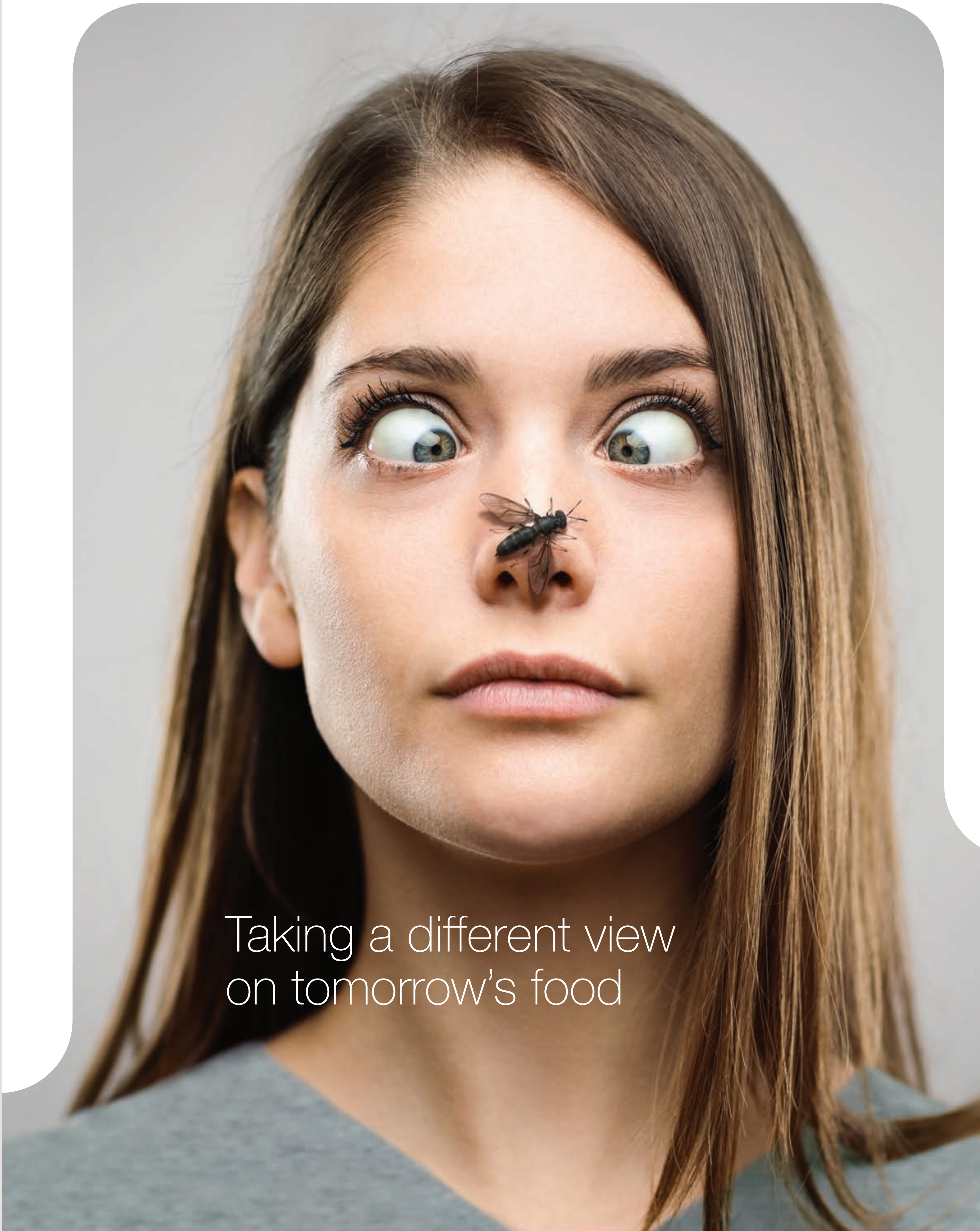
Annual Report 2019



Taking a different view on tomorrow's food

Contents

ABOUT ALFA LAVAL

CORPORATE GOVERNANCE

FINANCIAL STATEMENTS

The black soldier fly is presently in focus since this tiny insect might help to overcome the growing need for high-quality protein. Already today, livestock production uses up roughly 85 percent of the planet's available farmland. And the rapidly rising number of humans calls for a 50 percent increase in the delivery of proteins during the next three decades.

Insect farming is creating a buzz since it is expected to be part of the solution to close this protein gap. The larvae of the black soldier fly are growing quickly and can be harvested within weeks. Thanks to Alfa Laval's technologies, these small insects can be processed into animal foodstuff. The larvae are fed with organic food waste which supports the circular economy. 90 percent less feed and space are required compared to conventional farming. The idea is still in its pupal stage, but the first industrial plant is already in operation.

This is Alfa laval
Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets.

Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day. We have a nose for that.

Optimizing customer processes to benefit people and the environment

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 sustainable products and solutions that meet their requirements – mainly in energy, the environment, food and the marine industry.

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, Operations 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 aftermarket 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.

IN WHAT MANNER?

Alfa Laval contributes to 15 of the 17 SDGs

All countries are to strive to achieve the UN's 17 Sustainable Development Goals (SDGs) to end poverty, reduce inequalities and solve the climate crisis by 2030. Alfa Laval helps achieve these goals through products and solutions that improve energy efficiency, reduce emissions, purify water, minimize waste and lead to the efficient use of raw materials.

2019 in brief

Order intake, SEK million
44,119

17.2%
Operating margin (adjusted EBITA)

17,387
Number of employees

0.88
Net debt to EBITDA, times

46,517
Net sales, SEK million

7,989
Adjusted EBITA

23%
Return on capital employed

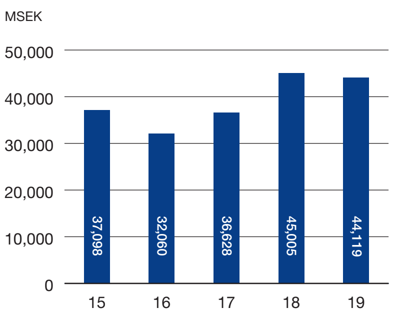
3,700
Number of patents

Amounts in SEK million unless otherwise stated	+/- %[6]	2019	2018	2017	2016	2015
Order intake	-2	44,119	45,005	36,628	32,060	37 098
Net sales	+14	46,517	40,666	35,314	35,634	39 746
Adjusted EBITDA [1]	+23	9,062	7,344	6,239	6,196	7 478
Adjusted EBITA [2]	+19	7,989	6,718	5,610	5,553	6 811
Operating margin (adjusted EBITA [2]), %		17.2	16.5	15.9	15.6	17.1
Profit after financial items	+22	7,221	5,896	4,371	3,325	5 444
Return on capital employed, %		23.0	22.4	17.7	15.3	21.6
Return on shareholders' equity, %		21.3	20.3	13.9	11.8	21.7
Earnings per share, SEK	+21	13.08	10.77	7.09	5.46	9.15
Dividend per share, SEK		5.50 [3]	5.00	4.25	4.25	4.25
Equity per share, SEK	+18	66.15	56.26	48.87	48.34	43.92
Free cash flow per share, SEK [4]	+17	10.00	8.56	8.92	9.97	12.25
Equity ratio, %		43.1	40.6	39.0	38.0	35.5
Net debt to EBITDA, times		0.88	0.93	1.31	1.81	1.56
Number of employees [5]	+2	17,497	17,228	16,367	16,941	17 417

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 2018 and 2019.

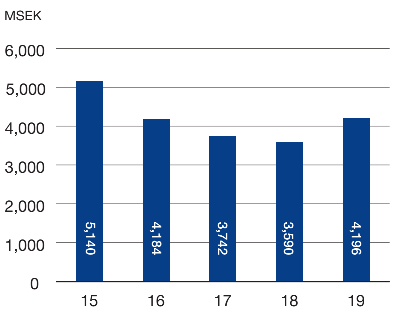
Order intake

Order intake amounted to SEK 44,119 million in 2019, down 2 percent compared to 2018. Excluding exchange rate variations, order intake declined 6 percent.



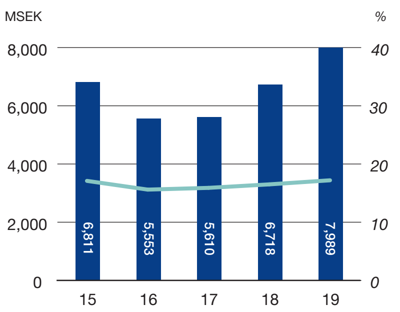
Free cash flow

Alfa Laval generated a free cash flow of SEK 4,196 million (3,590) in 2019.



Adjusted EBITA

Adjusted EBITA amounted to SEK 7 989 million. The adjusted EBITA margin was 17.2 percent.



Three years of organic growth

Following three years of our organic growth strategy, invoicing reached a record level in 2019. Sales amounted to SEK 46.5 billion, an increase of 12.5 percent compared to the previous year. Looking at the strategy period as a whole, average annual organic growth was 7.6 percent, or SEK 2.9 billion. The Marine Division was the main growth engine as demand for environmental solutions increased following the implementation of new marine regulations. These drivers alone account for more than SEK 4.7 billion of the Group's growth since 2016. The Marine Division reported average organic growth of 11.3 percent.

The organic development was also strong in the other divisions, with the Energy Division reporting 6.4 percent average annual organic growth since 2016. In order to meet the world's growing energy demand, energy efficiency solutions are playing an increasingly important role. Alfa Laval's heat transfer technologies are vital in creating solutions for waste heat recovery and improved thermal efficiency in industrial processes. Strong underlying demand trends and a highly competitive offering supported the division's growth in 2019.

The Food & Water Division has also generated solid growth over the most recent three-year period, with average organic sales growth of 5.1 percent. Underlying trends are positive in general, although individual end markets can fluctuate between years. Substantial investments have been made in new product platforms, which are now gradually reaching the market. These new products include various sustainability features, such as reduced energy and water consumption, to support customers in their ambitions to contribute to a better world.

Continued focus on products and services
Investments in the development of new products and technologies contributed to generating positive results across the Group, with the number of new product introductions more than doubling compared to historical levels. The new products typically come with significant efficiency or capacity improvements. In many cases, the products' digital capabilities have been improved, with connectivity becoming a standard feature for most of the new offering.

Over the past three years, Alfa Laval has also been committed to developing its service business. We supply critical technology to industrial processes around the world, and the reliability and uptime of our equipment is vital to our customers. An efficient service offering is key to ensuring our products' long-term performance. Several improvement programs have been launched since 2016 to boost our service capabilities. Some examples are new and updated service centers and an increased number of service engineers. In 2019, the results of these initiatives started to show. For the first time in the strategy period, the service business grew 7 percent organically – ahead of our long-term growth target.

The program to improve our manufacturing footprint also started to yield positive results. The new facility for brazed heat exchangers in Richmond, USA, commenced production in early 2019 and the new decanter factory in Krakow, Poland, had reached the targeted production level by the end of the year. The relocation of the main manufacturing unit for marine boilers and scrubbers to a new location in Qingdao, China, was also completed. These are just a few examples of completed projects. When it comes to building a more competitive supply chain, our activity level will remain high this year and next, although our capital investments are expected to start decreasing from the elevated level seen in 2018 and 2019.

Building a sustainable society
Alfa Laval is now a stronger, more competitive and more customer-oriented company compared to three years ago. The necessary platform to continue on this journey is also in place, with a continued focus on profitable organic growth. However, tomorrow's demands on Alfa Laval will create both new challenges and opportunities. Since our aim is to build a more sustainable society for a growing world population, the implications for Alfa Laval are highly tangible. While a large share of our business already relates to sustainability trends, the big changes are still to come. With that in mind, we increased the pace of investments in 2019 to support our long-term future.

A few examples can serve to illustrate this point. Power generation output is becoming more volatile as the share of renewable electricity increases. As a result, the need for energy storage is growing beyond what today's battery technology can handle. Alfa Laval is taking a leading position in developing the core heat transfer technology for thermal energy storage in partnership with several other companies. This is one of the most promising, but also most challenging, applications that we have ever worked on.

Food manufacturing is also undergoing significant changes as new protein sources are increasingly regarded as viable alternatives for both humans and animals. Large-scale insect farming is expected to be one significant growth area. Again, Alfa Laval has entered into a partnership to take a leading position in the key technologies needed to support customers in this area.

Sustainability trends are also becoming increasingly evident in the marine industry. Considerable attention has been given to the global sulphur cap on exhaust gases and the cleaning of ballast water, which has led to a period of strong demand for Alfa Laval. The trend, however, is much broader than this and also includes an expected increase in the use of LNG as a marine fuel – another area where Alfa Laval is fully equipped to meet our customers' needs.

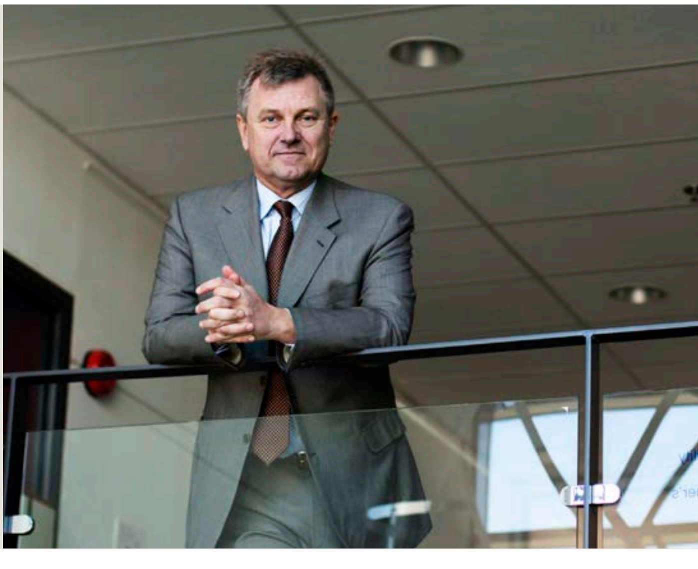
Overall, 2019 was an exciting year and we made good progress. It was also a strong year from a financial perspective, with sales at a record level and operating profit (adjusted EBITA) of SEK 8 billion. The balance sheet continued to strengthen, and net debt decreased significantly. Our capacity for future investments is substantial.

In conclusion, I would like to express my sincere gratitude to our customers for a fruitful cooperation – and to all our employees for your ongoing dedication and determination to continue building a successful Alfa Laval. I look forward to 2020 with confidence based on our improved competitiveness and broader platform to support growth.

Lund, February 2020

Tom Erixon
President and CEO

"Following three years of our organic growth strategy, invoicing reached a record level in 2019."



Our Purpose

Our purpose provides the motivational force in our daily activities. Dedicated to outstanding customer service, an inspiring and embracing workplace, and with sustainability in our genetic code, we define our purpose as *accelerating success for our customers, people and planet*.

Putting our customers first

We focus on cost effective and innovative solutions that support industries in their endeavour to purify, refine and recycle material. Our commitment is to optimize our customers' processes, creating responsible growth and driving progress. We work seamlessly together with them and are responsive to their needs – always going that extra mile to support them in achieving their business goals and sustainability targets.

Empowering our people

Our Scandinavian origin embodies our corporate culture, which is open, supportive and informal. This creates an environment for our employees to develop their talents and excel as professionals. By giving them responsibility, we demonstrate trust, which makes our people grow. Everyone is treated with respect and we lead by example. We are determined to attract, develop and retain the most innovative and curious people in our business.

Making our world better, every day

We regard sustainability both as a necessity and as a business opportunity. Our technologies promote a more responsible use of natural resources. We constantly drive progress to help reducing the environmental impact of most industrial processes through improved energy efficiency and heat recovery, better water treatment and reduced emissions. Both on land and at sea. It is all about living up to our motto *Advancing better*™.

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

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.

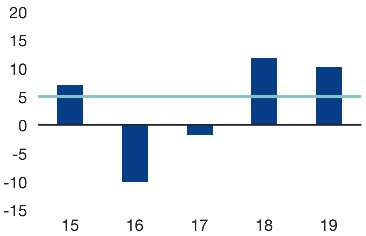
Profitability

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

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

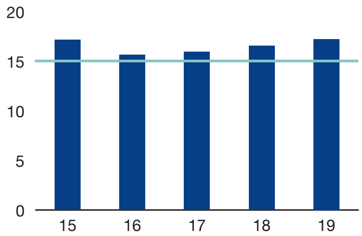


Outcome

Invoicing rose 10.1 percent* in 2019.

* Excluding exchange rate variations

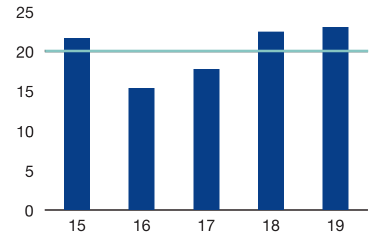
Outcome



Outcome

The adjusted operating margin for 2019 was 17.2 percent, compared with 16.5 percent for full-year 2018.

Outcome



Outcome

The return on capital employed for 2019 was 23.0 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

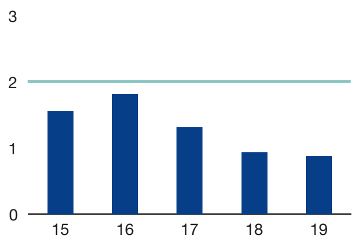
Financial benchmark values

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

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.

Outcome

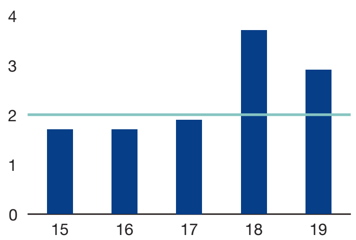


Outcome
Net debt/EBITDA at year-end 2019 was 0.88.

Investments

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.

Outcome



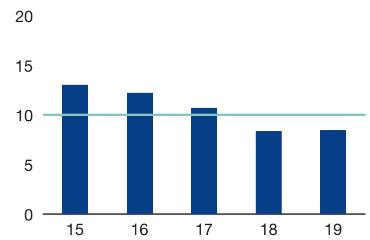
Outcome*
Investments in 2019 amounted to 2.9 percent.

* As a percentage of sales

Cash flow from operating activities

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



Outcome*
In 2019, cash flow from operating activities totaled 8.4 percent**.

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

Strategic priorities

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 aftermarket offering.

Improve our interaction with customers

Capitalize on our technical competence

Continue to develop our service 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.

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 intro-

Acquisitions and divestments

Between 2015 and 2019, Alfa Laval made two acquisitions with combined sales of SEK 64 million, corresponding to average annual growth of SEK 13 million.

Year	Acquisitions	Divestments	Reason	Sales, SEK million*
2015	Service Multibrand	–	Channel	50***
2016	–	–	–	–
2017	–	–	–	–
2018		Greenhouse – shell-and-tube heat exchangers	Product	120***
		Greenhouse – heat exchanger systems	Product	300***
2019	Airec		Product	14****
		Greenhouse – air heat exchangers	Product	1,109*****
		Greenhouse – shell-and-tube heat exchangers	Product	149******

* 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. ***** Sales in 2018. ***** Sales in 2019.

ducing 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.

Alfa Laval's share during 2019

Alfa Laval's share delivered a strong performance in 2019. A share price of SEK 235.90 (189.65) was quoted at the close of the final trading day of the year, up SEK 46.25, corresponding to 24.4 percent. OMX Stockholm Industrials, the sector index for industrial shares in which Alfa Laval is listed, rose 44.6 percent in 2019. The Stockholm Stock Exchange as a whole rose 29.6 percent in 2019. Dividends in 2019 amounted to SEK 5.00 per share, which corresponded to a total return of 27.0 percent. The highest closing price for the share was SEK 242.40, quoted on December 27. The lowest closing price was SEK 165.05, quoted on August 13. Alfa Laval's market capitalization at year-end was SEK 98.9 billion (79.5). 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 return of 1,357 percent. Measured over the full listing period, this corresponds to an average annual effective return of 16 percent, compared with an annual effective return of 9.4 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 Global Markets, the London Stock Exchange and Aquis, to name a few examples of major alternative marketplaces. In 2019, the Stockholm Stock Exchange accounted for 31.7 percent (38.1) of all trading in the share. Trading on CBOE Global Markets accounted for the largest share at 48.3 percent (45.9). The liquidity of the Alfa Laval share is favorable, and trading in the share increased slightly in 2019 to 829.4 (823.2) million shares and corresponded to a combined value of SEK 170.46 billion (177.5), including all market-places. This corresponds to an unchanged share turnover rate in 2019 of 2.0 (2.0) times the total number of shares outstanding. In 2019, the average number of transactions completed in Alfa Laval shares decreased to 8,430 (9,264) 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 net profit over a business cycle. For 2019, the Board proposes that the Annual General Meeting approve a dividend of SEK 5.50 (5.00). The proposed dividend corresponds to 36.8 percent (39.4) of earnings per share, adjusted for surplus values.

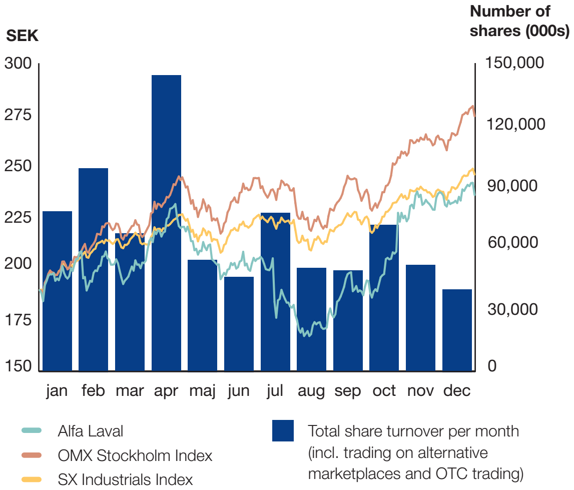
Share capital

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

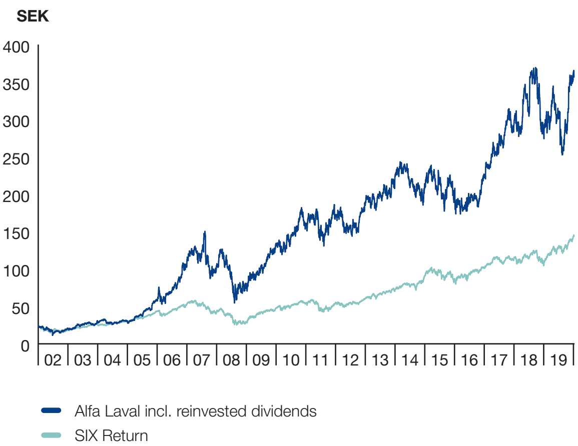
At year-end 2019, Alfa Laval had 41,147 (34,180) shareholders, corresponding to an increase of 6,967 (1,213) shareholders. The ten largest shareholders controlled 51.7 percent (47.0) of the shares, excluding nominee-registered shares. The single largest shareholder was Tetra Laval, whose holding at December 31, 2019 was un-changed at 29.1 percent. The Second Swedish Pension Fund and Länsförsäkringar Fondförvaltning were no longer among the ten largest shareholders at year-end, while Livförsäkringsbolaget Skandia and Handelsbanken Fonder became the ninth and tenth largest shareholders, respectively, in 2019.

Price trend, January 1 – December 31, 2019



Source: OMX Nasdaq, Fidessa

Total return, May 17, 2002 – December 31, 2019



Source: SIX, OMX Nasdaq and Alfa Laval

Ownership distribution by size at December 31, 2019

	No. of shareholders	No. of shareholders, %	No. of shares	Holding, %
1 – 500	31,183	75.8	4,128,146	1.0
501 – 1,000	4,492	10.9	3,642,264	0.9
1,001 – 5,000	4,122	10.0	9,264,694	2.2
5,001 – 10,000	553	1.3	4,114,109	1.0
10,001 – 15,000	267	0.6	3,863,062	0.9
15,001 – 20,000	221	0.5	7,067,879	1.7
20,001 –	309	0.8	387,376 161	92.4
Total	**41,147**		**419,456 315**	

Source: Euroclear

Ownership categories at December 31, 2019

	No. of shares	Holding, %
Financial companies	104,617,472	24.9
Other financial companies	28,407	0.0
Social insurance funds	4,768,675	1.1
Government	319,419	0.1
Municipal sector	36,172	0.0
Trade organizations	4,987,633	1.2
Other Swedish legal entities	5,831,243	1.4
Shareholders domiciled abroad (legal entities and individuals)	275,863,915	65.8
Swedish individuals	20,727,917	4.9
Uncategorized legal entities	2,275,462	0.5

Source: Euroclear

Data per share

	2019	2018	2017	2016	2015
Share price at year-end, SEK	235.90	189.65	193.80	150.80	155.00
Highest paid, SEK	242.40	248.10	213.90	154.40	176.90
Lowest paid, SEK	165.05	188.50	152.60	121.30	126.10
Shareholders' equity, SEK	66.15	56.26	48.87	48.34	43.92
Earnings per share	13.08	10.77	7.09	5.46	9.15
Dividend, SEK	5.50[1]	5.00	4.25	4.25	4.25
Free cash flow, SEK [2]	10.00	8.56	8.92	9.97	12.25
Price change during the year, %	24.4	-2.1	29	-3	5
Dividend as % of EPS, %	42.0	46.4	59.9	77.8	46.0
Direct return, % [3]	2.3	2.6	2.2	2.8	2.7
Share price/shareholders' equity, multiple	3.6	3.4	4.0	3.1	3.5
P/E ratio [4]	18	18	27	28	17
No. of shareholders	41,147	34,180	32,967	35,840	37,097

Source: OMX Nasdaq, Euroclear, Alfa Laval

[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.

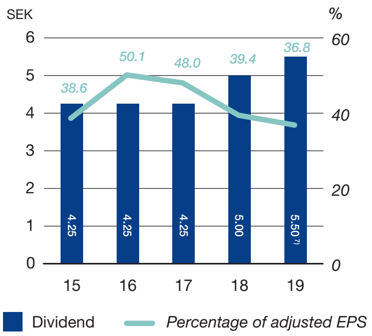
Ten largest shareholders at December 31, 2019[5]

	No. of shares	Capital/voting rights,%	Change in holding in 2019, percentage points
Tetra Laval	122,580,149	29.1	0.0
Alecta	23,662,464	5.6	0.0
AMF Insurance and Funds	21,887,403	5.2	0.0
Swedbank Robur Funds	18,510,252	4.4	0.0
CBNY Norges Bank	10,897,642	2.6	0.0
SEB Investment Management	8,596,141	2	0.0
Folksam	3,774,113	0.9	0.0
SPP Funds	2,972,287	0.7	0.0
Livförsäkringsbolaget Skandia	2,308,953	0.6	0.0
Handelsbanken Funds	2,269,689	0.6	0.1
Total ten largest shareholders	**217,459,093**	**51.7**	

Source: Euroclear

[5] The table is adjusted for nominee-registered shares.

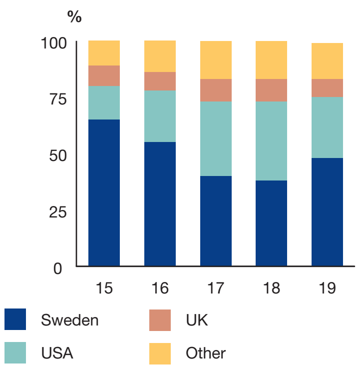
Dividend and percentage of adjusted EPS[6]



[6] Adjusted for step up amortization net of taxes.
[7] Board motion to the Annual General Meeting.

Source: Alfa Laval

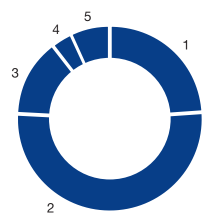
Geographic distribution of the free float, % of capital and voting rights[8]



[8] Excluding Tetra Laval (Switzerland) 29.1%.

Source: Euroclear

Share turnover on various marketplaces 2019



1	CBOE Global Markets	48%
2	Nasdaq OMX	32%
3	London Stock Exchange	14%
4	Aquis	2%
5	Other	4%

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
- Boiler Systems
- Gas Systems

Competitors

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

Market position

1

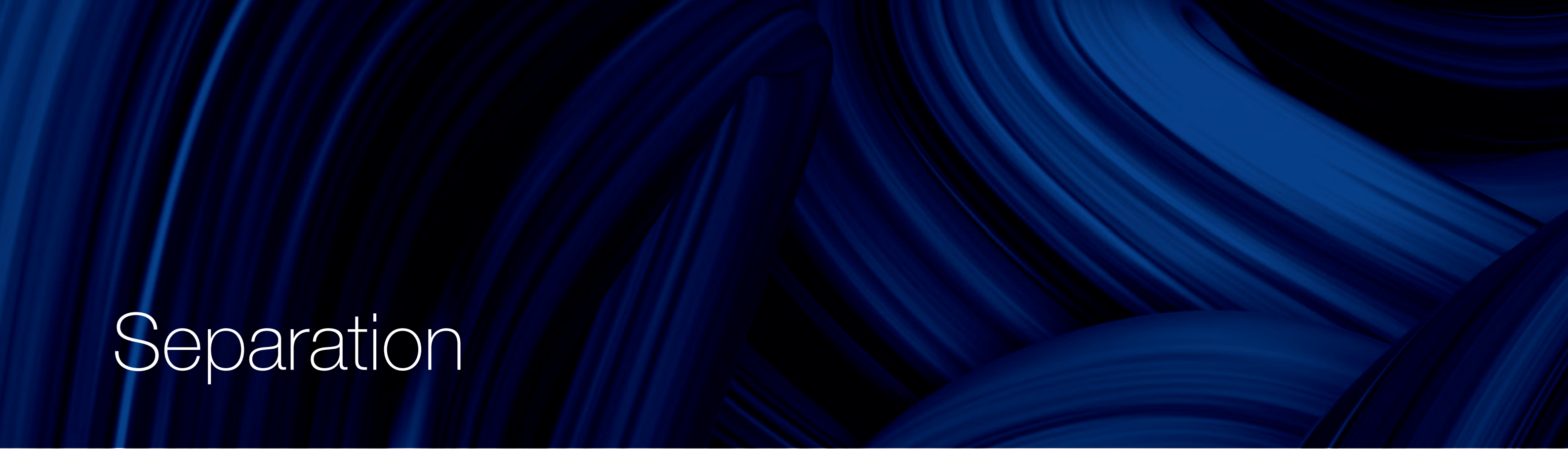
More than 30 percent of the world market.

Sales

40%

Share of Group sales.

Plate from a plate heat exchanger.



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

Part of a decanter

Competitors

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

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

Market position

1

25–30 percent of the world market.

Sales

17%

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

- Bardiani Valves (Italy)
- Dockweiler Edelstahl (Germany)
- Fristam (Germany)
- GEA (Germany)
- Kieselman GmbH (Germany)
- MARFLEX (Netherlands)
- SPX FLOW/APV (US)
- SULZER (Switzerland)

Market position

1

10–12 percent of the world market.

Sales

22%

Share of Group sales.

Part of a centrifugal pump

Driven by development

A constant focus on research and development is and always has been essential for Alfa Laval. This is, without a doubt, the most important condition for the company to be able to deliver products and solutions of the highest quality to industries around the world. The goal is clear: remain a market leader in heat transfer, separation and fluid handling.

The company's growth rate and the tempo of its product launches are constantly accelerating, and major initiatives have been undertaken in the last few years. The most important of these were the launch of two new platforms for separators and heat exchangers and the development and implementation of several digital solutions.

These changes were made possible in large part due to a comprehensive analysis of the entire Group in 2016. Everything from the company's R&D processes to the product range and marketing were put under the microscope and reviewed from several perspectives. The analysis also included the company's services offering and, not least, the rate and scope of digitization. Challenging and reviewing our offering is an ongoing process, which will continue throughout all areas to ensure the company's competitiveness.

Life cycle analysis can help the company define and implement methods that also take environmental aspects into consideration during the development and design of key technologies. The ambition is that every new product, in addition to being more efficient, should have 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 a product or solution that can help make the customer's processes more resource efficient.

The rate of product launches has increased over the past few years. Between product improvements, upgrades and entirely new products, Alfa Laval launches approximately 100 products annually, which is the equivalent of around two products per week. The focus is on delivering products and services that can provide improvements for the customer, whether in terms of energy efficiency or the ability to digitally monitor product performance.

