First Sensor AG

Sponsored Research

Germany | Technology Hardware & Equipment

Investment Research



Company Flash Note

Buy			
Recommendation unchang	ed		
Share price: EUR		•	19.90
closing price as of 22/08/2018	1		
Target price: EUR		2	27.40
from Target Price: EUR			27.30
Upside/Downside F	Potenti	al 3	7.7%
Reuters/Bloomberg		SISG.DE	E/SIS GR
Market capitalisation (EUR	lm)		203
Current N° of shares (m)			10
Free float			53%
Daily avg. no. trad. sh. 12 mt	h		30
Daily avg. trad. vol. 12 mth (r	n)		95.22
Price high/low 12 months	,	13.06	3 / 30.50
Abs Perfs 1/3/12 mths (%)		-5.24/-15.6	
, ,			
Key financials (EUR)	12/17	12/18e	12/19e
Sales (m)	148	157	168
EBITDA (m)	20	23	23
EBITDA margin	13.3% 11	14.4% 12	13.9% 14
EBIT (m)			
EBIT margin Net Profit (adj.)(m)	7.2% 4	7.9% 7	8.0%
ROCE	6.0%	7.0%	7.6%
Net debt/(cash) (m)	23	7.0%	1.0%
Net Debt Equity	0.3	0.2	0.2
Net Debt/EBITDA	1.2	0.2	0.2
Int. cover(EBITDA/Fin.int)	10.6	10.5	10.8
EV/Sales	17	14	1.3
EV/EBITDA	12.6	10.0	9.4
EV/EBITDA (adj.)	14.2	10.0	9.4
EV/EBIT	23.4	18.2	16.3
P/E (adj.)	nm	29.6	26.6
P/BV	2.8	2.4	2.2
OpFCF yield	1.2%	2.1%	3.4%
Dividend yield	0.8%	0.9%	1.0%
EPS (adj.)	0.40	0.67	0.75
BVPS	7.91	8.42	8.99
DPS	0.16	0.18	0.20

Shareholders

FS Technology Holding S.à.r.l. 36%; Midlin NV 6%; Gerlin NV 5%;



Analyst(s)

Winfried Becker winfried.becker@equinet-ag.de +49 69 58997-416

Reason: Company newsflow

23 August 2018

Q2 '18 results beat our estimates

First Sensor's (FIS) set of Q2 '18 key financials beat our estimates. Production output normalised, following the ERP introduction in the first quarter, and sales were up by 15.2%. The EBIT-margin reached 7.5% and returned into the targeted corridor for 2018e of 7%-9%. The company's confirmation of the full-year guidance came as no surprise to us. Mid- to long-term we confirm our view that the group will benefit from various megatrends related to FIS's target markets. Up to now there is no negative impact from a potential escalating global trade war visible. We confirm our Buy recommendation with a marginally higher target price of EUR 27.40 from EUR 27.30 per share.

- ✓ Solid order situation: Q2 incoming orders kept their high level from last year and were stable at EUR 44.4m. For the first six months FIS reported about an increase of 5.3% yoy. The book to bill ratio of 1.13 signals further growth. Orders in hand amounted to EUR 102.1m and give a good basis to reach FIS's own sales target of EUR 150-160m and our full-year sales estimate of EUR 157m.
- ✓ EBIT-margin back to "normal": After having achieved a low EBIT-margin of only 3.1% in the first quarter, FIS reached 7.5% in the second quarter, which was within the full-year target corridor of 7.0%-9.0%. Strong demand, the group-wide almost introduced ERP system and efficiency gains are the main drivers behind the improvement. Looking forward we see a reasonable potential for a further increase to more than 9.0%.
- ✓ Benefitting from some megatrends: FIS serves three strategic target markets which are Industrial, Medical and Mobility. Industry 4.0 will change the philosophy of production and sensors and sensor systems definitely will play an important role. In Medical E-health applications are on the rise, while in Mobility autonomous driving, among other new trends, is in the centre of First Sensor's interest.
- ✓ New large contracts: One of the five pillars in the profitable growth strategy is to focus on key customers and key products. Two new orders demonstrate some success: 1) In May it was announced the strengthening of the collaboration with a Canadian technology leader for machine vision technology for image sensor boards. 2) Extended collaboration with a Chinese process automation company. This contract covers the development and production of customer-specific pressure sensor components.
- ✓ Key risks comprise among other factors: 1) FS might not keep the speed with regard to new, innovative products and as a result could lose market share over time. 2) FS will not meet timely all defined milestones of their overall strategy plan what can result in a lower than expected profitability. 3) Hiring of new and skilled employees could become more challenging.
- √ 9M/Q3 2018e results publication: 12 November 2018



Exhibit 1: First Sensor at a glance

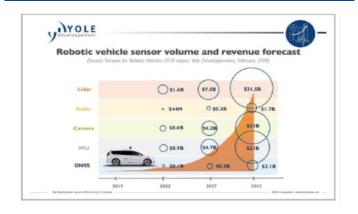
Business Units	Industrial	Medical	Mobility
Products/ applications	A wide range of standardized and customized sensors in such applications as length measurement, radiation and security, Smart Building, industrial process control and aerospace	First Sensor offers solutions measuring pressure, flow, liquid level, oxygen, light, radiation and acceleration for such areas as breathing and respiration, dialysis, endoscopy, and diacnostics.	In the segment Mobility, First Sensor develops and manufacturs sensor devices in such applications as advanced driver assistance systems (ADAS) and OEM pressure sensors and camera solutions
Customers	A broad range of industrial end-markets	OEMs for medical devices	Automotive OEMs and large suppliers, retrofitters
	A broad customer base of c. 2.000 business clients	Roche, Fresenius, Siemens, Draegerwerke	Daimler Trucks, WW, FUSO, Volvo, Renault, Paccar, Hella, Delphi, Velodyne, Autoliv, Kenworth, DAF, Navistar, Western Star
Market share/ positioning	No concrete figures disclosed; most likely strong position in industrial pressure sensors and optical sensor solutions	Most likely strong position in pressure and flow	No concrete figures disclosed; most likely above average position pressure sensors; optical sensors (e.g. LiDAR systems) with strong growth in upcoming years
Drivers	A) Development of Industry 4.0, B) Demand for process automation	A) Miniaturization of medical technology, B) increasing demand for intelligent solutions, which analyse and communicate the measured data, C) general ehealth trend	A) Autonomous driving, B) Green mobility
Main competitors	Hamamatsu, Amphenol Advanced Sensors, Excelitas, Detection Technology Smi Pressure Sensors	Honeywell, all sensors, Merit Sensor, OSI Systems, Sensirion	Bosch, Hamamatsu, Excelitas, Sensata Technologies
Entry barriers/ competitive advantage		ayers; FIS covers the entire value chain for sensor solution systems; focus on ind em solutions due to high complexity, lower pricing power in the direction of supp	
Strategy & Guidance	Strategy: Higher profitability (I) Targets and Markets (II) Key Customer & Products (III) Forward integration (IV) Internationalization	Guidance 2018e (First Sensor): Revenue: EUR 150-160m y/y 1.7% - 8.5% EBIT 7.0% - 9.0%	equinet Estimates Consensus Revenue: EUR 157m n.a. y/y 6.4% n.a. EBIT 7.9% n.a.
2017		(EURm) 19.6 EBIT adj. (EURm) rgin 13.3% Margin	10.6 Sales 5Y hist. CAGR 5.7% 7.2% Organic growth y/y n.a.
Sales & EBIT Split	Sales split by region DACH DACH Officer Europe Som North America Asia Other CEO Dr. Dirk Rothweiler	Sales split by division Industrial 51% Medical Mobility CFO Dr. Mathias Sollwitzer	Group sales development 200 150 08% 06% 06% 06% 04% 04% 02% 00% 1ndustrial Medical Mobility EBIT margin
Shareholder structure & management	CEO (appointed until end of 2019) Background in physics EVP Optical Systems at Jenoptik Vice President Sales & Service at T CZ MD Asia-Pacific for Süss Microtec AG	CFO (appointed until 2022) Head of group controlling, EnBW CFO Mercedes-Benz France SAS Head of Corporate Controlling, DaimlerChri	FS05 Technology Holding S.à.r.I. 36%
# of employees FY 2017		798 (FTE)	

