ASPO GROUP INTERIM REPORT JANUARY 1 TO SEPTEMBER 30, 2019

Q3: Expected improvements in the results of shipping company operations; the Group's operating profit fell short from the comparative period

(Figures from the corresponding period in 2018 are presented in brackets.)

January–September 2019

- Aspo's net sales increased and were EUR 440.7 (384.3) million.
- Operating profit decreased and was EUR 15.7 (18.0) million.
- Profit for the period decreased and stood at EUR 12.4 (13.4) million.
- Earnings per share decreased and were EUR 0.37 (0.40).
- The operating profit of ESL Shipping was EUR 10.2 (10.9) million, Leipurin EUR 1.9 (2.5) million and Telko EUR 7.1 (8.4) million.
- Net cash from operating activities was EUR 33.6 (7.6) million.

The adoption of IFRS 16 – Leases has an impact on the comparability of Aspo's key figures and financial statements calculations. Furthermore, the administrative court's decision issued in April to reduce the tax increase imposed on Telko in 2015 mainly increased the financial income and improved the earnings per share by five cents.

July–September 2019

- Aspo's net sales increased and were EUR 148.0 (136.3) million.
- Operating profit decreased and was EUR 6.7 (7.2) million.
- Profit for the period decreased and stood at EUR 4.9 (6.0) million.
- Earnings per share decreased to EUR 0.15 (0.18).
- The operating profit of ESL Shipping was EUR 4.4 (4.0) million, Leipurin EUR 0.8 (0.8) million and Telko EUR 2.4 (3.6) million.
- Net cash from operating activities was EUR 19.0 (8.8) million.

Aspo's guidance for 2019

Aspo's operating profit will be EUR 24–30 (20.6) million in 2019.

The guidance was altered on August 1, 2019. The earlier guidance for Aspo's operating profit in 2019 was EUR 28–33 million.

General outlook for 2019

General political uncertainty in the markets has remained. The increase in industrial production is expected to slow down in the main market areas of Aspo's business operations. Raw material prices are expected to be lower than in the previous year, and price levels are expected to remain at their current level or decrease. The national economy and industrial production are growing moderately in Russia, an important market area for Aspo, while international sanctions and their possible increase maintain uncertainties regarding the development of the Russian economy. General political risks are still on a high level and this may have rapid effects on the operating environment or decrease free trade, also affecting the operating conditions of customers of Aspo's businesses. Economic conditions are expected to remain unchanged in Aspo's businesses, even though there is a risk of rapid change.

KEY FIGURES

	7–9/2019	7–9/2018	Change, %	**1–9/ 2019**	1–9/ 2018	Change, %	1–12/ 2018
Net sales, MEUR	**148.0**	136.3	8.6	**440.7**	384.3	14.7	540.9
Operating profit, MEUR *)	**6.7**	7.2	-6.9	**15.7**	18.0	-12.8	20.6
Operating profit, %	**4.5**	5.3		**3.6**	4.7		3.8
Profit before taxes, MEUR	**5.4**	6.3	-14.3	**13.7**	14.9	-8.1	16.4
Profit for the period, MEUR	**4.9**	6.0	-18.3	**12.4**	13.4	-7.5	14.2
Earnings per share, EUR **)	**0.15**	0.18	-16.7	**0.37**	0.40	-7.5	0.42
Net cash from operating activities, MEUR	**19.0**	8.8	115.9	**33.6**	7.6	342.1	20.3
Equity per share, EUR				**3.82**	3.75		3.75
Return on equity, % (ROE)				**14.0**	15.6		12.4
Equity ratio, %				**28.3**	29.3		29.5
Gearing, %				**173.7**	155.2		154.4
ESL Shipping, operating profit, MEUR	**4.4**	4.0	10.0	**10.2**	10.9	-6.4	15.1
Leipurin, operating profit, MEUR	**0.8**	0.8	0.0	**1.9**	2.5	-24.0	3.3
Telko, operating profit, MEUR *)	**2.4**	3.6	-33.3	**7.1**	8.4	-15.5	7.4

Aspo has changed its segment reporting so that Kauko is reported as part of the Telko segment starting from January 1, 2019.
*) Figures for 1–12/2018 include an impairment loss of EUR 4.8 million recognized on Kauko's goodwill in December.
**) Figures for 1–12/2018 include an impairment loss recognized on Kauko's goodwill which reduced earnings per share approximately EUR 0.16.

AKI OJANEN, CEO OF ASPO GROUP COMMENTS ON THE THIRD QUARTER:

"The third quarter showed a clear and expected improvement from the first half of the year. Aspo's net sales continued to increase, and the significant increase in the operating profit of shipping company operations, a segment important to Aspo, was particularly positive. Net cash from operating activities continued at a strong level.

Aspo has invested approximately EUR 110 million in ESL Shipping's growth and the improved energy efficiency of its vessels during the past four years, and the results are starting to show. The technical challenges related to the new LNG-fueled vessels, experienced at the beginning of the year, have been overcome, and the vessels now meet the high standards we have set in terms of reduced emissions and improved energy efficiency and load handling capacity. The excellently economical LNG-fueled vessels improve the profitability of our shipping company operations. The acquisition of the Swedish AtoB@C has also been successfully finalized, and its operations have been integrated into ESL Shipping. Both the vessel investments and the acquisition are starting to fulfil the financial targets we have set for this investment program.

For ESL Shipping, now is a good time to start planning the next development stage. Our goal is to further improve the company's position as the leading and the environmentally-friendliest shipping company in the Baltic Sea which continuously improves its profitability.

Telko’s results for the third quarter did not reach our target levels. The company’s management has actively focused on the improvement of the efficiency of business operations and the management of working capital. We expect that these measures improve Telko’s profitability and reduce the impact of exchange rate fluctuations and any volatility in raw material prices on the company’s results. The measures related to the management of working capital reduced Telko’s operating profit during the third quarter, but the overall situation to support the company’s long-term growth and, in particular, improve its profitability has not changed.

On October 25, 2019, Mikko Pasanen was appointed Telko’s new managing director. He has significant experience in leading B-to-B operations and extensive expertise in the eastern markets. We firmly believe that he is the right person to accelerate the fulfilment of Telko’s strategy and to lead the continuous development of operations.

The profitability of Leipurin’s bakery operations improved during the third quarter, and its net sales also increased. Unfortunately, the loss produced by Leipurin’s machinery operations reduced results, and the company’s operating profit remained at the comparative period’s level.

All in all, Aspo is in a good position to take the next development steps. We will announce more information about our goals and the strategies, development phases and financial targets of Aspo’s businesses during our Capital Markets Day on November 26, 2019.”

ASPO GROUP

NET SALES

Net sales by segment

	7–9/2019 MEUR	7–9/2018 MEUR	Change %	**1–9/2019 MEUR**	1–9/2018 MEUR	Change %	1–12/ 2018 MEUR
ESL Shipping	**43.4**	30.6	41.8	**129.7**	73.7	76.0	120.1
Leipurin	**29.9**	28.0	6.8	**83.8**	89.4	-6.3	121.0
Telko	**74.7**	77.7	-3.9	**227.2**	221.2	2.7	299.8
Other operations	**0.0**	0.0	-	**0.0**	0.0	-	0.0
Total	**148.0**	136.3	8.6	**440.7**	384.3	14.7	540.9

There is no considerable inter-segment net sales.

Net sales by market area

	7–9/2019 MEUR	7–9/2018 MEUR	Change %	**1–9/2019 MEUR**	1–9/2018 MEUR	Change %	1–12/ 2018 MEUR
Finland	**45.9**	44.6	2.9	**146.7**	122.0	20.2	175.7
Scandinavia	**21.8**	15.8	38.0	**63.8**	41.9	52.3	62.0
Baltic countries	**14.8**	13.1	13.0	**42.8**	45.8	-6.6	60.6
Russia, other CIS countries + Ukraine	**46.0**	45.6	0.9	**128.4**	124.4	3.2	171.9
Other countries	**19.5**	17.2	13.4	**59.0**	50.2	17.5	70.7
Total	**148.0**	136.3	8.6	**440.7**	384.3	14.7	540.9

ESL Shipping's acquisition of AtoB@C in 2018 increased net sales, especially in Scandinavia and Finland. Finland has become Aspo's largest market area.

EARNINGS

Operating profit by segment

	7–9/2019 MEUR	7–9/2018 MEUR	Change %	**1–9/2019 MEUR**	1–9/2018 MEUR	Change %	1–12/2018 MEUR
ESL Shipping	**4.4**	4.0	10.0	**10.2**	10.9	-6.4	15.1
Leipurin	**0.8**	0.8	0.0	**1.9**	2.5	-24.0	3.3
Telko *)	**2.4**	3.6	-33.3	**7.1**	8.4	-15.5	7.4
Other operations	**-0.9**	-1.2	25.0	**-3.5**	-3.8	7.9	-5.2
Total *)	**6.7**	7.2	-6.9	**15.7**	18.0	-12.8	20.6

Aspo has changed its segment reporting so that Kauko is reported as part of the Telko segment starting from January 1, 2019.
*) Figures for 1–12/2018 include an impairment loss of EUR 4.8 million recognized on Kauko's goodwill in December.

The adoption of IFRS 16 Leases standard on January 1, 2019, improved the Group's operating profit, as, for example, the share of interest previously recognized in leasing expenses is now recognized in financial expenses.

Earnings per share

In January–September 2019, earnings per share were EUR 0.37 (0.40). Equity per share was EUR 3.82 (3.75).

