

## New technologies pave the way for future growth

*The German software and IT services industries flourish from demand for digitalising business processes throughout a variety of verticals. New industrial use cases which are powered by new technologies help to improve efficiency and thus fuel software industry growth. In addition, major political and societal initiatives such as the energy transition and the electrification of the car fleet call for new solutions, which can cope with the changing requirements on infrastructure and business operations. This will create opportunities for software companies to stand out as true innovators, supporting their clients adapting to a changing environment. With this report we initiate our coverage on one IT services and five software companies.*

### German software and IT services industries

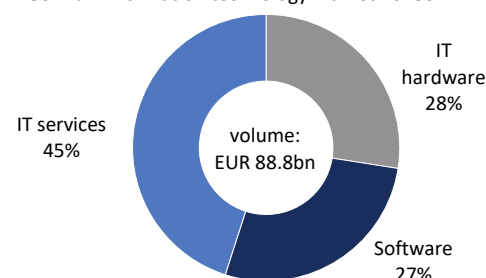
The largest software / IT services market in Europe is located in Germany, expected to total EUR 64bn in volume in FY2018e. According to the economic development agency of the Federal Republic of Germany, Germany Trade & Invest (GTAI), the German information technology market is driven by a powerful "Mittelstand". Established mid-sized companies are asking for innovative solutions in order to maintain or improve their competitive edge by boosting efficiency. For this reason, prominent technological innovations such as cloud, artificial intelligence, blockchain, the Internet-of-Things, and consequently the growing need for reliable cybersecurity inspire software companies to develop new use cases for their clients. We think that the cloud technology stands out for the IT sector, as it directly affects the way of how software companies operate: many providers are already offering or switching to a Software-as-a-Service (SaaS) model. Nevertheless, the biggest challenge for players in the industry remains the acquisition of talent, which is the key resource in order to safeguard competitiveness.

### Software / IT services top pick

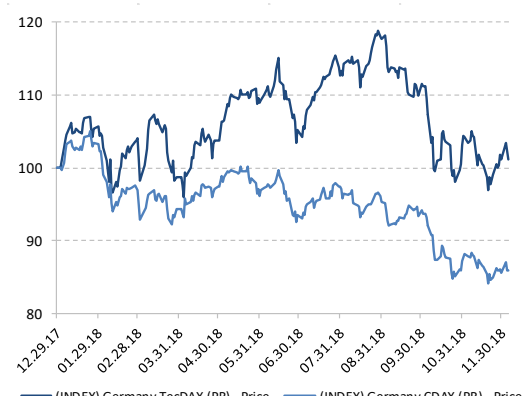
Currently, our preferred software company is PSI Software, which irrespective of a relatively small market cap offers a rather diversified customer portfolio. Generally, we find PSI's tilt towards sectors currently undergoing structural changes appealing, as this situation offers business opportunities for the company. The strong demand is currently underpinned by record order intake in FY2018e of ~EUR 215m (book-to-bill FY2018e: 1.1x). We think the good order situation should continue into the first half of FY2019, as signalled by two smaller acquisitions and expansion plans in North America. Since PSI harmonises its IT platform in order to sell more modularised products instead of individual projects, we additionally see the potential for long-term value creation through improved profitability.

### Sector German Software/IT Services

German information technology market 2018e



Source: Pareto, bitkom



Source: Pareto, Factset

Coverage	Rec.	TP	M'Cap (mEUR)
<b>Software</b>			
Nemetschek	Hold	105.00	3,992
Software AG	Hold	40.00	2,661
RIB Software	Buy	20.40	687
PSI Software	Buy	20.70	258
Intershop	Buy	1.75	56
<b>IT Services</b>			
GFT Technologies	Buy	13.50	207

### Analysts

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*Largest software / IT services market in Europe*

## The German IT market

The German information technology (IT) market is expected to reach a market volume of EUR 88.8bn in 2018e, according to the German federal association for information technology, telecommunications and new media (bitkom). Bitkom divides the domestic IT market into software (2018e market volume: EUR 24bn), IT hardware (EUR 24bn), and IT services (EUR 40bn). While the hardware industry is expected to grow only slightly in FY2018e (0.9% yoy), IT services are expected to grow 110bps slower than nominal German GDP growth (2.6% yoy vs 3.7% yoy). The software segment is expected to continue claiming its role as the sector's growth driver with 6.3% yoy expected growth, in line with previous years. In sum, the German IT market is expected to grow at 3.1% yoy in FY2018e.