Source: Company data, equinet Research



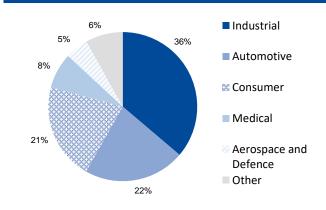
Investment Case in Charts

Exhibit 2: Tremendous growth expected in Automotive



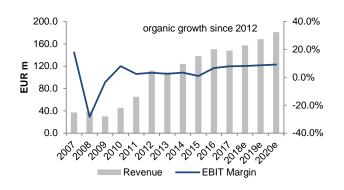
Source: Yole Dévelopment

Exhibit 3: FIS active in 4-5 sensor market segments



Source: AMR, BCC, R&M, equinet Research

Exhibit 4: EBIT-margin improvement long-term . . .



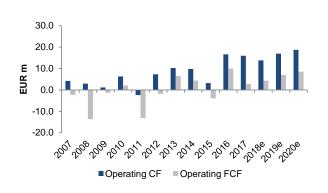
Source: Company data, equinet Research

Exhibit 5: and short-term



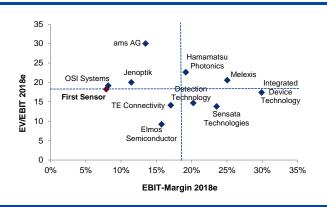
Source: Company data, equinet Research

Exhibit 6: FIS a strong cash flow generator



Source: Company data, equinet Research

Exhibit 7: EBIT-margin and multiple landscape



Source: FactSet, equinet Research





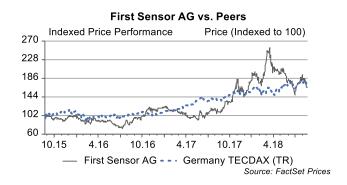
Investment case

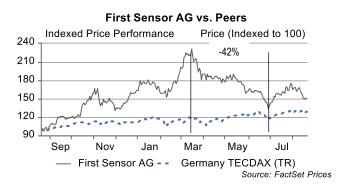
The First Sensor group currently holds leading market positions in its defined strategic endmarkets. These markets have high entry barriers for other medium-sized companies and volumes most likely are too small for the large players in our view.

The company covers the entire value chain for sensor and related systems. Looking forward, First Sensor is well positioned to benefit from some megatrends like for example autonomous driving or Industry 4.0. By benefitting from these trends the current strategy is directed to a higher margin level and in 2016 and 2017 the group could harvest the first fruits of this program. Nevertheless the margin level is still behind to some of its listed peer group companies.

Exhibit 8: First Sensor: Three years performance

Exhibit 9: First Sensor: One year performance





Source: Prices as of 22.08.2018

Source: Prices as of 22.08.2018

The latest share price decline of 42%, measured from the last peak in mid-March at EUR 30.50 to end of June 2018, is not justified in our view. Looking back, Q1 2018 results were burdened by the group-wide introduction of an ERP-system, but according to our assessment this was mainly a problem in January and eased during the following months. Q1 2018 EBIT-margin of 3.1% (Q1 '17: 5.2%; Q4 '17: 7.8%) may has disappointed some market participants. As expected, the second quarters EBIT-margin level normalized again to 7.5%. The latest share price setback to below EUR 20.0 was in line with the overall market decline due to the turbulences in Turkey and continuing uncertainties about a global trade war.

Further triggers for the share price in our view are any signs for a further sustainable margin improvement. These signs can be for example the winning of new high volume OEM customers, new product innovations, internal cost savings measures or entering new markets. The signing of an extension of an existing contract with a Chinese process automation company in July is a good example. The strengthening of the collaboration with a Canadian technology leader for machine vision technology for an additional contract for sensor boards until 2019 is another one.

A possible escalation of the global trade war will not directly affect the business of FIS, according to the company. An extension of duties for European carmakers could have a negative impact on First Sensor's Mobility segment (2017 sales share of 30.1%) in our view.





Valuation Update

- We confirm our Buy recommendation from 26 July 2018
- TP marginally up to EUR 27.40 from EUR 27.30 per share; estimated for FY 2018e have not changed
- Unchanged base parameters: Beta at 1.1; perpetual growth rate at 2.5% and sustainable margin at 9.5%
- Current upside potential of 38%

Exhibit 10: First Sensor: DCF model - base case

			Phase I					Phase I			Phase III
EUR m	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	
Revenues	157.0	168.0	180.8	194.9	210.0	224.4	237.9	250.1	260.7	269.5	
growth rate	6.4%	7.0%	7.6%	7.8%	7.7%	6.9%	6.0%	5.1%	4.2%	3.4%	
EBIT	12.4	13.5	15.6	17.8	19.8	21.2	22.5	23.7	24.7	25.6	
EBIT margin	7.9%	8.0%	8.6%	9.1%	9.4%	9.5%	9.5%	9.5%	9.5%	9.5%	
Tax	-3.7	-4.1	-4.7	-5.3	-5.9	-6.4	-6.8	-7.1	-7.4	-7.7	
Taxrate	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	
Depr. & Amort.	10.2	9.8	9.9	10.2	10.3	11.2	11.9	12.5	13.1	13.6	
% of sales	6.5%	5.8%	5.5%	5.2%	4.9%	5.0%	5.0%	5.0%	5.0%	5.0%	
Capex	-9.5	-10.0	-10.2	-11.0	-11.1	-11.9	-12.6	-13.2	-13.8	-14.2	
% of sales	6.1%	6.0%	5.6%	5.6%	5.3%	5.3%	5.3%	5.3%	5.3%	5.3%	
Change in WC & P	-2.0	-0.5	-0.4	-0.1	0.2	0.2	0.2	0.2	0.2	0.1	
% of sales	13%	0.3%	0.2%	0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	
Free Cash Flow	7.3	8.7	10.2	11.5	13.3	14.4	15.3	16.1	16.8	17.4	401.
growth rate Present Value FCF	nm 7.2	19.0% 8.0	16.9% 8.7	12.4% 9.2	16.0% 9.9	7.9% 10.0	6.5% 10.0	5.3% 9.8	4.3% 9.6	3.4% 9.3	2.5% 214.
PV Phase I		43.0			Risk fre	e rate	3.5%			uity ratio	609
PV Phase II		48.7			Premiur	n Equity	5.0%		Beta		1.
PV Phase III		214.3			Premiur	n Debt	2.0%		WACC		6.99
Enterprise value		306.0			Sensitiv	ity		Gro	wth in p	hase III	
- Net Debt (Cash)		22.8					1.5%	2.0%	2.5%	3.0%	3.5%
- Pension Provisions		0.3				6.25%	27.4	29.9	33.2	37.4	43.1
- Minorities & Periphe	erals	1.2				6.59%	25.3	27.4	30.0	33.4	37.9
	ets				WACC	6.94%	23.4	25.2	27.4	30.2	33.8
+ MV of financial asse		1.6				7.29%	21.8	23.3	25.2	27.5	30.4
+ MV of financial asse	or last FY	0,1					20.3	21.6	23.2	25.2	27.6
- Paid-out dividends f	or last FY	1.6				7 63%					21.0
	or last FY	1.0				7.63%	20.3	21.0			
- Paid-out dividends f +/- Other EV items	or last FY	280.0				7.63%	20.3	21.0			
- Paid-out dividends f +/- Other EV items	or last FY					7.63%	20.3	21.0			
- Paid-out dividends f +/- Other EV items Equity value Number of shares	or last FY	280.0				7.63%	20.3	21.0			
- Paid-out dividends f +/- Other EV items Equity value	or last FY	280.0 10.2				7.63%	20.3	21.0			