The administrative court's decision issued on April 2, 2019, to reduce the EUR 1.7 million tax increase imposed on Telko in 2015 to approximately EUR 60,000 improved earnings per share by approximately five cents during the second quarter.

Financial targets

Aspo's objective is to reach an average return on equity of over 20%, gearing of up to 130% and an operating profit of 7% with the current structure by 2020. Following the adoption of IFRS 16, Aspo changed its financial target for the gearing ratio to up to 130% on April 29, 2019. Aspo's earlier financial target for gearing was up to 100%.

The operating profit rate for January–September 2019 was 3.6% (4.7), return on equity was 14.0% (15.6), and gearing was 173.7% (155.2). The comparability of gearing is affected by the adoption of IFRS 16 – Leases referred to above, as it increased the company's gearing by some 30 percentage points at the date of transition.

OUTLOOK FOR 2019

Global economic growth is expected to continue to slow down. Economies in Russia and other eastern markets will continue their moderate growth, while political risks and international sanctions imposed on Russia have maintained the risk level in the market area, making it harder to predict future development. The risk of increasing obstacles to international free trade has remained and negative development may also be rapid, which may affect the operating prerequisites of Aspo’s principals, customer companies or Aspo’s businesses. Economic growth in the EU, and particularly in Finland, remains at a good level, although there has been some slowdown. Growth in Finnish export volumes has decelerated. The increase in industrial production is expected to slow down in the main market areas of Aspo’s businesses in Northern Europe. Economic conditions will remain unchanged in Aspo’s businesses, although there is a risk of rapid changes.

The prices of production raw materials important to Aspo have decreased. In general, the prices are expected to remain low in 2019. Dry bulk freight rates in sea transportation that are important to ESL Shipping dropped steeply during the first six months of the year, but took an upward turn at the end of the review period and are expected to remain at a higher level than during the first half of the year.

ASPO’S BUSINESS OPERATIONS

ESL SHIPPING

ESL Shipping is the leading dry bulk cargo company in the Baltic Sea region.

At the end of the review period, the shipping company’s fleet consisted of 50 vessels with a total capacity of 464,000 dwt. Of the vessels, 24 are wholly-owned (75% of the fleet), two are minority-owned (2%) and the remaining 24 are time-chartered (23%). ESL Shipping’s competitive edge is based on its ability to secure product and raw material transportation for industries and energy production all year round, even in difficult weather conditions. The shipping company loads and unloads large ocean liners at sea as a special service.

	7–9/2019	7–9/2018	Change,%	**1–9/2019**	1–9/2018	Change,%	1–12/ 2018
Net sales, MEUR	**43.4**	30.6	41.8	**129.7**	73.7	76.0	120.1
Operating profit, MEUR *)	**4.4**	4.0	10.0	**10.2**	10.9	-6.4	15.1
Operating profit, %	**10.1**	13.1		**7.9**	14.8		12.6

*) Operating profit for 2018 includes EUR 0.9 million in transaction costs related to the acquisition made in August.

ESL Shipping’s operating profit for the third quarter increased to EUR 4.4 (4.0) million. Net sales grew by 42% from the comparative period and stood at EUR 43.4 (30.6) million. The impact of the acquisition on the increase in net sales was EUR 13.3 million. The cargo volume carried by ESL Shipping during the third quarter amounted to 4.2 (3.4) million tons. However, the realized transportation volumes of customers remained lower than estimated, particularly in the steel industry.

During the third quarter, the shipping company’s vessels mainly operated in contract traffic in the Baltic Sea and in Northern Europe, and also performed loading and unloading operations at sea. Transportation operations in the Baltic Sea and the North Sea are mainly based on long-term customer agreements and established customer relationships. Due to contractual transportation volumes being lower than estimated during the third quarter, the shipping company’s vessels needed to operate, more than expected, in fairly unproductive spot markets in late summer.

The shipping company’s both Supramax vessels mainly operated between the Canadian Arctic and Central Europe during the third quarter, and they produced positive operating results. The excellent cost efficiency of the new LNG-fueled vessels and the good development of AtoB@C had a positive impact on the shipping company’s operating profit. The operating profit rate during the third quarter was 10.1% (13.1).

The general international freight rates of dry bulk cargo strengthened during the review period, particularly in larger vessel categories. Transportation volumes in the steel industry decreased from the comparative period due to the lack of demand for the transportation of Russian iron pellets to Central Europe and the transportation volumes of the Nordic steel industry that were much lower than budgeted. Regardless of the transportation volumes being lower than expected, unusually long waiting periods that reduced profitability were repeatedly experienced at certain ports due to shortages in piloting and operational resources and overlapping vessel traffic. Relevant parties are engaged in necessary discussions regarding corrective measures.

Demand for loading and unloading operations for large ocean liners at sea picked up significantly towards the end of the third quarter. In the energy industry, the transportation volumes of coal decreased from the comparative period. The transportation volumes of forest industry products reflected the uncertainty of global markets, and the volumes fell clearly short of the forecast. During the third quarter, one larger vessel and two smaller vessels were docked as scheduled. In addition, one larger vessel had to be removed unexpectedly from traffic for almost two weeks due to repairs. The cranes of the new LNG-fueled vessels have operated as planned. According to the manufacturer, warranty repairs were completed during the third quarter, which caused idle days for the vessels. The deployment of crane automation has been delayed significantly due to the warranty repairs.

In August, ESL Shipping acquired m/s Alppila in accordance with the terms and conditions of the leasing agreement signed in 2011. The transfer of the vessel under ESL Shipping’s ownership will already improve the company’s profitability during 2019. During the review period, AtoB@C started to offer port towing and related services at the Port of Raahe by using a tugboat acquired for this purpose.

Net sales of ESL Shipping in January–September increased by 74% from the previous year to EUR 129.7 (73.7) million. The impact of the acquisition on the increase in net sales was EUR 53.5 million. The operating profit decreased by 6% to EUR 10.2 (10.9) million due to the weak first half of the year.

ESL Shipping has taken action to transfer to the Swedish tonnage system regarding AtoB@C operations starting from the beginning of 2020 to improve the shipping company’s tax efficiency.

Outlook for ESL Shipping for 2019

There are signs of decelerated demand in the shipping company’s main market areas. Due to the lower outlook and decreased product market prices, industrial sectors have started to adapt their production. As a result, transportation volumes will be lower than expected. While the general transportation volume estimates of contractual partners have decreased, they have still remained at a satisfactory level in the most important customer segments, excluding the steel industry. Of ESL Shipping’s transportation volumes, those of biofuel will be higher than in the previous year and those of grain will increase significantly as a result of high yields. Most of the shipping company’s transportation capacity has been secured in the Baltic Sea and Northern Europe through long-term agreements.

General uncertainties in demand can be seen in markets due to increased financial uncertainties and the political situation. Measures directed at international free trade and increasing political risks have an impact on global material flows. The expected Brexit will increase uncertainties in contract traffic to and from the UK. The development of cargo markets during the latter part of the year will have the highest impact on the performance of the shipping company's largest Supramax vessels. So far, the cargo levels of large vessels are at a satisfactory level.

During the rest of the year, the general availability of ship fuel and the development of its price may be affected by the stricter global regulations on sulfur emissions to enter into force from the beginning of 2020. At the same time, the resulting modifications in vessels may reduce the supply of vessel capacity, which would have a positive impact on the shipping company's operations in the Baltic Sea. ESL Shipping's vessels do not require any technical modifications. High fluctuations in prices may have a short-term impact on profitability, even though the fuel price risk is managed comprehensively through fuel clauses in transportation agreements.

Demand for loading and unloading operations for large ocean liners at sea, a segment important to the shipping company, is expected to remain at a good level during the second half of the year. The volume of contractual transportation in the shipping company's smaller vessel category is expected to be satisfactory, but the spot market situation of supplementary flows of goods is estimated to be lower than in the previous year, apart from rising cereal export volumes. The price level of renewed time-chartering agreements in the smaller vessel category is lower than during the previous year. The content of the time-chartering portfolio will be reviewed, if necessary, in accordance with any changes in the focus areas of customer demand.

ESL Shipping is actively investigating different opportunities to have a broader presence in growing markets in the Russian Arctic. The shipping company will also continue its development activities to offer the most effective and environmentally friendliest future transportation solutions in the markets.

ESL Shipping will improve the efficiency of its operations by deploying a new ERP system. The new system covers all vessel operations and combines cargo operations in Finland and Sweden into a single data system.

LEIPURIN

Leipurin provides solutions particularly for bakery customers and chain customers in the foodservice business, and partly to other food industries and the retail trade. Leipurin's business is divided into three areas: the bakery business, the machinery business and the latest addition, the foodservice business. The solutions offered by the bakery business include, among other things, product range development, recipes, raw materials and training. As part of its machinery business, Leipurin designs, delivers and maintains production lines for the baking industry, baking units and other machinery and equipment required in the food industry. In the foodservice business, Leipurin's range includes procurement and logistics services, as well as branded concepts. Leipurin uses leading international producers and manufacturers as its raw material and machinery supply partners. Leipurin operates in Finland, Russia, the Baltic countries, Ukraine, Kazakhstan and Belarus.