A competence center for tomorrow's solutions
During the last few years, Alfa Laval has established international competence and test centers in different key areas. There is a center for high-speed separators in Tumba, Sweden as well as several facilities in Denmark: a center for hygienic fluid handling in Kolding, a center for the development marine solutions in Aalborg and center for membrane filtration in Nakskov. In 2019, another competence center was opened in Søborg, where the next generation of decanters will be developed, tested and optimized. This center will also focus on digital solutions.

In addition to competence centers, Alfa Laval has different product-based business centers. Each center focuses on a specific product portfolio, such as compact heat exchangers, fluid handling products or boilers. These centers are responsible for research and development as well as further developing existing product platforms. They are also responsible for product strategies, pricing, sales tools and training as well as follow-up and evaluation of product launches. Product and business development takes place every day of the year at Alfa Laval.

Approximately 2.5 percent of Alfa Laval's annual sales are invested in R&D, the equivalent of hundreds of millions of Swedish kronor every year. In 2019, investments in R&D amounted to approximately SEK 1,086 million. It is therefore of the utmost importance that we protect the products that are the final result of these development efforts and investments. When a new product, design or function is ready, Alfa Laval's patent department steps in. 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. The patent department also deals with trademark registrations and investigations as well as monitoring and handling patent infringements. At year-end 2019, Alfa Laval had more than 3,700 patents in its portfolio.

Continuously developing the operations
For Alfa Laval, working with development is about much more than the concept of "R&D". Development is continuous and permeates all areas of the operations, allowing the company to lead the way in a changing world. When it comes to the supply chain – that is, the Operations Division – this work is handled by Operations Development. They make sustainable improvements across the entire chain, from procurement and production to distribution and logistics, which encompasses further developing the procurement process and investigating, developing and evaluating new production technology within the framework of Industry 4.0. During the year, a pilot project was established for additive manufacturing: 3D printing of product components.

Operations Development has employees at major production facilities spread around the globe. Everything they do is about change, big and small. The goal of their work is to find solutions that strengthen the company's competitiveness. The unit manages hundreds of projects every year.

Another unit that also works with development is Corporate Development. They work according to a strategic, long-term view of technical development in possible future growth areas and new market concepts. They also support long-term activities carried out in the company's various functions, and investigate and analyze different possibilities when it comes to new technologies or areas that could present future challenges or opportunities.

2.5%
Investments in R&D are to correspond 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.

>3,700
At year-end 2019, Alfa Laval had more than 3,700 patents in its portfolio.

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.

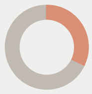
Corporate Development
Takes a strategic, long-term view of technical development in terms of potential future growth areas and new market concepts for the company as a whole.

Three industry-based divisions and a shared supply chain

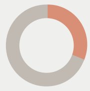
Realizing Alfa Laval's business concept – "to optimize the performance of our customers' processes, time and time again" – requires a solid product offering, high technological competence and a structure that is fast moving and has a high level of insight into the customers' needs, purchasing behavior 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.



Share of Group order intake



Aftermarket's share of the division

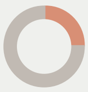
16%

Operating margin

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.

Share of Group order intake



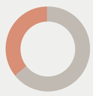
Aftermarket's share of the division

15%

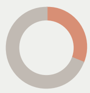
Operating margin

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

19%

Operating margin

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

The year in brief

Nish Patel
President, Food & Water Division

A number of macro drivers continued to prevail in the world economy in 2019: a growing population and middle class and more and stricter regulations in the water and environmental areas as well as for food and pharma (with a focus on sanitary aspects) generated business opportunities for the division.

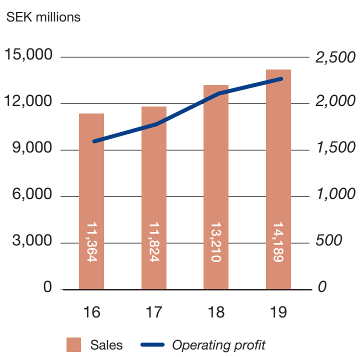
Sustainability is an increasingly important factor impacting our product offering and supply chain as well as the way we conduct business. It also influenced our research and development, with our new products enabling water and energy savings and an increased yield from natural resources. Our extensive innovation focus resulted in a large number of product launches, well suited for today's increasingly demanding global market. Being "customer centric" is a guiding principle when conducting business but also when prioritizing strategic activities, such as exploring innovative applications and product development.

During 2019, the division inaugurated its first purpose-built testing and innovation center for decanters in Copenhagen, Denmark. Working in close cooperation with customers, the Decanters business unit will test and evaluate new and existing products and applications in an environment that reflects real working conditions. It will ensure that our products are fully tested and prepared for various conditions at the time of launch, which is key for customer satisfaction.

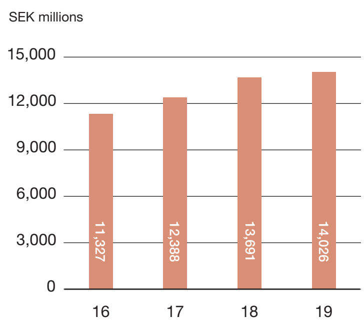
A further expansion of the network of distributors and integrators remained an important part of the division's strategy and resulted in an increasing order intake, facilitated to a certain extent by further development of e-business and online tools. Both e-commerce and channel sales simplify the supply chain and improve the customer experience.

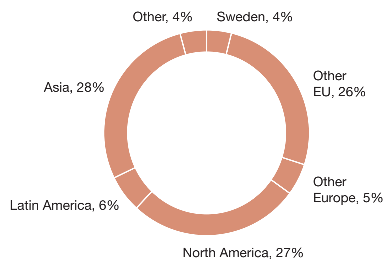
Finally, our service business continued to grow through new and existing products and concepts. We saw a higher share of long-term service agreements, driven by customer needs to reduce downtime and achieve optimal operating costs.

Sales and operating profit



Order intake





The Food & Water business

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.

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.

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.

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.

Structural growth drivers

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.

Alternative for the growing vegan sector

In just over ten years, Oatly has gone from being a local oat milk producer in Helsingborg, Sweden to selling products in more than 20 countries. Through creative marketing, such as reporting its climate impact right on its packaging, the company has established itself as a climate-smart alternative for consumers who are moving away from dairy products. Oatly appeared at just the right time for the growing environmentally conscious vegan sector. Alfa Laval has supplied advanced processing equipment to Oatly since it began operating in 2006. What began as an exclusive agreement for customized decanters for the company's Swedish facilities has now grown to cover production facilities in the US and the Netherlands. The basis for the cooperation is our in-depth, mutual expertise in the processes involved. Alfa Laval's equipment helps lower Oatly's energy consumption by up to 20 percent, which has further reduced the company's environmental impact.

New trends in the brewing industry

Beer has been around for ages, but consumers' tastes and preferences have naturally changed over time, depending on geographic location. All kinds of new beers – microbrewed, alcohol-free, flavored beer – are launched every year. This means major challenges for the brewing industry, which needs flexible processes that can be adapted to new conditions and consumer demands. Other important factors for beer brands is maintaining the same flavor, regardless of where the beer is produced as well as increasing consumer demand for sustainable processes. No matter what the need is, Alfa Laval has the products and expertise that make us a reliable partner for everyone from microbreweries to the major beer producers. Did you know that one out of every six beers consumed in the world comes from a facility that uses Alfa Laval's equipment?

Cleaning microplastics out of the world's oceans

There might be as many as 50 trillion particles of microplastics in our oceans. This pollution has serious consequences and the UN is now encouraging cooperative measures to solve the problem. One way is to ban microplastics in cosmetics. But there are also other solutions. In a research project in Denmark, Alfa Laval, along with various universities and environmental groups, studied the effects of using a membrane to remove plastic particles from wastewater. Alfa Laval installed and operated a membrane bioreactor (MBR) pilot plant capable of filtering down to diameters of 0.2 µm (micrometer) – one-thousandth of the diameter of the nets or filters used in standard plastic trawls. The results showed that the MBR solution works: no traces of microplastics were detected in the wastewater cleaned by the pilot facility. In other words, it is a possible solution for the future.

Major end markets

Dairies
Hygienic products for dairy processes – everything from treating whey, milk and cream to the production of ice cream, cheese, sour cream or yogurt. Includes separators, heat exchangers, tank cleaning equipment, membranes, pumps and valves.

Water and waste management
Products and solutions for municipal wastewater management and for treating industrial water and waste. The offering includes decanter centrifuges, belt filter presses, spiral heat exchangers, shell-and-tube heat exchangers and membrane bioreactors.

Ethanol, starch and sugar
Separators, decanter centrifuges, heat exchangers and evaporation systems are used in the production of starch and sugar, which are the raw materials for ethanol production.

Protein
Products used to recycle protein, fats and oils from residual vegetable and animal products for the production of everything from gelatin, fish oil and fish meal to bone meal, surimi and animal feed. The portfolio includes separators, decanter centrifuges, evaporation systems, membranes, heat exchangers and boilers.

Breweries
Products for all steps of the brewing process, from production of mash and wort to fermentation, filtration and pasteurization. The range includes separators, membranes, decanter centrifuges, mixing equipment, plate heat exchangers, pumps, valves, run-off water systems and pasteurizing modules.

Pharmaceuticals and biotech
Pumps, valves, separators, membranes, decanter centrifuges, tank cleaning equipment and heat exchangers suitable for use in the production of liquid or solid medicine, vaccines, creams or ointments – processes that are very demanding in terms of hygiene.

Edible oils
Separators, decanter centrifuges, heat exchangers and pumps are some of the products offered for the production of oils from rapeseed, olive, soy beans or fish, oils that need to be treated to meet customer demands regarding color, taste and nutrition.

Other (also referred to as "Prep. Food & Beverage" in the Group's financial reporting)
All of the end markets mentioned above are included in this category. A large share of sales is difficult to allocate to a specific end market since these sales are carried out through various channels (distributors, retailers, agents, etc.). This share of sales is summarized and presented here as "Other."

24%
Share of division's order intake

11%
Share of division's order intake

9%
Share of division's order intake

6%
Share of division's order intake

7%
Share of division's order intake

8%
Share of division's order intake

11%
Share of division's order intake

24%
Share of division's order intake

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.

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.

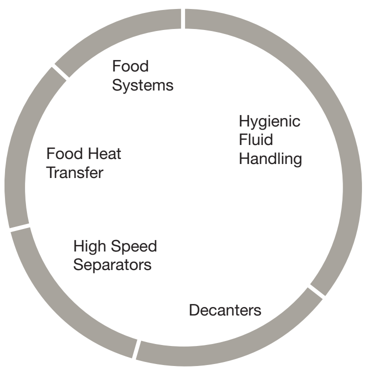
Food Heat Transfer
Provider of gasketed, tubular, brazed, welded and scraped-surface heat exchangers – to name a few examples – to a wide range of industries such as food, breweries, dairies, pharmaceuticals, ethanol, sugar and starch.

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 de-watering 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



The year in brief

Susanne Pahlén Åklundh
President, Energy Division

The division as a whole saw an increased order intake in 2019, due in part to a favorable economic climate that affected the majority of our end markets. Activity in oil and gas, however, has decreased since 2018 to a somewhat lower level during the second half of the year.

Investments in energy efficiency within the refining and petrochemical industry continued to help generate several major orders for welded heat exchangers throughout the year. The brazed heat exchangers business unit also experienced favorable growth, with an increased order intake from most of our key customers.

We also continued to invest in increased capacity in our existing production units, while also commencing manufacturing of brazed heat exchangers in the US and the construction of an entirely new, state-of-the-art production facility in Italy. The new facility will allow us to better meet the growing demand from our HVAC customers.

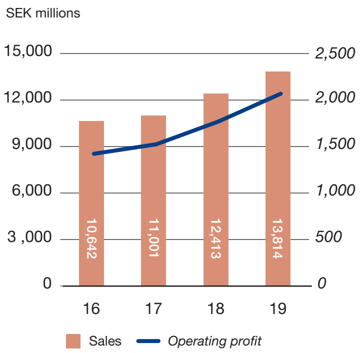
Last year's major launch of an entirely new product platform for gasketed heat exchangers has reached the next step and is now generating a steadily increasing order intake.

Sales via channels also performed well during the year. E-commerce and online advisory services are becoming even more important competitive factors, and we continued our work to make more of our products accessible via global e-commerce solutions.

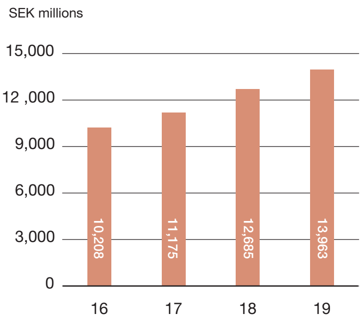
During the year, we integrated Airec (based in Malmö, Sweden), a technological company acquired in 2018 in the brazed and fusion bonded heat exchangers business unit. The technology opens up many interesting markets and applications for Alfa Laval.

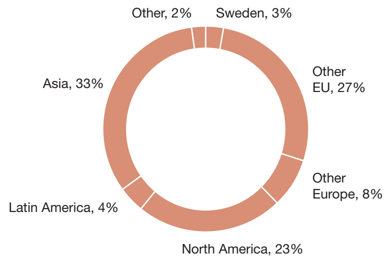
Overall, most of our primary industries experienced a favorable trend. This applied to both new and aftermarket sales, where the division's service business continued to demonstrate favorable growth.

Sales and operating profit



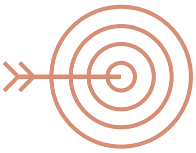
Order intake





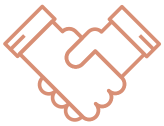
Energy

The Energy business

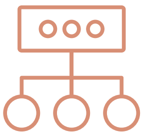


Target industries
The division targets customers in markets such as: oil and gas extraction, oil and gas processing and transport, refineries, petrochemicals and power generation. The division also works with construction-related applications, such as heating, ventilation and cooling, and has an offering 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.

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.



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.



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.

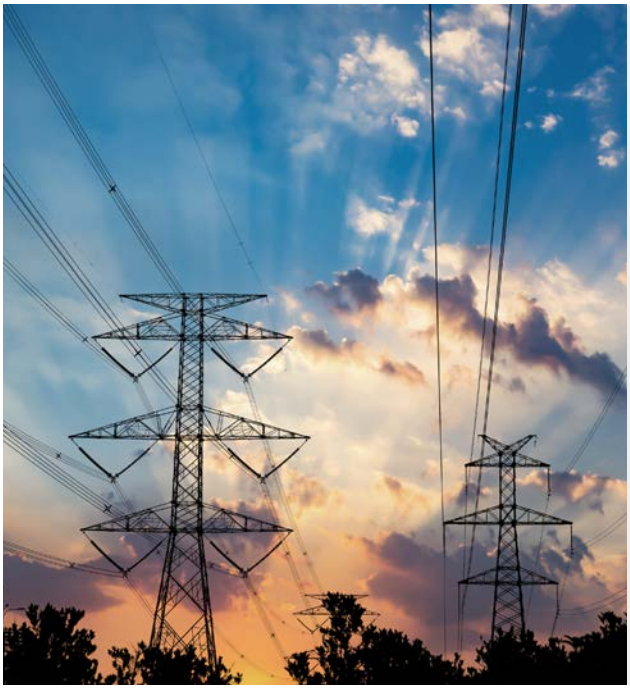
Structural growth drivers

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.



New conditions for renewable energy

Our growing energy need and increasingly limited resources make meeting the energy needs of the future one of our most pressing challenges. Renewable energy could be the solution, but the problem is that renewable energy can not always be produced when the need is greatest, and there is a lack of efficient storage methods. The startup company Malta Inc. has developed a solution in which energy is transformed into heat and can be stored for several days before being transferred back to the power grid when the need increases. As a partner in the company, Alfa Laval is also a supplier of specially designed heat exchangers that have a key function in the solution. Malta is now planning its first pilot plant to test the solution on a larger scale. Could this be the beginning of a more sustainable energy supply?

Profitable sustainability efforts in the energy sector

The Hengli Group, one of China's largest petroleum refineries, works sustainably and has set its own environmental goals and benchmark values that are more stringent than those of the Chinese government. Alfa Laval has worked closely with Hengli for a long time, beginning with the delivery of its first heat exchanger in 2003. Hengli's positive experiences of the cooperation made Alfa Laval a natural choice when the company wanted to build an entirely new refinery and needed heat exchangers to optimize heat transfer and energy recovery. By using compact heat exchangers in the refinery, which produces 400,000 barrels of oil per day, Hengli can capture heat from the refining process and re-use it to heat the oil in the initial steps of the process. The result is a 30 percent reduction in energy consumption. This, in turns, leads to both financial and environmental advantages that are entirely in line with Hengli's sustainability agenda.

Greenhouses in the Netherlands becoming even greener

Maintaining the Netherlands' approximately 9,000 hectares of greenhouses at the right temperature requires a lot of energy. At the same time, the government has set clear environmental goals. This has made the development of alternative energy sources a top priority for quite some time. The first step involved developing geothermal energy, which has been used for the last few years. Alfa Laval participated in a pilot project and developed a specially designed heat exchanger optimized for geothermal applications. The results were positive and the heat exchanger was installed in several greenhouses. The Netherlands plans to build around 175 new geothermal greenhouses by 2030. Alfa Laval could thus play a major role in reducing energy use and emissions from the Netherlands' greenhouses in the future.

Major end markets

HVAC
Alfa Laval's heat exchangers help create a comfortable indoor climate in houses, warehouses, public buildings, hotels, office complexes and athletic facilities over the world. They can also be used in data centers and for cold storage. They are even used within district heating and cooling systems and to heat tap water for both single- and multi-family residences.

Oil and gas
Includes drilling, processing, production and transportation of oil and gas. Within drilling, Alfa Laval offers mixers, heat exchangers and decanter centrifuges for mixing, cooling and cleaning drilling mud. Alfa Laval's products can be used in some 40 applications within oil and gas processing/production/transportation. Products are also offered for efficient waste management.

Petrochemicals
The range includes plate heat exchangers and shell-and-tube heat exchangers for use in a number of processes connected to the production of organic base chemicals, fine chemicals, intermediate petrochemicals, polymers and fibers.

Manufacturing industry/metal working
Alfa Laval offers heat exchangers and separators for heating/cooling and cleaning industrial fluids within metal working. They can also be used to cool and/or filter hydraulic oil and lube oil.

Refineries
In a refinery, crude oil is divided into different components that are then refined to useful products like naphtha, heating oil, aircraft fuel and diesel. Alfa Laval's heat exchangers are designed to withstand the high pressure and temperatures in the different processes at a refinery.

Cooling
Encompasses everything from industrial deep freezing and cold storage to cooling ice rinks. The offering for the food industry includes air-cooled and plate heat exchangers for cooling slaughterhouses, spaces for handling fish and meat, for storing fresh goods and for cooling or heating greenhouses.

Power generation
Alfa Laval's heat exchangers, separators, filters and boilers can be used in a number of processes in the power sector – regardless of which energy source is used to generate the electricity. They can even be used in capturing and storing carbon dioxide, or for storing concentrated solar energy.

Inorganic chemicals
Equipment for heat transfer, separation, condensation and evaporation applications for producing inorganic base chemicals like hydrogen peroxide, caustic soda, hydrochloric acid, sulphuric acid and soda ash.

24%
Share of division's order intake

16%
Share of division's order intake

13%
Share of division's order intake

12%
Share of division's order intake

12%
Share of division's order intake

6%
Share of division's order intake

6%
Share of division's order intake

5%
Share of division's order intake

Other: 6%

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.

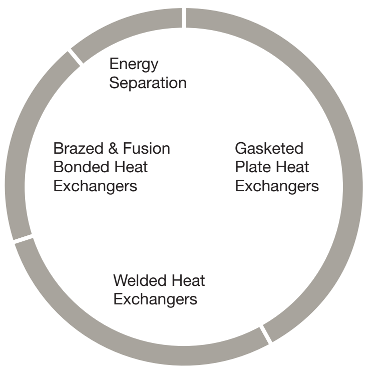
Brazed & Fusion Bonded Heat Exchangers
A clear majority of the business targets HVAC applications – heating, ventilation, air conditioning and cooling – meaning that the unit, to a large extent, is exposed to the construction industry as well as to public investments in district heating. A smaller part 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



Marine

The year in brief

Sameer Kalra
President, Marine Division

In 2019, the marine market was somewhat cautious as it waited to see what effect the global sulphur cap on emissions, which took effect on January 1, 2020, would have on fuel prices. The sulphur cap requires that shipowners switch to low-sulphur fuel or install an exhaust gas system that can clean fuel emissions to the required level. Uncertainty regarding the price delta between the different fuels had a dampening effect on demand for exhaust gas cleaning systems in general and also on our order intake.

The wait-and-see mode in the market was further fueled by concerns regarding the macro economy in the wake of global trade disputes. This weighed on the general contracting of new vessels. The decline in contracting had a negative impact on our order intake, especially since demand for important ship types, such as chemical and product tankers, was particularly low.

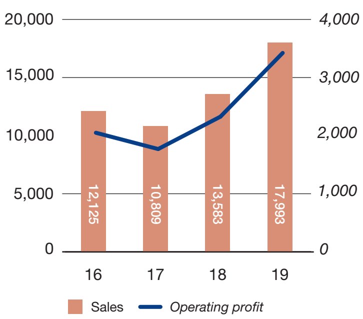
While our order intake for exhaust gas cleaning systems declined, revenue from the same technology grew substantially – reflecting the record-high demand levels noted in the previous year. The growth in deliveries and sales was managed through a continuous ramp-up of production capacity and contributed to a boost in sales for the division as a whole.

One area that reported a higher order intake was ballast water cleaning systems. The final enforcement of legislation for ballast water treatment in late 2018 boosted demand for Alfa Laval PureBallast throughout 2019. The activity level in the oil and gas markets also remained strong, resulting in favorable demand for our offshore offering.

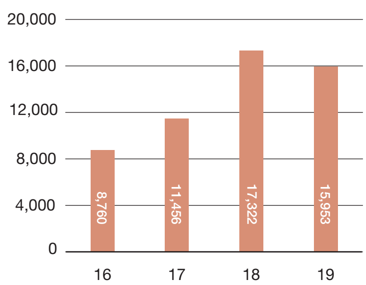
The marine industry has begun a slow transition away from using fossil fuels. In this decarbonization journey, LNG is expected to serve as an intermediate fuel as we move towards a zero-carbon-emission industry. This is the reason why we invested in a gas section at our Testing and Training Center in Aalborg, Denmark. We want to ensure that we are at the forefront when we develop products and solutions for gas-propelled vessels. In 2019, we saw a significant increase in both enquiries and orders from shipowners choosing gas as a fuel in order to comply with the new sulphur cap directive.

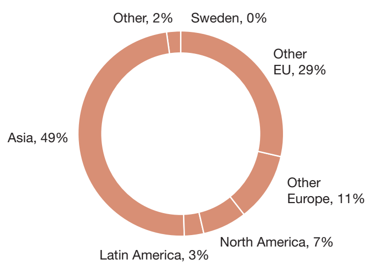
Our service order intake was very strong in both marine and offshore. Strong demand for connectivity and compliance services linked to our environmental products contributed to this strong order intake, as did an uptick in demand from customers requiring services and support when switching to compliant fuel. The continued expansion of our service organization also contributed to our increased order intake, driven by improved service engineer availability and quicker help desk support.

Sales and operating profit



Order intake





The Marine business

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 four 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.

Structural growth drivers

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.

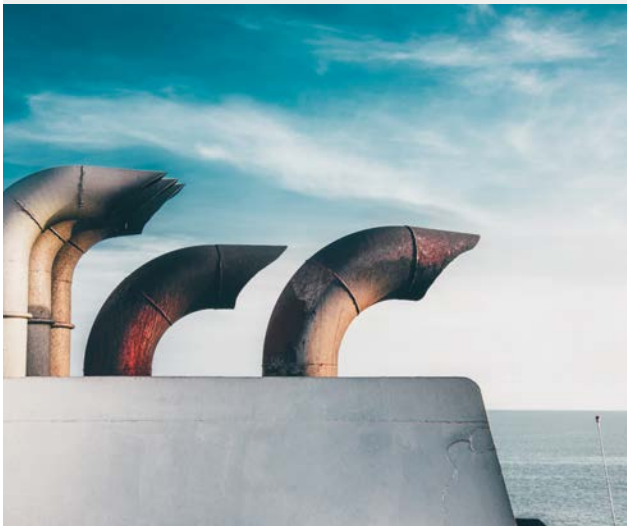
Alfa Laval's Marine division offers a number of solutions that reduce the impact on the environment, such as systems for treating ballast water, lowering the sulphur content in ships' exhaust or cleaning the bilge water on board.

Technology that cleans our oceans after oil catastrophes

Our oceans are constantly exposed to threats and different kinds of stress. One threat with devastating consequences for life on land and under the water is the unintended release of oil after vessels run aground or after an oil platform springs a leak. And accidents happen. There have been several major oil spills in the last few years, including off the Spanish coast and in the Gulf of Mexico. On both occasions, Alfa Laval's Framo pumping system helped limit the scope and effects of the catastrophes. Alfa Laval's specially designed pump solutions, the Framo skimmer system, clean oil out of the ocean even in the toughest possible conditions, such as in powerful storms or ice-cold water – even at the tremendous depths where wrecks leaking oil can cause severe damage to the marine environment.

Connected solutions ensure that marine regulations are followed

Vessels that run on heavy oil generate dangerous sulphur dioxide emissions, leading to acid rain that damages sensitive ecosystems. In January 2020, the global limit for sulphur dioxide emissions was lowered from 3.5 percent to 0.5 percent. This leaves shipping companies three choices: change to liquid natural gas (LNG) or to fuel with low sulphur content, or install an exhaust gas scrubber that cleans exhaust gas before it is released. Alfa Laval's PureSOx is a market-leading exhaust gas scrubber, with an accompanying Connect service that simplifies monitoring reports for sulphur dioxide emissions. Shipping companies can use the service to easily develop user-friendly and graph-based reports that can immediately be turned over to the authorities. An easy way to ensure regulatory compliance and protect our marine environment.



Award-winning solution for ballast water cleaning

According to the International Maritime Organization (IMO), the spread of invasive species is now recognized as "one of the greatest threats to the ecological and economic well-being of the planet." But there are solutions. Alfa Laval's PureBallast, the first chemical-free system for ballast water treatment, was jointly developed by Alfa Laval and Wallenius Water based on technology from Wallenius Water. The system adheres to regulations from both the US Coast Guard (USCG) and IMO. In 2019, Alfa Laval was recognized as a leading global company in the market for ballast water treatment systems. Every year, the consulting firm Frost & Sullivan recognizes "companies that are market leaders and establish best practices within growth, innovation and leadership." The consulting firm based its decision on Alfa Laval's long experience as a leading supplier of marine solutions.

Major end markets

Shipbuilding and maritime transport

Alfa Laval has a broad offering of products and systems for installation onboard vessels. The offering includes systems for cleaning and treating fuel, pumping systems for loading and unloading, boilers, fresh water generators, inert gas systems, systems for treating lubricants and tank cleaning equipment.

Offshore

The offering for oil and gas platforms includes fresh water generators for producing fresh water and tailing water, pumping systems for fire extinguishing or to pump sea water for different onboard applications, inert gas systems and emergency power generators.

Engine power

Engine-generated power is used in places that are not connected to the power grid. It is also used for back-up power during blackouts, to manage peaks in demand when the power grid is not enough or as a supplement for solar or wind energy. Alfa Laval offers modules for fire extinguishing, separators for cleaning crank case gases, and heat exchangers for different cooling applications.

79%
Share of division's order intake

11%
Share of division's order intake

9%
Share of division's order intake

Other: 1%

Business units

The division has four 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.

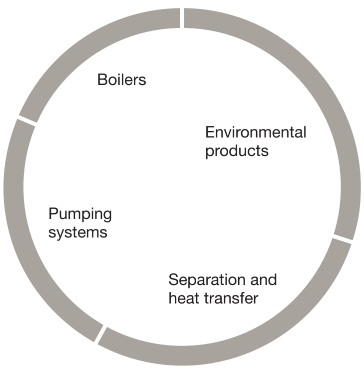
Pumping Systems
Cargo pumping systems for product and chemical tankers and pumping systems for utilities and safety applications on board offshore platforms.

Gas Systems
The unit supplies inert gas systems and exhaust gas scrubbers to customers in the marine industry.

Boiler Systems
Boilers, heat recovery systems, gas combustion units and thermal fluid systems primarily for the marine sector but also for engine-generated power and industrial applications on land.

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



Another year with a high rate of production

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 2019, 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 continued to implement selective capacity expansions in certain areas – such as establishing new production capacity for brazed heat exchangers, separators and gasketed heat exchangers – while efforts to concentrate certain manufacturing to fewer sites were completed. 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, and ensuring that the results lead to improvements in health, safety and the environment.

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, machinery, 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.

Procurement also manages the development of existing and new suppliers in order to optimize Alfa Laval's current value chains and future needs through cooperative projects and product development. These factors must be weighed against the supplier's technical ability, 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.

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 on the environment as possible. Alfa Laval has eight distribution centers, spread over Europe, Asia and North America. They process over 1.2 million order lines every year. Distribution and logistics is also responsible for Alfa Laval's overall transport needs.

Consolidating transportation needs provides economies of scale, from both a cost and quality perspective. 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. In 2019, Alfa Laval implemented a new transportation management system that will enable customers to better track their deliveries from Alfa Laval.

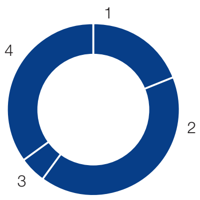
During 2019, Alfa Laval's deliveries to most end markets increased considerably, particularly towards the end of the year. Despite its high volumes, Alfa Laval kept the portion of air freight in line with previous year. At the end of the year, 69 percent had been shipped by road, 23 percent by sea and 7 percent by air.

Production units

Alfa Laval's production includes 39 major manufacturing units:

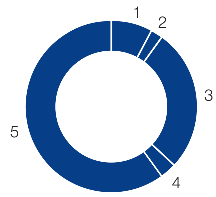
- US (6)
- Brazil (2)
- Sweden (4)
- Norway (3)
- Denmark (3)
- Finland (1)
- Russia (1)
- India (4)
- Korea (2)
- China (4)
- Japan (1)
- UK (1)
- France (4)
- Italy (2)
- Poland (1)

Investments by geographic market, %



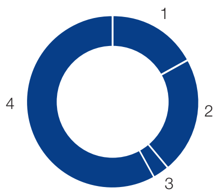
1	North America	19%
2	Western Europe	41%
3	Central and Eastern Europe	5%
4	Asia	35%

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



1	North America	8%
2	Latin America	2%
3	Western Europe	27%
4	Central and Eastern Europe	3%
5	Asia	60%

Procurement by geographic market, %

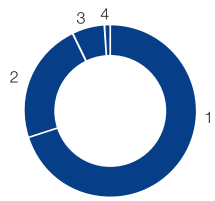


1	North and Latin America	17%
2	Asia	22%
3	Central and Eastern Europe	3%
4	Western Europe	58%

Distribution centers

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

Distribution 2019



1	Road	69%
2	Sea	23%
3	Air	7%
4	Railway	1%

The year in brief

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 and separators.

The structural changes initiated under the Footprint program in 2016 continued according to plan. Step 1 is over and the end of step 2 is planned for the first half of 2021. The degree of automation and digitization also increased in our production and distribution units, where we intensified our Industry 4.0 efforts.

We reduced water and energy consumption at our production units despite an increased rate of production. We also increased the share of renewable energy, and around 70 percent of the energy used at our production facilities came from renewable energy sources.

We continued to make improvements in a number of areas, including health and safety, quality, productivity and lead times. We were successful thanks to the commitment of our employees, our focus on Lean Six Sigma and the continued training of both employees and managers.

A service offering with the customer in mind

Alfa Laval sees Service – the offering of spare parts and services – as a part of the cycle rather than an after-market or secondary market offering. Service can be essential for the customer's next investment decisions – in other words, providing the right service creates the conditions for new sales. Through continuous customer contact, this part of the business provides valuable information for the development of new products and services. Service's ability to contribute to the company's growth in a number of different areas makes it an important focus area in Alfa Laval's strategy.

