



Further margin improvement

First Sensor's (FIS) promising Q1 '19 results pave the way for a further margin improvement. The Q1 '19 EBIT-margin of 9.9% raises the fantasy for reaching the upper end of the planned corridor of 8.5% - 9.5%. First Sensor's five pillar strategy continue to bear fruits and will offer a further margin improvement beyond 2019. Mid-term the Mobility segment is expected to report a more dynamic growth coming from the new trends in E-mobility, digitalization and autonomous driving (LiDAR-products) in our view. TP slightly up to EUR 28.80 from 28.30. Buy confirmed.

Margin uplift in Q1 2019

Helped by a strong top-line growth and better economies of scale FIS could report a strong EBIT-margin increase to 9.9% from 3.1% in Q1 2018. Last year's Q1 results were negatively impacted by the introduction of a new ERP-system. The Industrial and Medical segment are mainly responsible for the improvement in our view.

FIS confirms outlook for 2019e

Group sales should reach EUR 160-170m that compares to our estimate of EUR 167m. The EBIT-margin target amounted to 8.5% – 9.5%. Initiated by the favourable Q1 '19 we have slightly increased our margin forecast to 8.9% from 8.7%.

Shares with upside potential of currently 29%

Our new TP amounted to EUR 28.80 from EUR 28.30 per share and thus offering significant upside potential. The implicit P/E 2019e equals to 33.0x and for 2020e to 30.6x. Given the improvement in profitability we expect a better dividend for FY 2019.

EURm	2017	2018	2019e	2020e	2021e
Revenues	148	155	167	179	192
EBITDA	20	21	25	26	27
EBIT	11	12	15	16	17
EPS	0.40	0.72	0.87	0.94	1.03
EPS adj	0.40	0.72	0.87	0.94	1.03
DPS	0.16	0.20	0.23	0.25	0.28
EV/EBITDA	12.5	11.2	10.2	9.5	8.7
EV/EBIT	23.3	19.6	16.8	15.4	13.7
P/E adj	53.8	29.6	26.5	24.6	22.4
P/B	2.75	2.49	2.50	2.33	2.16
ROE (%)	5.3	8.7	9.8	9.8	10.0
Div yield (%)	0.7	0.9	1.0	1.1	1.2
Net debt	23	20	13	6	(0)

Source: Pareto

Target price (EUR)	29
Share price (EUR)	23

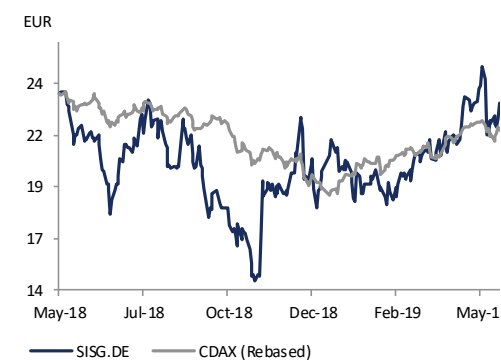
Forecast changes

%	2019e	2020e	2021e
Revenues	-	-	-
EBITDA	2	-	-
EBIT adj	3	-	-
EPS reported	3	-	-
EPS adj	3	-	-

Source: Pareto

Ticker	SISG.DE, SIS GR
Sector	Hardware & Equipment
Shares fully diluted (m)	10.2
Market cap (EURm)	236
Net debt (EURm)	13
Minority interests (EURm)	1
Enterprise value 19e (EURm)	251
Free float (%)	46

Performance



Source: Factset

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Successful niche player in sensor technology

DPE: Consideration of sale of its 40.1% stake

Investment case

The First Sensor group currently holds leading market positions in its defined strategic end-markets. These markets have entry barriers for other medium-sized companies and volumes most likely are too small for the larger players in our view.

The company covers the entire value chain for sensors and related systems. Looking forward, First Sensor is well positioned to benefit from some megatrends like for example autonomous driving or Industry 4.0. Benefitting from these trends the current strategy is directed to a higher margin level and since 2016 the group harvested the fruits of this program. The EBIT-margin increased from 6.6% (2016) to 7.9% in the last year, while in Q1 2019 it improved further to 9.9%.