	7–9/2019	7–9/2018	Change, %	**1–9/2019**	1–9/2018	Change, %	1–12/ 2018
Net sales, MEUR	**29.9**	28.0	6.8	**83.8**	89.4	-6.3	121.0
Operating profit, MEUR	**0.8**	0.8	0.0	**1.9**	2.5	-24.0	3.3
Operating profit, %	**2.7**	2.9		**2.3**	2.8		2.7

During the third quarter, consumer confidence in Leipurin’s main market areas was lower than in the comparative period. In Finland, food inflation was lower than during the comparative period, while the inflation rate accelerated from the comparative period in Russia. The prices of raw materials important to Leipurin showed variation from one raw material group to the next, with the variation between different raw material groups being significant regarding the market prices of seasonal products. Overall, market prices were at the comparative period’s level.

The trends important for Leipurin’s business opportunities and which affect the consumer market, i.e. increasing popularity of out-of-home eating, eating snacks and the consumption of pastries, continued. The market for industrially packed bread continues to decrease in the west, whereas the market for in-store bakeries and baking units has continued to increase. This presents challenges in the operations of industrial and artisanal bakeries. In Russia, the market for in-store bakeries and the increased consumption of pastries have evened out, while bread consumption is still slowly decreasing, and the consumption of less expensive types of bread has increased due to consumers’ weakened purchasing power.

The net sales of Leipurin in the third quarter increased from the comparative period to EUR 29.9 (28.0) million. The operating profit was EUR 0.8 (0.8) million, being at the level of the comparative period. The operating profit rate during the third quarter was 2.7% (2.9). Net sales in the market area of Russia, other CIS countries and Ukraine increased by approximately 10% to EUR 9.5 (8.6) million, and the operating profit rate was approximately 8% (7).

Net sales of the bakery business, representing over 80% of Leipurin’s total net sales, increased slightly during the third quarter, and the operating profit improved from the comparative period. In the eastern markets, net sales of the bakery business grew by 16% in the third quarter, amounting to EUR 8.7 (7.6) million. Growth was high in Russia and Ukraine. In Russia, ruble-denominated net sales increased by approximately 7%. The operating profit rate of the bakery business in the market area of Russia, other CIS countries and Ukraine was approximately 9% (8). In the western markets, the net sales of the bakery business increased slightly and profitability improved from the comparative period, despite the discontinued bakery operations in Poland. Growth was seen particularly in Lithuania and Estonia. In Finland, net sales fell slightly short of the comparative period’s level, mainly due to bakery customers who discontinued their operations.

The new foodservice business, which has so far mainly concentrated on the Finnish market, represented approximately 4% of Leipurin’s total net sales in the third quarter. Net sales of the foodservice business increased from the comparative period. At the end of the review period, two test cafés operated by Leipurin in Espoo were discontinued which had a negative impact on the operating profit. Other investments in the development of the new business model were continued during the third quarter.

The machinery business made a slight loss compared to the operating profit made in the comparative period. A strong cyclical nature is typical of the machinery business due to the timing of project deliveries. During the third quarter, net sales of the machinery business increased by roughly 24% as a result of the timing of deliveries principal equipment with lower margins. Net sales of Leipurin's own machine production decreased from the comparative period.

Leipurin's net sales in January-September decreased from the comparative period to EUR 83.8 (89.4) million. Operating profit decreased to EUR 1.9 (2.5) million. The operating profit rate for January-September was 2.3% (2.8). Net sales in the market area of Russia, other CIS countries and Ukraine increased by approximately 9% to EUR 26.8 (24.5) million, and the operating profit rate was approximately 8% (7).

Outlook for Leipurin for 2019

The market situation is expected to remain challenging in Leipurin's key markets. The development of Leipurin's main customer categories, i.e., bakeries and foodservice chains, continues to vary from one customer to the next. For example, several bakeries in Finland announced in 2018 that they will discontinue their operations or units. This will reduce the net sales of Leipurin's Finnish business in 2019. Fluctuation in the market prices of raw material groups important to Leipurin is expected to continue, while market prices of seasonal products of 2019 are expected to increase overall. The market position of Leipurin is expected to remain strong in the industrial baking sector in Finland, Russia and the Baltic region. Leipurin's operating profit is expected to decrease in 2019 due to the schedule set for significant machine deliveries in Russia during the final quarter being postponed to the second quarter of 2020 for reasons independent of the company.

In Russia, consumer confidence has decreased, and international sanctions and their possible increase have added to the uncertainties regarding the development of the economy. The development of local production has intensified competition over prices in eastern markets. Leipurin will continue to develop the procurement of bakery raw materials in the area in order to better respond to any changes in demand. Leipurin will maintain its high profitability in the region, strengthen its market position, and look for growth in the bread and pastry sectors, as well as in-store bakeries.

The foodservice market is a new area of growth for Leipurin. Leipurin will continue to invest in the foodservice market, particularly in Finland and more extensively in the western markets, where Leipurin is responding, for example, to the growing demand for cafeteria chains and bakery cafés. The development of Leipurin's foodservice offering aims to create new business models and services that will help Leipurin and its customers to succeed in the growing foodservice market.

In the machinery business, bakeries and the food industry are expected to maintain their current equipment investment level in Finland. In Baltic countries, equipment investments are expected to decrease in the near future. No significant changes are expected in investment levels in Russia. In Leipurin's own machine production, sales will be expanded to new export markets and the efficiency of operations will be improved by further modifying processes and operating methods. The changes in principals taken place in principal machine operations during the third quarter are expected to have a negative impact on principal machine operations. In machinery business, the high fluctuation in net sales and profitability will continue due to the nature of the operations. At the end of the review period, the order book for the final quarter of 2019 is at a low level due to changes in a significant Russian customer's delivery schedules. At an annual level, machinery business will produce a loss and remain significantly from the comparative period's operating profit.

TELKO

Telko is a leading expert in and supplier of plastic raw materials and industrial chemicals. Kauko, reported as part of the Telko segment, is a specialist in demanding mobile knowledge work environments. Telko's operations are based on representing the best international principals and on the expertise of the personnel. Telko has subsidiaries in Finland, the Baltic countries, Scandinavia, Poland, Russia, Belarus, Ukraine, Kazakhstan, Azerbaijan, China, Uzbekistan and Germany. Operations were also started in Romania.

	7–9/2019	7–9/2018	Change,%	**1–9/2019**	1–9/2018	Change,%	1–12/ 2018
Net sales, MEUR	**74.7**	77.7	-3.9	**227.2**	221.2	2.7	299.8
Operating profit, MEUR *)	**2.4**	3.6	-33.3	**7.1**	8.4	-15.5	7.4
Operating profit, %	**3.2**	4.6		**3.1**	3.8		2.5

Aspo has changed its segment reporting so that Kauko is reported as part of the Telko segment starting from January 1, 2019.
*) Figures for 1–12/2018 include an impairment loss of EUR 4.8 million recognized on Kauko's goodwill in December.

Telko's operating environment mainly decreased in all market areas as a result of decelerated economic growth. The further deceleration of economic growth and increasing uncertainties were reflected, for example, in a decrease in the prices of raw materials sold by Telko, intensifying price competition and more cautious purchases by customers.

In plastic raw materials, the prices of volume plastics fell from the previous quarter and were clearly lower than during the comparative period. The price development of technical plastics varied from one product group to the next, and prices were lower than during the comparative period. The average prices of chemicals decreased by roughly 3% from the previous quarter, being approximately 16% lower than during the comparative period. The decreasing prices have slowed down the increase in Telko's net sales.

Net sales of the Telko segment decreased by 4% during the third quarter to EUR 74.7 (77.7) million. The sales volume increased by 8% from the comparative period. Telko segment's net sales in the eastern markets, i.e. Russia, other CIS countries and Ukraine, increased by 5% to EUR 36.5 (34.8) million. Profitability in the eastern markets decreased. In western markets, net sales stood at EUR 38.2 (42.9) million.

Net sales of the plastic business remained at the comparative period's level at EUR 37.4 (37.4) million. The profitability of the plastic business decreased from the comparative period. The lower profitability was affected by the decrease in raw material prices and the strengthened rates of the Russian ruble and the Ukrainian hryvnia, because Telko is a distributor holding inventory. Net sales of the chemical business increased by 5% to EUR 31.3 (29.9) million. Profitability improved from the comparative period. Net sales of Kauko decreased by 42% to EUR 6.0 (10.4) million, and profitability decreased from the comparative period.

The Telko segment's operating profit for the third quarter was EUR 2.4 (3.6) million. The operating profit of Kauko decreased by EUR 0.8 million from the very strong comparative period. The Telko segment's operating profit rate decreased to 3.2% (4.6). The decrease in the operating profit resulted, for example, from lower raw material prices and exchange rate changes that affected, in particular, sales margins acquired from stocked raw materials. In addition, costs arising from Telko's personnel arrangements and the restructuring of operations reduced the operating profit. As part of its efficiency measures, Telko has improved the management of working capital, and its net cash from operating activities has improved significantly.

The Telko segment's net sales increased by 3% during January–September to EUR 227.2 (221.2) million. Operating profit stood at EUR 7.1 (8.4) million. The operating profit rate was 3.1% (3.8).

During January–September, the Telko segment's net sales in the eastern markets, i.e. Russia, other CIS countries and Ukraine, increased by 8% to EUR 101.2 (94.1) million. The Telko segment's net sales in the western markets totaled EUR 126.0 (127.1) million. Net sales of the plastic business increased by 6% to EUR 116.8 (110.4) million. Net sales of the chemical business increased by 4% to EUR 89.6 (86.3) million. Kauko's net sales decreased by 15% to EUR 20.8 (24.5) million.