In a European context, Germany has had the single largest software and IT services market in FY2017, (total volume EUR 62bn) followed by the UK (EUR 59bn) and France (EUR 54bn).

The overarching player in the German IT market is software giant SAP (not rated). In FY2017, SAP's German sales represented c. 15% of the total software market. The almost 50-year old software veteran established strong ties to the German industrial sector and can rely on a strong domestic ecosystem of around 700 partners that sell, implement, extend and run SAP solutions for their clients.

As human resource is the critical input factor to the software / IT services industries, Germany provides an attractive business environment with an educated workforce (80%+ academics or vocational training) and moderate wage costs developments (Q2 2018 +2% yoy labour costs vs EU (28) of +2.6% yoy according to Eurostat). However, although Germany has the largest number of software developers in Europe (837k according to Stack Overflow) the war for talent rages, as talent shortage poses a problem to the whole industry.

## Market drivers

*Cloud, blockchain, big data, artificial intelligence and the internet of things drive demand*

Generally, the way how business is conducted is set to change fundamentally in many verticals. Players like Nemetschek and RIB Software focus on enhancing the productivity in the construction industry, for example. GFT Technologies provides services to the financial services sector in order to maintain the IT landscape, but also to drive innovation.

"Hot" topics such as artificial intelligence, cloud computing, big data, internet of things, blockchain and as a consequence of the digitalisation of business processes also cybersecurity determine the dynamic growth in the software and IT services market. The appeal of those topics is the possibility that new use cases not only change the business but improve the efficiency in many areas significantly. Furthermore, in some cases, these new technologies are the answer to changed regulation (energy transition, German "Energiewende") or sector disruptions (e-mobility). Since the production process for an electric vehicle differs from that of traditional motor vehicles, software providers such as PSI Software deliver smart production solutions into the industry that undergoes structural change. Software AG targets the dynamic IoT market with annual growth rates in the relevant market in the mid-double digit range. Its industrial clients from the engineering and tooling industry are for example provided with real-time data analytics software that is an important component of predictive maintenance applications. This application lets clients profit from enhanced internal efficiency and reduced costs.

Cloud computing has already penetrated the German industry due to its appeal in terms of cost-effectiveness and flexibility. According to bitkom, two out of three German companies already implemented cloud computing solutions. But, there is still potential, especially for the financial industry, where still a lot of operations are run on mainframes. We regard the shift from mainframe to the cloud as a potential trigger for GFT Technologies.

In our coverage, PSI Software was an early innovator regarding the use of artificial intelligence. With the use of its own algorithm, the company helps its clients to improve manufacturing and warehousing processes, even in complex applications. RIB Software announced an artificial intelligence that is supposed to support project planners, general contractors, and construction companies in the building process. The AI market is still in an early stage. Therefore, AI seems to promise more relevant use cases, as the technology becomes more mature. Another topic, not yet covered in our universe, is the increasing relevance on reliable cybersecurity systems. With increasing digital attacks on infrastructure and internal communication systems, demonstrated by an increasing number of data breaches, cybersecurity is another promising growth driver in the software / IT services industries.