Further triggers for the share price in our view, are any signs for a further sustainable margin improvement. The company's target for 2019e is to reach a level between 8.5% to 9.5% while we are estimating 8.9%. These signs can be for example the winning of new high-volume OEM customers, new product innovations, further internal cost optimizations or entering new markets. A possible escalation of the global trade war will not directly affect the business of First Sensor, according to the company. In 2018 the sales share in Asia increased to 12.5% from 10.1% while in the US-market the sales share also increased to 12.4% from 11.7%. An extension of duties for European carmakers could have a negative impact on First Sensor's Mobility segment (2018 share of sales of 25.9% from 30.1% a year earlier) in our view.

End of October last year the major shareholder Deutsche Private Equity made public to consider the sale of its 40.1% holding in First Sensor and this news immediately lifted the share price to a level of EUR 18-19. The management of First Sensor stated to take an active role and has hired Goldman Sachs to attend this process. During the annual press conference for FY 2018 and within the Q1 2019 results publication no real news came out but we can imagine that there is some progress in the overall process.

Since the share price low at EUR 14.0 at the end of October 2018 First Sensor shares clearly have recovered and the expected margin improvement argues for further upside potential in our view.

[Link](#) to our latest update.

Risks to the investment case

- ▶ First Sensor might not keep the speed with regard to new innovative products and as a result could lose market share overtime
- ▶ The company will not meet timely all defined milestones of their overall strategy plan what can result in a lower than expected profitability
- ▶ Hiring of new and skilled employees could become more challenging and could negatively impact the planned growth
- ▶ Possible delays in transition from 4-inch to 6-inch wafer production; when finalized will lead to improved production efficiency

Valuation update

- ▶ Buy recommendation confirmed
- ▶ New TP at EUR 28.80 from EUR 28.30 per share (+ 1.8%)
- ▶ Base parameters for our DCF-model have not changed: Beta at 1.1; perpetual growth rate at 2.5% and sustainable margin at 9.5%
- ▶ Current upside potential for the share price of +24%

Exhibit 1: First Sensor: DCF-model signals attractive valuation gap

EUR m	Phase I					Phase II					Phase III
	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	2028e	
Revenues	167.0	179.0	192.0	206.5	221.0	234.9	247.8	259.6	270.0	278.8	
<i>growth rate</i>	7.7%	7.2%	7.3%	7.6%	7.0%	6.3%	5.5%	4.8%	4.0%	3.3%	
EBIT	14.9	15.9	17.3	19.3	20.9	22.2	23.4	24.6	25.6	26.5	
<i>EBIT margin</i>	8.9%	8.9%	9.0%	9.4%	9.4%	9.4%	9.5%	9.5%	9.5%	9.5%	
Tax	-4.5	-4.8	-5.2	-5.8	-6.3	-6.7	-7.0	-7.4	-7.7	-7.9	
<i>Tax rate</i>	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
Depr. & Amort.	9.6	9.8	10.0	10.1	10.4	11.2	12.0	12.6	13.1	13.6	
<i>% of sales</i>	5.7%	5.5%	5.2%	4.9%	4.7%	4.8%	4.8%	4.8%	4.9%	4.9%	
Capex	-10.2	-10.4	-11.0	-11.2	-11.3	-12.0	-12.7	-13.3	-13.8	-14.3	
<i>% of sales</i>	6.1%	5.8%	5.7%	5.4%	5.1%	5.1%	5.1%	5.1%	5.1%	5.1%	
Change in WC & P	0.4	0.3	-0.2	0.4	0.1	0.1	0.1	0.1	0.0	0.0	
<i>% of sales</i>	-0.3%	-0.2%	0.1%	-0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Free Cash Flow	10.3	10.8	11.0	12.8	13.8	14.8	15.8	16.6	17.3	17.9	413.3
<i>growth rate</i>	nm	5.8%	13%	16.4%	7.6%	7.8%	6.3%	5.2%	4.3%	3.5%	2.5%
Present Value FCF	9.8	9.7	9.2	10.0	10.1	10.2	10.1	10.0	9.7	9.4	216.8

PV Phase I	48.9	Risk free rate	3.5%	Targ. equity ratio	60%
PV Phase II	49.3	Premium Equity	5.0%	Beta	1.1
PV Phase III	216.8	Premium Debt	2.0%	WACC	6.9%