Outlook for Telko for 2019

Uncertainties in global trade and economies have increased, which is reflected in Telko's operating environment. The general economic trend is expected to weaken and industrial production is expected to decrease in western markets. Demand for technical products is expected to decrease. The price development of volume plastics is expected to even out and prices of chemicals to remain at their current level. High volatility in the price of crude oil may cause even rapid price fluctuations.

Demand in the eastern markets, important to Telko, is expected to decrease. Growth in Russian markets is expected to decelerate. Operations in Ukraine are important to Telko, and political and economic problems in the country may affect demand in the area.

Telko's growth is based not only on an increase in general demand, but more on strategic growth measures and expansion in the markets. To improve its profitability, Telko is concentrating on the more effective implementation of strategic projects and will continue the development of its operations and product portfolio. As part of the efficiency measures, the development of procurement and working capital management will continue.

One of Telko's strategic growth projects involves investments in alternative eco-friendly plastic raw materials in accordance with sustainable development. Industries that use plastic raw materials are seeking options for conventional raw materials in western markets in order to find eco-friendlier solutions. This can be seen in the increased interest in Telko's green products among customers. In their R&D activities, major raw material producers are investing heavily in alternative bio-based or biodegradable materials. Telko has continued its investments in the marketing and procurement of new greener options. Operations are expected to increase especially in western markets, while customers in eastern markets are also interested, for example, in raw materials suitable for the production of biodegradable plastic bags or solvent-free paints.

Telko will continue its growth in its current key market areas and expand its operations to new geographic areas. The development of profitability is based on efficient procurement activities, technical products offering higher added value, the development of logistics and active pricing. In Russia, Telko will continue to strengthen its regional organizations. According to its strategy, Telko will increase efforts in special chemicals of a higher processing rate and the life science segment in the eastern markets. R&D operations have grown in order to develop the range of alternative plastic raw materials. Furthermore, Telko aims to increase fiber-based and recycled plastics and their relative proportion, particularly in western markets.

OTHER OPERATIONS

Other operations include Aspo Group's administration, the financial and ICT service center, and a small number of other functions not covered by business units.

	7–9/2019	7–9/2018	Change,%	**1–9/2019**	1–9/2018	Change,%	1–12/ 2018
Net sales, MEUR	**0.0**	0.0	0.0	**0.0**	0.0	0.0	0.0
Operating profit, MEUR	**-0.9**	-1.2	25.0	**-3.5**	-3.8	7.9	-5.2

The operating result of other operations during the third quarter stood at EUR -0.9 (-1.2) million.

FINANCING

The Group's cash and cash equivalents stood at EUR 18.3 million at the end of the review period (12/2018: EUR 19.3 million). The consolidated balance sheet included a total of EUR 224.8 million in interest-bearing liabilities (12/2018: EUR 199.4 million). Interest-bearing liabilities on the consolidated balance sheet increased in the beginning of 2019 compared with the 2018 financial statements as a result of the adoption of IFRS 16 – Leases. The average interest rate of interest-bearing liabilities, excluding lease liabilities, was 1.5% at the end of the review period (12/2018: 1.6%). Non-interest-bearing liabilities totaled EUR 82.1 million (12/2018: EUR 83.7 million).

Aspo Group's gearing was 173.7% (12/2018: 154.4%) and its equity ratio was 28.3% (12/2018: 29.5%). Following the adoption of IFRS 16 at the beginning of 2019, gearing increased by approximately 30 percentage points and the equity ratio decreased compared to the 2018 financial statements.

The Group's net cash from operating activities was EUR 33.6 (7.6) million in the review period. The positive impact of IFRS 16 on net cash from operating activities was approximately EUR 11 million. During the review period, the change in working capital was EUR 0.0 (-14.6) million. Cash flow from investing activities totaled EUR -6.9 (-50.3) million. The Group's free cash flow was EUR 26.7 (-42.7) million.

In August 2019, ESL Shipping acquired m/s Alppila from SEB Leasing Oy in accordance with the terms and conditions of the leasing agreement signed in 2011. This purchase reduced Aspo Group's leasing liabilities, while total interest-bearing liabilities remained close to the previous level.

In September 2019, Aspo Plc participated in a EUR 40 million group bond guaranteed by Garantia Insurance Company with a loan unit of EUR 15 million. The loan has a maturity of five years and a fixed annual coupon rate of 0.75%. In addition to the coupon rate, Aspo will pay an annual guarantee provision to Garantia. The proceeds from the loan unit will be used to cover the Group's general financing needs.

The total amount of committed revolving credit facilities signed between Aspo and its main financing banks was EUR 40 million at the end of the review period. The revolving credit facilities remained fully unused at the end of the review period. EUR 19 million of Aspo's EUR 80 million commercial paper program were in use. A total of approximately EUR 35 million in financing agreements fell due during 2019.

On May 27, 2019, Aspo issued a hybrid bond of EUR 25 million. The fixed coupon rate of the bond is 6.75% per annum. The bond has no maturity, but the company may exercise an early redemption option after four years of its issuance.

Aspo has hedged its interest rate risk by means of interest rate swaps. Their fair value on September 30, 2019 was EUR -0.1 million (12/2018: EUR -0.2 million). The financial instruments are on level 2 of the fair value hierarchy.

INVESTMENTS

The Group's investments during the third quarter totaled EUR 16.8 (37.8) million. The investments mainly consisted of ESL Shipping's acquisition of m/s Alppila, normal annual docking operations and other maintenance investments

Investments by segment, acquisitions excluded

	7–9/ 2019 MEUR	7–9/2018 MEUR	Change %	**1–9/2019 MEUR**	1–9/2018 MEUR	Change %	1–12/ 2018 MEUR
ESL Shipping	**16.5**	37.4	-55.9	**18.2**	38.5	-52.7	41.9
Leipurin	**0.2**	0.2	0.0	**0.4**	0.4	0.0	0.5
Telko	**0.1**	0.1	0.0	**0.5**	0.4	25.0	0.7
Other operations	**0.0**	0.1	-100.0	**0.1**	0.1	0.0	0.1
Total	**16.8**	37.8	-55.6	**19.2**	39.4	-51.3	43.2

PERSONNEL

Personnel by segment, period-end

	9/2019	9/2018	Change,%	12/2018
ESL Shipping	**272**	274	-0.7	276
Leipurin	**306**	330	-7.3	323
Telko	**335**	336	-0.3	334
Other operations	**29**	24	20.8	25
Total	**942**	964	-2.3	958

At the end of the review period, Aspo Group had 942 (964) employees.

Rewarding

Aspo Group applies a profit bonus system, which was adopted in 2013. The profit bonus system applied to Finnish personnel is linked with the personnel fund so that the bonus can be invested in the personnel fund or withdrawn in cash. The long-term goal of the funding system is that the personnel will become a significant shareholder group in the company. All persons working at Aspo Group's Finnish companies are members of the personnel fund.

Share-based incentive plans 2018–2020

The Board of Directors of Aspo Plc approved three new share-based incentive plans in April 2018 for the Group's key employees. The aim of the new plans is to combine the objectives of the shareholders and key employees in order to increase the value of the company in the long term, to retain the key employees in the company, and to offer them competitive reward plans based on earnings and accumulating the company's shares.

Share-based incentive plan 2018–2020

The share-based incentive plan 2018–2020 includes three earnings periods: calendar years 2018, 2019 and 2020. The Board of Directors of the company will define the plan's performance criteria and required performance levels for each criterion at the beginning of each earnings period. The potential reward of the plan from the earnings period 2019 will be based on the Group's earnings per share (EPS).

The share-based incentive plan is directed to 15 people, including the members of the Group Executive Committee, during the earnings period 2019. The potential reward from the earnings period 2019 will be paid partly in the company's shares and partly in cash in 2020. The rewards to be paid on the basis of the share-based incentive plan 2018–2020 correspond to the value of a maximum total of 500,000 Aspo Plc shares, also including the proportion to be paid in cash.

The reward from the earnings period 2018 was based on the Group's earnings per share (EPS). In March 2019, on the basis of the 2018 earnings period, employees included in the plan received 7,711 treasury shares as a share-based reward, as well as cash equaling the value of the shares, at most, in order to pay taxes.

Executive Committee share-based incentive plan 2018–2020

The Executive Committee share-based incentive plan 2018–2020 includes one earnings period: calendar years 2018–2020. The potential reward of the plan from the earnings period 2018–2020 will be based on the Group's operating profit (EBIT), and the reward payment requires exceptional performance.
The potential reward from the earnings period 2018–2020 will be paid partly in the company's shares and partly in cash in 2021. The rewards to be paid on the basis of the earnings period 2018–2020 correspond to the value of a maximum total of 200,000 Aspo Plc shares including also the proportion to be paid in cash.

Restricted share-based incentive plan 2018

The reward from the restricted share-based incentive plan will be based on the participant's valid employment or service and the continuation of employment during the vesting period. The reward will be paid partly in the company's shares and partly in cash after the end of a 12–36 month vesting period. The restricted share-based incentive plan is intended solely for individual key employees by a special resolution of the Board of Directors. The rewards to be paid on the basis of the restricted share-based incentive plan correspond to the value of a maximum total of 100,000 Aspo Plc shares, also including the proportion to be paid in cash.

RISKS AND RISK MANAGEMENT

Decreases in global trade as a result of significantly decelerated growth in the global economy this year and increased uncertainties in economic development have reduced exports and the investment outlook. These changes have affected industrial production in the Eurozone and can be seen in increased risks in Aspo's market areas. Despite the increased uncertainty, demand for services in the Eurozone has remained high, supported by the positive employment situation and low interest rates. Political tension and resulting risks have increased, but they are not expected to have any impact on Aspo's business operations in the short term. The trade war between the USA and China, including the resulting import duties, which limit international free trade, have not directly affected Aspo's operations. Aspo does not have any business operations that are or would also be affected directly by Brexit or its implementation, but there may be an indirect impact through the principals or customers of Aspo's businesses.

