITA** or Adjusted Earnings Before Interests, Taxes and Amortisation is defined as operating income before amortisation of step-up values, adjusted for comparison distortion items. This measure of result is fully comparable over time independent of the comparison distortion items, the financing costs and the amortisation of step-up values that from time to time burden the Group.

– **Adjusted EBITA margin (%)** is defined as Adjusted EBITA in relation to net sales and expressed in percent.

– **Adjusted EBITDA** or Adjusted Earnings Before Interest, Taxes, Depreciation and Amortisation is defined as operating income before depreciation and amortisation of step-up values, adjusted for comparison distortion items. This measure of result is fully comparable over time independent of the comparison distortion items, the financing costs, the depreciation and the amortisation of step-up values that from time to time burden the Group.

– **Adjusted EBITDA margin (%)** is defined as Adjusted EBITDA in relation to net sales and expressed in percent.

– **Adjusted gross profit** is defined as gross profit excluding amortisation of step-up values. This measure of result is fully comparable over time independent of the amortisation of step-up values that from time to time burden the Group.

– **Adjusted gross margin (%)** is defined as Adjusted gross profit in relation to net sales and expressed in percent.

– **Earnings per share, excluding amortisation of step-up values and the corresponding tax** is defined as net income attributable to the owners of the parent, excluding amortisation of step-up values and the corresponding tax divided by the average number of shares. The net income attributable to the owners of the parent is presented in the consolidated comprehensive income statement and the amortisation of step-up values is exhibited in the Income analysis table on page 77, while the corresponding tax is SEK 235 (283) million. This key figure is fully comparable over time independent of the amortisation of step-up values that from time to time burden the Group.

## Measures to show how the Group is funded and manages its capital:

– **Return on capital employed (%)** is defined as EBITA in relation to average capital employed, calculated on 12 months' revolving basis and expressed in percent. Capital employed is defined as total assets less liquid funds, other long-term securities, accrued interest income, operating liabilities and other non-interest-bearing liabilities, including tax and deferred tax, but excluding accrued interest costs. The measure shows how well the capital that is used in the operations is managed.

– **Net debt** is defined as interest-bearing liabilities including interest-bearing pension liabilities and capitalised financial leases less liquid funds. The calculation of net debt is exhibited in the Net debt table in Note 28. The measure shows the net financial indebtedness.

– **Net debt to EBITDA, times** is defined as Net debt in relation to EBITDA, calculated on 12 months' revolving basis and expressed as a multiple of EBITDA. This is one of the covenants of Alfa Laval's loans and an important key figure when reviewing the proposed dividend. EBITDA or Earnings Before Interest, Taxes, Depreciation and Amortisation is defined as operating income before depreciation and amortisation of step-up values.

– **Debt ratio, times** is defined as Net debt in relation to equity at the end of the period and expressed as a multiple of the equity. This is another measure of how the Group is funded.

– **Interest coverage ratio, times** is defined as EBITDA plus financial net increased by interest costs in relation to interest costs. Expressed as a multiple of interest costs. Gives an expression for the Group's ability to pay interest. The reason EBITDA is used as the starting point is that this forms the starting point for a cash flow perspective on the ability to pay interest. Financial items classified as comparison distorting are excluded from the calculation.

## Definitions of other performance measures

**Net sales**
Revenues from goods sold and services performed that are part of the ordinary operations of the Group, after deduction for given discounts, value added tax and other tax directly linked to the sales.

**Comparison distortion items**
Items that do not have any link to the normal operations of the Group or that are of a non-recurring nature, where a reporting together with other items in the consolidated comprehensive income statement would have given a comparison distortion effect that would have made it difficult to judge the development of the ordinary operations for an outside viewer.

**Orders received**
Incoming orders during the year, calculated in the same way as net sales. The orders received give an indication of the current demand for the Group's products and services, that with a varying delay appear in net sales.

**Order backlog at year-end**
Incoming orders that not yet have been invoiced. The order backlog at the end of the year is equal to the sum of the order backlog at the beginning of the year plus the orders received during the year less the net sales for the year. It gives an indication of how the net sales can be expected to develop in the future.

**Profit margin %**
Result after financial items in relation to net sales, expressed in percent.

**Capital turnover rate, times**
Net sales in relation to average capital employed, expressed as a multiple of capital employed. Shown excluding and including goodwill, step-up values and the corresponding deferred tax liability.

**Capital employed**
Average total assets less liquid funds, other long-term securities, accrued interest income, operating liabilities and other non-interest-bearing liabilities, including tax and deferred tax, but excluding accrued interest costs. Shown excluding and including goodwill and step-up values and the corresponding deferred tax liability. Shows the capital that is used in the operations. The capital employed for the Group differs from the net capital for the operating segments concerning taxes, deferred taxes and pensions.

**Return on equity %**
Net income for the year in relation to average equity, expressed in percent.

**Solidity %**
Equity in relation to total assets, expressed in percent.

**Cash flow from operating activities**
Shows the Group's cash flow from operating activities, that is the cash flow generated in the daily operational activities.

**Cash flow from investing activities**
Shows the Group's cash flow from investing activities, i.e. the cash flow generated by mainly the Group's divestments and acquisitions of businesses and divestments of real estate.