Enterprise value	315.1	Sensitivity	Growth in phase III				
			1.5%	2.0%	2.5%	3.0%	3.5%
- Net Debt (Cash)	19.5						
- Pension Provisions	0.3	6.25%	28.8	31.4	34.6	38.9	44.7
- Minorities & Peripherals	1.3	6.59%	26.6	28.8	31.4	34.9	39.4
+ MV of financial assets		WACC 6.94%	24.7	26.5	28.8	31.6	35.2
- Paid-out dividends for last FY		7.29%	23.0	24.6	26.5	28.8	31.7
+/- Other EV items		7.63%	21.5	22.9	24.5	26.4	28.9

Equity value	294.0
Number of shares	10.2
Value per share (€)	28.8
Current Price (€)	23.1
Upside	24%

Source: FactSet (closing price as of 17 May 2019), Pareto Securities Research

The major change that were made in our forecast is the slightly higher EBIT-margin of 8.9% (before: 8.7%) for the current year. Furthermore, we expect a minor contribution coming from a better control of the net working capital (reduction of inventories). That has marginally lifted our equity value to EUR 294.0m (+1.8%) or to EUR 28.80 per share. On this basis we see a further significant upside potential for the shares.

First Sensor started successful into 2019

In the first quarter FIS achieved a 7.5% yoy growth in order intake. The book-to-bill-ratio amounted to 1.02 and signals further growth. Compared to the last two quarters (Q3 '18: EUR 39.5m; Q4 '18: EUR 36.4m) demand clearly increased. We assume that an above average growth was contributed by the segments Industrial and Medical, while Mobility showed some temporary stable to lower orders in our view. End of Q1 2019 the order book reached a level of EUR 98.4m,

that gives us confidence, that the full-year sales target can be reached. Some recently received new orders:

- ▶ An internationally active manufacturer of commercial and special-purpose vehicles has ordered customer-specific ultra-low-pressure sensors for a new generation of combine harvesters. During 2019 2,000 vehicles will be equipped. It was indicated by First Sensor that volumes could go up in 2020. This segment last year account for some 20% of the overall sales in Mobility of EUR 40.2m
- ▶ Medical segment: An endoscopic technology manufacturer signalled to increase purchases for specific camera modules by approximately 30%
- ▶ In April First Sensor announced, that they have been awarded a contract for tank pressure sensors from an Asian automotive supplier for emission control systems. The order covers several millions and planned contract length is up to 2025.

Q1 '19 group sales increased by 20% yoy to EUR 41.4m. Customer specific solutions account for some 70% of group sales. By segment, Industrial and Medical achieved solid growth rates, while Mobility had to report a 12.5% decline. By evaluating these numbers, it has to be considered that Q1 2018 was negatively impacted by the introduction of a new ERP-system in January and led to a lack of sales volume.

Q1 '19 EBIT-margin at 9.9%
(Q1 '18: 3.1%)

Thanks to the higher sales level and an improved gross margin the EBIT reached EUR 4.1m, that corresponds to a margin of 9.9% (Q1 18: 3.1%). Again, we assume that the Industrial and Medical segment mainly contributed to the improvement.

Exhibit 2: Q1 2019 with margin improvement

First Sensor (EUR m)	Q1 '18 reported	Q1 '19 reported	Q1 '19		Deviation		Pareto estimates		
			Cons. **	Pareto	Cons. **	Pareto	2019e	2020e	2021e
Order intake	39.3	42.3		n.a.			169.5	178.8	203.5
Industrial	16.3	22.2		21.5			87.0	91.0	96.0
Medical	7.4	9.8		9.4			39.0	43.0	47.0
Mobility	10.8	9.5		9.5			41.0	45.0	49.0
Group sales	34.5	41.4	n.m.	40.4	n.m.	2.6%	167.0	179.0	192.0
Book-to-bill-ratio (x)	1.14	1.02					1.01	1.00	1.06
EBIT	1.1	4.1	n.m.	3.8	n.m.	7.9%	14.9	15.9	17.3
EBIT-margin, %	3.1%	9.9%	n.m.	7.9%	n.m.	n.m.	8.9%	8.9%	9.0%
EPS, EUR	0.02	0.26	n.m.	0.20	n.m.	n.a.	0.87	0.94	1.03

** FactSet

Source: Company data, Pareto Securities Research

Full-year guidance 2019
confirmed

First Sensor confirmed it's full-year 2019e guidance. Group sales should reach EUR 160-170m, that compares to our estimate of EUR 167m. Therefore, it is necessary on average to slightly surpass the EUR 40m level per quarter. The EBIT-margin target of 8.5% - 9.5% was confirmed, too. Due to some project volatility and some economic and political risks we do not expect, that the Q1 margin level can be kept in the upcoming quarters. Nevertheless, we have slightly increased our full-year margin target to 8.9% from 8.7%.