Following the financial crisis, the global economy has grown simultaneously in all Aspo's market areas, albeit at different rates in different areas. In the Eurozone, growth has slowed down due to growing political tension related to trade. In addition, the expected Brexit increases uncertainty. In Russia, the increase in GDP and industrial production have slowed down alongside decelerated global economic growth. At the same time, inflation and exports have slowed. Private consumption and investments have decreased in Russia, as real income has not increased and the decelerated growth in loan portfolios does not support demand for consumption or private investments. In logistics chains, dry bulk cargo rates in sea transportation declined steeply during the first half of the year, turned into an increase during the second half and reached their peak at the end of the third quarter.

Financial risks in all Aspo’s businesses are slowly increasing, even though the markets are relatively stable. However, any unexpected changes in international politics and trade policies, combined with rapid changes in exchange rates or commodities markets, may have an impact on demand for and competitiveness of the products of Aspo’s businesses. In Russia, the increase in private consumption has nearly stopped, while import volumes have grown slowly. As there have been no structural economic reforms in Russia, economic growth is only expected to be moderate, mainly resulting from government-steered investment projects.

Strategic risks

Political and financial risks have grown globally which may have a rapid impact on Aspo’s operating environment. Free trade has already decreased in the short term, while these changes may also have an impact in the long term. The economic and political situation in Aspo’s market areas may have made it more difficult to make structural changes as part of Aspo’s strategy. The situation may continue unchanged, but, as the economic and political pressure varies, it may change rapidly. An unfavorable turn in the situation may lead to Aspo being unable to achieve its financial targets in the time it has set for it.

The Russian economy has stabilized, and inflation has increased slightly, while economic growth is slow. The long-term deterioration in consumption demand has affected trade in general and, after a brief upswing, the natural increase in purchasing power has come to a halt due to inflation. Lending, which previously strengthened consumption demand, has slowed down. The economy of Ukraine is still weak, although growth is faster than in Russia. Consumer and production prices have increased, and inflation is high, but the increase in purchasing power and the favorable development of salaries have increased consumption demand. The central bank has still kept its reference rate very high. No signs of weakening have been seen in the financial markets and payment transactions of Russia, but they involve risks that are reflected, for example, in the Russian banking sector.

The promotion of local production has increased the volume of raw materials and items produced in Russia in industrial production, despite the decrease in quality. This may further reduce the position of imported raw materials in the value chain and the margin level, but, correspondingly, an increase in import volumes may increase demand for foreign raw materials and reduce related risks for Aspo.

Economic sanctions, their increase or other obstacles arising from the economic or political situation in Russia may, in part, reduce transportation volumes originating from Russia and the demand for unloading services for large ocean liners at sea. Protectionist actions may decrease sea transportation in the Russian arctic if Russia sets stricter regulations on internal transportation, for example, regarding the transport of energy products. In Finland and the rest of Europe, social pressures to reduce the use of fossil energy sources in energy production are constantly increasing, which will reduce coal transport volumes in the future. Correspondingly, the transport volumes of replacement energy products will increase. Due to this change, it is difficult to estimate future transportation volumes. Fluctuations in international freight indices, their extended low level and the global increase in the number of vessels, particularly in large size categories, have increased uncertainty over the long-term profitability of shipping companies.

Strategic risks may be caused by the deterioration of the global economic situation, the political atmosphere, protectionism and the outlook and production choices of industrial customers. Decisions regarding energy production structures affected by environmental policy and other political choices cause changes in industry and energy production that will decrease the use of fossil fuels and increase the use of alternative forms of energy. The flow of goods in the Baltic Sea may change as a result of steel production, cost structures, changes in the customer structure, such as centralization, or other reasons. Lower demand for metal products in global markets may cause changes in demand for sea freights. These changes may have negative consequences on operations as the need for transportation decreases, but they can also be seen as significant opportunities. As a result of low cargo prices in international shipping, competition over cargoes may also become fiercer in the Baltic Sea. Mild, ice-free winters may also increase competition. ESL Shipping received two new, low-emission vessels with better fuel economy for this region and customer base. These will also be able to operate in ice conditions. The shipping company also completed an acquisition that has significantly improved its competitiveness.

Strategic risks are influenced by long-term changes in cargo prices, the building of new vessels and the removal of others from the markets, investment trends, and changes in trade structures, especially in western markets. In eastern markets, risks are increased by such factors as political instability, social structures or the lack of reaction to the difficulties encountered by business operations. The accumulation and discharge of investments may cause long-term changes in the competitive situation and customer behavior. Trade between eastern and western markets may suffer from restrictions on free trade, as a result of which there may be a decrease in the sales of goods and services.

Rapid changes in economic structures may cause risks due to changes in the customer or principal structure or technologies, and due to unused opportunities that require a quick response. Changes in demand as a result of various megatrends may cause changes in the product and service ranges of Aspo’s subsidiaries, due to which it may be difficult to replace their current products. Disruptive changes may be very rapid. Aspo’s strategic risks are evened out by the distribution of business operations over three segments, its engagement in business operations in a broad geographical area, and its ability to react quickly to changing situations.

In addition to western markets, Aspo operates in areas where economic trends or the political atmosphere may turn rapidly positive or negative, which could significantly change the prevailing operating conditions.

Operational risks

Economic uncertainty in Aspo’s operating environment increased during the review period from the comparative period. As a result, operational risks have also increased. These include risks related to supply chains, goods and services, and persons. Selections made by principals regarding their distribution networks may have a positive or negative impact on the representation of Aspo’s subsidiaries and, therefore, on their financial results. The threat of different kinds of misuse from outside the Group has increased further as a result of the development and increased activity of electronic media.

For a long time, the focus of Aspo’s growth has been on emerging market areas, where risks decelerating growth are affected by factors such as exchange rate fluctuations and interest rates, the level of and changes in the global market prices of raw materials, industrial and commercial investments, customer liquidity, changes in legislation and import regulations, and inactivity, bias or corruption among public authorities.

Economic growth and, alternatively, any decrease in production may have an impact on demand for raw materials. Political instability makes commercial activities more difficult and, if the situation prolongs, it may also decelerate the growth of Aspo’s businesses. Consumer behavior and confidence are also reflected in risks associated with B-to-B customers and their risk levels. The growth opportunities presented by emerging markets are encouraging interest among competitors in starting or expanding business operations in these areas. The challenging emerging markets and their escalated situations have also caused competitors to withdraw from these markets, which has created new potential for Aspo's businesses and has increased their market shares.

Hedging against exchange rate changes is not possible in all conditions or, in particular, at all times. Changes in exchange rates may reduce profit and equity on the balance sheet as a result of translation differences. Then again, changes in exchange rates may also strengthen results and the balance sheet. As changes in credit loss risks are diversified across businesses and customers, Aspo's businesses have not been subjected to any significant credit losses related to their customers, even though credit loss risks have increased, and provisions are made for them in accordance with principles of IFRS 9 standard.

The technical products or applications deployed by Aspo's businesses may break or malfunction, due to which the increase in profit based on these products or applications may slow down or be delayed. Sales margins may be reduced and financial claims related to deliveries may emerge if Aspo's products are not suited for the customers' production processes or do not have the correct technical properties.

Operational risks have also increased as a result of cybercrime, malware and the increased number of fraud attempts. If realized, these risks may mean financial losses for Aspo. Aspo has appropriate information security and internal training arrangements, but individual cases may occur due to the decentralized structure of operations. Any deviations in internal processes may result in losses, for example, in the form of taxes or official fees.

The quantity and probability of the Group's loss risks are regularly assessed. Bidding processes are arranged for general insurance policies and the amounts insured are regularly updated. The amounts insured are sufficient in view of the scope of Aspo's operations, but insurance companies may restrict the validity of insurance policies as a result of risks increasing for various reasons, such as in conflict areas.

Internal control and risk management

One of the responsibilities of Aspo's Audit Committee is to monitor the efficiency of the Group's internal control, internal audits, and risk management systems. The Audit Committee monitors the risk management process and instructs necessary measures to prevent strategic risks in particular. In accordance with the internal control principles approved by the Board of Directors, risk management is part of Aspo's internal control, and its task is to ensure the implementation of the Group's strategy, development of financial results, shareholder value, dividend payment ability, and continuity in business operations. The operational management of each business is responsible for risk management. The management is responsible for specifying sufficient measures and their implementation, and for monitoring and ensuring that the measures are implemented as part of day-to-day operational management. Aspo's CFO, who reports to the Group CEO, is in charge of risk management.

Aspo Group's financing and financial risk management are centralized in the parent company, in accordance with the treasury policy approved by the Board of Directors.

A more detailed account of the risk management policy and the most significant risks has been published on the company's website. More detailed information about financing risks can be found in the notes to the financial statements.

SHARE CAPITAL AND SHARES

Aspo Plc's share capital on September 30, 2019 was EUR 17,691,729.57, and the total number of shares was 31,419,779, of which the company held 296,650 shares, i.e. 0.9% of the share capital.

Aspo Plc has one share series. Each share entitles the shareholder to one vote at the shareholders' meeting. Aspo's share is quoted on Nasdaq Helsinki Oy's Mid Cap segment under industrial products and services.