Source: equinet Research





H1/Q2 2018 with margin improvement

In Q2 2018 First Sensor achieved a stable order intake of EUR 44.4m. All other key financials beat our estimates, as can be seen in Exhibit 11. By making progress with the introduction of a new ERP-system production output normalised and sales were up by 15.2% yoy. The book-to-bill ratio reached 1.11 and signal further growth. The higher output had a positive effect on profitability and the EBIT-margin reached 7.5%, now being in the targeted corridor for 2018e of 7%-9%.

Exhibit 11: First Sensor: Q2 2018 with improved EBIT-margin

EUR m	Q2 2018	Q2 2017	% YoY	equinet	Delta
Order intake	44.4	44.4	0.0%	46.0	-3.5%
Revenues	39.9	34.6	15.2%	37.5	6.3%
of which: Industrial	21.0	18.3	15.0%	20.3	3.6%
of which: Medical	8.9	6.4	39.5%	7.0	27.6%
of which: Mobility	9.9	9.9	-0.1%	10.2	-3.0%
Book-to-bill ratio group	1.11	1.28		1.23	
EBIT	3.0	1.6	87.0%	2.2	36.4%
EBIT Margin	7.5%	4.6%		5.9%	
Net income	2.1	0.7	185.0%	1.5	37.2%
EPS, EUR	0.20	0.06	255.8%	0.15	34.3%

Source: Company data, equinet Research

H1 2018 sales reached 74.4m (+7.9% yoy) and all three segments reported higher sales yoy. The strongest growth was reported in the Medical segment with an increase of 27.5% yoy. In order to reach our full-year estimate of EUR 157m the second half has to generate EUR 82.6m. Last year's H2 figure amounted to EUR 78.6m. Given the order book of EUR 102.1m and taken into account the new larger order from a Canadian client we see good chances to meet our estimate. H1 2018 EBIT-margin increased to 5.5% from 4.9% a year earlier. On a sequential basis there is a clear upward trend: EBIT-margin Q1 '18: 3.1%, Q2 '18: 7.5%. Our full-year EBIT estimate amounted to EUR 12.4m, corresponding to a margin of 7.9%.

Other highlights within the H1 '18 report:

- With regard to products for LiDAR systems a new sales & marketing campaign has started; also the production ramp-up for the Blue Next camera is in process
- End of June the group's liquidity was squeezed down to EUR 17.4m from 25.5m end of FY 2017
- The operating cash flow reached EUR -1.9m (EUR 1.8m), what can be explained
 mainly by the dividend payment to shareholders and higher working capital needs
 thanks to better volumes and keeping an eye on the security of supply



 Net financial debt amounted to EUR 30.5m; gearing amounted to 36.9% versus 27.8% end of 2018

Exhibit 12: First Sensor: Overview promissory notes

Placement	EUR m	Term	Due date
2013	12.0	5 years	2018
2015	7.0	5 years	2020
2015	18.0	7 years	2020
2015	3.0	6 years	2022
Total amount	40.0	-	

Source: Company data, equinet Research

- According to the company guidance we have reduced our capex estimate for FY 2018 to EUR 9.5m from 10.5m
- First Sensor confirmed the full-year guidance 2018e: Group sales should reach EUR 150-160m and the EBIT-margin is expected to reach 7-9%