Inventory levels will have some room for improvement in our view. Looking back, it seems that the company made some strategic buys in order to secure production. This could level out during the year to a level (inventory to sales) of below 20%, compared to 21.5% end of Q1 2019.

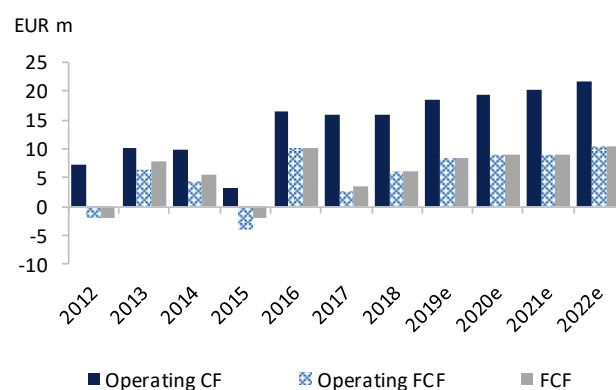
Appendix

Exhibit 3: EBIT-margin improvement



Source: Company data, Pareto Securities Research

Exhibit 4: First Sensor strong cash flow generator



Source: Company data, Pareto Securities Research

Exhibit 5: Group key figures outlook: The growth path will continue

EUR m	2014	2015	2016	2017	2018	2019e	2020e	2021e	2022e	CAGR 14-18	CAGR 19e-23e
Order intake	139.3	142.3	132.9	163.7	159.6	169.5	178.8	203.5	212.0	3.5%	6.4%
Sales	124.0	137.7	150.1	147.5	155.1	167.0	179.0	192.0	206.5	5.7%	7.3%
EBIT reported	4.1	1.2	10.0	10.6	12.2	14.9	15.9	17.3	19.3	31.3%	8.8%
Operating Cash Flow	9.8	3.2	16.6	16.0	15.9	18.5	19.5	20.1	21.8	13.0%	6.2%
Analysis											
Book-to-bill-ratio (x)	1.12	1.03	0.89	1.11	1.03	1.01	1.00	1.06	1.03		
EBIT-margin, %	3.3%	0.9%	6.6%	7.2%	7.9%	8.9%	8.9%	9.0%	9.4%		
Oper. CF-margin, %	7.9%	2.3%	11.1%	10.8%	10.3%	11.1%	10.9%	10.5%	10.5%		
Cash conversion (x) *	2.4	2.7	1.7	1.5	1.3	1.2	1.2	1.2	1.1		