Finally, software companies are currently more and more embracing the shift from a license business to a cloud business to generate more predictable and less volatile income from their clients. In the early stages of this transition, this might hurt the companies' top line, as one-time license revenues are replaced with recurring (but smaller) monthly payments. Thus, it usually takes a certain start-up period to compensate the decline in licenses with a growing share of recurring subscription revenue. In our universe, Intershop is currently in that transition period. After a transition year FY2018e with said decline in license revenue, the company now targets the return to growth in FY2019e. Other players such as RIB Software and Nemetschek chose a rather gradual approach. RIB Software now offers a user-based subscription out of the Microsoft Azure cloud (as does Intershop) next to its established offering. Nemetschek, in contrast to the globally leading Architecture-Engineering-Construction software company Autodesk, which mandatorily switched to SaaS, leaves the choice between license and SaaS to its customers.

#### Exhibit 1: Coverage overview

Name	Recommendation	Target Price	Last Price	Up/Downside	Market Cap (EURm)	Analyst
<b>Software</b>						
Nemetschek	Hold	105.00	103.70	1%	3,992	Dustin Mildner
Software AG	Hold	40.00	35.96	11%	2,661	Dustin Mildner
RIB Software	Buy	20.40	13.27	54%	687	Dustin Mildner
PSI Software	Buy	20.70	16.55	25%	258	Dustin Mildner
Intershop	Buy	1.75	1.61	9%	56	Dustin Mildner
<b>IT Services</b>						
GFT Technologies	Buy	13.50	7.88	71%	207	Dustin Mildner

Name	PE (adj) 2018e	PE (adj) 2019e	Div. Yield 2018e	Div. Yield 2019e	EV/EBITDA 2018e	EV/EBITDA 2019e
<b>Software</b>						
Nemetschek	54.8	48.8	0.8%	0.8%	32.50	28.18
Software AG	17.1	16.3	2.0%	2.1%	9.76	8.95
RIB Software	54.1	39.7	1.6%	1.6%	12.49	9.96
PSI Software	22.7	19.5	1.5%	1.7%	13.65	11.76
Intershop	-	-	0.0%	0.0%	-	37.88
<b>IT Services</b>						
GFT Technologies	10.3	9.3	3.8%	3.8%	7.48	5.97

Source: Pareto

## Too cheap to ignore

*In the last two years, innovative financial IT services company GFT Technologies left its growth path due to significant budget cuts at its major customer Deutsche Bank. In order to decrease dependency, GFT targets new verticals and drives innovation in new technologies such as blockchain, AI, or cloud. The shares suffered disproportionately such that we currently regard them as attractively valued (9x P/E). We rate GFT with a Buy rating and a TP of EUR 13.50.*

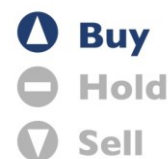
### Investment case

GFT Technologies serves the IT services market, so far primarily in the financial industry. The innovative solutions cover new technologies (e.g. AI, cloud, blockchain), but also “standard” financial IT services such as consulting and development / implementation / maintenance. With digitalisation pressure and the upcoming move to the cloud of banking processes and services, we consider the market growth drivers intact. New growth avenues in other verticals and clients would improve the risk profile, but it requires some balancing between maintaining a healthy business relationship to the recently difficult major client Deutsche Bank and the re-routing of business to other clients.

The high dependency on Deutsche Bank (c. 40% of group revenues) can be a blessing and a curse at the same time. In FY2017 and FY2018 it was more of the latter, but management transparently communicated the issues throughout the year. Therefore, we get the impression that the shares suffered disproportionately in FY2018. Independent from how we look at it, GFT's shares look too cheap to ignore to us. Our DCF yields 81% upside and compared to its historical multiple, GFT trades at a 71% discount. We initiate coverage with a TP of EUR 13.50 and a Buy rating.