riist selisti Ad . Sullillary tables						
PROFIT & LOSS (EURm)	12/2014	12/2015	12/2016	12/2017	12/2018e	12/2019e
Sales	124	138	150	148	157	168
Cost of Sales & Operating Costs	-113	-129	-131	-130	-134	-145
Non Recurrent Expenses/Income	2.5	3.2	0.2	2.3	0.0	0.0
EBITDA	13.1	11.5	19.4	19.6	22.6	23.3
EBITDA (adj.)*	10.6	8.4	19.3	17.3	22.6	23.3
Depreciation	-6.5	-7.2	-7.1	-6.8	-10.2	-9.8
EBITA	6.6	4.4	12.4	12.8	12.4	13.5
EBITA (adj)*	4.1	1.2	12.2	10.6	12.4	13.5
Amortisations and Write Downs	-2.5	-3.2	-2.4	-2.3	0.0	0.0
of which PPA amortisation	-2.5	-3.2	-2.4	-2.3	0.0	0.0
EBIT	4.1	1.2	10.0	10.6	12.4	13.5
EBIT (adj.)*	4.1	1.2	12.2	10.6	12.4	13.5
Net Financial Interest	-2.4	-2.4	-1.8	-1.9	-2.1	-2.2
Other Financials	0.0	0.0	0.0	0.0	0.0	0.0
Associates	0.0	0.0	0.5	-1.5	0.0	0.0
Other Non Recurrent Items	0.0	0.0	0.0	0.0	0.0	0.0
Earnings Before Tax (EBT)	1.7	-1.2	8.7	7.2	10.2	11.4
Tax	-1.3	-0.4	-2.6	-2.8	-3.1	-3.4
Tax rate	76.3%	n.m.	30.2%	38.9%	30.0%	30.0%
Discontinued Operations	0.0	0.0	0.0	0.0	0.0	0.0
Minorities	-0.2	-0.2	-0.3	-0.2	-0.3	-0.3
Net Profit (reported)	0.2	-1.7	5.7	4.1	6.9	7.7
Net Profit (adj.)	0.2	-1.7	5.8	4.1	6.9	7.7
CASH FLOW (EURm)	12/2014	12/2015	12/2016	12/2017	12/2018e	12/2019e
Cash Flow from Operations before change in NWC	12/2014	9.5	15.8	17.8	15.8	17.5
Change in Net Working Capital	-1.6	-6.3	0.8	-1.8	-2.0	-0.5
- ·	9.8	3.2	16.6	16.0	13.8	17.0
Cash Flow from Operations	9.6 -5.4					-10.0
Capex		-7.1 2.0	-6.6	-13.2	-9.5 0.0	
Net Financial Investments	1.1	2.0	0.1	0.7		0.0
Free Cash Flow	5.5	-1.9	10.1	3.5	4.3	7.0
Dividends Other (incl. Conital Increase & phore how health)	0.0	0.0	0.0	0.0	-1.6	-1.8
Other (incl. Capital Increase & share buy backs)	0.0	0.0	0.0	0.0	0.0	0.0
			40.4			- 4
Change in Net Debt	5.5	-1.9	10.1	3.5	2.7	5.1
Change in Net Debt NOPLAT		-1.9 0.8	10.1 8.5	3.5 7.4	2.7 8.7	5.1 9.5
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm)	5.5 2.9 12/2014	0.8 12/2015	8.5 12/2016	7.4 12/2017	8.7 12/2018e	9.5 12/2019e
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets	5.5 2.9 12/2014 36.4	0.8 12/2015 35.0	8.5 12/2016 33.0	7.4 12/2017 36.4	8.7 12/2018e 36.7	9.5 12/2019e 36.4
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill)	5.5 2.9 12/2014 36.4 52.2	0.8 12/2015 35.0 49.6	8.5 12/2016 33.0 49.1	7.4 12/2017 36.4 48.9	8.7 12/2018e 36.7 47.9	9.5 12/2019e 36.4 48.4
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other	5.5 2.9 12/2014 36.4 52.2 0.0	0.8 12/2015 35.0 49.6 0.0	8.5 12/2016 33.0 49.1 0.0	7.4 12/2017 36.4 48.9 0.0	8.7 12/2018e 36.7 47.9 0.0	9.5 12/2019e 36.4 48.4 0.0
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets	5.5 2.9 12/2014 36.4 52.2 0.0 88.7	0.8 12/2015 35.0 49.6 0.0 84.6	8.5 12/2016 33.0 49.1 0.0 82.1	7.4 12/2017 36.4 48.9 0.0 85.3	8.7 12/2018e 36.7 47.9 0.0 84.6	9.5 12/2019e 36.4 48.4 0.0 84.8
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other	5.5 2.9 12/2014 36.4 52.2 0.0	0.8 12/2015 35.0 49.6 0.0	8.5 12/2016 33.0 49.1 0.0	7.4 12/2017 36.4 48.9 0.0	8.7 12/2018e 36.7 47.9 0.0	9.5 12/2019e 36.4 48.4 0.0
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9	0.8 12/2015 35.0 49.6 0.0 84.6 27.1	8.5 12/2016 33.0 49.1 0.0 82.1 25.9	7.4 12/2017 36.4 48.9 0.0 85.3 24.6	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-)	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities Total Long Term Liabilities	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term Liabilities Short term interest bearing debt	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term Liabilities Short term interest bearing debt Trade payables	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term Liabilities Short term interest bearing debt Trade payables Other current liabilities Total Current Liabilities Total Current Liabilities	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3 12.7 35.0
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities Total Long Term Liabilities Short current liabilities Total Current Liabilities Total Current Liabilities Total Liabilities and Shareholders' Equity	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7 146	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7 155	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0 154	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6 160	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8 165	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3 12.7 35.0 172
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term Liabilities Short term interest bearing debt Trade payables Other current liabilities Total Current Liabilities Total Current Liabilities	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3 12.7 35.0
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities Total Long Term Liabilities Short term interest bearing debt Trade payables Other current liabilities Total Current Liabilities Total Liabilities and Shareholders' Equity Net Capital Employed Net Working Capital	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7 146 115 30.3	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7 155 117 36.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0 154 110 35.7	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6 160 113 37.5	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8 165 115 39.5	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3 12.7 35.0 172 116 40.1
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities Total Long Term Liabilities Short term interest bearing debt Trade payables Other current liabilities Total Current Liabilities Total Liabilities and Shareholders' Equity Net Capital Employed Net Working Capital GROWTH & MARGINS	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7 146 115 30.3	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7 155 117 36.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0 154 110 35.7	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6 160 113 37.5	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8 165 115 39.5	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3 12.7 35.0 172 116 40.1 12/2019e
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities Total Long Term Liabilities Short term interest bearing debt Trade payables Other current liabilities Total Current Liabilities Total Liabilities and Shareholders' Equity Net Capital Employed Net Working Capital GROWTH & MARGINS Sales growth	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7 146 115 30.3	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7 155 117 36.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0 154 110 35.7	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6 160 113 37.5	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8 165 115 39.5	9.5 12/2019e
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities Total Long Term Liabilities Short term interest bearing debt Trade payables Other current liabilities Total Current Liabilities Total Liabilities and Shareholders' Equity Net Capital Employed Net Working Capital GROWTH & MARGINS Sales growth EBITDA (adj.)* growth	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7 146 115 30.3	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7 155 117 36.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0 154 110 35.7	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6 160 113 37.5	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8 165 115 39.5	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3 12.7 35.0 172 116 40.1 12/2019e 7.0% 3.3%
Change in Net Debt NOPLAT BALANCE SHEET & OTHER ITEMS (EURm) Net Tangible Assets Net Intangible Assets (incl.Goodwill) Net Financial Assets & Other Total Fixed Assets Inventories Trade receivables Other current assets Cash (-) Total Current Assets Total Assets Shareholders Equity Minority Total Equity Long term interest bearing debt Provisions Other long term liabilities Total Long Term Liabilities Short term interest bearing debt Trade payables Other current liabilities Total Current Liabilities Total Liabilities and Shareholders' Equity Net Capital Employed Net Working Capital GROWTH & MARGINS Sales growth	5.5 2.9 12/2014 36.4 52.2 0.0 88.7 29.9 8.6 4.8 -14.5 57.8 146 71.6 0.4 72.0 35.3 0.5 13.0 48.8 9.0 8.2 8.5 25.7 146 115 30.3	0.8 12/2015 35.0 49.6 0.0 84.6 27.1 17.0 4.7 -21.5 70.4 155 70.7 0.6 71.3 44.5 0.7 11.8 57.0 10.0 7.6 9.1 26.7 155 117 36.5	8.5 12/2016 33.0 49.1 0.0 82.1 25.9 18.4 3.8 -23.8 71.9 154 76.5 0.9 77.4 37.2 0.3 8.1 45.6 11.0 8.6 11.4 31.0 154 110 35.7	7.4 12/2017 36.4 48.9 0.0 85.3 24.6 20.8 3.4 -25.5 74.3 160 80.8 1.2 82.0 36.3 0.3 7.4 44.0 12.0 7.9 13.7 33.6 160 113 37.5	8.7 12/2018e 36.7 47.9 0.0 84.6 25.8 21.8 3.7 -29.1 80.5 165 86.0 1.2 87.2 36.3 0.3 7.5 44.1 13.0 8.1 12.7 33.8 165 115 39.5	9.5 12/2019e 36.4 48.4 0.0 84.8 26.3 22.1 3.8 -34.6 86.8 172 91.8 1.2 93.0 35.6 0.3 7.6 43.5 14.0 8.3 12.7 35.0 172 116 40.1 12/2019e 7.0%