* Operating Cash Flow / EBIT reported

Source: Company data, Pareto Securities Research

Next reporting: 14 August 2019: H1 report

PROFIT & LOSS (fiscal year) (EURm)	2014	2015	2016	2017	2018	2019e	2020e	2021e
Revenues	124	138	150	148	155	167	179	192
EBITDA	13	12	19	20	21	25	26	27
Depreciation & amortisation	(9)	(10)	(9)	(9)	(9)	(10)	(10)	(10)
EBIT	4	1	10	11	12	15	16	17
Net interest	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
Other financial items	-	-	1	(2)	(0)	-	-	-
Profit before taxes	2	(1)	9	7	10	13	14	16
Taxes	(1)	(0)	(3)	(3)	(3)	(4)	(4)	(5)
Minority interest	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
Net profit	0	(2)	6	4	7	9	10	11
EPS reported	0.02	(0.17)	0.56	0.40	0.72	0.87	0.94	1.03
EPS adjusted	0.02	(0.17)	0.72	0.40	0.72	0.87	0.94	1.03
DPS	-	-	-	0.16	0.20	0.23	0.25	0.28
BALANCE SHEET (EURm)	2014	2015	2016	2017	2018	2019e	2020e	2021e
Tangible non current assets	36	35	33	36	39	39	39	39
Other non-current assets	52	50	49	49	47	48	48	49
Other current assets	43	49	48	49	54	54	54	55
Cash & equivalents	15	22	24	26	29	32	38	43
Total assets	146	155	154	160	168	172	179	186
Total equity	72	71	77	82	89	96	103	111
Interest-bearing non-current debt	44	55	48	48	48	45	44	43
Interest-bearing current debt	-	-	-	-	-	-	-	-
Other Debt	30	29	28	29	31	31	32	32
Total liabilities & equity	146	155	154	160	168	172	179	186
CASH FLOW (EURm)	2014	2015	2016	2017	2018	2019e	2020e	2021e
Cash earnings	11	9	16	18	16	18	19	20
Change in working capital	(2)	(6)	1	(2)	0	0	0	(0)
Cash flow from investments	(4)	(5)	(7)	(13)	(10)	(10)	(10)	(11)
Cash flow from financing	(3)	10	(8)	(2)	(3)	(5)	(3)	(4)
Net cash flow	3	7	2	2	3	4	6	5
CAPITALIZATION & VALUATION (EURm)	2014	2015	2016	2017	2018	2019e	2020e	2021e
Share price (EUR end)	9.8	12.4	14.5	21.8	21.3	23.1	23.1	23.1
Number of shares end period	10	10	10	10	10	10	10	10
Net interest bearing debt	30	33	24	23	20	13	6	(0)
Enterprise value	128	160	173	246	239	251	244	237
EV/Sales	1.0	1.2	1.2	1.7	1.5	1.5	1.4	1.2
EV/EBITDA	9.8	13.9	8.9	12.5	11.2	10.2	9.5	8.7
EV/EBIT	31.2	-	17.4	23.3	19.6	16.8	15.4	13.7
P/E reported	-	-	25.7	53.8	29.6	26.5	24.6	22.4
P/E adjusted	-	-	20.2	53.8	29.6	26.5	24.6	22.4
P/B	1.4	1.8	1.9	2.8	2.5	2.5	2.3	2.2
FINANCIAL ANALYSIS & CREDIT METRICS	2014	2015	2016	2017	2018	2019e	2020e	2021e
ROE adjusted (%)	0.2	-	9.8	5.2	8.6	9.7	9.7	9.9
Dividend yield (%)	-	-	-	0.7	0.9	1.0	1.1	1.2
EBITDA margin (%)	10.6	8.4	12.9	13.3	13.7	14.7	14.3	14.2
EBIT margin (%)	3.3	0.9	6.6	7.2	7.9	8.9	8.9	9.0
NIBD/EBITDA	2.27	2.86	1.26	1.16	0.92	0.54	0.25	(0.00)
EBITDA/Net interest	5.41	4.86	10.84	10.55	12.91	13.05	13.52	14.84

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Appendix A

Disclosure requirements pursuant to the Norwegian Securities Trading Regulations section 3-10 (2) and section 3-11 (1), letters a-b

The below list shows companies where Pareto Securities AS - together with affiliated companies and/or persons – own a portion of the shares exceeding 5 % of the total share capital in any company where a recommendation has been produced or distributed by Pareto Securities AS.

Companies	No. of shares	Holdings in %	Companies	No. of shares	Holdings in %
Helgeland Sparebank	2,010,785	9.63%	SpareBank 1Østfold Akersl	1,140,010	9.20%
Pareto Bank ASA	10,846,900	18.50%	Sparebanken Vest	4,507,960	7.64%

Pareto Securities AS or its affiliates own as determined in accordance with Section 13(d) of the US Exchange Act, 1 % or more of the equity securities of:

Companies	No. of shares	Holdings in %	Companies	No. of shares	Holdings in %
Helgeland Sparebank	2,010,785	9.63%	SpareBank 1SMN	1,879,292	1.45%
NHST Media Group AS	21,475	1.85%	SpareBank 1Østfold Akersl	1,140,010	9.20%
Pareto Bank ASA	10,846,900	18.50%	Sparebanken Møre	311,739	3.15%
Selvaag Bolig ASA	2,174,147	2.32%	Sparebanken Sør	460,589	2.94%
SpareBank 1BV	1,557,140	2.48%	Sparebanken Vest	4,507,960	7.64%
SpareBank 1Nord-Norge	1,530,795	1.52%	Totens Sparebank	79,246	1.29%

Pareto Securities AS may hold financial instruments in companies where a recommendation has been produced or distributed by Pareto Securities AS in connection with rendering investment services, including Market Making.

Please find below an overview of material interests in shares held by employees in Pareto Securities AS, in companies where a recommendation has been produced or distributed by Pareto Securities AS. "By material interest" means holdings exceeding a value of NOK 50 000.