In addition to its capacity for new sales and providing information to units that work with research and development, Service also has other advantages, since it is less sensitive to economic trends and has good profitability. Alfa Laval's goal is to continuously improve the service offering and its interaction with customers – that is, to enhance the customer experience – in order to generate growth in absolute numbers. Year after year.

The foundation for generating growth is the company's installed base of products. These products have a long service life, during which they – to varying degrees and with varying frequency – require spare parts and service. The installed base also has inherent revenue potential for decades to come. Actively leveraging this potential, and further capitalizing on it, is an essential part of Alfa Laval's strategy. The way to achieve this is through customer satisfaction: offering something that the customer values and doing so in a way that is easy and simple.

With the customer in the center, the big picture is what counts – the customer's entire experience of Alfa Laval. The customer's interaction with Alfa Laval's sellers, and subsequent delivery and installation of new equipment, lasts for a relatively short period of time. This is, of course, incredibly important, but from the customer's perspective, the supplier's ability to help throughout the decades to come – the rest of the equipment's life – is at least equally important. Getting help quickly when unplanned stoppages occur or, even better, help to avoid them entirely, is important for everyone who runs a business. Suppliers need to meet this need. That is why Alfa Laval is investing heavily in further developing the Service business, with the goal of delivering a positive full-service experience.

2019 was brimming with activities connected to further developing the Service business's offering. Increased automation at selected service centers, improved web functionality to provide easy access to information and self service, QR codes on products that provide access to manuals, tips and contact information, competence development for service employees to improve security awareness and standardize the level of service, and increased focus on developing new digital service solutions. These were some of the initiatives that began or were completed during the year – all intended to enhance the overall experience of Alfa Laval's offering.

The Service business has global coverage through more than 100 service centers, but there is also a high degree of local activity since having a local presence is essential to be able to quickly reach out and help customers. Equally important as having service technicians and service engineers close by is the quick delivery of spare parts and a web functionality that both informs and enables self service. Speed, presence. These factors are essential when a customer is facing a problem that affects their operations. This also guides Alfa Laval's development work in these areas. The goal is to carry out a digital transformation in areas where it is logical to do so. One area where a digital offering provides a clear benefit is Alfa Laval PureSOx

Connect, a solution offered for Alfa Laval's marine exhaust gas that reduces the sulphur content in a vessel's exhaust. The system continuously measures the sulphur content in exhaust to ensure it meets the legal requirements set in different parts of the world and can generate reports to relevant authorities that certify compliance. It can also be seen as a service module that alerts Alfa Laval as needed to provide support from a distance or, as necessary, to send out spare parts or service technicians to the vessel's next port of call.

Need for spare parts and service

Access to service and spare parts is important for customers to avoid stoppages or interruptions. But customers' service needs are extremely varied. Regardless of whether the customer wants to receive all their help from an external service supplier or prefers to have their own service organization and only purchase spare parts, Alfa Laval can customize its service offering. The Service organization handles everything from installation, testing and start-up to cleaning, troubleshooting, spare parts and reconditioning.

Just as customer needs vary, different technologies also have different needs depending on whether they have moving parts. Another factor that affects the need for service is the application or process where the product is used. A heat exchanger that heats tap water in an apartment building will not need to be serviced as often as a decanter that cleans drilling mud. The need for service also depends on whether the product is installed in a process that runs around the clock, every day of the year, or if it is used for short-term seasonal work.

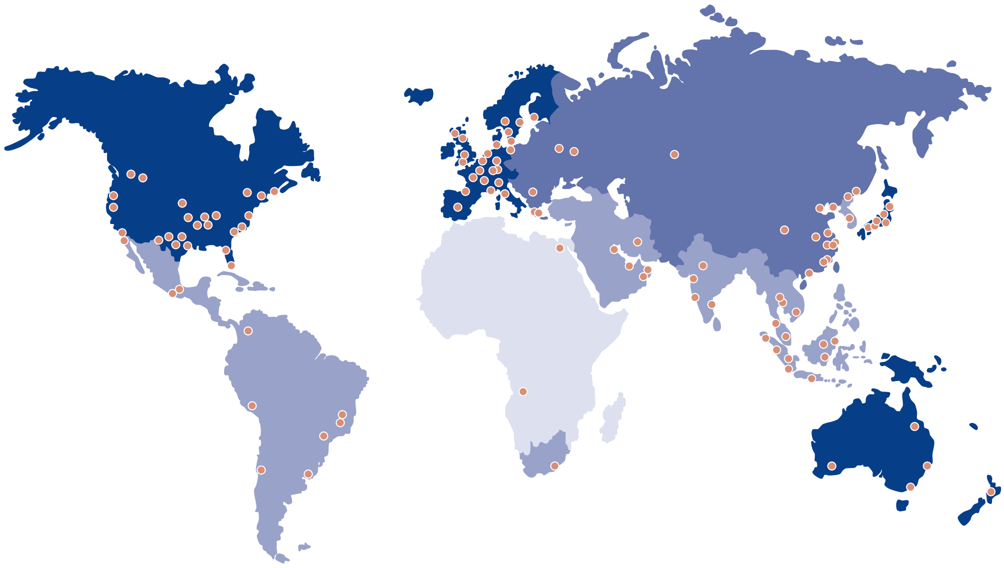
Obviously, all products installed in industrial processes will – sooner or later, in varying degrees and at varying rates – need spare parts or some form of service. This is what makes the Service business so important for Alfa Laval. Calculations show that the aftermarket potential greatly exceeds the value of new sales, where heat exchangers have the greatest potential and can generate up to seven times the value of a new sale.

Service centers

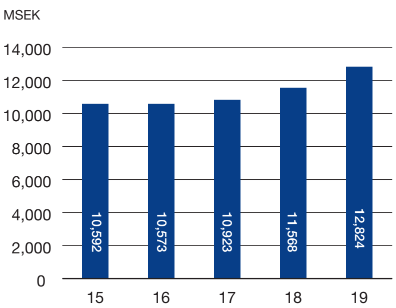
>100

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

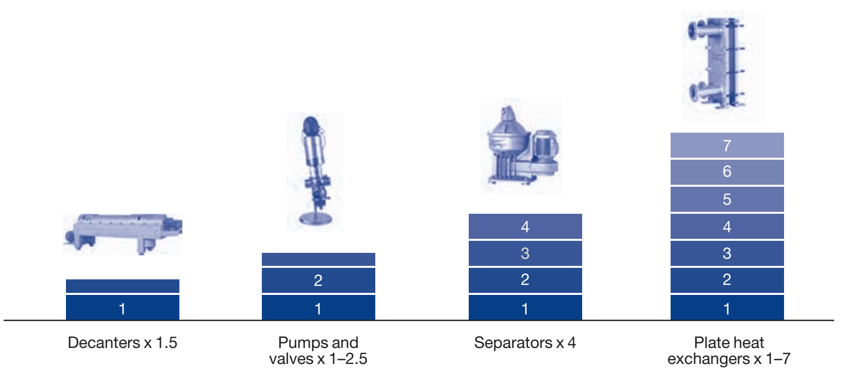
- Service centers
- Large and mature installed base that needs to be maintained and renewed.
- A combination of fast-growing markets and established niche applications.
- Installed base that is growing rapidly.



Order intake, SEK million



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



An attractive workplace

Alfa Laval's employees are the company's greatest resource. Creating a secure, inspiring work environment is therefore a top priority, as is forming a culture that can both attract and retain talent and allow people to thrive. Succeeding with this task requires a great deal of sensitivity to everyone's individual conditions and needs.

Creating work places that are inclusive and free from discrimination, where employees feel secure and confident, is essential. It is also a given at Alfa Laval that employees have opportunities to improve, so as to meet the challenges of today and of the future. The company can also offer an additional advantage, namely the opportunity for employees to feel that they are individually contributing to a more sustainable future. This can be achieved through solutions that clean water, minimize waste, use natural resources efficiently or enhance energy use efficiency.

Health and safety

Since Alfa Laval's employees are the foundation of the company's success, ensuring their health and safety is only natural. Alfa Laval works continuously to create a healthy, safe and attractive work environment for its employees as well as its contractors, customers and visitors. The company strives to be a workplace that is free from accidents and work-related illnesses.

Comprehensive work is therefore 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. In addition to guidelines and manuals, employees must also receive training so that they have the right attitude towards safety issues. The human factor is the most common cause of accidents, which means that individual behavior is a key factor in the effort to eliminate risks.

In 2019, Alfa Laval implemented a health and safety program that includes clear guidelines and focuses on leadership, training and communication. All of Alfa Laval's facilities will eventually follow this program, in addition to existing local laws and regulations. The facilities will also have an organization that actively works to ensure a safe and healthy workplace.

Diversity that enriches

Alfa Laval is an international company with Scandinavian roots and a global organization that serves customers in approximately 100 countries. Diverse nationalities among the company's employees are therefore a natural part of its operations. Alfa Laval's ambition is for its local organizations to reflect the markets in which they operate and, at the end of 2019, the company thus had employees of about 100 different nationalities.

But diversity is about so much more than this. It is about bringing together individuals who are different, who think differently and contribute different perspectives – or who are of different genders, ages, and have different experiences. This variety is something the company strives for. It provides an important base for insights and flexibility, and makes it possible to change together, based on the growth drivers that characterize the business.

With an explicit focus on variety and diversity, all employees must feel they are treated on equal terms and that they have career paths open and available to them. This is one of the reasons that Alfa Laval works with open internal recruiting. All available positions are published on the company's intranet and all employees are welcome to apply. By combining an open recruitment process with an explicit focus on performance, Alfa Laval aims to create an inclusive work environment with equal opportunities for development. The hope is that this will encourage mobility and help the company retain employees with a high level of competence. An inclusive work environment that stimulates the individual's development is a key step in reaching Alfa Laval's overall goals.

Development and training – the basis for success

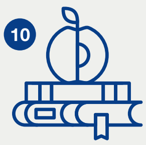
Development in the sense of research and development (R&D) is essential for Alfa Laval's success, yesterday as well as today. But R&D is driven by people, and without their individual abilities, curiosity and insight, the company cannot advance. To keep moving forward, the individuals who are to develop the business must therefore be given their own development opportunities. In this context, we are no longer talking only about R&D, but rather about employee development within all areas of Alfa Laval's operations, at all levels.

Change is a constant in society and in business. Customers want new and even more efficient products, and there are always new

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.

rules and conditions. All of this imposes demands on Alfa Laval and its employees. To succeed, Alfa Laval needs to stay one step ahead, and this can only be achieved when people can lift their gaze and think differently, when they thrive in their tasks and have the tools they need to succeed in their work.

During the year, Alfa Laval began developing a new digital training portal, which will simplify planning and follow-up of training modules for individual employees. The portal will also be open for customers who are interested in customer-specific training, which will strengthen Alfa Laval's offering and competitiveness.

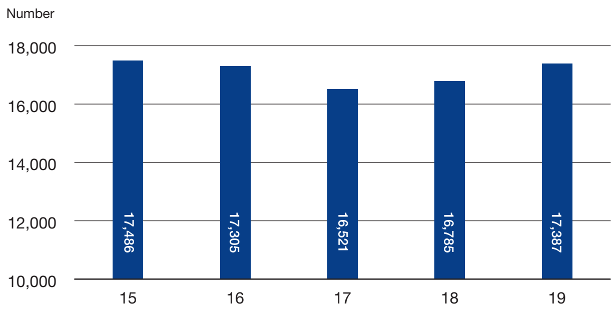
For development, Alfa Laval uses the 70-20-10 model. This means that 70 percent of development opportunities are to come from the challenges faced during the course of the individual's day-to-day work and 20 percent is to come from various types of developmental relationships, meaning what the individual learns from managers, more experienced colleagues or mentors. The last 10 percent is what the employee learns 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 this training is a training portal, which is available on the company intranet. Many of the company's courses are internet-based (e-learning). These can be completed in groups in real time or individually at a pace and time that best suits the employee. The course offering is continuously developed to meet the needs of both the employees and the company.

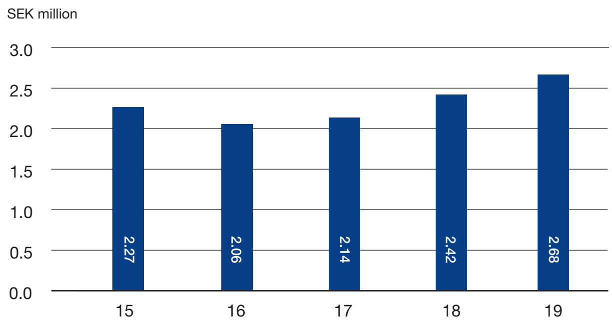
Health and safety program

As a first step in the health and safety program, approximately 150 managers participated in the first training module. In the next step, they will be responsible for training in their own organizations. The program will be carried out in dialogue with the employees.

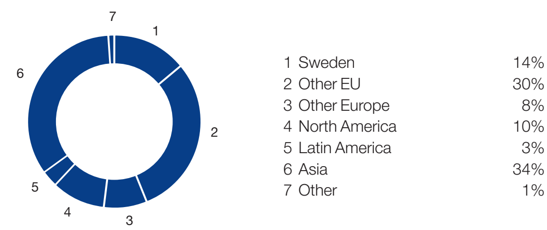
Average number of employees



Sales per employee



Employees by region



Sustainability and its foundation

Alfa Laval works with sustainability in order to be an attractive company for both investors and customers – and to better attract and retain competent employees. Sustainability is considered both a responsibility and a business opportunity.

Read more
Note that 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**

Sustainability begins at home, by Alfa Laval conducting its own operations ethically, and according to prevailing social and environmental legislation. Alfa Laval's four business principles help by providing clear guidelines for how they are to be continuously implemented, monitored and documented.

Alfa Laval's business principles

Alfa Laval's four business principles are aimed at continuously improving Alfa Laval's social, environmental and ethical work as well as maintaining its internal and external 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.

1. 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.

2. 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.

3. The environment – we optimize the use of natural resources

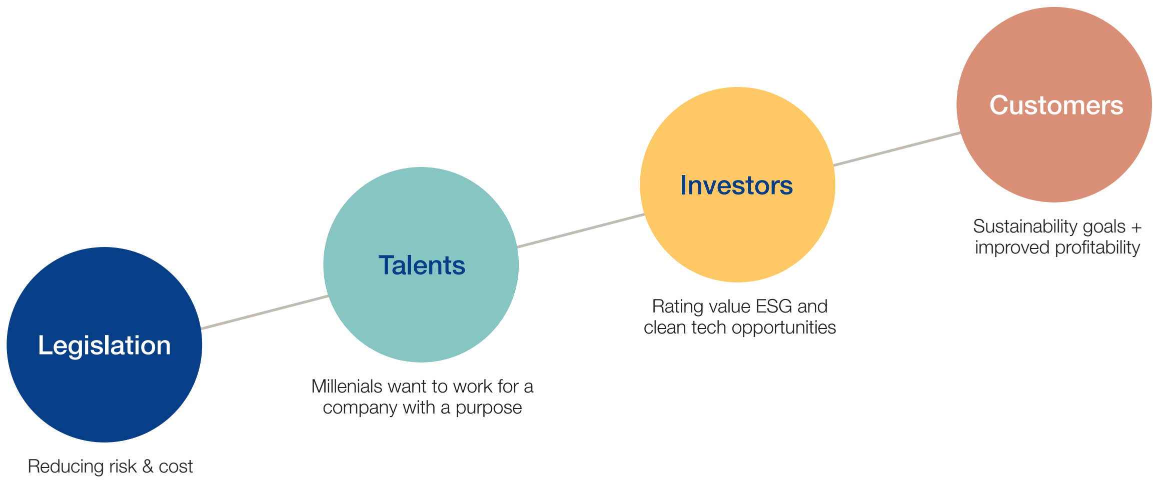
It is important that our production and service operations continuously improve from an environmental perspective and also in minimizing risks. Alfa Laval sets clear goals regarding energy and water consumption, climate impact, chemical use and waste management. An area that is equally as important as Alfa Laval's internal work – and offers infinitely greater potential – is the provision of products, services and solutions that can optimize our customers' use of natural resources.

4. 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.

Sustainability as a business opportunity

Alfa Laval's products and solutions make it possible for customers to solve their environmental challenges and reach their own sustainability goals. This achieved through solutions that clean and/or reuse water, improve energy efficiency or ensure that industrial processes are more resource efficient. This way sustainability becomes a "win-win" for all parties: more efficient and sustainable processes lead to increased profitability for customers while creating a better environment for all of us.



We support the UN's Sustainable Development Goals

The UN has developed 17 Sustainable Development Goals that are to be achieved by 2030 – goals that world leaders have committed to achieving. Alfa Laval supports 15 of the 17 goals.

Enabling change

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.

Good health and well-being
Alfa Laval delivers equipment that contributes to safe and resource-efficient processes in the pharmaceutical industry.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Contributing to progress

Quality education
Alfa Laval is committed to ensure competence development in our own business. We also support charities and volunteering projects related to child education across the globe.

Gender equality
Diversity and inclusion are key priorities for Alfa Laval and the aim is that the composition of employees reflects the geographic markets where we operate.

Decent work and economic growth
Alfa Laval's Business Principles require decent working conditions. Working conditions and safety are a highly prioritized area both in our own operations and in the demands we set on our suppliers.

Peace, justice and strong institutions
Alfa Laval has a zero-tolerance approach to bribery and corruption. Our programme builds on the six steps outlined in the UK Bribery Act and is based on a "prevent, detect and correct" methodology.

Contents
– Corporate Governance Report

Introduction by the Chairman of the Board

Alfa Laval
Alfa Laval's business concept is to optimize the performance of its customers' processes through products and services in the three key technologies of heat transfer, separation and fluid handling. Through constant innovative and insight, the company develops new products to meet customers' various needs. Once implemented in industrial process solutions, the company's products enable resources to be used effectively and sustainably, with minimal impact on the environment. Both through cooperation with customers and internal work, Alfa Laval contributes to a more sustainable society.

The Board's task is to create the conditions for long-term, profitable growth, with the best interests of the company and the owners in mind. At the same time, the Board bears the ultimate responsibility for ensuring that business is conducted correctly and in accordance with prevailing laws and regulations. Everyone at the company, from individual employees to management and the Board, are to follow regulations and act in accordance with the company's business principles regarding the environment, ethics, transparency and social responsibility. This requires guidance in the form of training, monitoring and clear processes and areas of responsibility. The following pages describe the more tangible aspects of how the Board conducts this work.

The year in brief
In 2019, the Board continued to focus on the initiatives implemented within the framework of the company's profitability and organic growth strategies. These initiatives included the introduction of structural changes in the supply chain, most of which were concluded during the year and generated positive results. They also included a continued focus on further developing the Service business to better support our customers and ensure our product's long-term capacity and efficiency. Our efforts had a positive impact in this area as well, with significant growth in the Service business during the year. Our efforts to develop products and systems for a changing world continued, with new demands and needs concerning energy supply, energy utilization and food production as well as changes in regulations aimed at reducing people's impact on the environment.

All in all, our initiatives and a more decentralized organizational structure generated earnings that reflected our high expectations in the form of healthy growth, despite cautious market conditions in certain areas.

After 17 years as Chairman of the Board, I have announced that I will not seek re-election. In all those years, I have thoroughly enjoyed my time at Alfa Laval. Those of us on the Board have worked intensively to create the conditions for growth and profitability, thereby enabling long-term value growth for our owners.

I would like to thank the owners for the confidence they have had in me over the years, and I would like to thank Alfa Laval's employees for their incredible commitment, hard work and deep passion for change. The last 17 years have been a fantastic journey. I am leaving a company whose sales, earnings and value have increased several times over in that time. A company whose offering has been continuously developed and which today offers a portfolio that is more relevant than ever, not least considering the world's increased focus on sustainability. I will follow Alfa Laval's continued development with keen anticipation, and I wish the new Board all the best in their work.

Lund, February 2020

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**

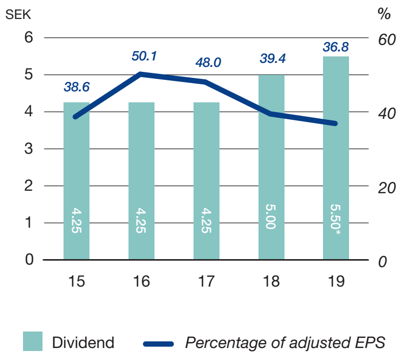
Share and ownership structure

At December 31, 2019, Alfa Laval had 419,456,315 shares outstanding, allocated among 41,147 shareholders according to Euroclear Sweden's share 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 5.6 percent, followed by AMF with a holding of 5.2 percent. Legal entities accounted for slightly more than 95 percent of the holdings, while individuals accounted for the remainder. From a geographic perspective, the following five countries represented a total of 94.2 percent of the shareholdings: Switzerland, 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 pages 12–13.

Annual General Meeting

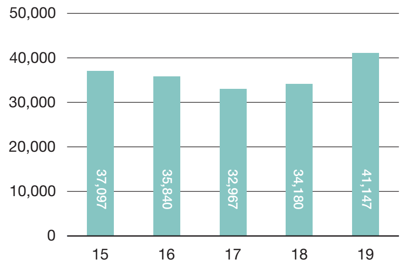
The Annual General Meeting is the company's highest decision-making body in which all shareholders are entitled to participate and each share entitles its holder to one vote. The majority of motions addressed at the Annual General Meeting are decided by a simple majority. However, certain points sometimes 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 share 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.

Dividend and percentage of adjusted EPS**



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

Total number of shareholders



Ownership categories at December 31, 2019

	No. of shares	Holding, %
Financial companies	104,617,472	24.9%
Other financial companies	28,407	0.0%
Social insurance funds	4,768,675	1.1%
Government	319,419	0.1%
Municipal sector	36,172	0.0%
Trade organizations	4,987,633	1.2%
Other Swedish legal entities	5,831,243	1.4%
Shareholders domiciled abroad (legal entities and individuals)	275,863,915	65.8%
Swedish individuals	20,727,917	4.9%
Uncategorized legal entities	2,275,462	0.5%

Source: Euroclear

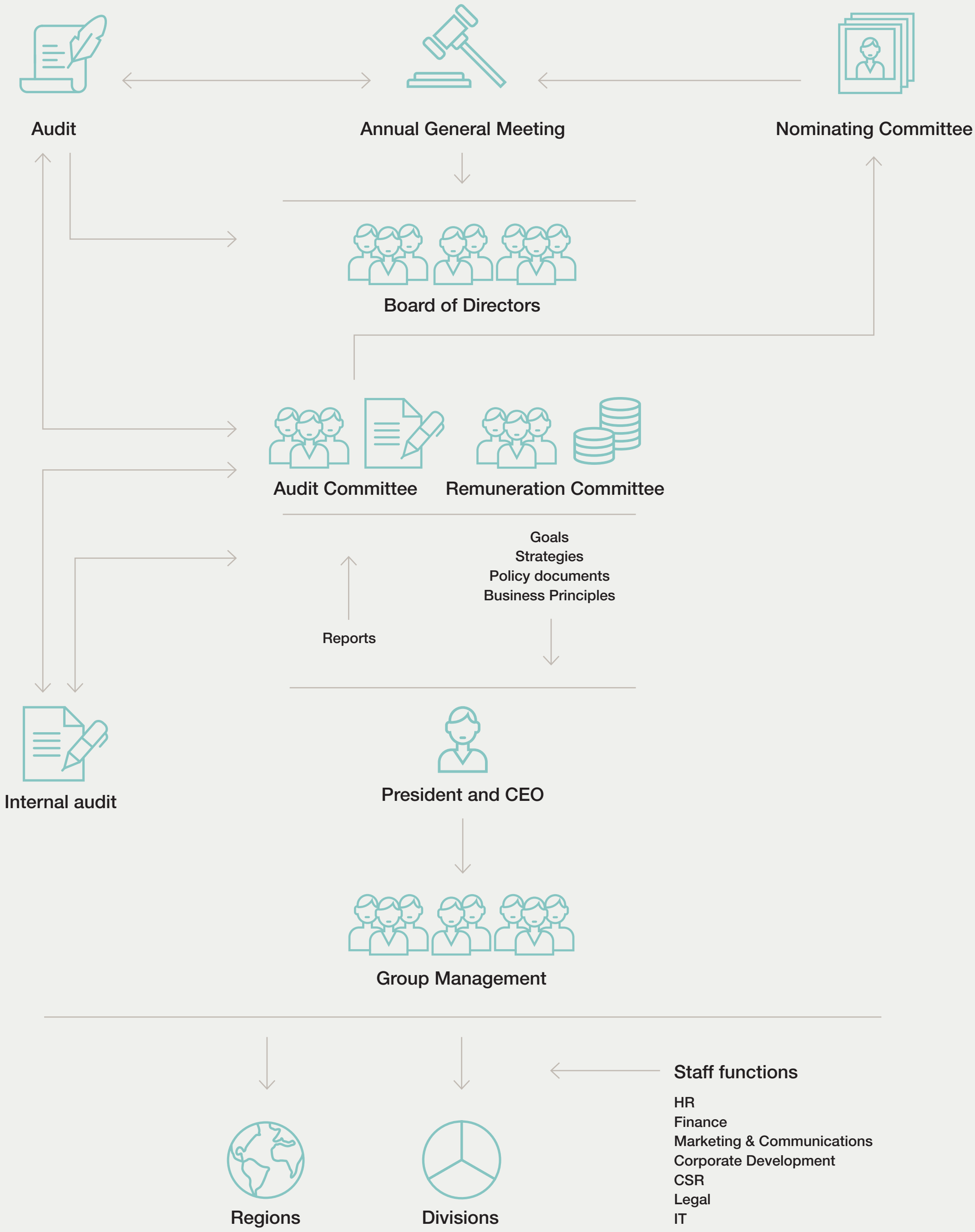
Ten largest shareholders at December 31, 2019*

	No. of shares	Capital/voting rights,%	Change in holding in 2019, percentage points
Tetra Laval BV	122,580,149	29.1	0.0
Alecta	23,662,464	5.6	0.0
AMF Insurance and Funds	21,887,403	5.2	0.0
Swedbank Robur Funds	18,510,252	4.4	0.0
CBNY Norges Bank	10,897,642	2.6	0.0
SEB Investment Management	8,596,141	2	0.0
Folksam	3,774,113	0.9	0.0
SPP Funds	2,972,287	0.7	0.0
Livförsäkringsbolaget Skandia	2,308,953	0.6	0.0
Handelsbanken Funds	2,269,689	0.6	0.1
Total ten largest shareholders	**217,459,093**	**51.7**	

Source: Euroclear

* The table is adjusted for nominee-registered shares.

Corporate governance



Annual General Meeting for the 2019 fiscal year

The Annual General Meeting of Alfa Laval AB (publ) will be held on Wednesday, April 23, 2020, 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.

Annual General Meeting for the 2018 fiscal year

The Annual General Meeting for the 2018 fiscal year was held at Scandic Star in Lund on April 24, 2019. The Annual General Meeting was attended by 358 people, including shareholders, proxies, assistants, guests and officials. The total number of votes represented corresponded to 60 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 5.00 per share be paid.

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

– A resolution was passed to re-elect Board members Anders Narvinger, Finn Rausing, Jörn Rausing, Ulf Wiinberg, Anna Ohlsson-Leijon and Henrik Lange. Heléne Mellquist and Maria Moraeus Hanssen were elected as new Board members. Margareth Øvrum declined re-election.

– 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 5,845,000. 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 2020 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 2020 Annual General Meeting, the composition of the Nominating Committee was announced on October 3, 2019. It was also included in Alfa Laval's third-quarter interim report, which was published on October 24. The Nominating Committee for the Annual General Meeting for the 2019 fiscal year comprised the following individuals: Finn Rausing (Tetra Laval), Ramsay Brufer (Alecta), Jan Andersson (Swedbank Robur Funds), Lars-Åke Bokenberger (AMF) and Vegard Torsnes (Norges Bank Investment

Composition of the Nominating Committee ahead of the Annual General Meeting for the 2019 fiscal year

Name	Representing	Shareholding in Alfa Laval, %*
Finn Rausing	Tetra Laval	29.1
Ramsay Brufer	Alecta	5.8
Jan Andersson	Swedbank Robur Funds	5.6
Lars-Åke Bokenberger	AMF Insurance and Funds	5.5
Vegard Torsnes	Norges Bank Investment Management	2.6

*As of August 31, 2019.

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 5, 2020.

Management). The holdings of the Nominating Committee represented 48.6 percent of the number of shares outstanding at August 31, 2019.

Chairman of the Board Anders Narvinger was elected as a member, Alfa Laval's Chief Legal Counsel Emma Adlerton was elected as secretary and Finn Rausing was elected as Chairman of the Nominating Committee. Due to Finn 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 Finn 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 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 2019 Annual General Meeting

Ahead of the Annual General Meeting that took place in April 2019 for the 2018 fiscal year, the Nominating Committee held five minuted meetings. The Nominating Committee also conducted a number of discussions by phone and e-mail. The Nominating Committee's meetings covered a review of the Board's composition, an assessment of the potential future competence requirements of the Board and evaluating candidates for the Board's coming term. As a basis for its work, the Nominating Committee used an internal evaluation of the work of the Board that was conducted by the Chairman of the Board.

The reasoned statement of the Nominating Committee ahead of the 2019 Annual General Meeting stated that the Nominating Committee has applied Rule 4.1 of the Swedish Corporate Governance ("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's ambition up to this point has been for the Board members to collectively represent a broad range of industrial experience relevant for Alfa Laval.

The Nominating Committee was tasked with preparing proposals for two new members for Alfa Laval's Board of Directors before the 2019 Annual General Meeting. The Nominating Committee's work particularly focused on identifying potential women candidates so as to achieve a better gender balance on the Board. The Nominating Committee's efforts resulted in another two women Board members being appointed by the 2019 Annual General Meeting. Since a previous Board member declined re-election, the election of two new members meant that the number of Board members increased from seven to eight, including three women and five men. This division means that 38 percent of the Board members are women, which is well in line with the ambitions of the Swedish Corporate Governance Board.

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

Remuneration of Board members and attendance at Board meetings

	Name	Present	Remuneration*
Appointed by the AGM	Anders Narvinger	● 9	1,750,000
	Henrik Lange	9	585,000
	Ulf Wiinberg	8	585,000
	Margareth Øvrum**	1	–
	Finn Rausing	9	585,000
	Jörn Rausing	9	585,000
	Anna Ohlsson-Leijon	9	585,000
	Heléne Mellquist	6	585,000
	Maria Moraeus Hanssen	6	585,000
Employee representatives	Bror García Lantz	9	–
	Susanne Jonsson	9	–
	Henrik Nielsen	9	–
	Total	**9**	**5,845,000**

● Chairman *The remuneration recognised pertains to the period between two AGMs **Declined re-election at the AGM 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 2019 Annual General Meeting, eight 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 2019 Annual General Meeting" on page 55.

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 relationship with Tetra Laval, which owned 29.1 percent of the shares in the company as of December 31, 2019.

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 2019

The Board held nine meetings in 2019, including eight ordinary meetings and one extraordinary meeting. Two meetings were held by phone, while the other meetings were held in Lund and Stockholm in Sweden and Krakow in Poland. 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 service 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 2019, the destination for the trip was Krakow, Poland.

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 2019, the evaluation was conducted by the Chairman of Board, who held 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: fees and attendance

Name	Present	Remuneration
Anna Ohlsson-Leijon	● 8	200,000
Henrik Lange	8	125,000
Heléne Mellquist*	4	125,000
Finn Rausing**	3	–
Total	8	450,000

● Chairman

*Appointed after the AGM **Declined re-election at the AGM

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.

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 2019

Members are appointed annually at the Board's statutory meeting. In 2019, the Committee comprised Anna Ohlsson-Leijon (Chairman), Henrik Lange and Heléne Mellquist with the Group Controller serving as secretary. Eight meetings were held during the year, six 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 financial reports and a debriefing from the external auditors, a review of a new template for interim reports, a discussion regarding the finance policy and capital structure strategy, updating the guidelines for services unrelated to auditing, a review and follow-up of the results of the annual feedback from, at present, approximately 260 managers regarding governance and a review of Group provisions and allocations. The Committee also updated the work instructions for the internal audit. External and internal audits were planned.