First	Sensor	AG:	Summary	tables
--------------	--------	-----	---------	--------

riist selisti AG i sullillary tables						
GROWTH & MARGINS	12/2014	12/2015	12/2016	12/2017	12/2018e	12/2019e
Net Profit growth	-93.5%	n.m.	n.m.	-28.2%	66.3%	11.4%
EPS adj. growth	-93.6%	n.m.	n.m.	-28.3%	66.3%	11.4%
DPS adj. growth				n.m.	12.5%	11.1%
EBITDA (adj)* margin	8.6%	6.1%	12.8%	11.8%	14.4%	13.9%
EBITA (adj)* margin	3.3%	0.9%	8.1%	7.2%	7.9%	8.0%
EBIT (adj)* margin	3.3%	0.9%	8.1%	7.2%	7.9%	8.0%
RATIOS	12/2014	12/2015	12/2016	12/2017	12/2018e	12/2019e
Net Debt/Equity	0.4	0.5	0.3	0.3	0.2	0.2
Net Debt/EBITDA	2.3	2.9	1.3	1.2	0.9	0.6
Interest cover (EBITDA/Fin.interest)	5.4	4.9	10.8	10.6	10.5	10.8
Capex/D&A	60.2%	68.5%	70.1%	145.4%	93.1%	102.0%
Capex/Sales	4.4%	5.1%	4.4%	8.9%	6.1%	6.0%
NWC/Sales	24.4%	26.5%	23.8%	25.4%	25.2%	23.8%
ROE (average)	0.2%	-2.4%	7.8%	5.3%	8.2%	8.6%
ROCE (adj.)	2.4%	0.7%	7.2%	6.0%	7.0%	7.6%
WACC	6.9%	6.9%	6.9%	6.9%	6.9%	6.9%
ROCE (adj.)/WACC	0.3	0.1	1.0	0.9	1.0	1.1
	12/2014	12/2015	12/2016	12/2017	12/2018e	12/2019e
PER SHARE DATA (EUR)*** Average diluted number of shares	10.0	12/2015	12/2016	10.2	10.2	12/20196
EPS (reported)	0.02	-0.17	0.56	0.40	0.67	0.75
EPS (adj.)	0.02	-0.17	0.56	0.40	0.67	0.75
BVPS	7.12	6.96	7.49	7.91	8.42	8.99
DPS	0.00	0.00	0.00	0.16	0.42	0.20
VALUATION	12/2014	12/2015	12/2016	12/2017	12/2018e	12/2019e
EV/Sales	1.0	1.2	1.2	1.7	1.4	1.3
EV/EBITDA	9.8	13.9	8.9	12.6	10.0	9.4
EV/EBITDA (adj.)*	12.1	19.1	9.0	14.2	10.0	9.4
EV/EBITA	19.5	36.8	14.1	19.2	18.2	16.3
EV/EBITA (adj.)*	31.3	133.5	14.2	23.4	18.2	16.3
EV/EBIT	31.3	n.m.	17.4	23.4	18.2	16.3
EV/EBIT (adj.)*	31.3	n.m.	14.2	23.4	18.2	16.3
P/E (adj.)	n.m.	n.m.	25.7	n.m.	29.6	26.6
P/BV	1.4	1.8	1.9	2.8	2.4	2.2
Total Yield Ratio	0.0%	0.0%	0.0%	0.8%	0.9%	1.0%
EV/CE	1.1	1.3	1.5	2.0	1.8	1.8
OpFCF yield	4.5%	-3.1%	6.8%	1.2%	2.1%	3.4%
OpFCF/EV	3.4%	-2.4%	5.8%	1.1%	1.9%	3.2%
Payout ratio	0.0%	0.0%	0.0%	39.6%	26.8%	26.7%
Dividend yield (gross)	0.0%	0.0%	0.0%	0.8%	0.9%	1.0%
EV AND MKT CAP (EURm)	12/2014	12/2015	12/2016	12/2017	12/2018e	12/2019e
Price** (EUR)	9.75	12.44	14.50	21.76	19.90	19.90
Outstanding number of shares for main stock	10.0	10.2	10.2	10.2	10.2	10.2
Total Market Cap	98	126	148	222	203	203
Net Debt	30	33	24	23	20	15
o/w Cash & Marketable Securities (-)	-15	-22	-24	-26	-29	-35
o/w Gross Debt (+)	44	55	48	<i>4</i> 8	49	50
Other EV components		00	-10			
Other EV components	1	1	1	2	1	1
Enterprise Value (EV adj.)						

Source: Company, equinet Bank estimates.

Notes

Company Description: First Sensor engages in the development and manufacture of sensors, components and sensor solutions. The company serves the target markets Industrial, Medical and Mobility. The product portfolio include, among others, pressure, optical, radiation, flow, level and inertial sensors, cameras and power semiconductors. The company was founded in 1991 and is located in Berlin, Germany.



^{*} Where EBITDA (adj.) or EBITA (adj)= EBITDA (or EBITA) -/+ Non Recurrent Expenses/Income and where EBIT (adj)= EBIT-/+ Non Recurrent Expenses/Income - PPA amortisation
**Price (in local currency): Fiscal year end price for Historical Years and Current Price for current and forecasted years

Sector: Technology Hardware & Equipment/Technology Hardware & Equipment



Recommendation and Disclosures

Coverage	Analyst	Target	Rating	Disc.	Coverage	Analyst	Target	Rating	Disc.
1&1DRILLISCHAG	Sen	66.00	Buy		Logwin	Mildner	165.00	Accumulate	2/3
2G Energy	Rüzgar	23.50	Accumulate	2/3/5	Manz AG	Rüzgar	37.00	Neutral	2/3
Aareal Bank	Häßler	42.00	Neutral	2.0,0	MAXAutomation SE	Becker	6.70	Buy	2/3
adidas	Josefson	228.00	Accumulate		Merck	Berzhanin	112.00	Buy	20
Adler Modemaerkte	Josefson	6.35	Buy	7	Merkur Bank	Häßler	10.00	Buy	2/7
ADLER Real Estate	Mayer	18.00	Buy	•	Metro AG	Bruns	17.00	Buy	2
Aixtron	Sen	14.00	Buy	2/3	MLP	Häßler	7.50	Buy	2/3
Allianz	Häßler	200.00	Neutral		MTU Aero Engines	Rüzgar	148.00	Reduce	2
Axel Springer	Josefson	67.00	Accumulate		Munich Re	Häßler	210.00	Accumulate	
Bayer	Berzhanin	118.00	Buy		Nemetschek SE	Mildner	47.00	Reduce	5
Baywa	Bruns	33.00	Buy	2/7	Norma Group	Schuldt	54.00	Neutral	-
BB Biotech	Berzhanin	73.00	Buy	7	OHB SE	Rüzgar	40.00	Buy	7
Biotest	Berzhanin	24.10	Neutral	2/3	OVB Holding AG	Häßler	20.00	Neutral	2/5/7
BMW	Schuldt	95.00	Buy	2,0	Patrizia	Mayer	20.00	Accumulate	207
Brenntag	Hinkel	59.80	Buy	2	Pfeiffer Vacuum	Sen	162.00	Buy	5
Ceconomy AG	Bruns	8.00	Neutral	-	Procredit Holding	Häßler	15.00	Buy	2/3/5
comdirect	Häßler	13.50	Buy		PSISOFTWAREAG	Mildner	20.00	Buy	2/3
Commerzbank	Häßler	9.20	Neutral		Puma	Josefson	565.00	Buy	2/3
Continental	Schuldt	250.00	Buy		PWO	Schuldt	50.00		2/3
CORESTATE Capital Holding S.A.	Mayer	72.00	Buy	2/5	Rheinmetall	Rüzgar	103.00	Buy Neutral	2/3
CTS Eventim	Heilmann	37.50	Reduce	2/5	RIB Software	Mildner	25.00		2/3
								Buy	2/3
Daimler AG	Schuldt	71.00	Buy	0/0/5	RTL Group	Josefson	72.00	Accumulate	0/0
Daldrup & Soehne	Becker	13.50	Buy	2/3/5	S&TAG	Sen	27.00	Buy	2/3
Demire	Mayer	4.80	Accumulate	2/5	SAF-Holland	Schuldt	17.00	Neutral	
Deut sche Bank	Häßler	14.00	Buy		Schaeffler	Tanzer	14.30	Buy	
Deut sche EuroShop	Mayer	30.00	Neutral		Schaltbau Holding AG	Becker	32.70	Buy	2/7
Deut sche Pf andbrief bank	Häßler	14.50	Accumulate		SCOUT24	Heilmann	31.00	Reduce	2
Deut sche Telekom	Sen	13.30	Neutral		Siegfried Holding AG	Berzhanin	399.00	Neutral	7
Duerr	Augustin	43.00	Accumulate		SiemensHealthineersAG	Rüzgar	39.00	Neutral	2
DWS	Häßler	34.00	Buy		SLM Solutions	Sen	24.00	Sell	
ElringKlinger	Schuldt	7.00	Sell		SMTScharf AG	Rüzgar	18.00	Neutral	2/3
elumeo SE	Josefson	10.90	Accumulate		Soft ware AG	Mildner	30.00	Sell	
EpigenomicsAG	Berzhanin	3.70	Buy	2/3	Stabilus	Tanzer	91.00	Buy	
Euromicron AG	Becker	11.40	Buy	2/3/5	Suedzucker	Bruns	11.70	Reduce	
Evonik	Hinkel	41.00	Buy		SuessMicroTec	Sen	13.80	Accumulate	2/3
Eyemaxx Real Estate	Mayer	18.00	Buy	2/5/7	Surt eco Group	Mildner	26.50	Buy	2/3
Ferratum	Häßler	23.00	Buy		Symrise AG	Hinkel	67.00	Neutral	
Fielmann	Heilmann	55.00	Reduce		Syzygy AG	Heilmann	11.50	Accumulate	2/3
First Sensor AG	Becker	27.40	Buy	7	TAKKTAG	Bruns	18.50	Neutral	2
Freenet	Sen	36.00	Buy	2	Talanx Group	Häßler	39.00	Buy	
FuchsPetrolub	Hinkel	48.00	Neutral		Technotrans	Becker	43.00	Accumulate	2/3
Gea Group	Augustin	33.00	Neutral		TELECOLUMBUS	Sen	9.70	Buy	
Gerresheimer AG	Rüzgar	69.00	Neutral		Telefonica Deutschland	Sen	3.40	Sell	
Gerry Weber	Josefson	5.75	Reduce		Unit ed Internet	Sen	63.00	Buy	
Gesco	Becker	35.60	Buy	2/3	Vapiano	Bruns	26.50	Buy	2/7
GFT Technologies	Mildner	15.50	Buy	2/3	va-Q-tec	Sen	17.00	Neutral	2/3
Gigaset	Sen	0.85	Accumulate	2/3	Viscom	Rüzgar	28.00	Buy	2/3
Grenke	Häßler	90.00	Neutral		Volkswagen	Schuldt	154.00	Neutral	
Hannover Re	Häßler	110.00	Neutral		Wacker Neuson SE	Becker	27.20	Neutral	
Heidelberg Pharma	Berzhanin	3.50	Accumulate	2/3	windeln.de	Josefson	3.10	Buy	2
Heidelberger Druck	Augustin	3.60	Buy		XINGSE	Heilmann	305.00	Accumulate	
HELLA GmbH & Co. KGaA	Tanzer	55.00	Accumulate		Zalando	Josefson	44.50	Neutral	
Hornbach Holding	Bruns	89.00	Buy						
Hugo Boss	Josefson	81.00	Buy						
Hypoport AG	Häßler	190.00	Neutral	2/7					
INDUS Holding AG	Becker	64.50	Neutral						
Intershop Communications AG	Mildner	1.85	Accumulate	2/7					
K+S AG	Hinkel	22.00	Neutral						
Koenig & Bauer	Augustin	73.00	Accumulate						
KronesAG	Augustin	123.00	Accumulate						
KWSSAAT	Hinkel	348.00	Buy						
Lanxess	Hinkel	83.00	Buy						
LEG Immobilien AG	Mayer	104.00	Accumulate						
Leoni	Schuldt	57.00	Neutral						
Linde	Hinkel	176.00	Neutral						
					•				