During January–September 2019, a total of 1,261,658 Aspo Plc shares with a market value of EUR 10.7 million were traded on Nasdaq Helsinki, in other words, 4.0% of all shares changed hands. During January–September, the share price reached a high of EUR 9.42 and a low of EUR 7.60. The average price was EUR 8.50 and the closing price at end of the review period was EUR 8.34. At the end of the review period, the market value, less treasury shares, was EUR 259.6 million.

The number of Aspo Plc shareholders was 10,151 at the end of the review period. A total of 1,216,728 shares, or 3.9% of the share capital, were nominee registered or held by non-domestic shareholders.

DECISIONS AT THE SHAREHOLDERS' MEETING

Dividend

The Annual Shareholders' Meeting of Aspo Plc on April 9, 2019, approved the payment of a dividend of EUR 0.44 per share in accordance with the Board of Directors' proposal.

The dividend will be paid in two installments. The payment date for the first installment of EUR 0.22 per share was April 18, 2019. The second installment, of EUR 0.22 per share, will be paid on November 7, 2019 to shareholders who, on the record date of October 31, 2019, are registered in the list of shareholders maintained by Euroclear Finland Oy.

Board of Directors and auditors

Mammu Kaario, Mikael Laine, Gustav Nyberg, Salla Pöyry, Risto Salo and Tatu Vehmas were re-elected to the Board of Directors. At the Board's organizing meeting held after the Annual Shareholders' Meeting, Gustav Nyberg was elected as Chairman of the Board and Mammu Kaario as Vice Chairman. At the meeting, the Board decided to establish a Remuneration Committee and appointed Gustav Nyberg the Chairman of the committee, and Risto Salo and Tatu Vehmas ordinary members. At the meeting, the Board also decided to appoint Mammu Kaario the Chairman of the Audit Committee, and Mikael Laine and Salla Pöyry ordinary members.

The Authorized Public Accountant firm Ernst & Young Oy was elected as the company's auditor. Ernst & Young Oy has announced that Toni Halonen, APA, will act as the auditor in charge. Remuneration will be paid to the auditor in accordance with a reasonable accepted invoice.

Board authorizations

<u>Authorization of the Board of Directors to decide on the acquisition of treasury shares</u>

The Annual Shareholders' Meeting on April 9, 2019 authorized the Board of Directors to decide on the acquisition of no more than 500,000 treasury shares using the unrestricted equity of the company, representing about 1.6% of all the shares in the company. The authorization includes the right to accept treasury shares as a pledge. The authorization is valid until the Annual Shareholders' Meeting in 2020 but not more than 18 months from the approval at the Shareholders’ Meeting.

Authorization of the Board of Directors to decide on a share issue of treasury shares

The Annual Shareholders’ Meeting on April 9, 2019 authorized the Board of Directors to decide on a share issue, through one or several lots, to be executed by conveying treasury shares. An aggregate maximum amount of 900,000 shares may be conveyed based on the authorization. The authorization is valid until the Annual Shareholders’ Meeting in 2020 but not more than 18 months from the approval at the Shareholders’ Meeting.

Authorization of the Board of Directors to decide on a share issue of new shares

The Annual Shareholders’ Meeting on April 9, 2019 authorized the Board of Directors to decide on a share issue of new shares against payment. The authorization includes the right of the Board of Directors to decide on all of the other terms and conditions of the conveyance and thus also includes the right to decide on a directed share issue, in deviation from the shareholders’ pre-emptive right, if a compelling financial reason exists for the company to do so. The total number of new shares to be offered for subscription may not exceed 1,500,000. The authorization is valid until the Annual Shareholders’ Meeting in 2020 but not more than 18 months from the approval at the Shareholders’ Meeting.

LEGAL PROCEEDINGS

On February 27, 2015, the District Court of Helsinki issued its decision in the case between ESL Shipping and the Finnish State regarding fairway dues levied during 2001–2004. According to the judgement, the Finnish State was required to refund to ESL Shipping approximately EUR 3.0 million in accordance with the company’s claim, as well as legal expenses and interest. The State lodged an appeal against the District Court’s judgement and, in its ruling issued on August 8, 2016, the Court of Appeal overruled the Helsinki District Court’s judgement and dismissed ESL Shipping’s legal action as time-barred. The company applied for a leave to appeal from the Supreme Court, which rejected the application in February 2018. In June 2018, ESL Shipping filed, together with 13 other shipping companies, an appeal regarding an extraordinary appeal (for nullification) to the Supreme Court. In addition, the company lodged a complaint with the European Court of Human Rights, particularly regarding a breach of protection of property. In September, the European Court of Human Rights announced that it will not process the appeal. The Supreme Court did not authorize any extraordinary appeal, and the case has been closed.

The shipping company won legal proceedings against Indian ABG Shipyard concerning compensation payable for repairs made to *m/s Alppila* during the warranty period. The vessel was delivered to ESL Shipping in 2011. According to the ruling of the arbitration court, ABG Shipyard was required to refund the repair expenses and interest to ESL Shipping in accordance with the company’s claims. The impact of the ruling will be taken into account during the financial year in which the imposed payments are received.

In 2018, Aspo took legal action in Korea against a former principal (Korea Engineering Plastics Co. LTD) regarding unpaid commission. In October 2019, the court confirmed the settlement reached between the parties and the legal process has been discontinued.

Helsinki, October 29, 2019

ASPO PLC

Board of Directors

ASPO GROUP CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

	7–9/2019 MEUR	%	7–9/2018 MEUR	%
Net sales	148.0	100.0	136.3	100.0
Other operating income	0.2	0.1	0.9	0.7
Share of profits accounted for using the equity method	0.0	0.0		
Materials and services	-98.0	-66.2	-96.4	-70.7
Employee benefit expenses	-11.3	-7.6	-10.1	-7.4
Depreciation and impairment losses, right-of-use assets	-3.5	-2.4		
Depreciation, amortization and impairment losses, other	-3.8	-2.6	-2.9	-2.1
Other operating expenses	-24.9	-16.8	-20.6	-15.1
Operating profit	6.7	4.5	7.2	5.3
Interest expenses on lease liabilities	-0.2	-0.1		
Financial income and expenses, other	-1.1	-0.7	-0.9	-0.7
Profit before taxes	5.4	3.6	6.3	4.6
Income taxes	-0.5	-0.3	-0.3	-0.2
Profit for the period	4.9	3.3	6.0	4.4
Other comprehensive income				
Items that may be reclassified to profit or loss in subsequent periods:				
Translation differences	1.8		-1.5	
Cash flow hedges	0.0		0.0	
Income tax on other comprehensive income	0.0		0.0	
Other comprehensive income for the period, net of taxes	1.8		-1.5	
Total comprehensive income	6.7		4.5	
Profit attributable to shareholders	4.9		6.0	
Total comprehensive income attributable to shareholders	6.7		4.5	
Earnings per share, EUR	0.15		0.18	
Diluted earnings per share, EUR	0.15		0.18	

	1–9/2019 MEUR	%	1–9/2018 MEUR	%	1–12/2018 MEUR	%
Net sales	440.7	100.0	384.3	100.0	540.9	100.0
Other operating income	0.4	0.1	2.9	0.8	4.1	0.8
Share of profits accounted for using the equity method	0.0	0.0			-0.1	
Materials and services	-292.8	-66.4	-277.8	-72.3	-382.2	-70.7
Employee benefit expenses	-34.6	-7.9	-31.9	-8.3	-43.2	-8.0
Depreciation and impairment losses, right-of-use assets	-10.4	-2.4				
Depreciation, amortization and impairment losses, other	-10.9	-2.5	-8.4	-2.2	-16.5	-3.1
Other operating expenses	-76.7	-17.4	-51.1	-13.3	-82.4	-15.2
Operating profit	15.7	3.6	18.0	4.7	20.6	3.8
Interest expenses on lease liabilities	-0.6	-0.1				
Financial income and expenses, other	-1.4	-0.3	-3.1	-0.8	-4.2	-0.8
Profit before taxes	13.7	3.1	14.9	3.9	16.4	3.0
Income taxes	-1.3	-0.3	-1.5	-0.4	-2.2	-0.4
Profit for the period	12.4	2.8	13.4	3.5	14.2	2.6
Other comprehensive income						
Items that may be reclassified to profit or loss in subsequent periods:						
Translation differences	4.3		-1.6		-1.9	
Cash flow hedges	0.0		2.6		2.5	
Income tax on other comprehensive income	0.0		-0.1		-0.1	
Other comprehensive income for the period, net of taxes	4.3		0.9		0.5	
Total comprehensive income	16.7		14.3		14.7	
Profit attributable to shareholders	12.4		13.4		14.2	
Total comprehensive income attributable to shareholders	16.7		14.3		14.7	
Earnings per share, EUR	0.37		0.40		0.42	
Diluted earnings per share, EUR	0.37		0.40		0.42	