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 2019

The Remuneration Committee is appointed annually at the Board's statutory meeting. In 2019, the Committee comprised Anders Narvinger (Chairman), Jörn Rausing and Ulf Wiinberg. The Committee held two meetings during the year. 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.

Remuneration Committee: fees and attendance

Name	Present	Remuneration
Anders Narvinger	● 2	50,000
Jörn Rausing	2	50,000
Ulf Wiinberg	2	50,000
Total	**2**	**150,000**

● Chairman

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 24, 2019, 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 2019, the entire Board received a report from the company's external auditors on one occasion. On this occasion, the Board met with the auditors without the CEO or anyone from Group management being present. The Audit Committee received separate reports on five occasions.

Remuneration to auditors

Refer to Note 7 on page 117.

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 Biopharma 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**)

Henrik Lange
Board member since 2018.

Born: 1961

Previously President and CEO of Gunnebo AB; 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 and IPCO AB.

Independent of the company and major shareholders.

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

Heléne Mellquist
Board member since 2019.

Born: 1964

CEO of Volvo Trucks Europe.

Previous positions include CEO of Rederi AB Transatlantic and a number of senior positions at Volvo Trucks, Volvo Buses and Volvo Penta.

Board member: Thule Group AB.

Education: Diploma in International Economy from the University of Gothenburg Executive Program Stockholm School of Economics.

Independent of the company and major shareholders.

Number of shares in Alfa Laval:
–

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* (–**)

Maria Moraeus Hanssen
Board member since 2019.

Born: 1965

President and CEO of DEA Deutsche Erdoel AG.

Proposed COO and Vice President/CEO, Wintershall DEA Holding GMBH (merger planned for the second quarter of 2019).

Previously President of ENGIE Exploration and Production International SA and GDF Suez E&P Norge AS as well as several senior positions at Aker ASA, Statoil ASA (now Equinor ASA) and Norsk Hydro ASA.

Education: Petroleum technology at the Norwegian University of Science and Technology (NTNU), and petroleum economics at the Institute du Petrole (IFP School) in Paris, France.

Independent of the company and major shareholders.

Number of shares in Alfa Laval:
–

*Holdings at December 31, 2019. **Holdings at December 31, 2018.

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
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, 2019. **Holdings at December 31, 2018.

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:
101,200* (81,200**)

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, Marketing & 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, 2019. **Holdings at December 31, 2018.

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.

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 115–117 and 141–143.

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**)

Sameer Kalra
President, Marine Division.

Born: 1962

Employed by Alfa Laval since 2011.

Previously Head of the Pumping Systems and Offshore business units.

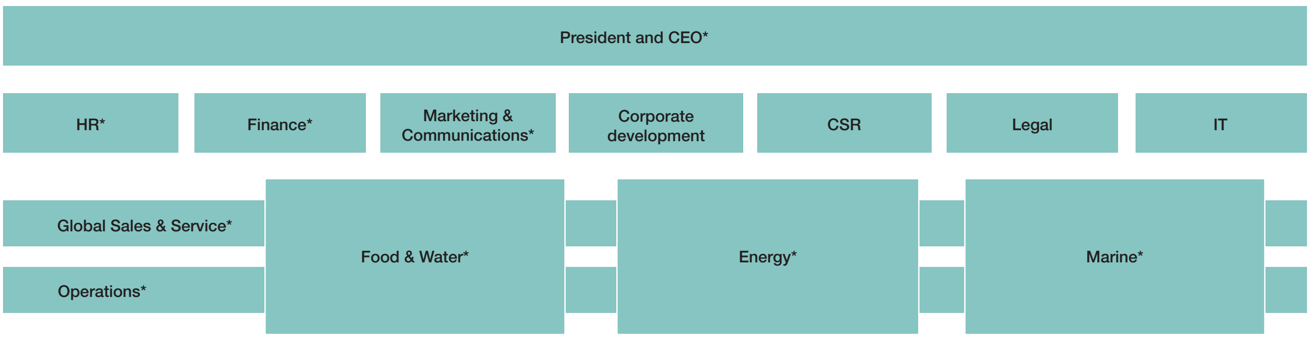
Education: Marine engineer and MBA.

Number of shares in Alfa Laval:
–

*Holdings at December 31, 2019. **Holdings at December 31, 2018.

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.



*Members of Group management

Group management meetings in 2019

Group management held eight scheduled meetings in 2019 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 2019, 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.

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 four 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 2019, 35 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 2020
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 2019 on pages 49–64 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 9 March 2020

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, 2019 to December 31, 2019.

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, 2020 at 10.00 CET and by sending the printed annual report to the shareholders starting in week 15, 2020.

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 reviewed by the auditors, is to be found on page 49.

The company's statutory sustainability report 2019 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 41,147 (34,180) shareholders on December 31, 2019. 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 5.6 to 0.5 percent. These ten largest shareholders owned 51.7 (47.1) 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 four Business Units: Boiler Systems, 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 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.

Divestment of businesses

On December 12, 2018 Alfa Laval announced that it had 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 transaction was closed on May 1, 2019. The divestment has resulted in a gain of SEK 260 million that is reported as a comparison distortion item. The operation was during the period December 12, 2018 to April 30, 2019 reported as a disposal group held for sale according to IFRS 5.

The last remaining Greenhouse operation shell-and-tube Sarasota, also known as Alfa Laval Champ, was sold to Thermal Solutions Manufacturing on December 31, 2019. The divestment has resulted in a loss of SEK -71 million that is reported as a comparison distortion item.

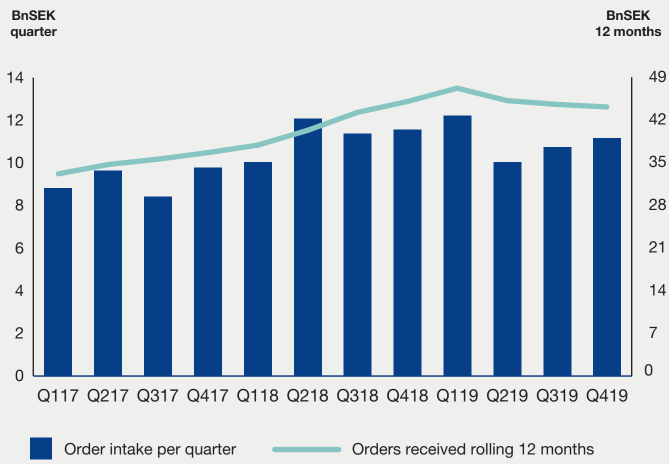
The sale of the Alonte based commercial tubular heat exchanger business in the Greenhouse division to the BITZER Group was closed on May 1, 2018. The sale of the heat exchanger systems business in the Greenhouse division to the NIBE Group was closed on May 31, 2018. The divestments resulted in a total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

Sale of real estate

During 2019 a few minor properties in different countries have been sold for SEK 0 (74) million with a realised result of SEK -4 (70) million, which has been reported in other operating costs/income. The gain on the sale of the property in Lima in 2018 of SEK 70 million was reported as a comparison distortion item.

A small property in France is empty and has been for sale for several years. It is not expected to be sold within the next year. This means that no properties have been re-classified as current assets held for sale. The fair value of the properties for sale exceeds the book value by approximately SEK 2 (2) million.

Orders received



Orders received amounted to SEK 44,119 (45,005) million during 2019.

Order bridge

Consolidated		
SEK millions/%	2019	2018
Order intake last year	45,005	36,628
Organic [1]	-3.6%	19.8%
Structural [1]	-2.1%	-0.6%
Currency	3.7%	3.7%
Total	-2.0%	22.9%
Order intake current year	44,119	45,005

[1] Change excluding currency effects

Orders received from the aftermarket Service constituted 29.1 (25.7) percent of the Group's total orders received for 2019.

Order bridge Service

Consolidated		
SEK millions/%	2019	2018
Order intake last year	11,568	10,923
Organic [1]	6.6%	3.6%
Structural [1]	-0.4%	-0.1%
Currency	4.7%	2.4%
Total	10.9%	5.9%
Order intake current year	12,824	11,568

[1] Change excluding currency effects

- Organic: change excluding acquisition/divestment of businesses.
- Structural: acquisition/divestment of businesses.
- Service: Parts and service.

Large orders

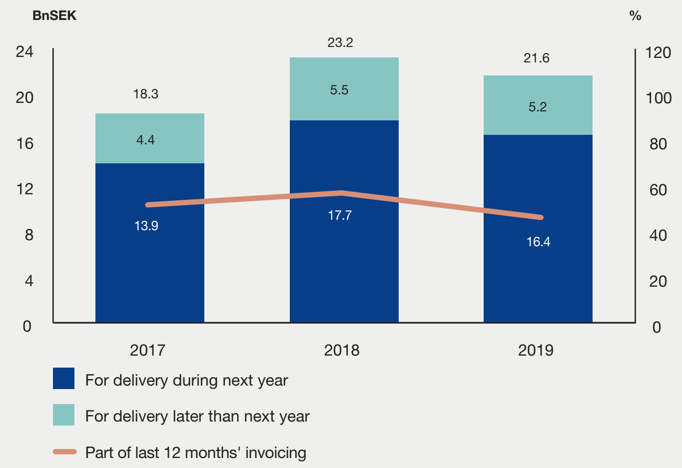
Large orders are orders with a value over EUR 5 million. The volume of large orders is an important indicator of the demand situation and is therefore monitored separately within Alfa Laval. A large volume of large orders normally also means a good load in the factories. During 2019 Alfa Laval has received the following large orders:

Large orders (>EUR 5 million)

Division / Business Unit / Scope of supply	Order received in	Delivery date	Order amount	Total per Business Unit 2019	Total per Business Unit 2018
			SEK millions		
Energy					
Welded Heat Exchangers					
Compact heat exchangers to a refinery and petrochemical plant in China.	Q1	2019/2020	75		
Air cooler systems to a gas processing plant in the U.S.	Q1	2019	110		
Compact heat exchangers to an oil company in Russia.	Q2	2020	70		
Compact heat exchangers to a refinery and petrochemical plant in China.	Q3	2020	100		
Air cooler systems to a gas processing plant in the U.S.	Q3	2020	110		
Large heat exchangers to a petrochemical plant in Russia.	Q4	2020	90		
Air cooled heat exchangers, to be installed in an oil and gas production facility in Kazakhstan.	Q4	2020	70		
Air cooled heat exchangers, to be installed in a refinery in the Middle East.	Q4	2020	60		
Air coolers and shell and tube heat exchangers, to be installed in a refinery in Russia.	Q4	2020	200		
Alfa Laval Packinox heat exchangers to a petrochemical plant in China.	Q4	2020	65	950	784
Gasketed Plate Heat Exchangers				–	21
Food & Water					
Decanters					
Decanters to a waste water treatment plant in the US.	Q1	2019	160		
Decanters to be installed in wastewater treatment plants in Italy.	Q4	2020	65	225	60
Food Systems					
Various equipment to a vegetable oil processing plant in Uzbekistan.	Q2	2020	60		
A process line for an edible oil plant in South East Asia.	Q3	2020	50		
Complete process lines to an edible oil processing plant in the Middle East.	Q4	2020	60	170	355
Marine					
Marine Separation & Heat Transfer Equipment				–	95
Boiler Systems					
Waste heat recovery systems to a power plant in West Africa.	Q4	2020	60		
Waste heat recovery systems to a power plant in El Salvador.	Q4	2020	95	155	70
Pumping Systems					
Framo cargo pumping systems for FPSO* vessels to be built in China.	Q3	2020	165	165	965
Total				**1,665**	**2,350**

* FPSO = Floating Production, Storage and Offloading.

Order Backlog December 31



Excluding currency effects and adjusted for acquisition and divestment of businesses the order backlog was 9.1 percent lower than the order backlog at the end of 2018.

Net sales

Net sales amounted to SEK 46,517 (40,666) million during 2019.

Sales bridge

Consolidated		
SEK millions/%	2019	2018
Net sales last year	40,666	35,314
Organic [1]	12.5%	12.4%
Structural [1]	-2.4%	-0.6%
Currency effects	4.3%	3.4%
Total	14.4%	15.2%
Net sales current year	46,517	40,666

[1] Change excluding currency effects.

Net invoicing relating to Service constituted 26.9 (28.2) percent of the Group's total net invoicing for 2019.

Sales bridge Service

Consolidated		
SEK millions/%	2019	2018
Net sales last year	11,493	10,773
Organic [1]	4.8%	4.2%
Structural [1]	-0.3%	-0.1%
Currency	4.6%	2.6%
Total	9.1%	6.7%
Net sales current year	12,544	11,493

[1] Change excluding currency effects.

Energy Division

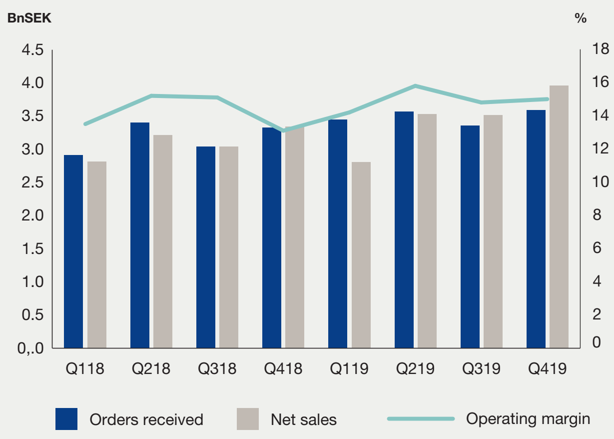
The division targets customers in oil and gas extraction, oil and gas processing and transport, refinery, petro-chemicals and power generation, but also construction related applications such as heating, ventilation and cooling and in the mining and metal industries and lighter industries. Focus is increased energy efficiency and sustainable solutions.

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

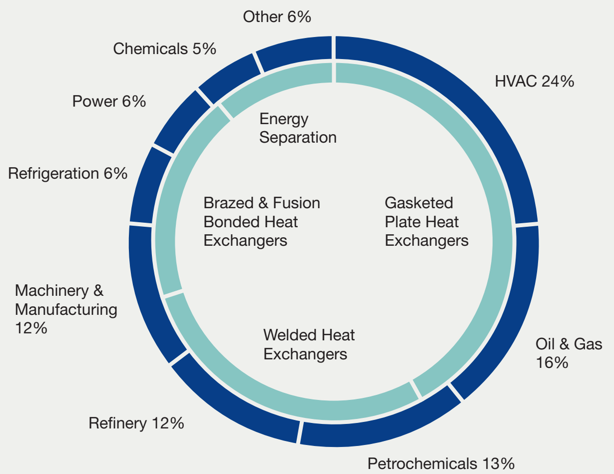
Energy Division		
Consolidated		
SEK millions	2019	2018
Orders received	13,963	12,685
Order backlog*	5,214	4,857
Net sales	13,814	12,413
Operating income**	2,069	1,770
Operating margin	15.0%	14.3%
Depreciation and amortisation	337	304
Investments	101	83
Assets*	11,300	10,362
Liabilities*	4,513	4,323
Number of employees*	3,015	3,112

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

Quarterly development



Order intake 2019 split per end market/business unit



Order intake

Order bridge		
Consolidated		
SEK millions/%	2019	2018
Order intake last year	12,685	11,175
Organic [1]	5.4%	10.5%
Structural [1]	0.1%	–
Currency effects	4.6%	3.0%
Total	10.1%	13.5%
Order intake current year	13,963	12,685

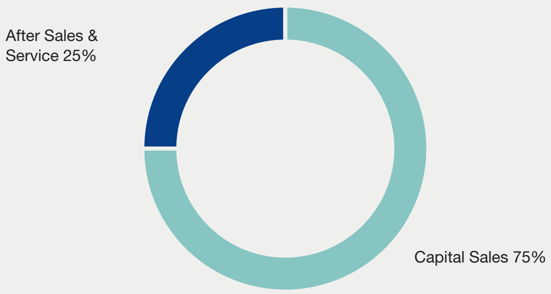
[1] Change excluding currency effects

The Energy Division's order volumes grew compared to last year.

General growth and upgrades in Asia and in Russia drove the order intake from refinery and petrochemical customers, which has resulted in several large orders. The order intake from the power industry has grown during 2019 from very low levels. Conversion to natural refrigerants and higher demand for energy efficient solutions grew the order intake from the HVAC (Heating, Ventilation & Air Conditioning) and refrigeration industries. The order intake from general manufacturing remained on high levels. Demand from customers in the semiconductor industry recovered in the fourth quarter after a couple of quarters with lower order intake as investments increased in 5G. Order intake from customers in oil & gas declined compared to last year, partly due to bottlenecks in infrastructure in the North American gas market but also because of lower drilling activity.

Service order intake increased compared to last year.

Order intake 2019 split on:



Net sales

Sales bridge		
Consolidated		
SEK millions/%	2019	2018
Net sales last year	12,413	11,001
Organic [1]	6.4%	9.7%
Structural [1]	0.1%	-
Currency effects	4.8%	3.1%
Total	11.3%	12.8%
Net sales current year	13,814	12,413

[1] Change excluding currency effects

Net invoicing was up versus last year, due to the good base business* order intake over a longer period and a high project order invoicing.

Operating income

Bridge		
Consolidated		
SEK millions	2019	2018
Operating income last year	1,770	1,525
Volume [1]	257	362
Mix [1]	160	-73
Costs [1]	-182	-44
Currency	64	0
Operating income current year	2,069	1,770

[1] Change excluding currency effects

The increase in net invoicing meant a positive volume effect. Despite a high share of project invoicing the mix was positive, driven by an improved capacity utilisation. Overhead cost was slightly higher reflecting inflation.Currency effects had a positive impact on the result.

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

Food & Water Division

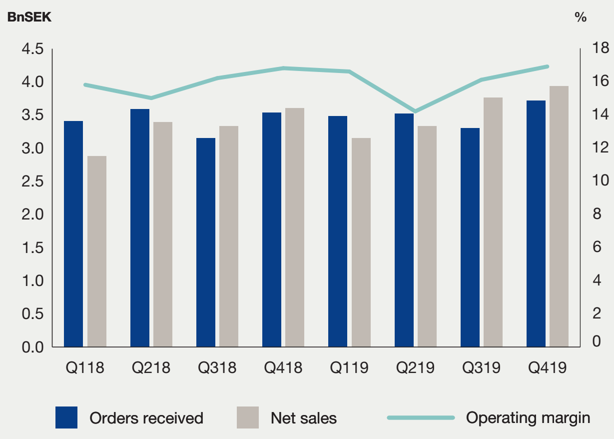
The division offers different types of products for heat transfer, separation and hygienic fluid handling and targets customers in food, pharmaceuticals, biotech, vegetable oils, brewery, dairy and body care products. In addition, the division focuses on public and industrial water treatment as well as wastewater and waste treatment.

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

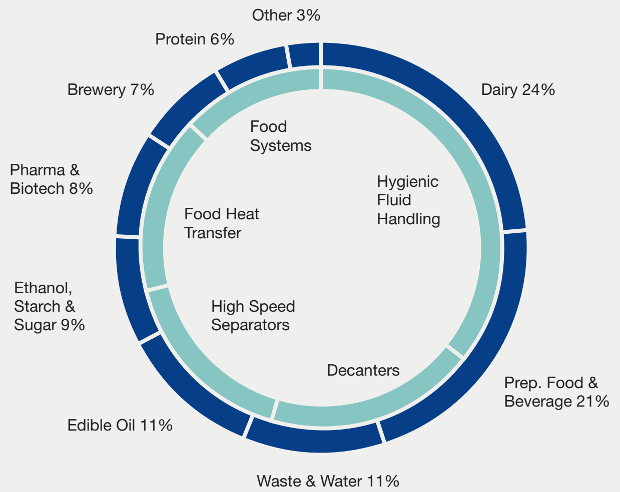
Food & Water Division		
Consolidated		
SEK millions	2019	2018
Orders received	14,026	13,691
Order backlog*	4,894	4,860
Net sales	14,189	13,210
Operating income**	2,268	2,110
Operating margin	16.0%	16.0%
Depreciation and amortisation	250	145
Investments	144	132
Assets*	10,627	9,675
Liabilities*	4,448	4,612
Number of employees*	4,405	4,194

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

Quarterly development



Order intake 2019 split per end market/business unit



Order intake

Order bridge		
Consolidated		
SEK millions/%	2019	2018
Order intake last year	13,691	12,388
Organic [1)]	-1.8%	7.9%
Structural [1)]	–	–
Currency effects	4.2%	2.6%
Total	2.4%	10.5%
Order intake current year	14,026	13,691

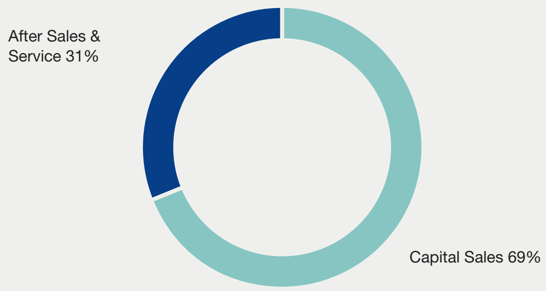
[1)] Change excluding currency effects

Excluding currency effects, the division's order intake declined slightly in 2019. Base business was unchanged compared to last year, while large orders were somewhat down. North America and Europe were slightly up, Asia was unchanged, although China showed good growth and Latin America contracted.

The order intake from the pharma and biotech market almost reached last year's level. The industry is benefitting from structural growth and demographic changes, combined with the manufacturing base moving east, seen in a good growth in Asia. Investments in the western world however contracted somewhat. The order intake from the waste & water sector grew strongly during the year, particularly in North America. The order intake from the edible oil industry also grew. Also, in this industry did structural growth contribute to the development, with increased capacity investments as a result. Order intake in dairy was slightly down. Activity level and sentiment however remained positive in the industry, which had a favourable influence on base business. The brewery sector came in lower, as a result of lack of large orders, but the base business however had a strong development, with new products and applications in focus. The demand in ethanol, starch & sugar showed a slight contraction compared to last year where predominantly the North America ethanol industry was impacted by the US /China trade conflict. Protein applications grew, with new offerings to a fast growing market opening up interesting opportunities in a food market welcoming new sources of protein. For the more wider application area prepared food and beverage, the order intake was marginally below last year.

Service demand was slightly up from last year's level. From an end-market perspective brewery, dairy, edible oil, prepared food & beverages and protein showed growth, whereas a contraction was noted in the waste & water sector as well as in the ethanol area.

Order intake 2019 split on:



Net sales

Sales bridge		
Consolidated		
SEK millions/%	2019	2018
Net sales last year	13,210	11,824
Organic [1)]	2.9%	9.0%
Structural [1)]	–	–
Currency effects	4.5%	2.7%
Total	7.4%	11.7%
Net sales current year	14,189	13,210

[1)] Change excluding currency effects

Net sales increased in 2019 compared to last year based on a successful execution of the high order backlog from previous year's strong order intake. Net sales for service increased even more after a strong last quarter 2019.

Operating income

Bridge		
Consolidated		
SEK millions	2019	2018
Operating income last year	2,110	1,780
Volume [1)]	134	371
Mix [1)]	3	66
Costs [1)]	-67	-141
Currency	88	34
Operating income current year	2,268	2,110

[1)] Change excluding currency effects

With an almost unchanged mix, the growth in net sales was fully reflected in increased operating income. The cost increase during the year was more than compensated by positive exchange effects.

Marine Division

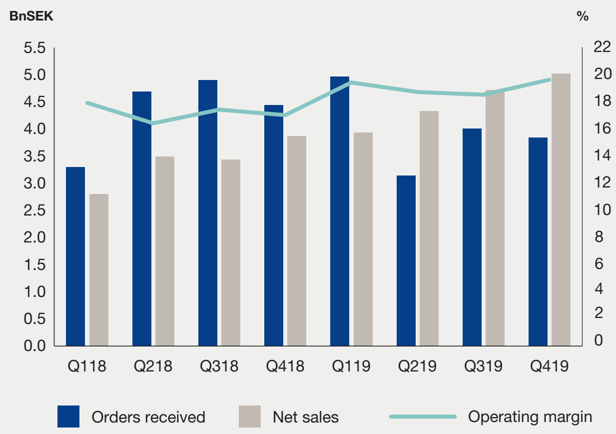
The division's customers include shipowners, shipyards, manufacturers of diesel and gas engines, as well as companies that work with offshore extraction of oil and gas. The offering includes pumping systems, boilers, heat transfer equipment, high speed separators and several different environmental products, including systems to clean ballast water and exhaust gases.

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

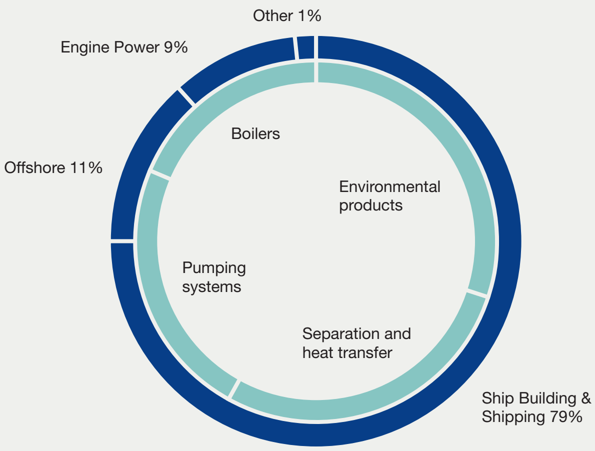
Marine Division		
Consolidated		
SEK millions	2019	2018
Orders received	15,953	17,322
Order backlog*	11,443	13,118
Net sales	17,993	13,583
Operating income**	3,425	2,328
Operating margin	19.0%	17.1%
Depreciation and amortisation	852	785
Investments	107	90
Assets*	26,694	24,244
Liabilities*	7,755	7,168
Number of employees*	3,393	3,098

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

Quarterly development



Order intake 2019 split per end market/business unit



Order intake

Order bridge

Consolidated		
SEK millions/%	2019	2018
Order intake last year	17,322	11,456
Organic [1)]	-10.7%	45.7%
Structural [1)]	–	–
Currency effects	2.8%	5.5%
Total	-7.9%	51.2%
Order intake current year	15,953	17,322

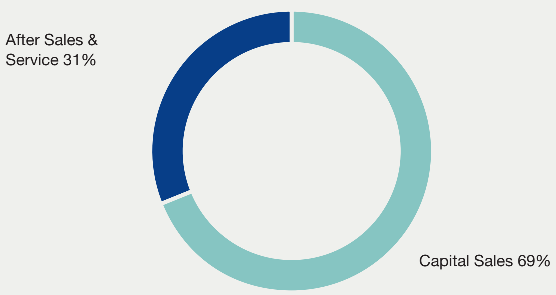
[1)] Change excluding currency effects

Order intake showed a significant decline compared to last year due to a lower demand for PureSOx and pumping systems.

Order intake for Alfa Laval PureSOx decreased significantly compared to last year. Uncertainties in the marine industry, mainly regarding the availability and price of new fuels coupled with the lack of short-term installation capacity at retrofit yards contributed to a generally lower demand for scrubber technologies. Demand for PureBallast was, on the other hand, somewhat higher than last year. General demand for equipment tied to the building of new vessels was on a lower level than last year with fewer vessels being contracted in the year, including in the principal vessel segments for Alfa Laval – tankers and containers. Boilers, gasketed heat exchangers and freshwater generators recorded higher demand whereas pumping systems and separators declined compared to last year. Offshore orders decreased compared to last year due to lack of large orders for pumping systems and boilers. The underlying market sentiment is still positive. Products going into the onshore engine power applications saw a lower demand than last year, but still on a high level.

Order intake for service had a very positive development, driven mainly by the upcoming IMO 2020 regulation and an increasing installed base of environmental products with significant growth compared to last year. This was reflected in solid demand across service scopes (spare parts, field service) as well as all product groups.

Order intake 2019 split on:



Net sales

Sales bridge

Consolidated		
SEK millions/%	2019	2018
Net sales last year	13,583	10,809
Organic [1)]	28.5%	21.4%
Structural [1)]	–	–
Currency effects	4.0%	4.3%
Total	32.5%	25.7%
Net sales current year	17,993	13,583

[1)] Change excluding currency effects

Net sales were substantially higher than last year driven by deliveries of ballast water systems, exhaust gas cleaning systems and pumping systems. In addition, the growth in service throughout the year resulted in higher service revenues.

Operating income

Bridge

Consolidated		
SEK millions	2019	2018
Operating income last year	2,328	1,771
Volume [1)]	1,273	783
Mix [1)]	110	-98
Costs [1)]	-344	-181
Currency	58	53
Operating income current year	3,425	2,328

[1)] Change excluding currency effects

The operating income increased substantially compared to last year. This was mainly driven by the increased invoicing and a positive mix effect from a favourable product mix in capital sales and increased service sales. The increase in cost was largely driven by the higher activity level within the marine environmental and service businesses and increased royalty payments for PureBallast.

Greenhouse Division

As per the end of 2019 all parts of the division have been divested.

Greenhouse Division		
Consolidated		
SEK millions	2019	2018
Orders received	105	1,259
Order backlog*	0	328
Net sales	444	1,418
Operating income**	-30	80
Operating margin	-6.8%	5.6%
Depreciation and amortisation	8	14
Investments	5	21
Assets*	39	680
Liabilities*	71	431
Number of employees*	33	502

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

Order intake, net sales and operating income

Order intake, net sales and operating income in the Greenhouse division were negatively affected in the fourth quarter by the divestment of the air heat exchanger business at the end of April, since the air heat exchangers made up the majority of Greenhouse.

Operations & Other

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

Operations & Other		
Consolidated		
SEK millions	2019	2018
Orders received	72	48
Order backlog*	0	5
Net sales	77	42
Operating income**	-742	-674
Depreciation and amortisation	606	416
Investments	980	1,164
Assets*	7,880	6,778
Liabilities*	3,307	2,853
Number of employees*	6,651	6,322

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

The order intake and net sales for Operations and Other is relating to contract manufacturing of shell and tube heat exchangers for BITZER after the sale of the business to BITZER.

The lower operating income during 2019 compared to last year is mainly explained by higher group-wide and project related costs.

Information about geographical areas

All comments are excluding currency effects.

Western Europe including Nordic

The order intake for the region was flat compared to last year. Excluding the divestment of Greenhouse, the growth was good driven by higher order intake in Energy and Marine and the service business. Spain and France grew strongly, whereas Adriatic did not repeat large PureSOx orders from last year.

Central and Eastern Europe

The growth was very good throughout the region driven primarily by Energy and Marine. Service showed good growth, while Food & Water had a more modest development. The development was strongest in Russia and Turkey, albeit good growth numbers were recorded throughout all countries of the region.

North America

The order intake for the region was unchanged compared to last year. Food & Water and Marine and also Energy in Canada had a strong year, but this could not fully compensate for the decrease in oil & gas in Energy in the U.S. The latter was due to bottlenecks in infrastructure in the North American gas market but also because of lower drilling activity. The order intake for service displayed good growth.

Latin America

The region showed a lower order intake than last year, when a large brewery order was booked in Food & Water. A weak demand in Marine and a generally unfavourable macro and political environment impacted the order intake negatively. The demand was however good within energy and especially in Brazil. There was also some growth in the important service business.

Asia

The region had a clear decrease in order intake in 2019, due to Marine and the lack of large PureSOx and pumping system orders. Both Energy and Food & Water however showed good growth. The order intake in China was flat, but with strong figures for Energy and Food & Water. Japan, India and South Korea were clearly down while Indonesia and Vietnam grew strongly. The order intake for service was strong.

Africa and Oceania

The order intake for 2019 was weak for Oceania and flat for Africa. Food & Water developed poorly whereas Marine grew especially well in Africa thanks to offshore. Energy saw good mining growth in Africa. Strong order intake in service.