*=Coverage suspended Source: equinet Recommendations



Notice according to § 34 b (German) Securities Trading Act ("Wertpapierhandelsgesetz")

This document is issued by Equinet Bank AG ("Equinet Bank"). It has been prepared by its authors independently of the Company, and none of Equinet Bank, the Company or its shareholders has independently verified any of the information given in this document.

Equinet Bank possesses relations to the covered companies as detailed in the table on the previous page. Additional information and disclosures will be made available upon request and/or can be looked up on our website http://www.Equinet Bank-ag.de

- 1 Equinet Bank and/or its affiliate(s) hold(s) more than 5% of the share capital of this company calculated under computational methods required by German law.
- 2 Equinet Bank acts as a designated sponsor for this company, including the provision of bid and ask offers. Therefore, we regularly possess shares of the company in our proprietary trading books. Equinet Bank receives a commission from the company for the provision of the designated sponsor services.
- 3 The designated sponsor services include a contractually agreed provision of research services.
- 4 Within the last twelve months, Equinet Bank was involved as a lead or co-lead manager in the public offering of securities which are/whose issuer is the subject of this report.
- 5 Within the last twelve months, Equinet Bank and/or its affiliate(s) provided investment banking- and/or other consultancy services for this company and/or it's shareholders.
- 6 Equinet Bank and/or its affiliate(s) has/have other substantial financial interests in relation to this issuer.
- 7 Equinet Bank has entered into an agreement with this company about the preparation of research reports and in return receives a compensation.

Companies of the Equinet Bank group and/or its directors, officers and employees or clients may take positions in, and may make purchases and/or sales as principal or agent in the securities or related financial instruments discussed in our reports. The Equinet Bank group may provide investment banking and other services to and/or serve as directors of the companies referred to in our reports.

In compliance with Para 5 Sec. 4 of the Ordinance on the Analysis of Financial Instruments (FinAnV) Equinet Bank has realized additional internal and organizational measures, such as specific research guidelines, to prevent or manage conflicts of interest.

Neither the company nor its employees are allowed to receive donations from third parties with a special interest in the content of the analysis.

The salary of the research analysts of Equinet Bank AG does not depend on the investment banking transactions of the company. Nevertheless, this does not rule out the payment of a bonus which depends on the overall financial performance of the bank.

Particular care is taken that the individual performance of each research analyst of Equinet Bank AG is not being assessed by a manager of another business division with similar or same interests.

To assure a highest degree of transparency Equinet Bank AG regularly provides - on a quarterly basis - a summary according to Para 5 Sec. 4 No. 3 of the Ordinance on the Analysis of Financial Instruments (FinAnV). It informs about the overall analysts recommendations and sets them in a relationship to those companies, for which Equinet Bank provided investment banking services within the last twelve months. This summary is published via our website http://www.Equinet Bank-ag.de.

Furthermore, we refer to our conflict of interest policy as well as the German Securities Trading Act (WpHG) and the Ordinance on the Analysis of Financial Instruments (FinAnV) provided in the download area of our website http://www.Equinet Bank-ag.de.

Remarks

Recommendation System

Buy - The stock is expected to generate a total return of over 20% during the next 12 months time horizon. Accumulate - The stock is expected to generate a total return of 10% to 20% during the next 12 months time horizon. Hold - The stock is expected to generate a total return of 0% to 10% during the next 12 months time horizon Reduce - The stock is expected to generate a total return of 0 to -10% during the next 12 months time horizon Sell - The stock is expected to generate a total return below -10% during the next 12 months time horizon

Basis of Valuation

Equinet Bank uses for valuation purposes primarily DCF-Valuations and Sum-Of-The-Parts-Valuations as well as peer group comparisons.

Share prices

Share prices in this analysis are the German closing prices of the last trading day before the publication.

Sources

Equinet Bank has made any effort to carefully research all information contained in the analysis. The information on which the analysis is based has been obtained from sources which we believe to be reliable such as, for example, Reuters, Bloomberg and the relevant press as well as the company which is the subject of the analysis. Only that part of the research note is made available to the issuer, who is the subject of the analysis, which is necessary to properly reconcile with the facts. Should this result in considerable changes a reference is made in the research note.