ASPO GROUP CONSOLIDATED BALANCE SHEET

	9/2019 MEUR	9/2018 MEUR	Change %	12/2018 MEUR
Assets				
Intangible assets	7.9	9.0	-12.2	8.9
Goodwill	43.3	47.0	-7.9	43.0
Tangible assets	183.5	175.5	4.6	175.1
Right-of-use assets	21.7			
Investments accounted for using the equity method	1.4	0.8	75.0	1.5
Other non-current assets	3.0	3.4	-11.8	2.8
Total non-current assets	260.8	235.7	10.6	231.3
Inventories	63.8	68.6	-7.0	71.3
Accounts receivable and other receivables	82.8	82.0	1.0	77.8
Cash and cash equivalents	18.3	17.3	5.8	19.3
Total current assets	164.9	167.9	-1.8	168.4
Total assets	425.7	403.6	5.5	399.7
Equity and liabilities				
Share capital	17.7	17.7	0.0	17.7
Other equity	101.1	98.9	2.2	98.9
Total equity	118.8	116.6	1.9	116.6
Loans and overdraft facilities	175.4	141.3	24.1	170.9
Non-current lease liabilities	9.0			
Other liabilities	7.0	7.5	-6.7	7.4
Total non-current liabilities	191.4	148.8	28.6	178.3
Loans and overdraft facilities	27.5	56.8	-51.6	28.5
Current lease liabilities	12.9			
Accounts payable and other liabilities	75.1	81.4	-7.7	76.3
Total current liabilities	115.5	138.2	-16.4	104.8
Total equity and liabilities	425.7	403.6	5.5	399.7

ASPO GROUP CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

A = Share Capital
B = Share Premium
C = Fair Value Reserve
D = Other Reserves
E = Treasury Shares
F = Translation Differences
G = Retained Earnings
H = Total

MEUR	A	B	C	D	E	F	G	H
Equity January 1, 2019	17.7	4.3	-0.1	41.4	-1.7	-23.5	78.5	116.6
Comprehensive income:								
Profit for the period							12.4	12.4
Translation differences						4.3		4.3
Cash flow hedges*								0.0
Total comprehensive income						4.3	12.4	16.7
Transactions with owners:								
Dividend payment							-13.7	-13.7
Interest on hybrid instrument							-1.3	-1.3
Share-based incentive plan							0.5	0.5
Total transactions with owners							-14.5	-14.5
Equity September 30, 2019	17.7	4.3	-0.1	41.4	-1.7	-19.2	76.4	118.8
Equity January 1, 2018	17.7	4.3	-2.5	37.0	-2.1	-21.6	79.5	112.3
Impact of IFRS 2 amendment							0.6	0.6
Adjusted equity January 1, 2018	17.7	4.3	-2.5	37.0	-2.1	-21.6	80.1	112.9
Comprehensive income:								
Profit for the period							13.4	13.4
Translation differences						-1.6		-1.6
Cash flow hedges*			2.5					2.5
Total comprehensive income			2.5			-1.6	13.4	14.3
Transactions with owners:								
Dividend payment							-13.2	-13.2
Interest on hybrid instrument							-1.3	-1.3
Share-based incentive plan					0.4		-0.9	-0.5
Share issue				4.4				4.4
Total transactions with owners				4.4	0.4		-15.4	-10.6
Equity September 30, 2018	17.7	4.3	0.0	41.4	-1.7	-23.2	78.1	116.6

*net of taxes

ASPO GROUP CONSOLIDATED CASH FLOW STATEMENT

	1–9/2019 MEUR	1–9/2018 MEUR	1–12/2018 MEUR
CASH FLOWS FROM OPERATING ACTIVITIES			
Operating profit *)	15.7	18.0	20.6
Adjustments to operating profit	21.6	7.9	15.9
Change in working capital	0.0	-14.6	-10.7
Interest paid	-3.7	-2.6	-3.7
Interest received	1.6	0.5	0.5
Income taxes paid	-1.6	-1.6	-2.3
Net cash from operating activities	33.6	7.6	20.3
CASH FLOWS FROM INVESTING ACTIVITIES			
Investments in tangible and intangible assets	-4.7	-39.3	-43.1
Proceeds from sale of tangible assets	0.2	0.3	0.4
Acquisition of businesses, net of cash	-2.5	-11.4	-12.5
Divestment of businesses, net of cash	0.1	0.1	0.1
Net cash from investing activities	-6.9	-50.3	-55.1
CASH FLOWS FROM FINANCING ACTIVITIES			
Change in current loans	-0.7	45.3	17.3
Proceeds from non-current loans	30.0	28.0	58.0
Repayments of non-current loans	-24.8	-24.7	-25.4
Payments of lease liabilities *)	-24.4		
Hybrid instrument, interests	-1.7	-1.7	-1.7
Dividends distributed	-6.8	-6.4	-13.3
Net cash from financing activities	-28.4	40.5	34.9
Change in cash and cash equivalents	-1.7	-2.2	0.1
Cash and cash equivalents January 1	19.3	19.9	19.9
Translation differences	0.7	-0.4	-0.7
Cash and cash equivalents at period-end	18.3	17.3	19.3

*) Payments of lease liabilities have been transferred from cash flows from operating activities to cash flows from financing activities as a result of the adoption of IFRS 16.

ASPO GROUP DISAGGREGATION OF NET SALES

Net sales by market area

	7–9/2019	7–9/2018	1–9/2019	1–9/2018	1–12/2018
ESL Shipping	MEUR	MEUR	MEUR	MEUR	MEUR
Finland	18.4	12.0	59.6	27.0	48.3
Scandinavia	12.6	7.7	34.8	17.1	28.7
Baltic countries	2.1	0.9	5.1	4.9	6.3
Russia, other CIS countries + Ukraine	0.0	2.2	0.4	5.8	7.1
Other countries	10.3	7.8	29.8	18.9	29.7
Total	43.4	30.6	129.7	73.7	120.1
Leipurin					
Finland	11.4	10.3	32.1	34.4	45.5
Scandinavia	0.1	0.2	0.4	0.3	0.3
Baltic countries	8.5	7.1	23.4	25.4	33.5
Russia, other CIS countries + Ukraine	9.5	8.6	26.8	24.5	36.3
Other countries	0.4	1.8	1.1	4.8	5.4
Total	29.9	28.0	83.8	89.4	121.0
Telko					
Finland	16.1	22.3	55.0	60.6	81.9
Scandinavia	9.1	7.9	28.6	24.5	33.0
Baltic countries	4.2	5.1	14.3	15.5	20.8
Russia, other CIS countries + Ukraine	36.5	34.8	101.2	94.1	128.5
Other countries	8.8	7.6	28.1	26.5	35.6
Total	74.7	77.7	227.2	221.2	299.8
Total					
Finland	45.9	44.6	146.7	122.0	175.7
Scandinavia	21.8	15.8	63.8	41.9	62.0
Baltic countries	14.8	13.1	42.8	45.8	60.6
Russia, other CIS countries + Ukraine	46.0	45.6	128.4	124.4	171.9
Other countries	19.5	17.2	59.0	50.2	70.7
Total	148.0	136.3	440.7	384.3	540.9

Net sales by timing of recognition

	7–9/2019	7–9/2018	1–9/2019	1–9/2018	1–12/2018
ESL Shipping	MEUR	MEUR	MEUR	MEUR	MEUR
Over time	43.4	30.6	129.7	73.7	120.1
Total	43.4	30.6	129.7	73.7	120.1
Leipurin					
At a point in time	28.7	26.0	80.9	82.2	112.7
Over time	1.2	2.0	2.9	7.2	8.3
Total	29.9	28.0	83.8	89.4	121.0
Telko					
At a point in time	74.4	77.6	226.5	220.5	298.9
Over time	0.3	0.1	0.7	0.7	0.9
Total	74.7	77.7	227.2	221.2	299.8
Total					
At a point in time	103.1	103.6	307.4	302.7	411.6
Over time	44.9	32.7	133.3	81.6	129.3
Total	148.0	136.3	440.7	384.3	540.9

Net sales by product category

	7–9/2019	7–9/2018	1–9/2019	1–9/2018	1–12/2018
	MEUR	MEUR	MEUR	MEUR	MEUR
ESL Shipping total	43.4	30.6	129.7	73.7	120.1
Raw materials	25.6	24.5	73.5	73.5	100.3
Machinery	4.3	3.5	10.3	15.9	20.7
Leipurin total	29.9	28.0	83.8	89.4	121.0
Plastics	37.4	37.4	116.8	110.4	147.7
Chemicals	31.3	29.9	89.6	86.3	118.5
Kauko	6.0	10.4	20.8	24.5	33.6
Telko total	74.7	77.7	227.2	221.2	299.8
Total	148.0	136.3	440.7	384.3	540.9

ASPO GROUP ASSETS AND LIABILITIES BY SEGMENT

Segments' assets, MEUR	9/2019	9/2018	12/2018
ESL Shipping	226.8	206.6	206.8
Leipurin	65.2	57.4	58.9
Telko	109.4	116.5	109.2
Unallocated items	24.3	23.1	24.8
Total	425.7	403.6	399.7

Segments' liabilities, MEUR	9/2019	9/2018	12/2018
ESL Shipping	25.6	17.4	17.3
Leipurin	20.5	14.6	14.2
Telko	39.0	39.6	41.8
Unallocated items	221.8	215.5	209.8
Total	306.9	287.1	283.1

ACCOUNTING PRINCIPLES

Aspo Plc's interim report has been prepared in accordance with the principles of IAS 34 – Interim Financial Reporting. As of January 1, 2019, Aspo applies certain new or amended IFRS standards and IFRIC interpretations as described in the 2018 consolidated financial statements. In other respects, the same accounting principles have been applied as in the consolidated financial statements of December 31, 2018. The information in this report is unaudited.

Aspo Plc applies the guidance on alternative key figures issued by the European Securities and Market Authority (ESMA). In addition to IFRS figures, the company releases other commonly used key figures which are mainly derived from the statement of comprehensive income and balance sheet. According to the management, key figures clarify the view drawn by the statement of comprehensive income and balance sheet of Aspo's financial performance and financial position. The calculation principles of key figures are explained on page 48 of the Aspo's Year 2018 -publication.