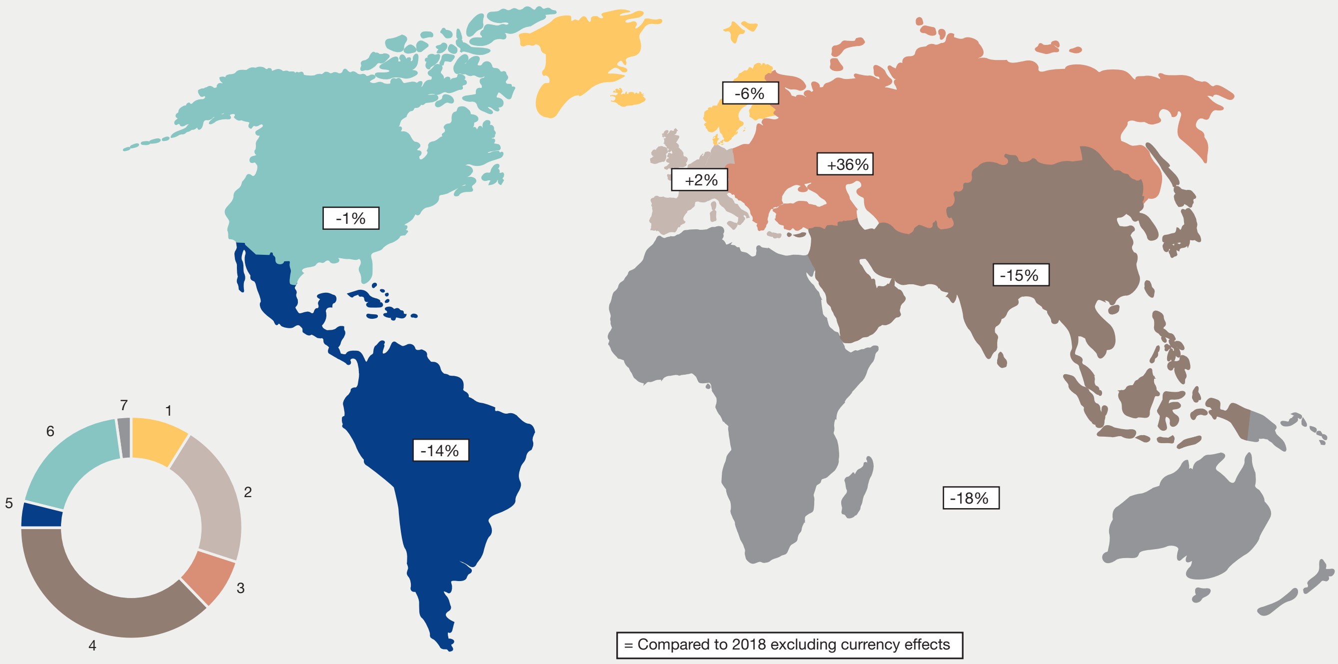
Personnel

The parent company does not have any employees.

The Group has on average had 17,387 (16,785) employees. At the end of December 2019, the Group had 17,497 (17,228) employees. The employee turnover rate for 2019 is 11.9 (10.8) percent and mainly relates to employees within central management & administration, production units and warehouse & logistical units.

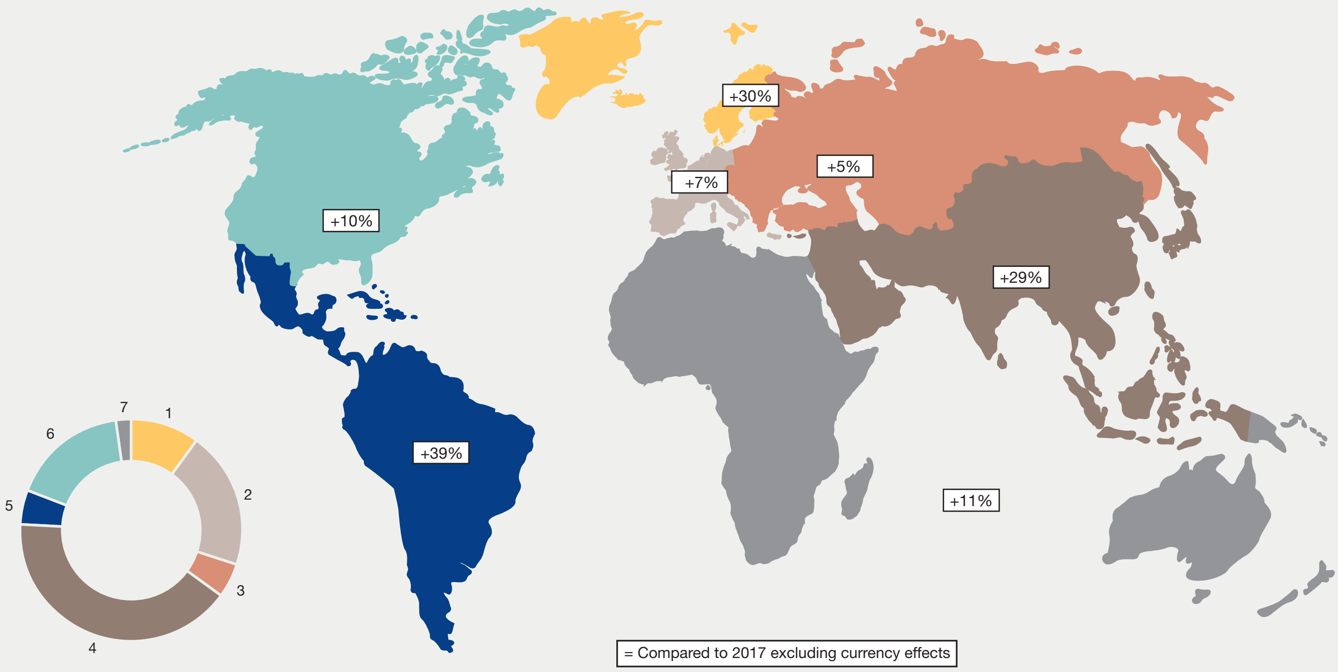
Alfa Laval has the ambition to develop the employees on all levels within the Group. The largest part of the competence development takes place in the daily work when our employees continuously get more demanding tasks as well as get the opportunity to participate in different projects together with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

Orders received 2019



1	Nordic	9%
2	Western Europe	21%
3	Central- & Eastern Europe	8%
4	Asia	37%
5	Latin America	4%
6	North America	19%
7	Africa & Oceania	2%

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%

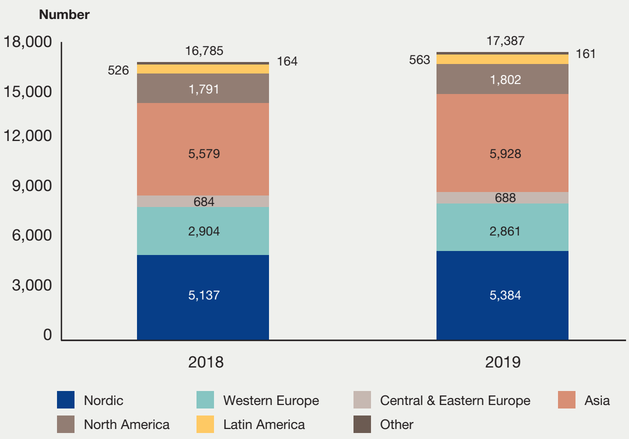
All training programmes and development projects are performed within the Alfa Laval Academy framework, to ensure they follow the Alfa Laval Learning Principles. Further examples of such training programmes are Challenger (for young talents with international leadership potential), Impact (for women 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.

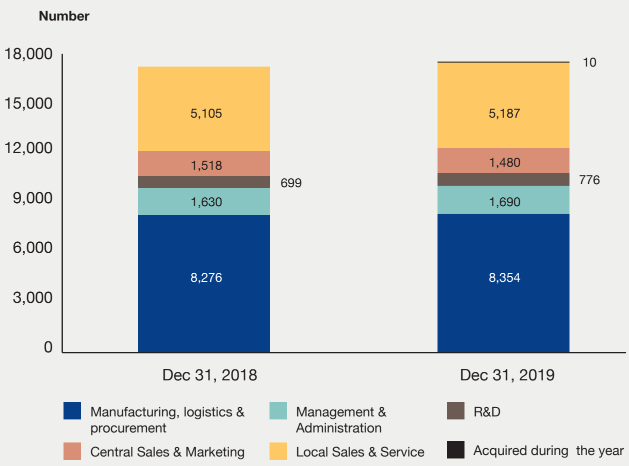
The distribution of the number of employees by region is:

Average number of employees – by region



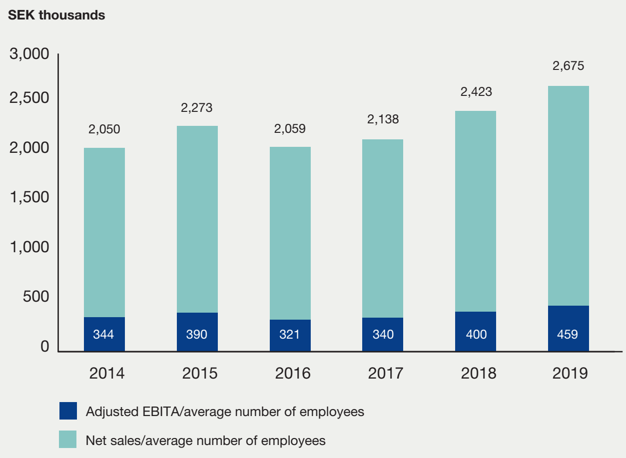
The distribution of the number of employees by personnel category at year end is:

Employees – by category



The productivity by employee has developed as follows:

Employees – Productivity development



The outcome for 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 and 2019 but reinforced by the stronger demand within primarily environmental products and the weakening of the Swedish krona.

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 and the complete guideline in Note 38.

The Annual General Meeting 2019 decided to implement step two of the 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 a 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 2020 to implement step three of the modified cash-based long-term incentive programme for the period January 1, 2020 – December 31, 2022 for maximum 95 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers.

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 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 1,086 (1,020) million, corresponding to 2.3 (2.5) percent of net sales. Excluding currency effects and acquisition/divestment of businesses, the costs for research and development have increased by 6.6 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 salespeople 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, 2019, named as a co-defendant in a total of 698 asbestos-related lawsuits with a total of approximately 698 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 for the full year 2019 was SEK 604 (647) million, out of which dividends from subsidiaries SEK 633 (668) million, net interests SEK 0 (-0) million, realised and unrealised exchange rate gains and losses SEK 1 (1) million, costs related to the listing SEK -4 (-4) million, fees to the Board SEK -8 (-9) million, cost for annual report and annual general meeting SEK -2 (-2) million and other operating income and operating costs the remaining SEK -16 (-7) million. Change of tax allocation reserve has been made with SEK -293 (-698) million. Group contributions amount to SEK 2,142 (2,810) million. Tax on this year's result amount to SEK -395 (-461) million. Net income for the year was SEK 2,058 (2,298) million.

Unrestricted equity for the parent company
The unrestricted equity of Alfa Laval AB (publ) was SEK 9,893 (9,932) million.

Proposed disposition of earnings
The Board of Directors propose a dividend of SEK 5.50 (5.00) per share corresponding to SEK 2,307 (2,097) million and that the remaining income available for distribution in Alfa Laval AB (publ) of SEK 7,586 (7,835) million be carried forward, see Note 40.

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 2019 report issued on February 4, 2020 the President and Chief Executive Officer Tom Erixon stated:

"We expect demand in the first quarter to be about the same as in the fourth quarter."

Earlier published outlook (October 24, 2019): "We expect demand in the fourth quarter to be somewhat higher than in the third quarter."

Date for the next financial reports during 2020
Alfa Laval will publish interim reports during 2020 at the following dates:

Interim report for the first quarter	April 23
Interim report for the second quarter	July 21
Interim report for the third quarter	October 22

Consolidated cash flows

Consolidated cash flows			
SEK millions	*Note*	2019	2018
Operating activities			
Operating income		7,198	5,831
Adjustment for depreciation, amortisation and write down		2,053	1,664
Adjustment for other non-cash items		141	-208
		9,392	7,287
Taxes paid		-1,901	-1,642
		7,491	5,645
Changes in working capital:			
Increase(-)/decrease(+) of receivables		-1,394	-1,026
Increase(-)/decrease(+) of inventories		-617	-895
Increase(+)/decrease(-) of liabilities		-84	1,399
Increase(+)/decrease(-) of provisions		-173	-240
Increase(-)/decrease(+) in working capital		**-2,268**	**-762**
		5,223	**4,883**
Investing activities			
Investments in fixed assets (Capex)		-1,337	-1,490
Divestment of fixed assets		7	120
Acquisition of businesses	*17*	-61	–
Divestment of businesses		364	77
		-1,027	**-1,293**
Financing activities			
Received interests and dividends		120	142
Paid interests		-281	-192
Realised financial exchange gains		239	182
Realised financial exchange losses		-499	-267
Dividends to owners of the parent		-2,097	-1,783
Dividends to non-controlling interests		0	0
Increase(-) of financial assets		-283	-116
Decrease(+) of financial assets		0	601
Increase of loans		3,155	726
Amortisation of loans		-3,299	-1,738
		-2,945	**-2,445**
Cash flow for the year		**1,251**	**1,145**
Cash and cash equivalents at the beginning of the year		4,295	3,137
Translation difference in cash and cash equivalents		48	13
Cash and cash equivalents at the end of the year	*26*	**5,594**	**4,295**
Free cash flow per share (SEK) *		10.00	8.56
Capex in relation to net sales		2.9%	3.7%
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 17 and 26.

Cash flows from operating activities
The increase in cash flows from operating activities in 2019 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 4,196 (3,590) million during 2019. Out of this, acquisitions of businesses were SEK -61 (-) million whereas divestments generated cash of SEK 364 (197) 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 2,268 (762) million during 2019.

Investments
Investments in property, plant and equipment amounted to SEK 1,337 (1,490) million during 2019.

A number of structural changes within the Footprint programme in the form of new or improved buildings including move of production for improved cost and availability have been completed during the year, among others in Qingdao and Kunshan in China, Krakow in Poland and in a few places in the U.S. 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 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
Continued capacity investments in machining equipment for separators have been made in Eskilstuna in Sweden and Pune in India.

Decanters
Capacity and productivity enhancing investments have been made in Pune in India.

Depreciations
Depreciation, excluding allocated step-up values, amounted to SEK 1,073 (626) million during the year. The increase is partly due to the higher investments, but above all to the fact that depreciation of right-of-use assets has increased with SEK 406 million due to the initial application of IFRS 16 Leases.

Acquisitions and disposals
For a further analysis of the impact on the cash flow by acquisitions and disposals, see Note 17.

Free cash flow per share
The free cash flow per share is SEK 10.00 (8.56).

Consolidated comprehensive income

Consolidated comprehensive income			
SEK millions	*Note*	2019	2018
Net sales	*1, 2, 3, 4, 37*	46,517	40,666
Cost of goods sold	*9*	-30,734	-26,930
Gross profit		15,783	13,736
Sales costs	*5, 6, 9*	-4,802	-4,539
Administration costs	*5, 6, 7, 9*	-2,092	-1,987
Research and development costs	*9*	-1,086	-1,020
Other operating income	*8*	1,174	906
Other operating costs	*8, 9*	-1,799	-1,280
Share of result in joint ventures	*34*	20	15
Operating income		7,198	5,831
Dividends and other financial income	*10*	32	27
Interest income and financial exchange rate gains	*11*	377	377
Interest expense and financial exchange rate losses	*11*	-386	-339
Result after financial items		7,221	5,896
Tax on this year's result	*16*	-1,676	-1,332
Other taxes	*16*	-37	-27
Net income for the year		**5,508**	**4,537**
Other comprehensive income:			
Items that will subsequently be reclassified to net income			
Cash flow hedges		307	-505
Market valuation of external shares		0	0
Translation difference		632	641
Deferred tax on other comprehensive income	*16*	-75	83
Sum		864	219
Items that will subsequently not be reclassified to net income			
Revaluations of defined benefit obligations		-138	200
Deferred tax on other comprehensive income	*16*	11	-60
Sum		-127	140
Comprehensive income for the year		**6,245**	**4,896**
Net income attributable to:			
Owners of the parent		5,486	4,519
Non-controlling interests		22	18
Earnings per share (SEK)		13.08	10.77
Average number of shares		419,456,315	419,456,315
Comprehensive income attributable to:			
Owners of the parent		6,220	4,876
Non-controlling interests		25	20

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 16 and Notes 34 and 37. 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	2019	2018
Net sales	46,517	40,666
Adjusted gross profit *	16,763	14,774
- adjusted gross margin (%) *	***36.0***	***36.3***
Expenses **	-7,701	-7,430
- in % of net sales	*16.6*	*18.3*
Adjusted EBITDA *	**9,062**	**7,344**
*- adjusted EBITDA margin (%) **	*19.5*	*18.1*
Depreciation	-1,073	-626
Adjusted EBITA *	**7,989**	**6,718**
- adjusted EBITA margin (%) *	***17.2***	***16.5***
Amortisation of step-up values	-980	-1,038
Comparison distortion items	189	151
Operating income	7,198	5,831

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

The gross profit has been affected positively by a higher sales volume.

Sales and administration expenses amounted to SEK 6,894 (6,526) million, which corresponded to 14.8 (16.0) percent of net sales. Excluding currency effects and acquisition/divestment of businesses, sales and administration expenses were 3.8 percent higher than last year.

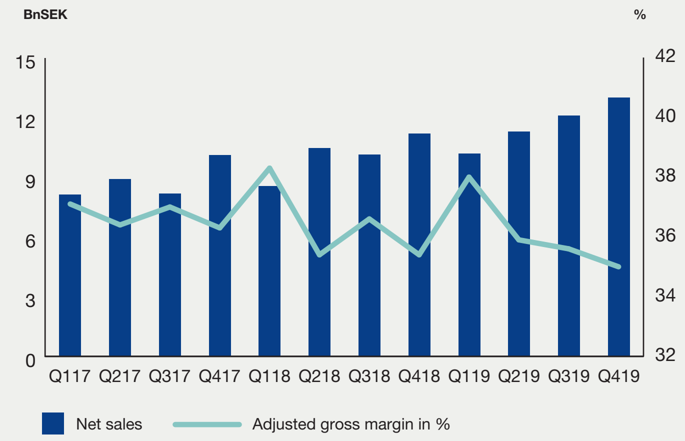
The costs for research and development have amounted to SEK 1,086 (1,020) million, corresponding to 2.3 (2.5) percent of net sales. Excluding currency effects and acquisition/divestment of businesses, the costs for research and development have increased by 6.6 percent compared to last year.

Earnings per share was SEK 13.08 (10.77) for 2019. The corresponding figure excluding amortisation of step-up values and the corresponding tax, was SEK 14.96 (12.69).

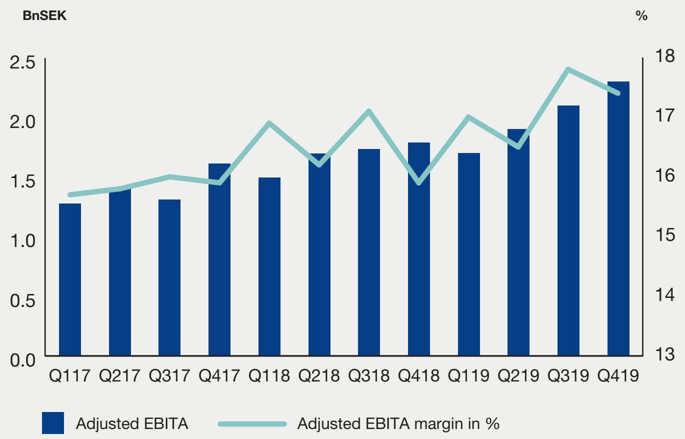
Compared with last year Alfa Laval has been affected during 2019 by exchange rate differences, both through translation differences and through the net exposure when trading in foreign currencies. The effect on adjusted EBITA has been calculated to totally about SEK 430 (-85) million for 2019 compared 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



Comparison distortion items		
Consolidated		
SEK millions	2019	2018
Other operating income		
Comparison distortion income	260	151
Other operating costs		
Comparison distortion costs	-71	–
Net comparison distortion items	189	151

The comparison distortion income in 2019 is relating to a realised gain at the divestments of part of the air heat exchanger business related to commercial/industrial air heat exchangers in the Greenhouse division to the LU-VE Group. The comparison distortion cost in 2019 is relating to a realised loss at the divestments of the last remaining Greenhouse operation shell-and-tube Sarasota, also known as Alfa Laval Champ, to Thermal Solutions Manufacturing.

The comparison distortion income during 2018 was relating to three items. The divestments of the Alonte based commercial tubular heat exchanger business and the heat exchanger systems business 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 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 for the full year 2019 was SEK -172 (-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 (-3) million, interest on the bilateral term loans of SEK -48 (-43) million, interest on the corporate bonds of SEK -86 (-82) million, interest on the commercial papers of SEK - (0) million and a net of dividends, changes in fair value and other interest income and interest costs of SEK -35 (74) million.

The net of realised and unrealised exchange rate differences was SEK 195 (119) million.

The tax on the result after financial items was SEK -1,713 (-1,359) million in 2019.

The tax cost for 2018 was 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.

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
2019	The USD was appreciated by 4.2 % and the EUR was appreciated by 2.1 %	632	-16	-288

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

Consolidated financial position

Consolidated financial position			
ASSETS			
SEK millions	*Note*	2019	2018
Non-current assets			
Intangible assets	*17, 18*		
Patents and unpatented know-how		1,104	1,367
Trademarks		1,954	2,474
Licenses, renting rights and similar rights		23	32
Internally generated intangible assets		53	–
Goodwill		21,112	20,537
		24,246	24,410
Property, plant and equipment	*17, 19*		
Real estate		2,948	2,583
Machinery and other technical installations		2,137	1,755
Equipment, tools and installations		670	633
Construction in progress and advances to suppliers concerning property, plant and equipment		505	634
Right-of-use assets		2,683	127
		8,943	5,732
Other non-current assets			
Other long-term securities	*13, 14, 20*	141	120
Pension assets	*27*	70	37
Derivative assets	*13, 14, 15*	69	46
Deferred tax assets	*16*	1,801	1,755
		2,081	1,958
Total non-current assets		**35,270**	**32,100**
Current assets			
Inventories	*21*	10,077	9,253
Assets related to disposal groups held for sale	*35*	–	526
Current receivables			
Accounts receivable	*13, 22, 37*	7,460	6,496
Current tax assets		459	927
Other receivables	*13, 23*	4,019	3,362
Prepaid costs and accrued income	*13, 24*	451	405
Derivative assets	*13, 14, 15*	193	91
		12,582	11,281
Current deposits			
Other current deposits	*13, 25*	873	617
Cash and cash equivalents	*13, 26*	5,594	4,295
Total current assets		**29,126**	**25,972**
TOTAL ASSETS		**64,396**	**58,072**

Consolidated financial position, continued

EQUITY AND LIABILITIES			
SEK millions	*Note*	2019	2018
Equity			
Attributable to owners of the parent			
Share capital		1,117	1,117
Other contributed capital		2,770	2,770
Other reserves		-1,558	-2,292
Retained earnings		25,271	21,882
		27,600	23,477
Attributable to non-controlling interests	*12*	147	122
Total equity		**27,747**	**23,599**
Non-current liabilities			
Liabilities to credit institutions etc	*13, 29*	10,600	8,540
Lease liabilities	*13, 36*	1,890	14
Provisions for pensions and similar commitments	*27*	2,321	2,118
Provision for deferred tax	*16*	1,662	1,945
Other provisions	*28*	639	665
Derivative liabilities	*13, 14, 15*	42	123
Total non-current liabilities		**17,154**	**13,405**
Current liabilities			
Liabilities related to disposal groups held for sale	*35*	–	351
Other current liabilities			
Liabilities to credit institutions etc	*13, 29*	1,422	3,323
Advances from customers		4,269	5,221
Accounts payable	*13*	3,311	2,972
Notes payable	*13*	128	164
Current tax liabilities		947	1,209
Lease liabilities	*13, 36*	730	20
Other liabilities	*13, 30*	4,219	3,052
Other provisions	*28*	1,863	1,929
Accrued costs and prepaid income	*13, 31*	2,298	2,387
Derivative liabilities	*13, 14, 15*	308	440
		19,495	20,717
Total current liabilities		**19,495**	**21,068**
Total liabilities		**36,649**	**34,473**
TOTAL EQUITY AND LIABILITIES		**64,396**	**58,072**

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 37. For comments on the operating segments, see Note 1.

Capital employed
The average capital employed including goodwill and step-up values amounted to SEK 35,550 (30,729) million during the year.

Return on capital employed
The return on average capital employed including goodwill and step-up values amounted to 23.0 (22.4) 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 (1.3) times for the year.

Return on equity
Net income in relation to the average equity was 21.3 (20.3) percent during the year.

Solidity
The solidity, that is the equity in relation to total assets, was 43.1 (40.6) percent at the end of the year.

Net debt
The net debt was SEK 8,175 (6,985) million at the end of the year. Lease liabilities have increased by SEK 2,766 million as per January 1, 2019 due to the initial application of IFRS 16 Leases, which affects the net debt at December 31, 2019. Excluding this effect, the net debt to EBITDA would instead have been 0.60 and the debt ratio 0.20.

Net debt to EBITDA
Net debt in relation to EBITDA was 0.88 (0.93) times at the end of December.

Debt ratio
The debt ratio, that is the net debt in relation to equity, was 0.29 (0.30) 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, 2017	**1,117**	**2,770**	**61**	**2**	**-1,316**	**-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**	**-333**	**2**	**-705**	**-1,256**	**21,882**	**23,477**	**15**	**107**	**122**	**23,599**
2019												
Comprehensive income												
Net income	–	–	–	–	–	–	5,486	5,486	–	22	22	5,508
Other comprehensive income	–	–	238	0	623	-127	–	734	3	–	3	737
Comprehensive income	–	–	238	0	623	-127	5,486	6,220	3	22	25	6,245
Transactions with shareholders												
Dividends to owners of the parent	–	–	–	–	–	–	-2,097	-2,097	–	–	–	-2,097
Dividends to non-controlling interests	–	–	–	–	–	–	–	–	–	0	0	0
As of December 31, 2019	**1,117**	**2,770**	**-95**	**2**	**-82**	**-1,383**	**25,271**	**27,600**	**18**	**129**	**147**	**27,747**

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, 2019 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

Parent company cash flows		
SEK millions	2019	2018
Cash flow from operating activities		
Operating income	-30	-22
Taxes paid	-461	-446
	-491	-468
Changes in working capital:		
Increase(-)/decrease(+) of receivables	-863	146
Increase(+)/decrease(-) of liabilities	8	-2
Increase(-)/decrease(+) in working capital	**-855**	**144**
	-1,346	**-324**
Cash flow from investing activities		
Investment in subsidiaries	–	–
	–	**–**
Cash flow from financing activities		
Received interests	0	0
Received dividends from subsidiaries	633	668
Paid dividends	-2,097	-1,783
Received group contribution	2,825	1,458
Paid group contribution	-15	-19
	1,346	**324**
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

Parent company income *			
SEK millions	*Note*	2019	2018
Administration costs		-14	-15
Other operating income		0	0
Other operating costs		-16	-7
Operating income		-30	-22
Dividends from subsidiaries		633	668
Interest income and similar result items	*11*	1	1
Interest expenses and similar result items	*11*	0	0
Result after financial items		604	647
Change of tax allocation reserve		-293	-698
Group contributions		2,142	2,810
Result before tax		2,453	2,759
Tax on this year's result		-395	-461
Net income for the year		**2,058**	**2,298**

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

Parent company financial position

Parent company financial position			
SEK millions	*Note*	2019	2018
ASSETS			
Non-current assets			
Financial non-current assets			
Shares in group companies	*20*	4,669	4,669
Current assets			
Current receivables			
Receivables on group companies		10,292	10,111
Other receivables		4	5
		10,296	10,116
Cash and cash equivalents		**–**	**–**
Total current assets		**10,296**	**10,116**
TOTAL ASSETS		**14,965**	**14,785**
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		7,835	7,634
Net income for the year		2,058	2,298
		9,893	9,932
Total equity		**12,280**	**12,319**
Untaxed reserves			
Tax allocation reserve, taxation 2014		–	320
Tax allocation reserve, taxation 2015		304	304
Tax allocation reserve, taxation 2016		68	68
Tax allocation reserve, taxation 2017		578	578
Tax allocation reserve, taxation 2018		391	391
Tax allocation reserve, taxation 2019		698	698
Tax allocation reserve, taxation 2020		613	–
		2,652	2,359
Current liabilities			
Liabilities to group companies		20	29
Accounts payable		1	–
Current tax liabilities		10	76
Other liabilities		2	2
		33	107
TOTAL EQUITY AND LIABILITIES		**14,965**	**14,785**

Changes in parent company equity

Changes in parent company equity				
SEK millions	Share capital	Statutory reserve	Unrestricted equity	Total
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**
2019				
Comprehensive income				
Net income	–	–	2,058	2,058
	–	–	2,058	2,058
Transactions with shareholders				
Dividends	–	–	-2,097	-2,097
As of December 31, 2019	**1,117**	**1,270**	**9,893**	**12,280**

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 2019 IFRS 16 has been implemented. 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 former 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, forklifts, 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 former should be done also going forward.

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.

Alfa Laval has applied the standard retrospectively with the cumulative effect of the initial application recognised as an adjustment to the opening balance of right-of-use assets and lease liabilities at January 1, 2019, where the right-of-use assets have been reported at the same amount as the related lease liabilities. 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.

Right-of use assets and lease liabilities increased by SEK 2,766 million as per January 1, 2019 due to the initial application of IFRS 16 Leases.

IFRS 16 means that the amount of disclosures concerning leases has increased.

During 2019 IFRIC 23 has been implemented. IFRIC 23 “Uncertainty over Income Tax Treatments” clarifies how to treat uncertain tax positions and meant no change in the company's treatment of this.

During 2018 IFRS 9, IFRS 15 and IFRIC 22 were implemented.

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

The standard meant that the company's business model and the characteristics of the asset influence the classification and measurement of financial assets. The standard meant 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 meant:
- 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 offered 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 chose 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 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 superseded mainly IAS 11 “Construction Contracts” and IAS 18 “Revenue”.

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

Alfa Laval 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 was also 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.

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.

Alternative Performance Measures
In the annual report, alternative performance measures are used. See page 150 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 21,112 (20,537) 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 2,502 (2,594) million is reported as other provisions. This constitutes 4.3 (4.5) 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; and
– classification of financial instruments.

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, 2019 of 148 (142) 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.

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 mainly related to accounts receivable. The disclosures just mentioned are therefore to be found in Note 22.

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 according to IFRS 16 ”Leases”, which covers the recognition, measurement, presentation and disclosure of leases by both lessors and lessees.

In connection with the transition a practical expedient has been applied that means that the new leasing definition is only applied on new lease contracts instead of on all leasing contracts.

Alfa Laval has decided to apply a practical expedient for leasing contracts where the contract period is maximum 12 months or the leased asset is of low value. With reference to the materiality rules in IAS 8.8, Alfa Laval has chosen to apply IFRS 16 for leases concerning buildings and land, company cars and other vehicles, forklifts, large servers and large printers. The present value for other leases is estimated to be non-material. The leasing fees for these leases are expensed as incurred.

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. Alfa Laval has chosen to exclude the service part from the lease accounting and it is instead expensed as before.

When Alfa Laval is the lessee, leased assets are accounted for as right-of-use 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. The right-of-use asset is depreciated according to plan in the same manner as for purchased assets.

For lessors a classification into operational and financial leases is made exactly as under IAS 17. 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.

IFRS 16 contains a number of disclosures requirements.

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
Right-of-use assets	depends on the lease term
Intangible:	
Patents and unpatented know-how	10–20 years
Trademarks	10–20 years
Licenses, renting rights and similar rights	10–20 years
Internally generated intangible assets	5 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, three of Alfa Laval’s operating segments, the three business divisions “Energy”, “Food & Water” and ”Marine” 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 five years, less projected investments and changes in operating capital during the same period and thereafter the perceived expected average industry growth rate. The used discount rate is the pre-tax weighted average cost of capital (WACC).

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 2019 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 not issued any new or revised accounting pronouncements, which may be applicable on Alfa Laval and are effective for fiscal years beginning on or after January 1, 2020.

International Accounting Standards Board (IASB) has not issued any 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, 2020.