Actualizations

Opinions expressed in this analysis are our current opinions as of the issuing date indicated on this document. We do not commit ourselves in advance to whether and in which intervals updates are made.





DISCLAIMER

THE PREPARATION OF THIS DOCUMENT IS SUBJECT TO REGULATION BY GERMAN LAW. THIS DOCUMENT IS BEING SUPPLIED TO YOU SOLELY IN YOUR CAPACITY AS A PROFESSIONAL INSTITUTIONAL INVESTOR FOR YOUR INFORMATION AND MAY NOT BE REPRODUCED OR PASSED ON, DIRECTLY OR INDIRECTLY, TO ANY OTHER PERSON OR PUBLISHED, IN WHOLE OR IN PART, FOR ANY PURPOSE. NEITHER THIS DOCUMENT NOR ANY COPY OF IT MAY BE TAKEN OR TRANSMITTED INTO AUSTRALIA, CANADA OR JAPAN OR DISTRIBUTED, DIRECTLY OR INDIRECTLY, IN AUSTRALIA, CANADA OR JAPAN OR TO ANY RESIDENT THEREOF.

THE DELIVERY OF THIS RESEARCH REPORT TO U.S. PERSONS IN THE UNITED STATES OF AMERICA IS MADE BY AND UNDER THE RESPONSIBILITY OF GSN NA, INC. (REGISTERED WITH THE SEC). THIS RESEARCH REPORT IS ONLY INTENDED FOR PERSONS WHO QUALIFY AS MAJOR U.S. INSTITUTIONAL INVESTORS, AS DEFINED IN SECURITIES EXCHANGE ACT RULE 15A-6, AND DEAL WITH GSN NA, INC. HOWEVER, THE DELIVERY OF THIS RESEARCH REPORT OR SUMMARY TO ANY U.S. PERSON SHALL NOT BE DEEMED A RECOMMENDATION OF GSN NA, INC. TO EFFECT ANY TRANSACTIONS IN THE SECURITIES DISCUSSED HEREIN OR AN ENDORSEMENT OF ANYOPINION EXPRESSED HEREIN. GSN NA, INC. MAY FURNISH UPON REQUEST ALL INVESTMENT INFORMATION AVAILABLE TO IT SUPPORTING ANY RECOMMENDATIONS MADE IN THIS RESEARCH REPORT. ALL TRADES WITH U.S. RECIPIENTS OF THIS RESEARCH SHALL BE EXECUTED THROUGH GSN NA, INC.

THIS DOCUMENT IS FOR DISTRIBUTION IN THE U.K. ONLY TO PERSONS WHO HAVE PROFESSIONAL EXPERIENCE IN MATTERS RELATING TO INVESTMENTS AND FALL WITHIN ARTICLE 19(5) OF THE FINANCIAL SERVICES AND MARKETS ACT 2000 (FINANCIAL PROMOTION) ORDER 2005 (THE "ORDER") OR (ii) ARE PERSONS FALLING WITHIN ARTICLE 49(2)(A) TO (D) OF THE ORDER, NAMELY HIGH NET WORTH COMPANIES, UNINCORPORATED ASSOCIATIONS ETC (ALL SUCH PERSONS TOGETHER BEING REFERRED TO AS "RELEVANT PERSONS"). THIS DOCUMENT MUST NOT BE ACTED ON OR RELIED UPON BY PERSONS WHO ARE NOT RELEVANT PERSONS. ANY INVESTMENT OR INVESTMENT ACTIVITY TO WHICH THIS DOCUMENT RELATES IS AVAILABLE ONLY TO RELEVANT PERSONS AND WILL BE ENGAGED IN ONLY WITH RELEVANT PERSONS.

THE DISTRIBUTION OF THIS DOCUMENT IN OTHER JURISDICTIONS OR TO RESIDENTS OF OTHER JURISDICTIONS MAY ALSO BE RESTRICTED BY LAW, AND PERSONS INTO WHOSE POSSESSION THIS DOCUMENT COMES SHOULD INFORM THEMSELVES ABOUT, AND OBSERVE, ANY SUCH RESTRICTIONS. BY ACCEPTING THIS REPORT YOU AGREE TO BE BOUND BY THE FOREGOING INSTRUCTIONS. YOU SHALL INDEMNIFY EQUINET BANK AGAINST ANY DAMAGES, CLAIMS, LOSSES, AND DETRIMENTS RESULTING FROM OR IN CONNECTION WITH THE UNAUTHORIZED USE OF THIS DOCUMENT.

This report is for informational purposes only and has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. This publication is intended to provide information to assist institutional investors in making their own investment decisions, not to provide investment advice to any specific investor. Therefore, investments discussed and recommendations made herein may not be suitable for all investors: readers must exercise their own inde-pendent judgment as to the suitability of such investments and recommendations in the light of their own investment objectives, experience, taxation status and financial position.

The information herein is believed by Equinet Bank to be reliable and has been obtained from sources believed to be reliable, but Equinet Bank makes no representation as to the accuracy or completeness of such information. The information given in this report is subject to change without notice; it may be incomplete or condensed and it may not contain all material information concerning the Company. Opinions expressed herein may differ or be contrary to opinions expressed by other business areas of the Equinet Bank group as a result of using different assumptions and criteria. Equinet Bank is under no obligation to update or keep the information current. Equinet Bank provides data concerning the future development of securities in the context of its usual research activity. However, if a financial instrument is denominated in a currency other than an investor's currency, a change in exchange rates may adversely affect the price or value of, or the income derived from, the financial instrument, and such investor effectively assumes currency risk. In addition, income from an investment may fluctuate and the price or value of financial instruments de-scribed in this report, either directly or indirectly, may rise or fall. Furthermore, past performance is not necessarily indicative of future results. Neither the author nor Equinet Bank accepts any liability whatsoever for any loss howsoever arising from any use of this publication or its contents or otherwise arising in connection herewith, except as provided for under applicable regulations.

Equinet Bank shall only be liable for any damages intentionally caused or which result from any gross negligence of Equinet Bank. Further Equinet Bank shall be liable for the breach of a material obligation of Equinet Bank, however, limited to the amount of the typical foreseeable which shall in no event exceed the amount of EUR 10,000. German law shall be applicable and court of jurisdiction for all disputes shall be Frankfurt/Main (Germany).

Competent Supervisory Authority:

Bundesanstalt für Finanzdienstleistungsaufsicht -BaFin- (Federal Financial Supervisory Authority) Graurheindorfer Straße 108, 53117 Bonn and Marie-Curie-Str. 24-28, 60439 Frankfurt am Main



Recommendation history for FIRST SENSOR AG

Date	Recommendation	Target price	Price at change date
23. Aug 18	Buy	27.40	19.90
26. Jul 18	Buy	27.30	21.60
17. Mai 18	Accumulate	27.00	23.50

Source: Factset & ESN, price data adjusted for stock splits.

This chart shows equinet Bank continuing coverage of this stock; the current analyst may or may not have covered it over the entire period. Current analyst: Winfried Becker (since 25/04/2018)







ESN Recommendation System

The ESN Recommendation System is **Absolute**. It means that each stock is rated on the basis of a **total return**, measured by the upside potential (including dividends and capital reimbursement) over a **12 month time horizon**.



The ESN spectrum of recommendations (or ratings) for each stock comprises 5 categories: Buy (B), Accumulate (A), Neutral (N), Reduce (R) and Sell (S).