Adoption of new or amended standards:

The Group has applied the IFRS 16 – Leases standard starting from January 1, 2019. Under IFRS 16, all leases are recognized on the lessee's balance sheet, and the classification between operating and finance leases according to IAS 17 is no longer valid. In accordance with the new standard, all assets related to lease agreements (right-of-use assets) and future lease payment obligations (lease liabilities) are recognized on the balance sheet. The only exceptions are short-term leases and leases for which the underlying asset is of a low value. The accounting treatment for lessors remains largely in line with IAS 17.

Aspo Group acts mainly as a lessee. The Group has customary business-related leases, such as contracts related to office and warehouse premises, as well as transportation vehicles and cars. Part of the office technology is also leased.

Transition

Aspo has chosen a simplified method of transition to IFRS 16. Aspo recognized on the opening balance sheet of January 1, 2019 the right-of-use assets which consisted of the lease liabilities, and prepayments related to these leases recognized on the balance sheet at the time of transition.

The liabilities and assets of contracts previously classified as finance leases under IAS 17 were included, at the time of transition on January 1, 2019 in the lease liabilities and right-of-use-assets in accordance with IFRS 16. Financial leases that were subject to exemptions as short-term or low value or related to intangible assets were derecognized and the difference was recognized in equity. The difference recognized in equity was not material.

Aspo applied the following practical expedients in the adoption of IFRS 16:

- Leases with a lease term less than 12 months remaining at the date of transition on January 1, 2019 were accounted for as short-term leases and not recognized on the balance sheet. The selection was made by class of underlying asset, and was applied to all other classes except cars, which were recognized on the balance sheet even if their remaining lease term would have been less than 12 months at the time of transition.
- The lease liability and the right-of-use-asset were not recognized on the balance sheet in respect of leases relating to low value assets. Aspo uses a threshold of EUR 5,000 for low value assets.
- The leasing expenses of the two above-mentioned practical expedients are recognized in other operating expenses on a straight-line basis over the lease term.
- Lease agreements with reasonably similar characteristics were subject to one predetermined discount rate. The criteria used to determine the discount rate were the class of underlying asset, the geographic location, the currency, the maturity of the risk-free interest rate and the lessee's credit risk premium. At the time of the transition, the weighted average of interest on incremental borrowing was 2.33%.
- In case of leases in which the lease term included extension options or termination options, current knowledge was used in the determination of the lease term.
- The initial direct costs were not included in the right-of-use asset at the time of transition in January 1, 2019.

Management judgements

Aspo complies with IFRS 16 guidance for determining the lease term. In case of lease agreements where the lease term is defined to be valid until further notice, the expected lease term is based on management judgement. The financial impact of the sanctions included in the leases, such as those related to the early termination of the contract, has also been taken into account in determining the expected lease term.

For the contracts with a lease term defined to be valid until further notice, the most significant impact relates to vessels leased. If a vessel is leased for approximately a year, the lease term used to calculate the lease liability is 13 months (ongoing month + the next 12 months). As a significant part of the fleet is leased, it is likely that, at the end of the lease term, the same or a similar vessel will be leased again. In case this does not apply, the agreement will be treated as a fixed-term lease contract. The procedure has been designed to give investors a better understanding of the obligations associated with the lease liability and the significance of the right-of-use asset on the balance sheet.

According to the standard guidance, the option to extend or terminate the lease is taken into account in determining the lease term. The period covered by an option to extend the lease is included into the lease term if it is reasonably certain that the option will be exercised and, and correspondingly, if it is reasonably certain that the option to terminate the lease is not exercised, the remaining period is included in the lease term

When the agreement includes a lease component and a non-lease component, Aspo separates the non-lease components, such as maintenance, services, or crew, based on either the stand-alone prices given in the lease agreement or by using estimates.

Impact of the adoption of IFRS 16

The adoption of the standard has a significant impact on the balance sheet of Aspo Group and key figures derived from it, as well as the structure of the income statement and cash flow statement. The Group's interest-bearing liabilities and non-current assets recognized on the balance sheet according to the standard are significantly higher than when applying IAS 17. With regard to key figures, the adoption has the most significant impact on gearing, which increased by approximately 30 percentage points. Expenses previously recognized as leases in the statement of comprehensive income are reversed, depreciation expense is recognized from right-of-use asset items, and interest included in leases is recognized in financial expenses. In the cash flow statement, the transfer of payments of lease liabilities to cash flows from financing activities increases cash flows from operating activities, while the total cash flows remain unchanged.

The impact of the adoption of IFRS 16 on Aspo Group's opening balance sheet on January 1, 2019 is presented in the table below. The value of the right-of-use asset items recognized on the opening balance sheet was approximately EUR 38.5 million, the value of leases paid in advance was approximately EUR 0.9 million and the amount of lease liabilities was approximately EUR 37.6 million. The expedients permitted by the standard regarding intangible assets and items of a low value reduced the number of financial leasing items recognized in accordance with IAS 17 by EUR 1.2 million. Non-current lease liabilities accounted for EUR 10.4 million and current lease liabilities made up EUR 27.2 million of the total lease liabilities on the opening balance sheet.

Impact of the adoption of IFRS 16 standard on the opening balance sheet

	Dec 31, 2018 MEUR	Additions of right-of-use assets MEUR	Changes resulting from finance leases recognized under IAS 17 *) MEUR	Jan 1, 2019 MEUR
Assets				
Intangible assets	8.9		-1.2	7.7
Goodwill	43.0			43.0
Tangible assets	175.1		0.0	175.1
Right-of-use assets		38.5		38.5
Investments accounted for using the equity method	1.5			1.5
Other non-current assets	2.8			2.8
Total non-current assets	231.3	38.5	-1.2	268.6
Inventories	71.3			71.3
Accounts receivable and other receivables	77.8	-0.9		76.9
Cash and cash equivalents	19.3			19.3
Total current assets	168.4	-0.9		167.5
Total assets	399.7	37.6	-1.2	436.1
Equity and liabilities				
Share capital	17.7			17.7
Other equity	98.9		0.0	98.9
Total equity	116.6		0.0	116.6
Loans and overdraft facilities	170.9		-0.7	170.2
Non-current lease liabilities		10.4		10.4
Other liabilities	7.4			7.4
Total non-current liabilities	178.3	10.4	-0.7	188.0
Loans and overdraft facilities	28.5		-0.5	28.0
Current lease liabilities		27.2		27.2
Accounts payable and other liabilities	76.3			76.3
Total current liabilities	104.8	27.2	-0.5	131.5
Total equity and liabilities	399.7	37.6	-1.2	436.1

*) Changes to intangible assets and right-of-use items of low value in finance leases under IAS 17 due to adoption of IFRS 16.

In August, ESL Shipping acquired m/s Alppila, which was previously leased. Right-of-use asset items do not include any other significant redemption options.

At the end of the review period, the most significant right-of-use asset items were vessels, EUR 9.9 million, and office and warehouse premises, EUR 9.8 million. Depreciation on the right-of-use asset items was EUR 10.4 million, of which depreciation on vessels accounted for EUR 7.5 million and depreciation on office and warehouse premises for EUR 2.1 million. Leases related to the right-of-use asset items were EUR 11.6 million, of which interest made up EUR 0.6 million. The amount of variable leases or the amount of leases related to short-term or low value assets are not significant within Aspo Group. Aspo has no significant lease agreements as a lessor.

Right-of-use assets by classes

	Land and buildings MEUR	Vessels MEUR	Other right-of-use assets MEUR	Total MEUR
Opening balance January 1, 2019	10.2	26.6	1.7	38.5
Translation differences	0.2			0.2
Additions	1.9	6.0	1.1	9.0
Deductions	-0.5	-15.8	-0.1	-16.4
Depreciation on deductions	0.1	0.6	0.1	0.8
Depreciation	-2.1	-7.5	-0.8	-10.4
Carrying amount September 30, 2019	9.8	9.9	2.0	21.7

SEGMENT REPORTING

Aspo Group's reporting segments are ESL Shipping, Leipurin and Telko. Other operations consist of Aspo Group's administration, the financial and ICT service center, and a small number of other functions not covered by business units. From the beginning of 2019, Kauko has been reported as part of the Telko segment.

The Group reports its net sales on the basis of the following geographical division: Finland; Scandinavia; the Baltic countries; Russia, other CIS countries and Ukraine; and other countries.

PRESS AND ANALYST CONFERENCE

A press and analyst conference will be arranged today, October 29, 2019 at 14:00 hrs. in Hotel Kämp's Symposion conference room, Pohjoisesplanadi 29, 00100 Helsinki.

Helsinki, October 29, 2019

ASPO PLC

Aki Ojanen	Arto Meitsalo
CEO	CFO

For more information, please contact:
Aki Ojanen, CEO, +358 9 521 4010, +358 400 106 592, aki.ojanen@aspo.com

DISTRIBUTION:
Nasdaq Helsinki
Key media
www.aspo.com

Aspo is a conglomerate that owns and develops businesses in Northern Europe and growth markets focusing on demanding B-to-B customers. The aim of our strong corporate brands – ESL Shipping, Leipurin, Telko and Kauko – is to be the market leaders in their sectors. They are responsible for their own operations, customer relationships and the development of these. Together they generate Aspo's goodwill. Aspo's Group structure and business operations are developed persistently without any predefined schedules.