Company	Analyst holdings*	Total holdings	Company	Analyst holdings*	Total holdings	Company	Analyst holdings*	Total holdings
AF Gruppen	0	1,675	Grieg Seafood	0	970	REC Silicon	0	357,742
Aker	0	702	Helgeland Sparebank	0	4,282	SailMar	0	280
Aker BP	0	6,980	Høegh LNG	0	6,085	Sandnes Sparebank	0	22,082
Aker Solutions	0	1,825	Jæren Sparebank	0	500	Scatec Solar	0	35,635
AKVA Group	0	1,500	Komplett Bank	0	104,934	Schibsted ASA B Aksjer	0	314
Archer	0	95,770	Kongsberg Gruppen	0	5,901	Seadrill	0	8,661
Atea	0	450	KWS	75	75	Selvaag Bolig	0	5,000
Atlantic Sapphire	0	1,105	Lerøy Seafood	0	34,795	SpareBank 1BV	0	17,700
Austevoll Seafood	0	5,780	Magseis Fairfield	0	12,379	SpareBank 1Nord-Norge	0	25,000
Avance Gas	0	6,645	Monobank	0	1,371,000	SpareBank 1Ringerike Hadr	0	500
Axactor	0	19,724	Mowi	0	2,639	SpareBank 1SMN	0	16,590
BASF	270	270	NEXT Biometrics	0	10,976	SpareBank 1SR-Bank	0	29,391
B2Holding	0	5,500	Nordic Semiconductor	0	6,000	Sparebank 1Østfold Akersl	0	450
Bonheur	0	56,709	Norsk Hydro	0	126,295	SpareBank 1Østlandet	0	4,042
Borr Drilling	0	4,685	Northern Drilling	0	6,060	Sparebanken Møre	0	6,550
BWLPG	0	5,569	Norwegian Air Shuttle	0	59,532	Sparebanken Sør	0	43,280
DNB	0	35,132	Norwegian Energy Compan	0	350	Sparebanken Vest	0	1,900
DNO	0	29,377	Norwegian Property	0	150,000	Sparebanken Øst	0	1,500
Entra	0	14,362	Ocean Yield	0	32,967	Stolt-Nielsen	0	900
Equinor	0	10,201	Odfjell Drilling	0	8,649	Storebrand	0	5,005
Europris	0	10,850	Okeanis Eco Tankers	0	1,886	Subsea 7	0	5,884
Fjord1	0	50,000	Orkla	0	24,176	Telenor	0	2,311
Fjordkraft Holding	0	4,132	Panoro Energy	0	5,670	TGS-NOPEC	0	2,050
Flex LNG	0	1,032	Pareto Bank	0	971,027	XXL	0	10,115
Frontline	0	13,003	Pioneer Property	0	2,050	Yara International	0	19,516
Gjensidige Forsikring	0	8,651	Protector Forsikring	0	15,385	Zenterio	0	78,865
Golden Ocean Group	0	1,824						

This overview is updated monthly (last updated 15.05.2019).

*Analyst holdings refer to positions held by the Pareto Securities AS analyst covering the company.

Appendix B

Disclosure requirements pursuant to the Norwegian Securities Trading Regulation § 3-11, letters e-f, ref the Securities Trading Act Section 3-10

Overview over issuers of financial instruments where Pareto Securities AS have prepared or distributed investment recommendation, where Pareto Securities AS have been lead manager/co-lead manager or have rendered publicly known not immaterial investment banking services over the previous 12 months:

African Petroleum Corporation	Cfinity Plc	OkeanisEco Tankers
Akva Group	Gulf Keystone Petroleum	Panoro Energy
American Tanker	Herttha BSC GmbH	Pareto Bank
Andfjord Salmon	HKN Energy Ltd	Petro Matad Limited
APC Forsikringsmægler A/S	Hunter Group	Petroleum Geo-Services
Arnarlax	Ice Group	Pioneer Public Properties Finland Oy
Avida Holding AB	Instabank	Point Resources AS
Bank Norwegian	Jactel AS	Quant AB
Bluewater Holding	Klavness Ship Holding	Questerre Energy Corporation
DNO ASA	Lundin Petroleum	Rødovre Port Holding A/S
DOF ASA	Magseis	SAS
Dof Subsea AS	Monobank ASA	Scatec Solar
Echo Energy	Navig8	Scorpio Tankers
Eco Atlantic Oil and Gas	Nemaska Lithium	Shamaran
Eland Oil & Gas	NGEX Resources	Shamaran Petroleum
FFS Bidco	Northern Drilling	Sparebank 1 Østlandet
Flex LNG	Northmill Group AB	SpareBank1 Buskerud-Vestfold
Floatel	Norwegian Air Shuttle	Sparebanken Vest
Fortum	Odfjell	Union Maritime Limited
Genel Energy	Okea AS	Vantage Drilling

This overview is updated monthly (this overview is for the period 30.04.2018 – 30.04.2019).