Furthermore, in specific cases and for a limited period of time, the analysts are allowed to rate the stocks as **Rating Suspended (RS)** or **Not Rated (NR)**, as explained below.

Meaning of each recommendation or rating:

- **Buy**: the stock is expected to generate total return of **over 15%** during the next 12 months time horizon
- Accumulate: the stock is expected to generate total return of 5% to 15% during the next 12 months time horizon
- Neutral: the stock is expected to generate total return of -5% to +5% during the next 12 months time horizon
- Reduce: the stock is expected to generate total return of -5% to -15% during the next 12 months time horizon
- Sell: the stock is expected to generate total return under -15% during the next 12 months time horizon
- Rating Suspended: the rating is suspended due to a change of analyst covering the stock or a capital operation (take-over bid, SPO, ...) where the issuer of the document (a partner of ESN) or a related party of the issuer is or could be involved
- Not Rated: there is no rating for a company being floated (IPO) by the issuer of the document (a partner of ESN) or a related party of the issuer

Certain flexibility on the limits of total return bands is permitted especially during higher phases of volatility on the markets

Equinet Bank Ratings Breakdown



For full ESN Recommendation and Target price history (in the last 12 months) please see ESN Website Link

Date and time of production: 23 August 2018: 8:36 CET

First date and time of dissemination: 23 August 2018: 8:41 CET



Disclaimer:

These reports have been prepared and issued by the Members of European Securities Network LLP ('ESN'). ESN, its Members and their affiliates (and any director, officer or employee thereof), are neither liable for the proper and complete transmission of these reports nor for any delay in their receipt. Any mauthorised use, disclosure, copying, distribution, or taking of any action in reliance on these reports is strictly prohibited. The views and expressions in the reports are expressions of opinion and are given in good faith, but are subject to change without notice. These reports may not be reproduced in whole or in part or passed to third parties without permission. The information herein was obtained from various sources. ESN, its Members and their affiliates (and any director, efficer, or employee thereof) do not guarantee, their accuracy, or director, officer or employee thereof) do not guarantee their accuracy or completeness, and neither ESN, nor its Members, nor its Members' affiliates (nor any director, officer or employee thereof) shall be liable in respect of any errors or omissions or for any losses or consequential losses arising from such errors or omissions. Neither the information contained in these reports nor any opinion expressed constitutes an offer, or an invitation to make an offer, to buy or sell any securities or any options, futures or other derivatives related to such securities ('related investments'). These reports are prepared for the clients of the Members of ESN only. They do not have regard to the specific investment objectives, financial situation and the particular needs of any specific person who may receive any of these reports. Investors should seek financial advice regarding the appropriateness of investing in any securities or investment strategies discussed or recommended in these reports and should understand that statements regarding future prospects may not be realised. Investors should note that income from such securities, if any, may fluctuate and that each security's price or value may rise or fall. Accordingly, investors may receive back less than originally invested. Past performance is not necessarily a quide to future performance. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related investment mentioned in these reports. In addition, investors in securities such as ADRs, whose value are influenced by the currency of the underlying security, effectively assume currency risk. ESN, its Members and their affiliates may submit a pre-publication draft (without mentioning neither the recommendation nor the target price/fair value) of its reports for review to the Investor Relations Department of the issuer receive compensation review to the investor relations beparinent of the issuer forming the subject of the report, solely for the purpose of correcting any inadvertent material inaccuracies. Like all members employees, analysts receive compensation that is impacted by overall firm profitability For further details about the analyst certification, the specific risks of the company and about the valuation methods used to determine the price targets included in this report/note, please refer to the specific disclaimer pages prepared by the ESN Members. In the case of a short note please refer to the latest relevant published research on single stock or contact the analyst named on the front of the report/note for detailed information on the valuation methods, earning estimates and risks. A full description of all the organisational and administrative measures taken by the Members of ESN to manage interest and conflicts of measures taken by the Members of ESN to manage interest and conflicts of interest are available on the website of the Members or in the local disclaimer of the Members or contacting directly the Members. Research is available through the ESN Members sales representative. ESN will provide periodic updates on companies or sectors based on company-specific developments or announcements, market conditions or any other publicly available information. Unless agreed in writing with an ESN Member, this research is intended solely for internal use by the recipient. Neither this document nor any copy of it may be always at transported into Australia. Canada or language distributed, directly a taken or transmitted into Australia, Canada or Japan or distributed, directly or indirectly, in Australia, Canada or Japan or distributed, directly or indirectly, in Australia, Canada or Japan or to any resident thereof. This document is for distribution in the U.K. Only to persons who have professional experience in matters relating to investments and fall within article 19(5) of the financial services and markets act 2000 (financial promotion) order 2005 (the "order") or (ii) are persons falling within article 49(2)(a) to (d) of the order, namely high net worth companies, unincorporated associations etc. (all such persons together being referred to as "relevant persons"). This document must not be acted on or relied upon by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons. The distribution of this document in other jurisdictions or to residents of other jurisdictions may also be restricted by law, and persons into whose possession restrictions. By accepting this report you agree to be bound by the foregoing instructions. You shall indemnify ESN, its Members and their affiliates (and any director, officer or employee thereof) against any damages, claims, losses, and detriments resulting from or in connection with the unauthorized use of this document. For disclosure upon "conflicts of interest" on the companies under coverage by all the ESN Members, on the "interests" and "conflicts" of the analysts and on each "company recommendation history", please visit the ESN website (http://www.esnpartnership.eu/research and database access/insite) or refer to the local disclaimer of the Members, or contact directly the Members

www.bancaakros.it regulated by the CONSOB - Commissione Nazionale per le Società e la Borsa

www.caixabi.pt regulated by the CMVM - Comissão do Mercado de Valores Mobiliários

www.cmcicms.com regulated by the AMF - Autorité des marchés financiers

 $\underline{www.equinet\text{-}ag.de} \text{ regulated by the } \text{ BaFin - Bundesanstalt für Finanzdienstleistungsaufsicht}$

www.ibg.gr regulated by the HCMC - Hellenic Capital Market Commission

www.nibc.com regulated by the AFM - Autoriteit Financiële Markten

www.op.fi regulated by the Financial Supervision Authority

www.valores.gvcgaesco.es regulated by CNMV - Comisión Nacional del Mercado de Valores

Members of ESN (European Securities Network LLP)



Banca Akros S.p.A. Viale Eginardo, 29

20149 MILANO Italy

Phone: +39 02 43 444 389 Fax: +39 02 43 444 302



Caixa-Banco de Investimento Avenida João XXI, 63 1000-300 Lisboa Portugal

Phone: +351 21 313 73 00 Fax: +351 21 389 68 98



GVC Gaesco Beka, SV, SA C/ Marques de Villamagna 3 28001 Madrid

Spain Phone: +34 91 436 7813



Investment Bank of Greece 32 Aigialeias Str & Paradissou, 151 25 Maroussi, Greece

Greece Phone: +30 210 81 73 383



CM - CIC Market Solutions 6, avenue de Provence 75441 Paris Cedex 09 France



Phone: +33 1 53 48 81 93

equinet Bank AG Gräfstraße 97 60487 Frankfurt am Main Germany Phone: 49 69 – 58997 – 212 Fax: 449 69 – 58997 – 299



NIBC Bank N.V. Gustav Mahlerlaan 348 P.O.Box 235 1082 ME Amsterdam The Netherlands Phone: +31 20 550 8500 Fax: +31 20 626 8064



OP Corporate Bank plc P.O.Box 308 Teollisuuskatu 1, 00013 Helsinki Finland

Phone: +358 10 252 011 Fax: +358 10 252 2703