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 2019 the managed capital was SEK 35,922 (30,584) 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	Goal	Target standard	Target not set	Outcome 2019	Outcome 2018	Average over last 3 years	Average over last 5 years	Average over last 8 years
Invoicing growth per year	≥5% *			14.4%	15.2%	10.2%	6.5%	7.8%
Adjusted EBITA margin **	15% *			17.2%	16.5%	16.5%	16.5%	16.5%
Return on capital employed **	≥20%			23.0%	22.4%	21.0%	20.0%	21.8%
Net debt to EBITDA **		≤2.0		0.88	0.93	1.04	1.30	1.28
Cash flow from operating activities including investments in fixed assets ***		10%		8.4%	8.3%	9.1%	10.5%	9.8%
Investments ***		2.0%		2.9%	3.7%	2.9%	2.4%	2.2%
Return on equity			X	21.3%	20.3%	18.5%	17.8%	18.4%
Solidity			X	43.1%	40.6%	40.9%	39.2%	39.3%
Debt ratio **			X	0.29	0.30	0.33	0.42	0.43
Interest coverage ratio **			X	32.8	39.3	33.5	29.5	26.4
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 and June 2019.
– A commercial paper programme of nominally SEK 2,000 million with a duration of 1–12 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 contract with the European Investment Bank from December 2013, where a bilateral term loan was called for in June 2014.

Financial risks

Financial risks are referring to financial instruments.

Financial instruments

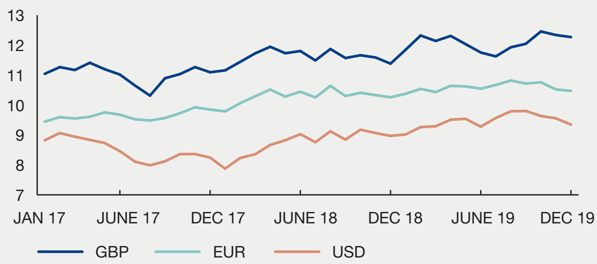
Alfa Laval has the following financial instruments: cash and cash equivalents, deposits, trade receivables, bank loans, trade payables and a limited number of derivative instruments to hedge primarily currency rates or interests, but also the price of metals and electricity. These include currency forward 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

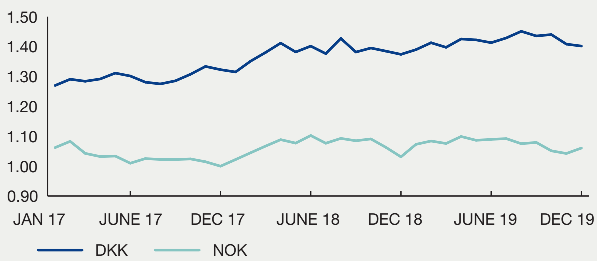
In order to control and limit the financial risks, the Board of the Group has established a financial policy. The Group has an aversive attitude toward financial risks. This is expressed in the policy. It establishes the distribution of responsibility between the local companies and the central finance function in Alfa Laval Treasury International, what financial risks the Group can accept and how the risks should be limited.

Risk	Explanation	Mitigation
Financial risks		
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):	

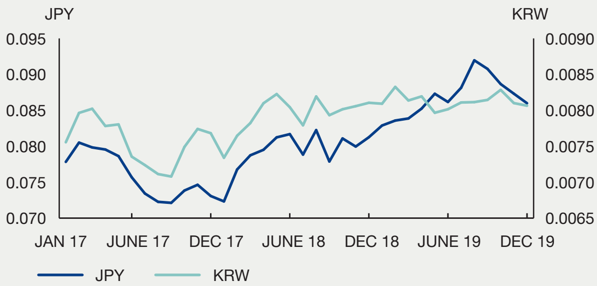
Exchange rate fluctuations – UK pounds, Euro, US dollars



Exchange rate fluctuations – Danish and Norwegian kronor



Exchange rate fluctuation – Japanese yen, Korean won



Risk	Explanation	Mitigation
	Currency risk is divided into transaction exposure and translation exposure.	

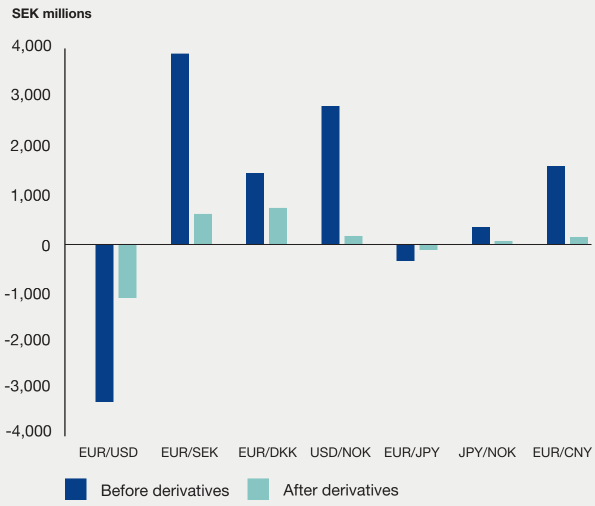
Transaction exposure

Transaction exposure relates to currency risks that arise due to exchange rate fluctuations that affects the currency flows that are generated by the business activities

During 2019 Alfa Laval's sales to countries outside Sweden amounted to 97.9 (97.7) percent of total sales.

The Group's net transaction exposure at December 31, 2019 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, 2019 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. 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.

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	2019		2018	
Exchange rate change against SEK	+ 10%	- 10%	+ 10%	- 10%
USD	567	-567	506	-506
EUR	276	-276	233	-233
CNY	141	-141	114	-114
NOK	-269	269	-294	294
DKK	-200	200	-190	190
JPY	41	-41	87	-87
Other	-54	54	-72	72
Total	**502**	**-502**	**384**	**-384**

Mitigation

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 above EUR 200,000 must be fully hedged. In addition, for companies with more than the equivalent of EUR 1,000,000 in annual net exposure the balance of projected flows the next 12 months must be hedged to at least 50 percent.

Projected flows 13–24 months ahead 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.

Risk	Explanation	Mitigation

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

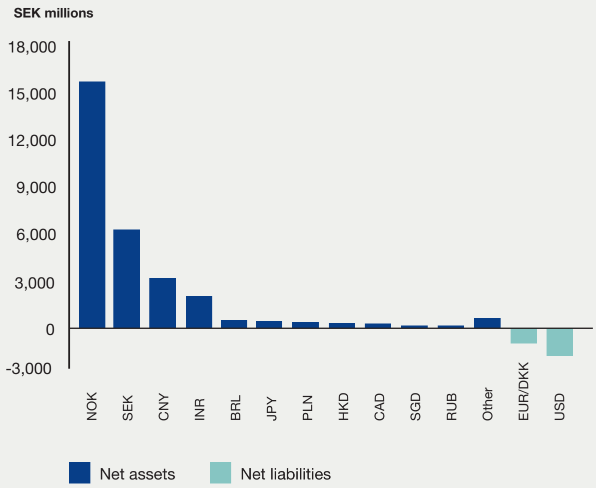
Consolidated				
Millions	2019		2018	
	Original currency	SEK	Original currency	SEK
Outflows:				
USD	-761	-7,116	-763	-6,840
EUR	-532	-5,569	-528	-5,419
CAD	-9	-67	-6	-37
JPY	-7,193	-619	-10,208	-829
RON	-1	-1	–	–
NZD	-3	-22	-4	-25
Total		**-13,394**		**-13,150**
Inflows:				
SEK	5,059	5,059	4,562	4,562
DKK	400	561	535	735
NOK	5,503	5,834	5,310	5,474
CNY	1,611	2,158	1,510	1,969
SGD	2	15	10	64
GBP	13	156	22	245
RON	–	–	2	3
AUD	10	67	10	62
RUB	316	48	743	96
Total		**13,898**		**13,210**

Translation exposure

Translation exposure relates to the currency risks that arise due to the translation of the subsidiaries' statements on financial position from local currency to SEK.

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:

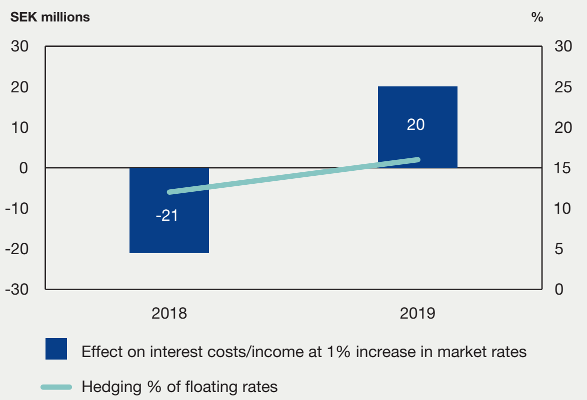
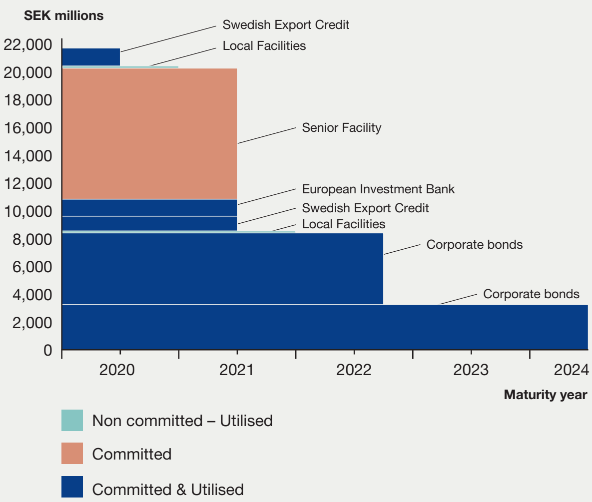
Net assets and liabilities by currency



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 -288 (-571) 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.

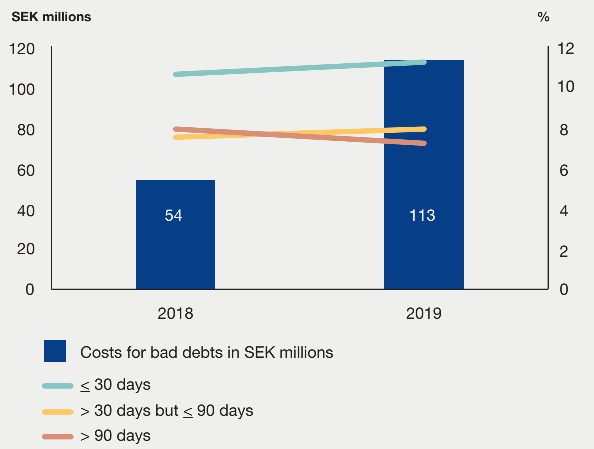
Risk	Explanation	Mitigation
Interest risk	By interest risk is meant how changes in the interest level affect the financial net of the Group and how the value of financial instruments vary due to changes in market interest rates. The average interest and currency duration for all loans including derivatives is 30.1 (22.2) months at the end of 2019. 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** 	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 6 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 and the bilateral term loans accrue interest at floating rate. The Group has chosen to hedge 16 (12) percent of the loans to fixed interest rate, with a duration of 3.0 (10.8) months. The duration is shorter than 6 months right now due to the upcoming maturity of loans.
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 733 (515) 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. In summary the maturity structure of the loans and the loan facilities is as follows: **Maturity structure of Group funding** 	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 9,270 million with a banking syndicate. At December 31, 2019 the facility was not utilised. The facility matures in June 2021. During 2014 Alfa Laval issued EUR 500 million of corporate bonds, corresponding to SEK 5,197 million. During 2019 Alfa Laval issued EUR 300 million of corporate bonds, corresponding to SEK 3,138. The bonds are listed on the Irish stock exchange and consist of one tranche of EUR 500 million that matures in September 2022 and one tranche of EUR 300 million that matures in June 2024. 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 2,318 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 1,203 million. The commercial paper programme of SEK 2,000 million was not utilised at December 31, 2019.

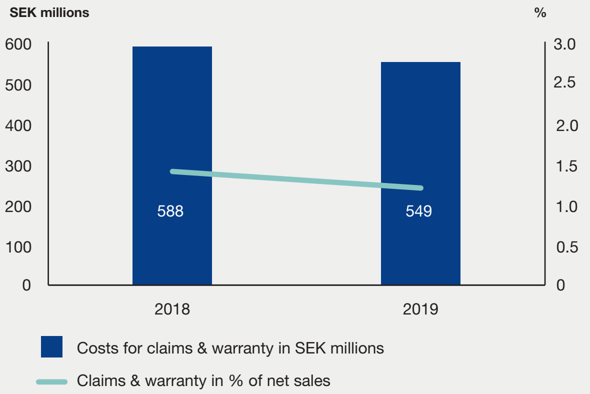
Risk	Explanation	Mitigation
Cash flow risk	Cash flow risk is defined as the risk that the size of future cash flows linked to financial instruments is fluctuating.	This risk is mostly linked to changed interest and currency rates. To the extent that this is perceived as a problem, different derivative instruments are used to fix rates. See description of exposure and hedging measures under interest and currency risks. Maturity analyses of the contractual undiscounted cash flows for loans (including interests) are shown in Note 29 and for currency derivatives, interest derivatives, metal futures and electricity futures in Note 15.
Counterpart risk	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 counterparty. Furthermore, the Group has entered into ISDA agreements (International Swaps and Derivatives Association) with the counterparts in order to be able to offset assets and liabilities in case of a counterparty default. Alfa Laval has never encountered a counterparty 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.

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 amount of accounts receivable being overdue is an indication of the risk the company runs for ending up in a bad debt situation. The Group's costs for bad debts and the overdues in percent of accounts receivable are presented in the following graph.	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. 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.

Costs for bad debts / overdues in % of accounts receivable



Risk	Explanation	Mitigation
Risk for claims	The risk for the costs Alfa Laval would incur to rectify faults in products or systems and possible costs for penalties. The Group's net claim costs and their relation to net sales are found in the following graph. **Claim costs in SEK millions and in % of net sales** 	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.
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: – organized the operations into divisions based on business units in order to get a customer focused market penetration; – a strategy for acquisition of businesses in order to for instance reinforce the presence on certain markets or widen the Group's product offering; – worked with creating a competitive cost level based on its international presence; and – 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.

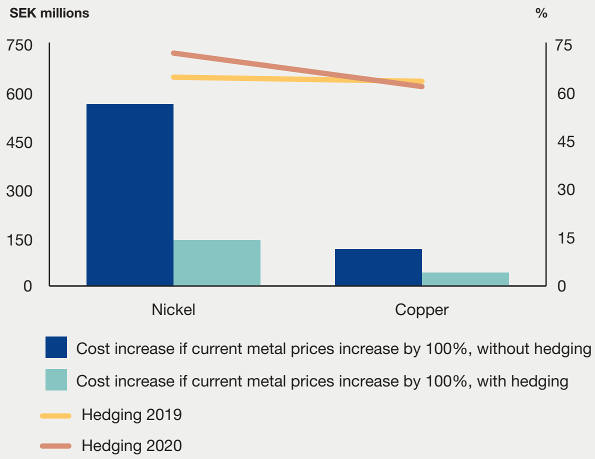
Risk	Explanation	Mitigation

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 below graph below shows how much of the purchases of nickel and copper that have been hedged during 2019 and how much of the expected purchases during 2020 that were hedged at the end of 2019. The graph also presents to what extent the Group's costs for these purchases during 2020 would be affected if the prices would double from the level at December 31, 2019.

Sensitivity analysis and metal price hedging



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.

Nickel

Copper

Aluminium

The Group uses metal futures to secure the price on strategic metals.

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 established a Conflict Minerals Policy in 2013. Due diligence is conducted in our supply chain to minimise 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 losing 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, 2019, named as a co-defendant in a total of 698 asbestos-related lawsuits with a total of approximately 698 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.
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.
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.

Risk	Explanation	Mitigation
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 countermeasures 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: – strikes and other labour market conflicts; – fires, natural catastrophes etc.; – computer access violations, lack of backups etc.; and – 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. 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. 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. 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 and Newburyport in the U.S. A number of other key production facilities are being evaluated and may eventually become HPR classified. An 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 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 four Business Units: Boiler Systems, 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	2019	2018
Energy	13,963	12,685
Food & Water	14,026	13,691
Marine	15,953	17,322
Greenhouse	105	1,259
Operations & Other	72	48
Total	**44,119**	**45,005**

Order backlog

Consolidated		
SEK millions	2019	2018
Energy	5,214	4,857
Food & Water	4,894	4,860
Marine	11,443	13,118
Greenhouse	0	328
Operations & Other	0	5
Total	**21,551**	**23,168**

Net sales

Consolidated		
SEK millions	2019	2018
Energy	13,814	12,413
Food & Water	14,189	13,210
Marine	17,993	13,583
Greenhouse	444	1,418
Operations & Other	77	42
Total	**46,517**	**40,666**

Operating income in management accounts

Consolidated		
SEK millions	2019	2018
Energy	2,069	1,770
Food & Water	2,268	2,110
Marine	3,425	2,328
Greenhouse	-30	80
Operations & Other	-742	-674
Total	6,990	5,614
Reconciliation with Group total:		
Comparison distortion items	189	151
Consolidation adjustments *	19	66
Total operating income	7,198	5,831
Financial net	23	65
Result after financial items	**7,221**	**5,896**

* 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	2019	2018	2019	2018
Energy	11,300	10,362	4,513	4,323
Food & Water	10,627	9,675	4,448	4,612
Marine	26,694	24,244	7,755	7,168
Greenhouse	39	680	71	431
Operations & Other	7,880	6,778	3,307	2,853
Subtotal	56,540	51,739	20,094	19,387
Corporate	7,856	6,333	16,555	15,086
Total	**64,396**	**58,072**	**36,649**	**34,473**

Corporate refers to items in the statement on financial position that are interest bearing or are related to taxes.

Investments

Consolidated		
SEK millions	2019	2018
Depreciation	101	83
Food & Water	144	132
Marine	107	90
Greenhouse	5	21
Operations & Other	980	1,164
Total	**1,337**	**1,490**

Depreciation

Consolidated		
SEK millions	2019	2018
Energy	337	304
Food & Water	250	145
Marine	852	785
Greenhouse	8	14
Operations & Other	606	416
Total	**2,053**	**1,664**

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

	2019		2018	
	SEK millions	%	SEK millions	%
To customers in:				
Sweden	981	2.1	924	2.3
Other EU	11,811	25.4	11,033	27.1
Other Europe	3,356	7.2	2,918	7.2
USA	7,390	15.9	6,394	15.7
Other North America	1,062	2.3	896	2.2
Latin America	2,060	4.4	1,835	4.5
Africa	490	1.1	450	1.1
China	6,582	14.1	5,263	12.9
South Korea	4,210	9.1	3,041	7.5
Other Asia	8,112	17.4	7,346	18.1
Oceania	463	1.0	566	1.4
Total	**46,517**	**100.0**	**40,666**	**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

	2019		2018	
	SEK millions	%	SEK millions	%
Sweden	2,207	6.3	1,447	4.5
Denmark	5,044	14.3	4,728	14.7
Other EU	4,209	11.9	3,802	11.8
Norway	12,847	36.4	12,376	38.6
Other Europe	137	0.4	126	0.4
USA	4,468	12.7	3,964	12.3
Other North America	150	0.4	129	0.4
Latin America	313	0.9	259	0.8
Africa	12	0.0	7	0.0
Asia	3,741	10.6	3,262	10.2
Oceania	130	0.4	88	0.3
Subtotal	33,258	94.3	30,188	94.0
Other long-term securities	141	0.4	120	0.4
Pension assets	70	0.2	37	0.1
Deferred tax asset	1,801	5.1	1,755	5.5
Total	**35,270**	**100.0**	**32,100**	**100.0**

Investments

Consolidated

	2019		2018	
	SEK millions	%	SEK millions	%
Sweden	228	17.1	219	14.7
Poland	31	2.3	169	11.3
Other EU	316	23.7	281	18.9
Other Europe	67	5.0	42	2.8
USA	242	18.1	219	14.7
Other North America	3	0.2	4	0.3
Latin America	20	1.5	10	0.7
Africa	1	0.1	0	0.0
China	324	24.2	472	31.7
Other Asia	100	7.5	70	4.7
Oceania	5	0.3	4	0.2
Total	**1,337**	**100.0**	**1,490**	**100.0**

Note 3. Information about products and services

Net sales by product/service

Consolidated

SEK millions	2019	2018
Own products within:		
Separation	7,677	7,183
Heat transfer	18,694	17,932
Fluid handling	10,361	9,511
Marine environmental	5,802	2,501
Other	78	14
Associated products	1,569	1,605
Services	2,336	1,920
Total	**46,517**	**40,666**

The split of own products within separation, heat transfer and fluid handling is a reflection of the current three main technologies. Marine environmental is a growing new product area basically outside the main technologies. Other is own products outside these four product areas. 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 5.4 (5.2) percent of net sales. See Note 33 for more information.

Note 5. Employees

Average number of employees - total

Consolidated

	Number of female employees		Total number of employees	
	2019	2018	2019	2018
Parent company	–	–	–	–
Subsidiaries in Sweden (8)	579	541	2,385	2,196
Total in Sweden (8)	579	541	2,385	2,196
Total abroad (127)	2,958	2,901	15,002	14,589
Total (135)	**3,537**	**3,442**	**17,387**	**16,785**

The figures in brackets in the text column state how many companies had employees as well as salaries and remunerations in 2019.

Average number of employees – in Sweden by municipality

Consolidated

	2019	2018
Botkyrka	546	488
Eskilstuna	231	210
Lund	1,172	1,104
Ronneby	281	246
Vänersborg	100	103
Other *	55	45
Total	**2,385**	**2,196**

* "Other" refers to municipalities with less than 10 employees and also includes employees at branch offices abroad.

Average number of employees – by country/district

Consolidated

	Number of female employees		Total number of employees	
	2019	2018	2019	2018
Argentina	12	12	38	35
Australia	20	18	101	104
Belgium	2	1	24	24
Brazil	56	53	374	354
Bulgaria	1	3	5	9
Chile	6	7	29	28
Colombia	16	14	33	27
Denmark	430	417	1,778	1,697
Philippines	6	6	18	16
Finland	34	43	160	225
France	166	156	816	815
United Arab Emirates	22	24	105	107
Greece	8	8	24	22
Hong Kong	3	4	13	12
India	71	69	1,301	1,337
Indonesia	18	19	82	81
Iran	0	1	5	9
Italy	176	191	831	947
Japan	58	55	241	241
Canada	20	21	95	91
China	693	642	3,343	3,013
Korea	53	52	309	296
Latvia	6	6	9	10
Malaysia	42	38	119	112
Mexico	11	8	49	41
Netherlands	90	80	449	388
Norway	193	186	1,061	1,019
New Zeeland	2	2	17	18
Panama	8	7	18	17
Peru	5	6	22	24
Poland	53	50	306	268
Portugal	4	4	9	9
Qatar	–	–	9	6
Romania	2	2	9	10
Russia	99	118	231	256
Saudi Arabia	–	–	37	34
Switzerland	3	3	12	14
Singapore	63	57	230	218
Slovakia	1	1	7	8
Slovenia	3	5	15	15
Spain	25	24	102	97
UK	45	46	306	305
Sweden	579	541	2,385	2,196
South Africa	12	11	43	42
Taiwan	16	15	42	38
Thailand	18	18	56	55
Czech Republic	6	8	29	35
Turkey	11	10	52	47
Germany	62	62	271	266
Ukraine	5	5	13	13
Hungary	3	3	12	13
USA	292	306	1,707	1,700
Vietnam	4	1	18	4
Austria	3	3	17	17
Total	**3,537**	**3,442**	**17,387**	**16,785**

Gender distribution

Consolidated

	2019			2018		
	Total number	Male %	Female %	Total number	Male %	Female %
Board members (excluding deputies)	11	63.6	36.4	10	70.0	30.0
President and other executive officers	9	77.8	22.2	9	77.8	22.2
Managers in Sweden	289	76.1	23.9	264	76.9	23.1
Managers outside Sweden	2,272	82.7	17.3	1,779	79.9	20.1
Managers total	2,561	82.0	18.0	2,043	79.5	20.5
Employees in Sweden	2,385	75.7	24.3	2,196	75.4	24.6
Employees outside Sweden	15,002	80.3	19.7	14,589	80.1	19.9
Employees total	17,387	79.7	20.3	16,785	79.5	20.5

Note 6. Salaries and remunerations

Salaries and remunerations – total

Consolidated

SEK millions	2019	2018
Board of Directors, Presidents and Vice Presidents	281	260
- out of which, variable	69	49
Other	8,618	8,004
Total salaries and remunerations	8,899	8,264
Social security costs	1,470	1,366
Pension costs, defined benefit plans	109	143
Pension costs, defined contribution plans	606	593
Total personnel costs	**11,084**	**10,366**

The Group's pension costs and pension liabilities relating to the Board of Directors, presidents and vice presidents amounts to SEK 31 (32) million and SEK 286 (267) million respectively. SEK 87 (93) million of the pension liabilities is covered by the Alfa Laval Pension Fund.

Equity compensation benefits

During the period 2018 to 2019 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 2019 decided to implement step two of the 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 Annual General Meeting 2018 decided to implement step one of the programme for the same target group. 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 2016 to 2017 decided to implement step six 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 2019 step seven, eight and nine 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 long-term incentive in percent of base salary	
Maximum variable remuneration per year in percent of base salary	Per annum per step	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 2019 (six) or are running (seven). In the table the EPS outcome for each year is also presented.

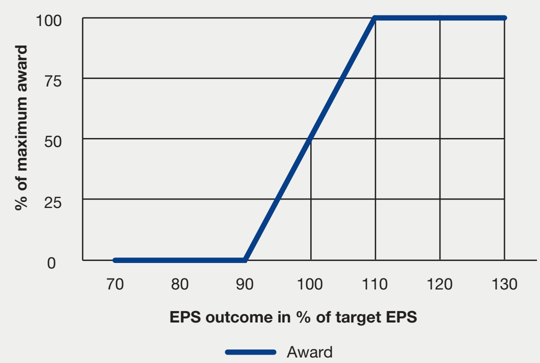
Earnings per share

Consolidated

	Target and outcome			
SEK	2019	2018	2017	2016
Target EPS for step:				
Six	N/A	9.42	8.64	7.85
Seven	7.50	6.88	6.25	N/A
EPS-utfall	**13.08**	**10.77**	**7.09**	**8.43***

* 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 pay-out 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 pay-out. 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.

Based on the reported EPS during the period 2016 to 2019, 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	2019	2018	2017	2016	To date		Paid	Estimated
Six	2016	2016	2018	2019	N/A	100.00%	0.00%	86.94%	62.31%	7.48%	17	N/A
Seven	2017	2017	2019	2020	100.00%	100.00%	100.00%	N/A	100.00%	12.00%	N/A	29
Awards per year					10	18	10	8	Total		17	29

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 guidelines for remunerations to executive officers are established by the Annual General Meeting. The complete guideline is found in Note 38.

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 2016 to 2017 decided to implement step six 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 to 2019 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 a 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 2020 to implement step three of the modified cash-based long-term incentive programme for the period January 1, 2020 – December 31, 2022 for maximum 95 senior managers in the Group including the Chief Executive Officer and the persons defined as executive officers.

Salaries and remunerations to Group Management

Consolidated	Group Management			
	Chief Executive Officer/ President Tom Erixon		Other executive officers	
SEK thousands	2019	2018	2019	2018
Salary and remunerations				
Base salary	11,250	10,500	29,126	28,884
Variable salary [1]	6,300	5,522	9,407	8,737
Cash-based long-term incentive programme [1]	2,944	1,343	5,027	2,626
Other benefits [2]	374	310	4,228	3,234
Total salary and remuneration	20,868	17,675	47,788	43,481
Pension costs				
Retirement and survivors' pension	5,649	5,274	13,114	15,643
Life, disability and health care insurance	75	72	393	331
Total pension costs	5,724	5,346	13,507	15,974
Sum including pensions	**26,592**	**23,021**	**61,295**	**59,455**
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]	1,688	3,197	1,933	3,849
Vested unpaid awards at December 31 (SEK thousand)	5,063	6,189	5,799	8,087
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, housing benefit, 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 2019 one of the other executive officers in Group Management has retired i.e. Peter Leifland as of May 1, 2019. His costs for 2019 are included in the above table. During 2018 two of the other executive officers in Group Management retired or left the company, Thomas Thuresson as per March 1, 2018 and Peter Balliere as per February 1, 2018. Their costs for 2018 are included in the above table.

Board of Directors
For 2019, the Board of Directors receive a total fixed remuneration of SEK 6,445 (5,610) 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		2019	2018
Fees by function:			
Chairman of the Board		1,750	1,675
Other members of the Board		585	560
Supplement to:			
Chairman of the Audit Committee		200	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	1,800	1,725
Henrik Lange	Member	710	685
Heléne Mellquist	Member	710	–
Maria Moræus Hanssen	Member	585	–
Anna Ohlsson-Leijon	Member	785	685
Finn Rausing	Member	585	735
Jörn Rausing	Member	635	610
Ulf Wiinberg	Member	635	610
Margareth Øvrum	Member	–	560
Total		**6,445**	**5,610**

* Elected at the Annual General Meeting and not employed by the company.

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:

	2019	2018
Audit Committee:		
Chairman	Anna Ohlsson-Leijon	Finn Rausing
Other member	Henrik Lange	Anna Ohlsson-Leijon
Other member	Heléne Mellquist	Henrik Lange
Remuneration committee:		
Chairman	Anders Narvinger	Anders Narvinger
Other member	Ulf Wiinberg	Ulf Wiinberg
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 Meetings 2018 and 2019 decided to elect EY as the Group's auditors for the coming year.

Fees and expense compensation

Consolidated		
SEK millions	2019	2018
Audit engagements		
Group auditors	39	34
Other audit firms	0	1
Total	**39**	**35**
Audit related services		
Group auditors	1	1
Other audit firms	1	1
Total	**2**	**2**
Tax services		
Group auditors	8	5
Other audit firms	13	7
Total	**21**	**12**
Other services		
Group auditors	2	2
Other audit firms	17	10
Total	**19**	**12**
Expenses		
Group auditors	1	2
Other audit firms	0	0
Total	**1**	**2**
Total		
Group auditors	51	44
Other audit firms	31	19
Total	**82**	**63**

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

Comparison distortion items

Consolidated		
SEK millions	2019	2018
Other operating income		
Comparison distortion income	260	151
Other operating costs		
Comparison distortion costs	-71	–
Net comparison distortion items	189	151

The comparison distortion income in 2019 is relating to a realised gain at the divestments of part of the air heat exchanger business related to commercial/industrial air heat exchangers in the Greenhouse division to the LU-VE Group. The comparison distortion cost in 2019 is relating to a realised loss at the divestments of the last remaining Greenhouse operation shell-and-tube Sarasota, also known as Alfa Laval Champ, to Thermal Solutions Manufacturing.

The comparison distortion income during 2018 was relating to three items. The divestments of the Alonte based commercial tubular heat exchanger business and the heat exchanger systems business 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 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	2019	2018
Cost of goods sold	-1,556	-1,433
Sales	-150	-40
Administration	-221	-102
Research and development	-9	-7
Other income and costs	-117	-82
Total	**-2,053**	**-1,664**

Split by type of asset		
Consolidated		
SEK millions	2019	2018
Intangible assets		
Patents and unpatented know-how	-373	-381
Trademarks	-580	-631
Licenses, renting rights and similar rights	-4	-11
Internally generated intangible assets	-1	–
	-958	-1,023
Tangible assets		
Purchased assets		
Buildings and ground installations	-192	-176
Machinery	-339	-325
Equipment	-147	-129
	-678	-630
Leased assets		
Right-of-use assets real estate	-328	-8
Rigth-of-use asset machinery	-21	-3
Rigth-of-use asset equipment	-68	0
	-417	**-11**
Sum tangible assets	-1,095	-641
Total	**-2,053**	**-1,664**

Note 10. Dividends and other financial income

Split by type		
Consolidated		
SEK millions	2019	2018
Dividends from other	0	0
Gain on sale of marketable securities	7	49
Fair value changes in marketable securities	25	-22
Total	**32**	**27**

Note 11. Interest income/expense and financial exchange rate gains/losses

Split on type of income/expense or gain/loss		
Consolidated		
SEK millions	2019	2018
Interest income		
Leasing	0	0
Other interest	88	116
Exchange rate gains		
Unrealised	50	79
Realised	239	182
Total	**377**	**377**
Interest expenses		
Leasing	-71	-1
Other interest	-221	-196
Exchange rate losses		
Unrealised	-24	-50
Realised	-70	-92
Total	**-386**	**-339**

In the Group, reported net exchange differences of SEK -288 (-571) 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 -226 (-449) million.