Appendix C

Disclosure requirements pursuant to the Norwegian Securities Trading Regulation § 3-11(4)

Distribution of recommendations

Recommendation	% distribution
Buy	65%
Hold	31%
Sell	4%

Distribution of recommendations (transactions*)

Recommendation	% distribution
Buy	92%
Hold	8%
Sell	0%

* Companies under coverage with which Pareto Securities Group has on-going or completed public investment banking services in the previous 12 months

This overview is updated monthly (last updated 15.05.2019).

Appendix D

This section applies to research reports prepared by Pareto Securities AB.

Disclosure of positions in financial instruments

The beneficial holding of the Pareto Group is 1 % or more of the total share capital of the following companies included in Pareto Securities AB's research coverage universe: None

The Pareto Group has material holdings of other financial instruments than shares issued by the following companies included in Pareto Securities AB's research coverage universe: None

Disclosure of assignments and mandates

Overview over issuers of financial instruments where Pareto Securities AB has prepared or distributed investment recommendation, where Pareto Securities AB has been lead manager or co-lead manager or has rendered publicly known not immaterial investment banking services over the previous twelve months:

Azelio	Green Landscaping Holding	Sedana Medical	Vostok New Ventures
Climeon	Jetpak Top Holding AB	ShaM aran Petroleum	

Members of the Pareto Group provide market making or other liquidity providing services to the following companies included in Pareto Securities AB's research coverage universe:

Cavotec	Saltängen Property Invest	Sedana Medical	Tethys Oil
Cibus Nordic Real Estate	SciBase Holding	ShaM aran Petroleum	Vostok Emerging Finance
Isofol Medical			

Members of the Pareto Group have entered into agreements concerning the inclusion of the company in question in Pareto Securities AB's research coverage universe with the following companies: None
This overview is updated monthly (last updated 15.05.2019).

Appendix E

Disclosure requirements pursuant to the Norwegian Securities Trading Regulation § 3-11, letter d, ref the Securities Trading Act Section 3-10

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Pareto Securities acts as a designated sponsor for the following companies, including the provision of bid and ask offers. Therefore, we regularly possess shares of the company in our proprietary trading books. Pareto Securities receives a commission from the company for the provision of the designated sponsor services.

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Aixtron *	GFT Technologies *	MLP *	Siemens Healthineers AG
Baywa	Gigaset *	MOBOTIX AG	SMT Scharf AG *
Biotest *	Heidelberg Pharma *	OVB Holding AG	Surteco Group *
Brenntag	Hypoport AG	Procredit Holding *	Syzygy AG *
CORESTATE Capital Holding S.A.	init*	PSI SOFTWARE AG *	TAKKT AG
Demire	Intershop Communications AG	PWO *	Vapiano
Epigenomics AG*	Leifheit *	RIB Software *	va-Q-tec *
Euromicron AG *	Logwin *	S&T AG *	Viscom *
Eyemaxx Real Estate	Manz AG *	Schaltbau Holding AG	windeln.de
Freenet	MAX Automation SE *		

* The designated sponsor services include a contractually agreed provision of research services.

Appendix F

Disclosure requirements pursuant to the Norwegian Securities Trading Regulation § 3-11, letter g, ref the Securities Trading Act Section 3-10

Sponsored Research

Pareto Securities has entered into an agreement with these companies about the preparation of research reports and—in return—receives compensation.

Adler Modemaerkte	Daldrup & Söhne	Intershop Communications AG	OVB Holding AG
Baywa	Eyemaxx Real Estate	Merkur Bank	Schaltbau Holding AG
BB Biotech	First Sensor	MOBOTIX AG	Siegfried Holding AG
comdirect	Hypoport AG	OHB SE	Vapiano

This overview is updated monthly (last updated 16.05.2019).