**Cash flow from financing activities**
Shows the Group's cash flow from financing activities, that is mainly the cash flow impact of the Group's loans in terms of interest payments and amortisation.

**Investments**
Investments represent an important component in the cash flow for the Group. The level of investments during a couple of years gives a picture of the capacity build up in the Group.

**Average number of employees**
The costs that are related to the number of employees represent a large part of the total costs for the Group. The development of the average number of employees over time in relation to the development of the net sales therefore gives an indication of the cost rationalisation that is taking place.

**Earnings per share**
Net income for the year attributable to the equity holders of the parent divided by the average number of shares.

**Free cash flow per share**
The sum of cash flows from operating and investing activities for the year divided by the average number of shares. This represents the cash flow available for interest payments, amortisation and dividends to investors.

# Financial information

Alfa Laval uses a number of channels to provide information about the company's operations and financial development. The website – **www.alfalaval.com/investors** – is updated continuously with annual reports, quarterly reports, press releases and presentations. Annual reports are also sent to those shareholders who have notified the company that they wish to receive a copy. Conference calls with analysts, investors and the media are arranged by Alfa Laval in conjunction with the publication of the company's quarterly reports. A capital markets day is organized each year, during which representatives from the financial market are offered more in-depth information regarding the company's operations.

In addition, representatives of Group management meet with analysts, investors and journalists on an ongoing basis to ensure that they have correct and current information. Pursuant to the company's agreement with Nasdaq Stockholm, information that could have an effect on the share price and that is not yet publicly known is never disclosed in conjunction with these types of meetings or contacts. Alfa Laval employs a so-called silent period of three weeks prior to the publication of a quarterly report. The President and Chief Financial Officer do not meet or speak to representatives from the financial market during this period.

**Financial information during 2019**

Alfa Laval will publish quarterly reports on the following dates in 2019:

| | |
|---|---|
| Year-end report 2018 | February 5 |
| First-quarter report | April 24 |
| Second-quarter report | July 17 |
| Third-quarter report | October 24 |

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## Annual General Meeting 2019

The Annual General Meeting of Alfa Laval AB (publ) will be held on Wednesday, April 24, 2019, at 4:00 p.m. at Scandic Star Lund, Glimmervägen 5, in Lund. Light refreshments will be served after the Meeting. In accordance with the company's Articles of Association, notice of the Annual General Meeting will be inserted as an announcement in the Swedish Official Gazette and on the company's website not more than six and not less than four weeks prior to the Meeting. An announcement that notification has been issued will be placed in Dagens Nyheter. As a service to existing shareholders, information about the Annual General Meeting can also be sent to them by mail. The following information concerning the Meeting does not constitute legal notice.

**Notification of participation**

Shareholders who wish to participate in the Meeting and be entitled to vote must be entered in the share register maintained by Euroclear AB not later than Tuesday, April 16, 2019, and register their intention to participate, along with any assistants, not later than Tuesday, April 16, preferably before 12:00 noon. Shareholders whose shares are held in trust must temporarily re-register their shares in their own names not later than April 16. Shareholders must request such registration from the trustee a few working days prior to the deadline.

**Notification of participation shall be made to:**

– Alfa Laval AB, Group Staff Legal, Box 73, SE-221 00 Lund, Sweden
– E-mail: arsstamma.lund@alfalaval.com
– Website: www.alfalaval.com
– Tel: +46 46 36 74 00 or +46 46 36 65 00

Shareholders must state their name, personal identity number and telephone number on the notice of participation. If participation is by proxy, a power of attorney or authorization must be submitted to the company prior to the Meeting.

**Meeting program**

| | |
|---|---|
| 1:30 p.m. | Bus departs from Scandic Star for Alfa Laval's production unit for heat exchangers in Lund |
| 3:30 p.m. | Registration starts |
| 4:00 p.m. | Start of Meeting |

**Tour of production facility in Lund**

Prior to the Annual General Meeting, participants will have an opportunity to view the production of plate heat exchangers at the plant in Lund. The tour will begin with assembly at Scandic Star Lund, Glimmervägen 5 in Lund not later than 1:30 p.m. Buses will be provided for transportation to the plant and back to the Meeting venue. Registration for the tour must be made in conjunction with registration for participation in the Annual General Meeting. Please note that the number of participants is limited.

**Dividend**

The Board of Directors and the President propose to the Annual General Meeting that a dividend of SEK 5.00 per share be paid. The proposed record date for this dividend is Friday, April 26, 2019. If the Meeting approves the proposal, the dividend is expected to be distributed on Thursday, May 2, 2019. The record date and dividend payment date may be postponed due to the technical procedures required for executing the payment.

**Alfa Laval in brief**

Alfa Laval is a leading global provider of specialized products and engineered solutions.

The company's equipment, systems and services are dedicated to helping customers optimize the performance of their processes. Time and time again.

Alfa Laval helps customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Alfa Laval's worldwide organization works closely with customers in 100 countries to help optimize their processes.

**More information on the Internet**

Alfa Laval's website is continuously updated with new information, including contact details for all countries.

Read more at www.alfalaval.com and www.alfalaval.com/investors

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