Split on type of income/expense or gain/loss		
Parent company		
SEK millions	2019	2018
Interest income		
External companies	–	0
Exchange rate gains		
Unrealised	1	1
Total	**1**	**1**
Interest costs		
External companies	0	–
Exchange rate losses		
Unrealised	0	0
Total	**0**	**0**

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 tonon-controlling interest			
				Net income		Equity	
Company name	Country of domicile	2019	2018	2019	2018	2019	2018
Alfa Laval Aalborg Indústria e Comércio Ltda	Brazil	0.5	0.5	0	0	0	1
Liyang Sifang Stainless Steel Products Co., Ltd.	China	35	35	22	19	144	119
Aalborg Industries Water Treatment Pte. Ltd.,	Singapore	40	40	0	0	0	0
Ziepack SA	France	49	49	0	-1	3	2
AO Alfa Laval Potok	Russia	0.0007	0.0007	0	0	0	0
Total				**22**	**18**	**147**	**122**

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		2019	2018	2019	2018	2019	2018
Non-current assets							
Other non-current assets							
Other long-term securities	1 and 2	78	76	–	–	–	–
Derivative assets	2	7	7	62	39	–	–
Current assets							
Current receivables							
Accounts receivable	*	–	–	–	–	7,460	6,496
Notes receivable	*	–	–	–	–	218	242
Other receivables	*	–	–	–	–	3,801	3,120
Accrued income	*	–	–	–	–	118	96
Derivative assets	2	47	42	146	49	–	–
Current deposits							
Deposits with banks	*	–	–	–	–	205	163
Bonds and other securities	1	650	435	–	–	–	–
Debt instruments	*	–	–	–	–	4	4
Other deposits	*	–	–	–	–	14	15
Cash and cash equivalents	*	–	–	–	–	5,594	4,295
Total financial assets		**782**	**560**	**208**	**88**	**17,414**	**14,431**

* 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		2019	2018	2019	2018	2019	2018
Non-current liabilities							
Liabilities to credit institutions etc	*	–	–	–	–	10,600	8,540
Lease liabilities	*	–	–	–	–	1,890	14
Derivative liabilities	2	6	1	36	122	–	–
Current liabilities							
Liabilities to credit institutions etc	*	–	–	–	–	1,422	3,323
Accounts payable	*	–	–	–	–	3,311	2,972
Notes payable	*	–	–	–	–	128	164
Lease liabilities	*	–	–	–	–	730	20
Other liabilities	*	–	–	–	–	4,219	3,052
Accrued costs	*	–	–	–	–	2,160	2,106
Derivative liabilities	2	15	47	293	393	–	–
Total financial liabilities		**21**	**48**	**329**	**515**	**24,460**	**20,191**

* 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 102–111.

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 34 (16) million has affected exchange gains with SEK 34 (-) million and cost of goods sold with SEK - (16) 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 -2 (-13) million has affected cost of goods sold with SEK -2 (-) million and exchange losses in Note 11 with SEK - (-13) 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 comprehensive 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 (0) 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 25 (-22) million, see Note 10.

The net of derivative assets and derivative liabilities in the consolidated financial position is a net liability of SEK -88 (-426) million, which are specified below:

Fair value of derivatives

Consolidated

			Difference between contracted rate and current rate	
SEK millions	Currency pairs		2019	2018
Derivative assets/liabilities				
Foreign exchange forward contracts	EUR	USD	-20	-45
	EUR	SEK	20	-23
	EUR	AUD	0	0
	EUR	CAD	-1	2
	EUR	CNY	47	31
	EUR	DKK	-1	1
	EUR	JPY	5	-3
	EUR	SGD	-1	-1
	USD	CAD	-1	1
	USD	DKK	-21	-32
	USD	GBP	0	–
	USD	SEK	0	0
	USD	JPY	0	0
	USD	SGD	1	-1
	CAD	SEK	0	-1
	DKK	NOK	15	-1
	DKK	SEK	1	0
	NOK	EUR	0	2
	NOK	SEK	4	-16
	NOK	USD	-152	-269
	CNY	SEK	-1	3
	CNY	USD	4	-2
	AUD	SEK	0	-1
	AUD	USD	0	0
	JPY	NOK	-8	-31
	JPY	SEK	–	0
	RUB	SEK	2	-4
	Other	Other	-1	-4
Subtotal			-108	-394
Currency options			7	-3
Interest Rate Swaps			-1	9
Metal forward contacts			15	-53
Electricity futures			-1	15
Total, corresponding to a net derivative asset (+) or liability (-)			**-88**	**-426**

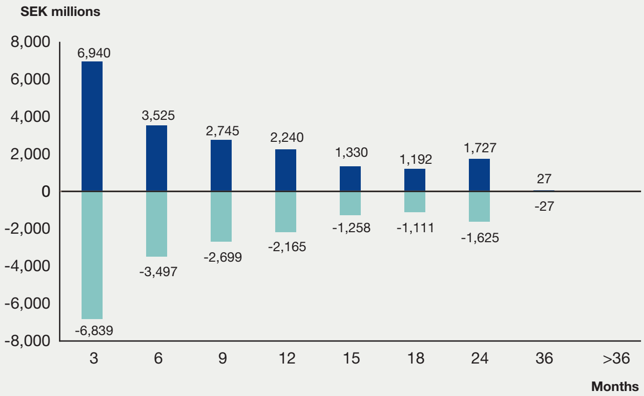
For currency options and electricity futures hedge accounting has not been applied. For foreign exchange forward contracts, interest rate swaps and metal forward contracts hedge accounting has been applied when the conditions for hedge accounting have been fulfilled.

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. Maturity analysis of derivatives

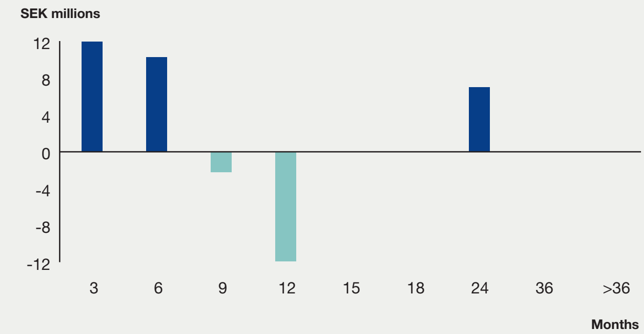
The future undiscounted cash flows for the different types of derivatives are shown in the following four graphs:

Maturity analysis for currency derivatives

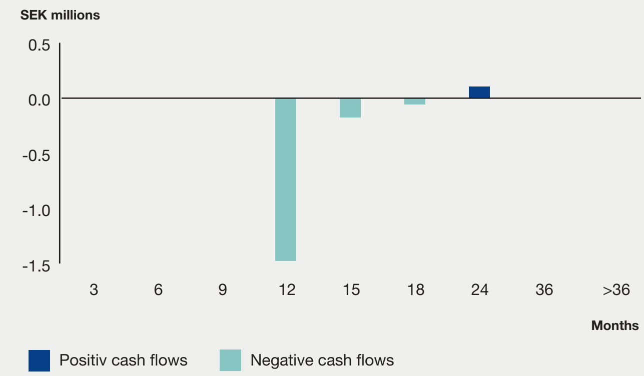


Maturity analysis for interest derivatives

Maturity analysis for metal derivatives



Maturity analysis for electricity futures



Note 16. Current and deferred taxes

Tax on this year's net income and other taxes

Consolidated

SEK millions	2019	2018
Major components of the Group's tax cost		
Current tax cost	-1,859	-1,590
Adjustment for current taxes on prior periods	-12	-18
Deferred tax costs/income on changes in temporary differences	196	126
Deferred tax costs/income on changes in tax rates or new taxes	2	19
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	0	4
Deferred tax cost from the write down or reversal of a previous write down of a deferred tax asset	-3	129
Dividend distribution tax	0	-2
Other taxes	-37	-27
Total tax cost	**-1,713**	**-1,359**

Other taxes are mainly referring to wealth tax.

Tax on this year's other comprehensive income

Consolidated

SEK millions	2019	2018
Major components		
Deferred tax on:		
Cash flow hedges	-68	111
Market valuation of external shares	0	0
Translation difference	-7	-28
Revaluations of defined benefit obligations	11	-60
Total tax cost	**-64**	**23**

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	2019	2018
Result after financial items	7,221	5,896
Tax according to applicable tax rates	-1,803	-1,522
Tax effect of:		
Non-deductible costs	-26	-78
Non-taxable income	124	83
Differences between reported official depreciation and depreciation according to tax rules	3	5
Differences between reported other official appropriations and other appropriations according to tax rules	29	12
Tax losses and tax credits	11	32
Adjustment for current tax on prior periods	-11	-18
Adjustment deferred tax	-3	156
Dividend distribution tax	0	-2
Other	-37	-27
Total tax costs	**-1,713**	**-1,359**

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

	2019		2018	
SEK millions	assets	liabilities	assets	liabilities
Relating to:				
Intangible non-current assets	7	771	5	902
Tangible non-current assets	56	194	57	153
Inventory	157	43	184	40
Other current assets	6	16	18	16
Financial assets	36	46	83	27
Short term liabilities	1,674	33	1,542	140
Tax losses and tax credits *	5	–	4	1
Other	3	702	2	806
Subtotal	1,944	1,805	1,895	2,085
Possible to net	-143	-143	-140	-140
Total deferred taxes	**1,801**	**1,662**	**1,755**	**1,945**

* The Group has reported a deferred tax asset on unused tax losses and tax grants of SEK 16 (16) 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 743 (715) 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 2018 and 2019 or will change during 2020.

Tax rates by country

Consolidated

Percent	2020	2019	2018
Chile	27	27	25
Colombia	33	33	34
France	31	32	34
India	25	25	34
Italy	27	27	31
Norway	22	22	23
Slovenia	19	19	17
Sweden	21	21	22
Taiwan	20	20	17
Turkey	22	22	20
Ukraine	15	15	18

The tax rates for 2019 and 2018 have been used to calculate the actual tax each year, while the tax rates for 2020 and 2019 have been used to calculate the deferred tax for 2019 and 2018 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)	2019 Earnings before tax and received dividends	2019 Tax cost	2019 Tax percentage (%)	2018 Earnings before tax and received dividends	2018 Tax cost	2018 Tax percentage (%)
Top ten countries						
Sweden	2,050	-401	19.6%	2,063	-504	24.4%
Norway	1,680	-370	22.0%	1,058	-227	21.4%
China	1,263	-330	26.1%	868	-196	22.6%
Netherlands	1,090	-289	26.5%	157	-71	44.8%
India	425	-138	32.5%	335	-121	36.0%
Denmark	415	-98	23.7%	243	-53	21.7%
France	251	-88	35.1%	270	-82	30.4%
Japan	165	-61	37.1%	208	-76	36.7%
USA	277	-59	21.3%	466	25	-5.3%
Brazil	134	-41	30.6%	122	-42	34.2%
Total top ten countries	**7,750**	**-1,875**	**24.2%**	**5,790**	**-1,347**	**23.2%**
Other countries						
With a positive result	941	-246	26.1%	990	-222	22.4%
With losses	-375	-14	3.7%	-69	-5	7.4%
Total all countries	**8,316**	**-2,135**	**25.7%**	**6,711**	**-1,574**	**23.4%**
Consolidation entries						
Elimination of appropriations	-519	110	21.2%	-216	47	21.8%
Amortisation of step-up values	-980	190	19.4%	-1,038	235	22.6%
Adjustment of deferred taxes relating to step-up values due to reduced company taxes	–	–	N/A	–	35	N/A
Central provisions and consolidation adjustments	404	122	-30.2%	439	-102	23.2%
Total	**7,221**	**-1,713**	**23.7%**	**5,896**	**-1,359**	**23.0%**

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 2019. The comparison figures 2018 are for these ten countries, although they might not have been among the ten countries with highest tax cost also in 2018.

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 tax percentage for the U.S. in 2018 has been affected by revaluation of future tax deductions with SEK +130 million.

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 17. 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 2019	Acquisitions	Planned depreciation/ amortisation	Translation difference	Closing balance 2019
Buildings	282	–	-33	7	256
Land and land improvements	-63	–	–	-9	-72
Patents and unpatented know-how	1,339	60	-367	46	1,078
Trademarks	2,480	–	-580	54	1,954
Subtotal step-up values	4,038	60	-980	98	3,216
Goodwill	20,537	22	–	553	21,112
Total	**24,575**	**82**	**-980**	**651**	**24,328**

During 2019 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 595 (764) million.

For assets sold, net gains or losses are recognised on the cost 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, 2019 is shown as a translation difference. The corresponding presentation by asset type is found in Notes 18 and 19.

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
2019	Airec	–	–	–	60	–	–	60	22	82
	Accumulated during the period									
	Realised	-542	122	-435	–	–	-123	-978	–	-978
	Write down	-6	-9	–	-89	-5	–	-109	-581	-690
	Planned depreciation/amortisation	-536	–	–	-4,626	-4,719	-993	-10,874	-612	-11,486
	Translation difference	7	35	1	365	-52	4	360	943	1,303
	Closing balance	**256**	**-72**	**–**	**1,078**	**1,954**	**–**	**3,216**	**21,112**	**24,328**

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”.

Acquisition of businesses

During 2019

On December 18, 2018 Alfa Laval announced that it has signed an agreement to acquire 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.

The purchase price is SEK 100 million, out of which SEK 60 million has been paid in cash and SEK 40 million is retained for a period of 1–2 years. The retained part of the purchase price is contingent on certain warranties in the contract not being triggered or that certain profitability goals are fulfilled. The outcome can be anything between SEK 0 million and SEK 40 million, but the probable outcome is SEK 20 million, which is also the fair value since the contingent consideration is to be paid in cash. The costs directly linked to the acquisition (fees to lawyers, due diligence and assisting counsel) come in addition to this and have amounted to SEK 1 million, which is reported as other operating costs. The impact on the cash flow is thus SEK -61 million. Out of the difference between the purchase price paid and the net assets acquired SEK 60 million is allocated to patents and un-patented know-how, while the residual SEK 22 million is allocated to goodwill. The goodwill is relating to estimated synergies in procurement, logistics and corporate overheads and the company's ability to over time recreate its intangible assets. The value of the goodwill is still preliminary. The step-up value for patents and un-patented know-how is amortised over 10 years. From the date of the acquisition the company has added SEK 13 million in orders received and SEK 11 million in invoicing to Alfa Laval. At the end of December 2019, the number of employees was 10.

All acquired assets and liabilities were reported according to IFRS at the time of the acquisitions.

During 2018

Alfa Laval 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.

Impairment testing

An impairment test has been performed at the end of 2019 indicating that there is not any need to write down the goodwill.

Three of Alfa Laval's operating segments, the three business divisions "Energy", "Food & Water" and "Marine" 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 five years, less projected investments and changes in operating capital during the same period and thereafter the perceived expected average industry growth rate.

This projection is based on the following components:

– The projection for 2020 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 2021 till 2024 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 2025 and onwards is based on the perceived expected average industry growth rate.

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 9.19 (9.56) 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	2019	2018
Energy	3,584	3,456
Food & Water	2,637	2,561
Marine	14,891	14,520
Total	**21,112**	**20,537**

Note 18. Intangible non-current assets

Patents and unpatented know-how

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	6,171	5,888
Purchases	3	0
Acquisition of businesses	60	–
Sales/disposals	-9	–
Translation difference	168	283
Closing balance	**6,393**	**6,171**
Accumulated amortisation		
Opening balance	-4,804	-4,235
Sales/disposals	9	–
Reclassifications	0	0
Amortisation of step-up value	-367	-375
Amortisation for the year	-6	-6
Translation difference	-121	-188
Closing balance	**-5,289**	**-4,804**
Closing balance, net book value	**1,104**	**1,367**

Trademarks

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	6,942	6,675
Translation difference	182	267
Closing balance	**7,124**	**6,942**
Accumulated amortisation		
Opening balance	-4,468	-3,673
Reclassifications	6	-5
Amortisation of step-up values	-580	-631
Amortisation for the year	–	0
Translation difference	-128	-159
Closing balance	**-5,170**	**-4,468**
Closing balance, net book value	**1,954**	**2,474**

Licenses, renting rights and similar rights

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	223	211
Purchases	1	6
Sales/disposals	-12	-3
Reclassifications	-6	0
Translation difference	4	9
Closing balance	**210**	**223**
Accumulated amortisation		
Opening balance	-191	-174
Sales/disposals	12	2
Reclassifications	1	-4
Amortisation for the year	-4	-11
Translation difference	-5	-4
Closing balance	**-187**	**-191**
Closing balance, net book value	**23**	**32**

Internally generated intangible assets

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	–	–
Acquisition of businesses	5	–
Expenses	49	–
Translation difference	–	–
Closing balance	**54**	**–**
Accumulated amortisation		
Opening balance	–	–
Amortisation for the year	-1	–
Translation difference	–	–
Closing balance	**-1**	**–**
Closing balance, net book value	**53**	**–**

Internally generated intangible assets are referring to capitalised IT costs and acquired capitalised development cost related to R&D.

Goodwill

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	21,719	20,898
Goodwill in connection with acquisition of businesses	22	–
Translation difference	590	821
Closing balance	**22,331**	**21,719**
Accumulated amortisation		
Opening balance	-1,182	-1,123
Translation difference	-37	-59
Closing balance	**-1,219**	**-1,182**
Closing balance, net book value	**21,112**	**20,537**

Note 19. Property, plant and equipment

Real estate

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	5,402	4,934
Purchases	164	305
Sales/disposal	-29	-15
Write-down	-24	–
Reclassifications	368	15
Translation difference	161	163
Closing balance	**6,042**	**5,402**
Accumulated amortisation		
Opening balance	-2,819	-2,569
Sales/disposals	25	10
Reclassifications	-5	2
Depreciation of step-up value	-33	-32
Depreciation for the year	-159	-144
Translation difference	-103	-86
Closing balance	**-3,094**	**-2,819**
Closing balance, net book value	**2,948**	**2,583**

Non-current assets held for sale

Within Alfa Laval these assets are normally relating to real estate.

A small property in France is empty and has been for sale for several years. It is not expected to be sold within the next year.

This means that no properties have been re-classified as current assets held for sale.

Machinery and other technical installations

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	7,219	7,043
Purchases	335	297
Transfer to disposal groups	–	-115
Sales/disposal	-281	-234
Reclassifications	331	6
Translation difference	209	222
Closing balance	**7,813**	**7,219**
Accumulated amortisation		
Opening balance	-5,464	-5,554
Sales/disposals	227	200
Transfer to disposal groups	–	56
Reclassifications	19	337
Depreciation for the year	-339	-325
Write-down	-9	-2
Translation difference	-110	-176
Closing balance	**-5,676**	**-5,464**
Closing balance, net book value	**2,137**	**1,755**

Equipment, tools and installations

Consolidated		
SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	2,811	2,702
Purchases	153	160
Sales/disposal	-130	-82
Reclassifications	2	-59
Translation difference	70	90
Closing balance	**2,906**	**2,811**
Accumulated amortisation		
Opening balance	-2,178	-2,135
Sales/disposals	113	65
Reclassifications	34	95
Depreciation for the year	-147	-129
Write-down	0	0
Translation difference	-58	-74
Closing balance	**-2,236**	**-2,178**
Closing balance, net book value	**670**	**633**

Construction in progress and advances to suppliers concerning property, plant and equipment

Consolidated

SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	634	300
Purchases	632	722
Reclassifications	-771	-341
Translation difference	10	-47
Closing balance	**505**	**634**
Closing balance, net book value	**505**	**634**

Right-of use asset real estate

Consolidated

SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	193	185
IFRS 16 adjustment	2,463	–
New or adjusted leases	296	–
Sales/disposal	-24	–
Reclassifications	-100	–
Translation difference	55	8
Closing balance	**2,883**	**193**
Accumulated depreciation		
Opening balance	-69	-59
Sales/disposals	16	–
Reclassifications	4	–
Depreciation for the year	-328	-8
Translation difference	-15	-2
Closing balance	**-392**	**-69**
Closing balance, net book value	**2,491**	**124**

Right-of use asset machinery

Consolidated

SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	40	38
IFRS 16 adjustment	30	–
New or adjusted leases	17	–
Sales/disposal	0	–
Reclassifications	0	–
Translation difference	0	2
Closing balance	**87**	**40**
Accumulated depreciation		
Opening balance	-38	-34
Reclassifications	0	–
Depreciation for the year	-21	-3
Translation difference	0	-1
Closing balance	**-59**	**-38**
Closing balance, net book value	**28**	**2**

Right-of use asset equipment, tools and installations

Consolidated

SEK millions	2019	2018
Accumulated acquisition values		
Opening balance	4	3
IFRS 16 adjustment	178	–
New or adjusted leases	62	1
Sales/disposal	-6	0
Reclassifications	-3	0
Translation difference	0	0
Closing balance	**235**	**4**
Accumulated depreciation		
Opening balance	-3	-3
Sales/disposals	2	0
Reclassifications	-2	–
Depreciation for the year	-68	0
Translation difference	0	0
Closing balance	**-71**	**-3**
Closing balance, net book value	**164**	**1**

Note 20. Other non-current assets

Shares in subsidiaries, joint ventures and other companies

	Consolidated		Parent company	
SEK millions	2019	2018	2019	2018
Shares in subsidiaries	–	–	4,669	4,669
Shares in joint ventures	63	44	–	–
Shares in other companies	78	76	–	–
Total	**141**	**120**	**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 5 (6) companies have non-controlling interests, see Note 12. The subsidiaries are displayed in the table on page 127–129. 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 129. 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		30	–
Alfa Laval Flow Equipment (Kunshan) Co Ltd		Jiangsu, China		70	–
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 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	–
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 Holding SAS		Saint-Priest, France	2,000,000	100	–
Alfa Laval France & North West Africa 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	–
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	–
Alfa Laval 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	–
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 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**

* These five companies registered in England and Wales are exempt from the Companies Act 2006 requirements relating to the audit of their individual accounts by virtue of Section 479A of the Act as Alfa Laval AB (publ) has guaranteed the subsidiary companies under Section 479C of the Act.

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	57
Alfa Laval Corporate AB					
AlfaWall AB	556723-6715	Botkyrka, Sweden	500	50	6
Alfa Laval Ltd					
Rolls Laval Heat Exchangers Ltd		Wolverhampton, UK	5,000	50	0
Total					**63**

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	74,762
Alfa Laval Aalborg Ltda				
Tractebel	Brazil	1,268		100
Elektrobras	Brazil	7,107		135
Alfa Laval Philippines Inc.				
Philippine Long Distance Telephone	Philippines	820		15
Alfa Laval Nordic OY				
As Oy Koivulantie 7A	Finland	1		324
Helsinki Halli	Finland	4		147
Alfa Laval NV				
Dalian Haven Automation Co Ltd	China	102	43	932
Framo Nederland BV				
Triangle (Air) Freight Forwarders BV	Netherlands	12	33	2,094
Framo Flatøy AS				
Nordhordaland handverk og industrilag AS	Norway	50	4	27
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				**78,561**

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 21. Inventories

Type of inventory		
Consolidated		
SEK millions	2019	2018
Raw materials and consumables	3,364	2,864
Work in progress	2,535	2,676
Finished goods & goods for resale, new sales	2,519	2,050
Finished goods & goods for resale, spare parts	1,406	1,357
Advance payments to suppliers	253	306
Total	**10,077**	**9,253**

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:					
2018	1,214	41	325	-337	1,243
2019	1,243	26	294	-312	1,251

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 2019 amounts to SEK 576 (507) million.

Note 22. Accounts receivable

Accounts receivable with a maturity exceeding one year of SEK 204 (149) 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:							
2018	434	13	107	-115	-53	0	386
2019	386	10	275	-143	-162	0	366

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	2019	%	2018	%
Overdue:				
Maximum 30 days	837	11.2	690	10.6
More than 30 days but maximum 90 days	588	7.9	487	7.5
More than 90 days	538	7.2	513	7.9
Total	**1,963**	**26.3**	**1,690**	**26.0**

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	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Accounts and notes receivable										
Undue	6,039	5,424	5	8	7	65	31	28	43	101
Overdue 1–30 days	837	690	1	1	0	1	3	3	4	5
Overdue 31–60 days	364	338	–	–	9	5	5	2	14	7
Overdue 61–90 days	224	149	–	–	3	19	20	4	23	23
Overdue 91–365 days	372	312	–	–	64	67	45	27	109	94
Overdue >365 days	166	201	–	–	70	76	61	70	131	146
Total	**8,002**	**7,114**	**6**	**9**	**153**	**233**	**165**	**134**	**324**	**376**
Other receivables										
Contract assets	2,465	1,919	18	–	19	2	4	8	41	10
Financial lessor receivable	5	7	–	–	1	–	–	–	1	–
Total	**2,470**	**1,926**	**18**	**–**	**20**	**2**	**4**	**8**	**42**	**10**

Note 23. Other short-term receivables

Split on type and maturity

Consolidated

SEK millions	2019	2018
Notes receivable	218	242
Financial lessor receivable	5	7
Revenue recognition ahead of progress invoicing	2,424	1,909
Other receivables	1,372	1,204
Total	**4,019**	**3,362**
Of which, not due within one year:		
Notes receivable	0	2
Other receivables	24	32
Total	**24**	**34**

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 24. Prepaid expenses and accrued income

Split on type		
Consolidated		
SEK millions	2019	2018
Prepaid expenses	333	309
Accrued income	118	96
Total	**451**	**405**

Note 25. Other current deposits

Split on type and maturity		
Consolidated		
SEK millions	2019	2018
Deposits with banks	205	163
Bonds and other securities	654	439
Other deposits	14	15
Total	**873**	**617**
Of which, not due within one year:		
Deposits with banks	8	7
Other deposits	3	3
Total	**11**	**10**

Note 26. 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 27. 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.

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	2019	2018
Present value of defined benefit obligation, unfunded	-1,177	-1,158
Present value of defined benefit obligation, funded	-6,299	-5,567
Present value of defined benefit obligation at year end	-7,476	-6,725
Fair value of plan assets	5,225	4,644
Net defined benefit liability	-2,251	-2,081
Less disallowed assets due to asset ceiling	–	–
(-) liability/(+) asset at December 31	**-2,251**	**-2,081**

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.

Total plan cost		
Consolidated		
SEK millions	2019	2018
Net plan cost		
Current service cost	-111	-93
Net interest cost/income	-55	-59
Past service cost/income from plan amendments and curtailments and gains and losses on settlements	23	-2
Net plan (-) cost/(+) income	**-143**	**-154**
Remeasurements		
Actuarial losses/gains arising from changes in demographic assumptions	65	42
Actuarial losses/gains arising from changes in financial assumptions	-505	146
Actuarial losses/gains arising from changes in experience	25	99
Return on plan assets less interest on plan assets	277	-87
Change in disallowed assets due to asset ceiling	–	–
Other comprehensive income (OCI)	**-138**	**200**
Total plan cost	**-281**	**46**

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	2019	2018
Present value of defined benefit liability at January 1	-6,725	-6,739
Sold businesses	-	2
Translation difference	-333	-279
Current service cost	-111	-93
Interest cost	-185	-173
Employee contributions	-5	-5
Actuarial losses/gains arising from changes in demographic assumptions	65	42
Actuarial losses/gains arising from changes in financial assumptions	-505	146
Actuarial losses/gains arising from changes in experience	25	99
Past service cost/income from plan amendments and curtailments and gains and losses on settlements	23	-2
Benefit payments	275	272
Settlement payments	0	5
(-) liability at December 31	**-7,476**	**-6,725**

The liability has the following duration and maturity:

Duration and maturity		
Consolidated		
	2019	2018
Weighted average duration of the defined benefit obligation (years)	13	13
Maturity analysis of benefit payments (non-discounted amounts) SEK millions		
maturity ≤ 1 year	294	235
maturity > 1 ≤ 5 years	1,189	1,048
maturity > 5 ≤ 10 years	1,584	1,455
maturity > 10 ≤ 20 years	2,935	2,772
maturity > 20 years	4,897	4,784

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	2019	2018
Fair value of plan assets at January 1	4,644	4,448
Translation difference	242	177
Employer contributions	148	213
Employee contributions	5	5
Interest on plan assets	130	114
Return on plan assets less interest on plan assets	277	-87
Benefit payments	-221	-226
Settlement payments	0	0
(+) asset at December 31	**5,225**	**4,644**

The plan assets are split on the following types of assets:

Split of plan assets

Consolidated		
SEK millions	2019	2018
Cash and cash equivalents	328	318
Equity instruments	976	804
Debt instruments	2,604	2,297
Real estate	243	236
Investment funds	1,074	989
Fair value at December 31	**5,225**	**4,644**

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	2019	2018
Defined benefit liability/asset at January 1	-2,081	-2,291
Sold businesses	–	2
Translation difference	-91	-102
Net plan cost	-143	-154
Employer contributions	148	213
Remeasurements (other comprehensive income)	-138	200
Benefit payments, unfunded plans	54	46
Settlement payments, unfunded plans	0	5
(-) liability/(+) asset at December 31	**-2,251**	**-2,081**

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	2019	2018
Assets		
Fair value of plan assets	5,225	4,644
Less disallowed assets due to asset ceiling	–	–
	5,225	4,644
Netting	-5,155	-4,607
Assets in statement on financial position	**70**	**37**
Liabilities		
Present value of defined benefit obligation at year end	-7,476	-6,725
Netting	5,155	4,607
Provision in statement on financial position	**-2,321**	**-2,118**

The weighted averages for the more significant actuarial assumptions that have been used at the year-end are:

Actuarial assumptions

Consolidated		
	2019	2018
Discount rate (%)	2.1	2.8
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	2020
Expected employer contributions to the plan for the next calendar year	-192
Expected employer contributions for the next calendar year to multi-employer plans reported as defined contribution plans	-27

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	-607	–	–	-206	-6	-18	–	-340	**-1,177**
Present value of the defined benefit obligation, funded	-800	-3,470	-721	–	-879	–	-89	-340	**-6,299**
Present value of the defined benefit obligation at year end	-1,407	-3,470	-721	-206	-885	-18	-89	-680	**-7,476**
Fair value of plan assets	859	2,398	720	-	875	–	62	311	**5,225**
Net defined benefit liability	-548	-1,072	-1	-206	-10	-18	-27	-369	**-2,251**
Less disallowed assets due to asset ceiling	–	–	–	–	–	–	–	–	**–**
(-) liability/(+) asset	-548	-1,072	-1	-206	-10	-18	-27	-369	**-2,251**
Net plan cost	**-27**	**-42**	**-7**	**-3**	**-16**	**0**	**-2**	**-46**	**-143**
Remeasurements (OCI)	**73**	**-193**	**-1**	**-24**	**9**	**-**	**-6**	**4**	**-138**
Sensitivity analysis*									
Discount rate decreased by 1% point	-139	-697	-159	-10	-114	–	-5	-105	**-1,229**
Life expectancy increased by 1 year	-60	-181	-26	-11	-27	–	0	-11	**-316**
Expected average retirement age decreased by 1 year	-6	–	–	0	0	–	1	-7	**-12**
Claim rates under medical plans increased by 1 % point	-3	–	–	–	–	–	–	–	**-3**
Expected rate of salary increases increased by 1% point	0	-64	–	–	-20	–	-11	-26	**-121**
Medical costs increased by 1% point	-30	–	–	–	–	–	–	0	**-30**
Index for future compensation increases increased by 1% point	0	-104	-56	-22	-103	–	–	-7	**-292**
Cost for actuarial services	**-2**	**-2**	**0**	**0**	**-1**	**0**	**0**	**0**	**-5**
Number of participants in the plans at December 31									
Current employees (active members)	1,096	89	111	1	139	–	13	2,560	**4,009**
Current employees (only vested value for closed plans)	16	–	35	3	1	122	–	10	**187**
Former employees that are not yet pensioners	89	362	234	6	–	–	54	–	**745**
Pensioners	1,343	677	97	220	371	–	–	81	**2,789**
Total	**2,544**	**1,128**	**477**	**230**	**511**	**122**	**67**	**2,651**	7,730
Remaining service period									
Average remaining service period for active members (years)	8	8	11	5	4	-	14	7	**8**

* How much would the present value of the defined benefit obligation at December 31 increase if the (all other things being equal):

Note 28. 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
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
2019						
Claims & warranty	1,366	15	628	-470	-79	1,460
Deferred costs	129	3	108	-43	-44	153
Restructuring	358	0	89	-278	-3	166
Onerous contracts	85	0	37	-16	-7	99
Litigations	201	0	106	-107	0	200
Other	455	9	271	-304	-7	424
Total	**2,594**	**27**	**1,239**	**-1,218**	**-140**	**2,502**
Of which:						
current	1,929					1,863
non-current	665					639

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 95 (175) 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.

Not 29. Borrowings and net debt

Net debt		
Consolidated		
SEK millions	2019	2018
Credit institutions	166	262
Swedish Export Credit	2,318	2,246
European Investment Bank	1,203	1,180
Corporate bonds	8,335	8,175
Lease liabilities	2,620	34
Interest-bearing pension liabilities	0	0
Total debt	14,642	11,897
Cash and cash equivalents and current deposits	-6,467	-4,912
Net debt *	**8,175**	**6,985**

* Alternative performance measures.

Lease liabilities have increased by SEK 2,766 million as per January 1, 2019 due to the initial application of IFRS 16 Leases, which affects the figures at December 31, 2019. Earlier only capitalised financial leases were reported on this line.

The changes in the loans during the year are explained by the following table:

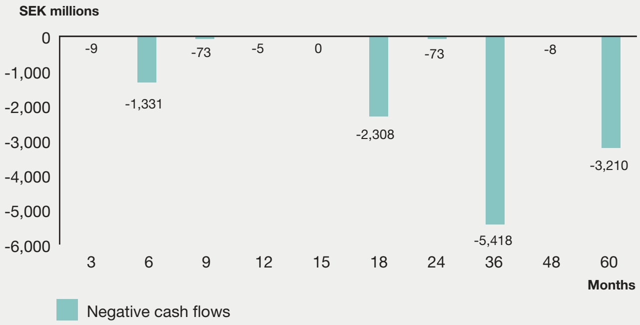
Loans				
Consolidated				
SEK millions	January 1	Cash flows	Exchange rate effects	December 31
Year:				
2018	12,496	-1,012	379	11,863
2019	11,863	-144	303	12,022

The loans are distributed among currencies as follows:

Maturity of loans by currency				
Consolidated				
	Current		Non-current	
SEK millions	2019	2018	2019	2018
Currency:				
BRL	11	12	–	–
CAD	–	–	–	–
DKK	–	–	–	1
EUR	27	3,159	10,588	7,311
INR	9	13	–	–
PLN	104	139	–	–
SEK	–	–	12	8
USD	1,271	–	–	1,220
Total	**1,422**	**3,323**	**10,600**	**8,540**
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.

Maturity analysis for loans



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 9,270 million with a banking syndicate. At December 31, 2019 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 35 (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 2,318 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 1,203 million. The loan accrues interest at floating rate based on EURIBOR plus a mark-up of 45 basis points.

Corporate bonds

Alfa Laval has repaid corporate bonds of EUR 300 million, with floating interest rate that matured in September 2019.

Interest level of loans with floating interest rate

The senior credit facility and the bilateral term loans accrue interest at floating rate. At the end of 2019 the loans were accruing interest in the range of 0.10 % – 2.73 % (0.21 % – 3.62 %). The average interest rate at the end of 2019 was 1.25 (0.82) percent. The Group has chosen to hedge 16 (12) percent of the loans to fixed interest rate, with a duration of 3.0 (10.8) months.

Loans with fixed rate

Corporate bonds and commercial papers

The corporate bonds are listed on the Irish stock exchange and consist of one tranche of EUR 500 million, with a fixed interest rate of 1.495 percent based on a coupon of 1.375 percent that matures in September 2022 and a new tranche of EUR 300 million, with a fixed interest of 0.308 percent based on a coupon of 0.250 percent that matures in June 2024. The new tranche was raised to refinance the tranche of EUR 300 million, with floating interest rate that matured in September 2019.

The commercial paper programme of SEK 2,000 million was not utilised at December 31, 2019. 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 20 (16) million. The current year's cost for the fee amortisation is SEK -9 (-9) million.

Average interest and currency duration

The average interest and currency duration for all loans including derivatives is 30.1 (22.2) months at the end of 2019.

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 30. Other current liabilities

Split by type

Consolidated

SEK millions	2019	2018
VAT liabilities, employee withholding taxes	201	185
Progress invoicing ahead of revenue recognition	1,452	670
Other non-interest bearing liabilities	2,566	2,197
Total	**4,219**	**3,052**

Note 31. Accrued costs and prepaid income

Split by type and maturity

Consolidated

SEK millions	2019	2018
Accruals for social security	385	369
Reserve for severance pay	206	199
Accrued interest expenses	27	23
Other accrued expenses	1,542	1,515
Prepaid income	138	281
Total	**2,298**	**2,387**
Of which, not due within one year:		
Accruals for social security	37	35
Reserve for severance pay	161	142
Other accrued expenses	121	9
Total	**319**	**186**

Note 32. Pledged assets and contingent liabilities

Split by type

Consolidated

SEK millions	2019	2018
Pledged assets		
Other pledges and similar commitments	10	11
Total	**10**	**11**
Contingent liabilities		
Discounted bills	2	5
Performance guarantees	1,470	1,719
Other contingent liabilities	1,045	917
Total	**2,517**	**2,641**

As of December 31, 2019, the Group had sold receivables with recourse totalling SEK 2 (5) 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 33. Transactions with related party

Tetra Pak within the Tetra Laval Group is Alfa Laval's single largest customer with 5.4 (5.2) 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 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	2019	2018
Receivables:		
Accounts receivable	185	206
Other receivables	–	1
Liabilities:		
Other liabilities	6	1

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	2019	2018
Net sales	2,533	2,117
Other operating income	2	2

Note 34. 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	2019	2018
Current assets	120	94
Non-current assets	38	18
Current liabilities	73	51
Non-current liabilities	21	14
Contingent liabilities	37	36

Revenues/expenses

Joint ventures

SEK millions	2019	2018
Net sales	263	251
Cost of goods sold	-182	-165
Other operating income	111	60
Other operating costs	-162	-126
Financial net	-1	0
Result before tax	29	20
Taxes	-7	-5
Net income	22	15
Other comprehensive income	-2	0
Comprehensive income	**20**	**15**

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	2019	2018
Comprehensive income	20	15
Received dividends	2	2
Shares in joint ventures	63	44

The effect on comprehensive income is the same as the net income.

Note 35. Disposal group

Disposal groups

Consolidated

SEK millions	2019	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**

On December 12, 2018 Alfa Laval announced that it had 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 transaction was closed on May 1, 2019. The operation was during the period December 12, 2018 to April 30, 2019 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 was estimated to result in a realised gain, no write down to fair value has been necessary.

Note 36. Leasing

Right-of use assets and lease liabilities increased by SEK 2,766 million as per January 1, 2019 due to the initial application of IFRS 16 Leases.

In the annual report for 2018 the total future minimum leasing fees for operating leases were stated as SEK 2,256 million. The main reason for the difference to SEK 2,766 million is that the right-of-use assets are based on longer expected lease terms, where the leasing fees however have been discounted. The service fees are also excluded from the right-of-use assets as well as some short-term leases and low value leases together with other leases that are not material for Alfa Laval.

For further information on the right-of-use assets, see Note 19.

The leasing periods are between 1 and 25 years. The latter figure relates to a very limited number of properties. Normally the maximum leasing period is 10 years for buildings and 3–5 years for all other assets.

The weighted average incremental borrowing rate used to discount the value of the lease liabilities during 2019 is 2.64 percent, which in all material respects corresponds to the rate used to calculate the opening leasing liability of SEK 2,766 million.

Leasing disclosures

Consolidated

SEK millions	2019	2018
Lessee		
Financial position		
Right-of-use assets	2,683	127
Lease liabilities	2,620	34
New or adjusted leases	375	1
Income statement		
Depreciation	-417	-11
Interest cost on lease liabilities	-71	-1
Expenses		
Expense for not capitalised short-term leases	41	
Expense for not capitalised leases of low-value assets not included in above line	6	
Expense for not capitalised leases of low-value assets according to Alfa Lavals higher materiality thresholds not included in above lines	12	
Expense for variable lease payments not included in lease liabilities	1	
Cash flow		
Total cash outflow for all leases, including leases that are not capitalised, excluding non-lease components	536	
Lessor		
Financial position		
Financial lessor receivable	5	7
Income statement		
Finance income	0	0
Income from subleasing	0	
Income from variable lease payments not included in financial lessor receivable	0	
Lease income from operating leases	1	
- out of which variable lease payments not dependent on an index or a rate	0	

Maturity analysis of lease liabilities and receivables

Consolidated

	Lease payments by the lessee	Lease payments by the lessee including service fees	Finance lease payments received by the lessor	Operating lease payments received by the lessor
SEK millions	2019	2018	2019	2019
Maturity in year:				
2019	N/A	516	N/A	N/A
2020	444	422	1	4
2021	421	341	1	3
2022	389	268	1	1
2023	327	191	1	0
2024	297	N/A	1	0
Later	1,142	552	0	0
Total	**3,020**	**2,290**	**5**	**8**
Unearned finance income			0	
Discounted unguaranteed residual value			5	

Effect of IFRS 16 on		
Consolidated		
SEK millions	2019	Estimated at December 31, 2018
Full year result 2019		
Effect on operating income		
Leasing fees not expensed any longer	536	459
Depreciation on right-of use assets	-417	-416
	119	43
Effect on financial net		
Interest on leasing liability	-71	-60
Net effect on result before tax	**48**	**-17**

Note 37. Revenue recognition from contracts with customer

Revenue recognition from contracts with customers		
Consolidated		
SEK millions	2019	2018
Income statement		
Net sales from:		
Contracts with customers	46,477	40,628
Leasing	40	38
Total net sales	46,517	40,666
Net sales from contracts with customers with a contract duration of:		
≤ 1 year	42,299	35,713
> 1 year	4,178	4,915
	46,477	40,628
Performance obligations towards customers satisfied:		
at a point in time	40,477	35,949
over time	6,000	4,679
	46,477	40,628
Additional information:		
Net sales:		
included in contract liability at January 1	1,014	909
from performance obligations satisfied or partially satisfied in previous periods	381	339
Amortisation of capitalised costs to obtain or fulfil contracts with external customers	–	–
Impairment losses	–	–
Assets		
Accounts and notes receivables, contracts with external customers	7,449	6,506
Accounts and notes receivables, external, other	229	232
Contract assets	2,424	1,909
Capitalised costs to obtain a contract with a customer	–	–
Capitalised costs to fulfil a contract with a customer	–	–
Liabilities		
Contract liabilities	5,721	5,891

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 less than 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 38. Remuneration policy for executive officers

The executive officers, i.e. the CEO and other members of Group Management reporting to the CEO, fall within the provisions of this policy. The policy is forward-looking, i.e. applicable to remuneration agreed, and amendments to remuneration already agreed, after adoption of the policy by the annual general meeting in April 2020. This policy does not apply to any remuneration decided or approved by the general meeting. The policy is substantially in line with the policy adopted in 2019, but more detailed due to new legislation.

A prerequisite for the successful implementation of the company's business strategy and safeguarding of its long-term interests, including its sustainability, is that the company is able to recruit and retain qualified personnel, consequently it is necessary that the company offers market competitive remuneration.

For information regarding Alfa Laval's business strategy, please visit www.alfalaval.com/investors/in-brief/#xaa

This policy enables the company to offer the executive officers a competitive total remuneration. The remuneration shall be on market terms and may consist of the following components: fixed base salary, variable cash remuneration (including STI and LTIP), pension benefits and other benefits. The components, their purpose and link to the company's business strategy are described below.

The decision-making process to determine, review and implement the policy
The Board of Directors has established a Committee within the Board (the Remuneration Committee), with the tasks of preparing, within the Board of Directors, the policy for remuneration for executive officers. The Board of Directors shall propose a revised policy at least every fourth year and submit it to the general meeting. The policy shall be in force until a new policy is adopted by the general meeting.

Unless otherwise stated herein, the Board of Directors shall resolve on matters regarding remuneration and employment provisions for all other executive officers. The Committee shall continuously report to the Board of Directors. The CEO and the other executive officers shall not be present when their respective remuneration terms are decided.

Additionally, the general meeting may – irrespective of this policy – resolve on, among other things, share-related or share price-related remuneration.

Fixed Base Salary

Purpose and link to strategy	Supports the attraction and retention of the best talents. Ensures competitiveness while controlling fixed costs to maximise efficiency
Operational Details	– Normally reviewed annually and increases will usually be effective from 1 January or following a change in responsibilities. – The Remuneration Committee will consider, among other things, the following parameters when reviewing fixed base salary: – Economic and salary conditions and trends – The individual's performance and responsibilities – Base salaries and total remuneration at other companies that operate in the same markets, typically benchmarked against similar roles.

Variable Cash Remuneration

A portion of the total remuneration for the executive officers is linked to business performance so that total remuneration will increase or decrease in line with performance, thus promoting the company's business strategy and long-term interests.

Annual Short-Term Incentive (STI)

Purpose and link to strategy	To incentivise and create focus on the delivery of annual financial and strategic criteria.
Operational Details	– The performance criteria, weighting and targets are to be proposed by the Remuneration Committee annually and approved by the Board of Directors. Targets shall be set by reference to the company's operating plan and historical and projected performance. – The outcome of criteria for awarding STI is to be measured over a period of one year and depend on the degree of fulfilment of predetermined targets. – The Board of Directors shall have the possibility, under applicable law or contractual provisions, subject to the restrictions that may apply under law or contract, to reclaim in whole or in part STI paid on incorrect grounds (so-called claw-back).
Opportunity Levels	The maximum opportunity for STI can amount up to 40% of fixed base salary. For the CEO the maximum opportunity can amount up to 60% of fixed base salary. The Remuneration Committee shall have the possibility to review the opportunity levels in order to ensure market competitiveness.
Performance criteria	The STI plan awards shall be based on mainly financial criteria. The criteria shall be designed so as to contribute to the company's business strategy and long-term interests.

Long Term Incentive Plan (LTIP)	
Purpose and link to strategy	Give extra focus on the long-term value creation for the shareholders.
Operational Details	– An annual grant of the LTIP, with a three-year performance period, can be decided by the Board of Directors each year. – Payment to the participants of the program are made after year three, provided, that they are still employed at the date of payment. – The Board of Directors shall have the possibility, under applicable law or contractual provisions, subject to the restrictions that may apply under law or contract, to reclaim in whole or in part LTIP paid on incorrect grounds (so-called claw-back). – In the event of a restructuring of the Company or any other extraordinary event which the Remuneration Committee considers will affect the value of an award, the method of calculating the proportion of the maximum value of the award which will be paid to a Participant on vesting may be adjusted in such manner as the Remuneration Committee shall determine to be fair and reasonable.
Opportunity Levels	For executive officers the maximum opportunity for LTIP can amount up to 40% of fixed base salary for each three-year performance period. For the CEO the maximum opportunity can amount up to 50% of fixed base salary for each three-year performance period.
Performance Criteria	The performance criteria of the LTIP are to be related to financial targets over a business cycle, including but not necessarily limited to, Operating margin (adjusted EBITA margin) and Net invoicing growth. Maximum outcome is awarded when the externally communicated long-term financial targets are clearly exceeded.
For retention or recruitment purposes or extraordinary performance beyond the individual's ordinary tasks the Remuneration Committee based on proposal of CEO, may decide on a specific cash remuneration. Such remuneration may not exceed an annual amount corresponding to 40 percent of fixed annual cash salary and may not be paid more than once each year per individual.	

Pension Benefits	
Purpose and link to strategy	Provide competitive and cost-effective pension benefits.
Operational Details	– Pension benefits shall be defined contribution (premium defined) unless the individual concerned is subject to defined benefit pension under mandatory collective agreement provisions. – Variable cash remuneration shall not qualify for pension benefits unless the executive officer is part of mandatory collective agreed provisions where this is stipulated. – Early retirement may be offered selectively and only after a special decision by the Remuneration Committee, with a defined contribution early retirement scheme. – For executive officers governed by rules other than Swedish, pension benefits may be duly adjusted for compliance with mandatory rules or established local practice, taking into account, to the extent possible, the overall purpose of this policy.
Opportunity Levels	The pension premiums for defined contribution pension shall amount to not more than 50 per cent of the pensionable salary (for the CEO fixed annual base salary).

Other Benefits	
Purpose and link to strategy	Provide competitive and cost-effective pension benefits.
Operational Details	– Other benefits may include but is not limited to life insurance, disability insurance and health care insurance and a company car or car allowance. – For executive officers governed by rules other than Swedish, benefits may be duly adjusted for compliance with mandatory rules or established local practice, taking into account, to the extent possible, the overall purpose of this policy. – Executive officers who are international assignees (for example expatriates) to or from Sweden may receive additional remuneration and other benefits to the extent reasonable in light of the special circumstances associated with the international assignment arrangement, taking into account, to the extent possible, the overall purpose of this policy.
Opportunity Levels	Other benefits may amount to not more than 5 percent of the fixed annual cash salary and shall be set at a level which the Remuneration Committee considers to: – provide the relevant level of benefit depending on role and the individual circumstances, – be in line with comparable roles in companies with similar size and complexity in the local market, and – be appropriate compared to the benefits offered to the wider workforce in the local market.

Termination of employment	

Details	– If notice of termination of employment is made by the company:
	    – The notice period may not exceed twelve months.
	    – Fixed cash salary during the period of notice and severance pay may together not exceed an amount equivalent to the fixed cash salary for two years.
	– When termination is made by the executive officer the period of notice may not to exceed six months without any right to severance pay.
	– Appropriate so-called good leaver/bad leaver principles are to be applied for STI and LTIP.
	– Repatriation – If the executive officer is an international assignee the company may reimburse reasonable cost for the repatriation of good leavers, taking into account, to the extent possible, the overall purpose of this policy.
	
	For executive officers governed by rules other than Swedish, payments in connection with termination may be duly adjusted for compliance with mandatory rules or established local practice, taking into account, to the extent possible, the overall purpose of this policy.

Salary and employment conditions for employees
In the preparation of the Board of Directors' proposal for this remuneration policy, salary and employment conditions for employees of the company have been taken into account by including information on the employees' total income, the components of the remuneration and increase and growth rate over time. The development of the difference between the remuneration to executive officers and remuneration to other employees will be disclosed in the remuneration report.

Derogation from the policy
The Board of Directors may temporarily resolve to derogate from the policy, in whole or in part, if in a specific case there is special cause for the derogation and a derogation is necessary to serve the company's long-term interests, including its sustainability, or to ensure the company's financial viability. As set out above, the Remuneration Committee's tasks include preparing the Board of Directors' resolutions in remuneration-related matters. This includes any resolutions to derogate from the policy.

Note 39. Events after the closing date

The statements on financial position and the comprehensive income statements will be adopted at the Annual General Meeting of shareholders on April 23, 2020.

Note 40. Proposed disposition of earnings

The unrestricted equity in Alfa Laval AB (publ) is SEK:	
Profit brought forward	7,835,386,279
Repaid dividend	18,087
Net income 2019	2,058,117,158
	9,893,521,524

The Board of Directors propose a dividend of SEK 5.50 (5.00) per share corresponding to SEK 2,307,009,733 (2,097,281,575) and that the remaining income of SEK 7,586,511,791 (7,835,386,279) 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, 2020

Anders Narvinger
Chairman

Susanne Jonsson
Employee representative

Maria Moræus Hanssen
Director

Henrik Lange
Director

Bror García Lantz
Employee representative

Anna Ohlsson-Leijon
Director

Heléne Mellquist
Director

Henrik Nielsen
Employee representative

Finn Rausing
Director

Jörn Rausing
Director

Ulf Wiinberg
Director

Tom Erixon
President and CEO

Our Auditors' Report concerning this Annual Report has been issued on March 9, 2020.

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 2019. The annual accounts and consolidated accounts of the company are included on pages 65–143 and 148–150 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 2019 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 2019 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.

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 to SEK 21,112 million per 31 December 2019 which corresponds to 33% 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 17.

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 to SEK 2,502 million per 31 December 2019. The provisions amongst other relates to provision for expected expenses for warranties, litigation, restructuring and onerous contracts, as expressed in Note 28 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 1–48. 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 2019 and the proposed appropriations of the company's profit or loss.

We recommend to the general meeting of shareholders that the profit be appropriated 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 24 April 2019 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 24 April 2019 and has been the company's auditor since the 23 April 2018.

Lund 9 March, 2020

Staffan Landén
Authorized Public Accountant

Karoline Tedevall
Authorized Public Accountant

Ten-year overview

Ten-year overview										
Consolidated										
SEK millions, unless otherwise stated	2019	2018	2017	2016	2015	2014	2013 *	2012 **	2011	2010
Profit and loss										
Net sales	46,517	40,666	35,314	35,634	39,746	35,067	29,801	29,813	28,652	24,720
Comparison distortion items	189	151	–	-1,500	–	-320	–	-51	-170	90
Operating income	7,198	5,831	4,589	2,989	5,717	4,667	4,353	4,396	4,691	4,401
Financial net	23	65	-218	336	-273	-550	-181	133	-15	-37
Result after financial items	7,221	5,896	4,371	3,325	5,444	4,117	4,172	4,529	4,676	4,364
Taxes	-1,713	-1,359	-1,383	-1,013	-1,583	-1,149	-1,132	-1,306	-1,425	-1,248
Net income for the year	**5,508**	**4,537**	**2,988**	**2,312**	**3,861**	**2,968**	**3,040**	**3,223**	**3,251**	**3,116**
Financial position										
Goodwill	21,112	20,537	19,775	20,436	19,498	20,408	10,061	9,792	9,543	5,952
Other intangible assets	3,134	3,873	4,692	5,946	6,556	7,898	3,582	3,807	3,502	2,581
Property, plant and equipment	8,943	5,732	4,851	4,940	4,773	5,004	3,785	3,823	3,936	3,512
Other non-current assets	2,081	1,958	1,654	2,100	1,804	2,092	1,447	1,509	1,664	1,568
Inventories	10,077	9,253	8,424	7,831	7,405	7,883	6,312	6,176	6,148	4,769
Current receivables	12,582	11,807	8,808	8,431	8,964	9,791	7,671	8,050	7,663	6,884
Current deposits	873	617	1,208	1,075	1,021	697	605	427	483	575
Cash and cash equivalents	5,594	4,295	3,137	2,619	1,876	2,013	1,446	1,404	1,564	1,328
TOTAL ASSETS	**64,396**	**58,072**	**52,549**	**53,378**	**51,897**	**55,786**	**34,909**	**34,988**	**34,503**	**27,169**
Equity	27,747	23,599	20,500	20,276	18,423	17,202	16,162	14,453	15,144	13,582
Provisions for pensions etc.	2,321	2,118	2,297	2,425	1,931	2,221	1,494	1,727	852	847
Provisions for taxes	1,662	1,945	2,100	2,722	2,925	3,074	1,758	1,932	1,930	1,617
Other non-current liabilities	2,571	802	677	636	521	660	423	473	520	632
Non-current loans	10,600	8,540	11,092	12,169	12,484	16,454	3,529	5,393	5,060	1,041
Current liabilities	19,495	21,068	15,883	15,150	15,613	16,175	11,543	11,010	10,997	9,450
TOTAL EQUITY & LIABILITIES	**64,396**	**58,072**	**52,549**	**53,378**	**51,897**	**55,786**	**34,909**	**34,988**	**34,503**	**27,169**

* Restated to IFRS 11. ** Restated to the new IAS 19.

*** Lease liabilities have increased by SEK 2,766 million as per January 1, 2019 due to the initial application of IFRS 16 Leases, which affects the net debt at December 31, 2019. Excluding this effect, the net debt to EBITDA would instead have been 0.60 and the debt ratio 0.20.

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.

During 2019 IFRS 16 ”Leases” has been implemented, which has meant that right-of use assets and lease liabilities increased by SEK 2,766 million as per January 1, 2019 in connection with the initial application.

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

SEK millions, unless otherwise stated	2019	2018	2017	2016	2015	2014	2013 *	2012 **	2011	2010
Key ratios										
Orders received	44,119	45,005	36,628	32,060	37,098	36,660	30,202	30,339	28,671	23,869
Order backlog at year end	21,551	23,168	18,289	16,870	20,578	22,293	14,568	14,468	13,736	11,552
EBITA	8,178	6,869	5,610	4,680	6,811	5,571	4,914	4,883	5,117	4,772
EBITDA	9,251	7,495	6,239	5,323	7,478	6,136	5,360	5,330	5,566	5,197
EBITA-margin %	17.6%	16.9%	15.9%	13.1%	17.1%	15.9%	16.5%	16.4%	17.9%	19.3%
EBITDA-margin %	19.9%	18.4%	17.7%	14.9%	18.8%	17.5%	18.0%	17.9%	19.4%	21.0%
Adjusted EBITA	7,989	6,718	5,610	5,553	6,811	5,891	4,914	4,934	5,287	4,682
Adjusted EBITDA	9,062	7,344	6,239	6,196	7,478	6,456	5,360	5,381	5,736	5,107
Adjusted EBITA-margin %	17.2%	16.5%	15.9%	15.6%	17.1%	16.8%	16.5%	16.5%	18.5%	18.9%
Adjusted EBITDA-margin %	19.5%	18.1%	17.7%	17.4%	18.8%	18.4%	18.0%	18.0%	20.0%	20.7%
Profit margin %	15.5%	14.5%	12.4%	9.3%	13.7%	11.7%	14.0%	15.2%	16.3%	17.7%
Excl. goodwill and step-up values:										
Capital turnover rate, times	4.4	7.4	5.7	8.6	10.6	7.9	6.4	6.7	6.3	5.6
Capital employed	10,649	5,474	6,201	4,146	3,734	4,447	4,657	4,430	4,560	4,399
Return on capital employed %	76.8%	125.5%	90.5%	112.9%	182.4%	125.3%	105.5%	110.2%	112.2%	108.5%
Incl. goodwill and step-up values:										
Capital turnover rate, times	1.3	1.3	1.1	1.2	1.3	1.3	1.6	1.7	1.8	1.9
Capital employed	35,550	30,729	31,698	30,663	31,512	27,259	18,598	17,833	16,324	12,752
Return on capital employed %	23.0%	22.4%	17.7%	15.3%	21.6%	20.4%	26.4%	27.4%	31.3%	37.4%
Return on equity %	21.3%	20.3%	13.9%	11.8%	21.7%	17.6%	17.9%	22.9%	22.9%	24.4%
Solidity %	43.1%	40.6%	39.0%	38.0%	35.5%	30.8%	46.3%	41.3%	43.9%	50.0%
Net debt ***	8,175	6,985	8,200	9,619	11,688	15,068	2,611	4,270	3,264	-551
Net debt to EBITDA, times ***	0.88	0.93	1.31	1.81	1.56	2.46	0.49	0.80	0.59	-0.11
Debt ratio, times ***	0.29	0.30	0.40	0.47	0.63	0.88	0.16	0.30	0.22	-0.04
Interest coverage ratio, times	32.8	39.3	28.4	24.5	22.3	18.2	22.1	23.2	28.6	35.9
Cash flow from:										
operating activities	5,223	4,883	4,463	4,979	5,850	5,123	4,233	3,586	3,429	4,098
investing activities	-1,027	-1,293	-721	-795	-710	-14,970	-951	-3,260	-5,497	-1,417
financing activities	-2,945	-2,445	-3,159	-3,566	-5,229	10,250	-3,191	-407	2,317	-2,431
Investments	1,337	1,490	675	617	674	603	492	531	555	429
Average number of employees	17,387	16,785	16,521	17,305	17,486	17,109	16,238	16,060	14,667	12,078
Earnings per share, SEK	13.08	10.77	7.09	5.46	9.15	7.02	7.22	7.64	7.68	7.34
Free cash flow per share, SEK	10.00	8.56	8.92	9.97	12.25	-23.48	7.82	0.78	-4.93	6.38

* Restated to IFRS 11. ** Restated to the new IAS 19.

*** Lease liabilities have increased by SEK 2,766 million as per January 1, 2019 due to the initial application of IFRS 16 Leases, which affects the net debt at December 31, 2019. Excluding this effect, the net debt to EBITDA would instead have been 0.60 and the debt ratio 0.20.

Observe that certain financial measures above constitute alternative performance measures.

Production: Alfa Laval AB / Bysted AB
Prepress and printing: TMG Taberg
Translation: The Bugli Company

Alfa Laval AB (publ)
Box 73
SE-221 00 Lund
Corporate Registration Number:
556587-8054

Visiting address:
Rudeboksvägen 1
Tel: + 46 46 36 65 00
Website: www.alfalaval.com

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 83, 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 83, while the corresponding tax is SEK 191 (235) 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 29. 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 investments in fixed assets, 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 dividends, increase and amortisation of loans and the cash flow components of the financial net.

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 2020

Alfa Laval will publish quarterly reports on the following dates in 2020:

Year-end report 2019	February 4
First-quarter report	April 23
Second-quarter report	July 21
Third-quarter report	October 22

Shareholder information

Gabriella Grotte
Investor Relations Manager
Tel: +46 46 36 74 82
e-mail: investor.relations@alfalaval.com

Analysts tracking Alfa Laval

ABG Sundal Collier
Anders Idborg
anders.idborg@abgsc.se
Tel: +46 8 5662 8674

ALPHAVALUE
Luis Pereira
capitalgoods@alphavalue.eu
Tel: +33 1 70 61 10 50

Bank of America Merrill Lynch
Alexander Virgo
alexander.virgo@baml.com
Tel: +44 20 7996 1221

Barclays Capital
Lars Brorson
lars.brorson@barclays.com
Tel: +44 20 3134 1156

Carnegie
Johan Wettergren
johan.wettergren@carnegie.se
Tel: +46 8 5886 87 43

Citi Investment Research
Klas Bergelind
klas.bergelind@citi.com
Tel: +44 207 986 4018

Commerzbank
Malte C. Schulz
malte.schulz@commerzbank.com
+44 20 747 59353

Credit Suisse
Max Yates
max.yates@credit-suisse.com
Tel: +44 20 7883 8501

Danske Bank
Oscar Stjerngren
oscar.stjerngren@danskebank.se
Tel: +46 8 568 806 06

DNB Markets
Christer Magnergård
christer.magnergard@dnb.no
Tel: +46 8 473 48 44

Handelsbanken
Timo Heinonen
tihe03@handelsbanken.se
Tel: +358 1044 42483

Goldman Sachs International
Jonathan Hanks
jonathan.hanks@gs.com
Tel: +44 20 7051 0928

HSBC
Jörg-André Finke
joerg.andre.finke@hsbc.de
Tel: +49 211 910 3722

JP Morgan
Glen Liddy
glen.liddy@jpmorgan.com
Tel: +44 20 7155 6113

Kepler Cheuvreux
Johan Eliason
jeliason@keplercheuvreux.com
Tel: +46 8 723 51 77

Morgan Stanley Research
Robert J. Davies
robert.j.davies@morganstanley.com
Tel: +44 20 7425 2057

Morningstar
Denise Molina
denise.molina@morningstar.com
Tel: +31 20 797 0010

Nordea
Andreas Koski
andreas.koski@nordea.com
Tel: +46 10 157 02 29

Pareto Securities
Anders Roslund
anders.roslund@paretosec.com
Tel: +46 8 402 52 88

RBC Capital Markets
Sebastian Kuenne
sebastian.kuenne@rbccm.com
+44 20 742 98932

SEB
Fredrik Agardh
fredrik.agardh@enskilda.se
Tel: +46 8 522 298 06

UBS
Sven Weier
sven.weier@ubs.com
Tel: +49 69 1369 8278

Annual General Meeting 2020

The Annual General Meeting of Alfa Laval AB (publ) will be held on Wednesday, April 23, 2020, 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 Friday, April 17, 2020, and register their intention to participate, along with any assistants, not later than Friday, April 17, 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 17. 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.

This is Alfa Laval

Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets.

Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day. It's all about *Advancing better*™.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

100001875-1-EN 2003