EURm	2016	2017	2018e	2019e	2020e
Revenues	423	419	407	438	458
EBITDA	32	33	38	45	48
EBIT	20	19	25	31	35
EPS	0.33	0.60	0.77	0.84	0.94
EPS adj	0.33	0.65	0.77	0.84	0.94
DPS	0.30	0.30	0.30	0.30	0.35
EV/EBITDA	18.6	11.7	7.5	6.0	5.3
EV/EBIT	29.9	20.8	11.4	8.5	7.2
P/E adj	63.0	20.2	10.3	9.3	8.4
P/B	4.60	2.98	1.63	1.46	1.31
ROE (%)	7.1	13.6	16.6	16.5	16.4
Div yield (%)	1.5	2.3	3.8	3.8	4.4
Net debt	42	39	71	52	35

Source: Pareto



Target price (EUR)	13.5
Share price (EUR)	7.9

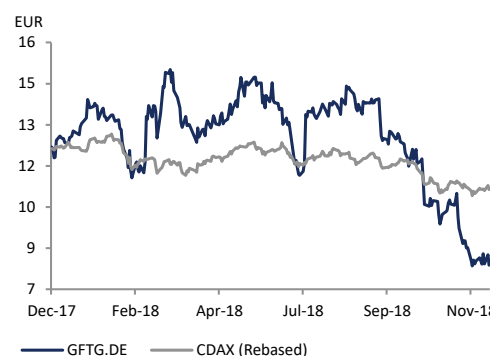
### Forecast changes

%	2018e	2019e	2020e
Revenues	NM	NM	NM
EBITDA	NM	NM	NM
EBIT adj	NM	NM	NM
EPS reported	NM	NM	NM
EPS adj	NM	NM	NM

Source: Pareto

Ticker	GFTG.DE, GFT GY
Sector	Software & Services
Shares fully diluted (m)	26.3
Market cap (EURm)	207
Net debt (EURm)	79
Minority interests (EURm)	0
Enterprise value 18e (EURm)	287
Free float (%)	64

### Performance



Source: Factset

**Pareto Securities AS has been paid by the issuer to produce this research report. This material is considered by Pareto Securities to qualify as an acceptable minor non-monetary benefit according to the EU MIFID 2 directive.**

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*IT consulting and services company with banking and insurance focus*

*Digitalisation in banking and regulatory compliance drive the IT services market in finance / new technologies and verticals shall decrease cluster risk*

*Sensitivity to IT budget restrictions at core customers*

*Target price of EUR 13.50*

## Company profile

GFT Technologies is an IT-consulting and services company. GFT's offering includes consulting on IT strategies, development of innovative IT solutions, implementation of standard software, maintenance and development of banking processes, as well as outsourcing. So far GFT is mainly active in the banking and insurance industries, but management targets other verticals as well (starting with German industrials). GFT employs a near-shoring model, with c. 50% of coding being done in Spain, Brazil, Poland, Mexico, and Costa Rica.

## Upcoming triggers and drivers

The key drivers in GFT's market are digitalisation of business processes, implementation of regulatory compliance, as well as outsourcing of IT services. In the short- to mid-term, the probably most significant driver of growth will be the shift to the cloud in the banking industry. Technology-wise, we regard GFT as an early-mover. Exemplary, it has been the first IT services company to cooperate with Google Cloud to identify AI / big data / microservices use cases in the financial sector. Sustainable growth avenues outside GFT's largest customers and in new verticals would improve the risk profile, in our view. On company level, GFT currently obtains 35-40% of its revenues from Deutsche Bank. Therefore, GFT is to a meaningful extent exposed to the well-being of its largest customer. Sudden (and unpredictable) cuts on IT spending would harm GFT's revenue growth and to a lesser extent operating earnings (c. 50 time-and-material contracts). Deutsche Bank typically used this as a measure to save costs towards the year-end, which is why we believe investors remained especially cautious since late H1 2018. The subdued demand for GFT's shares is depicted in the disproportionate decline in the share price since early September (-42%, vs. -17% Euro Stoxx TMI Software & Computer Services). With EUR 400m revenues and EUR 39m EBITDA, the management confirmed its somewhat stretched, but not unrealistic FY2018 targets. Achieving those targets should in our view draw investor attention and help to reverse the share price development.

**Next scheduled reporting:** Preliminary Q4 results scheduled for February 28 2019.

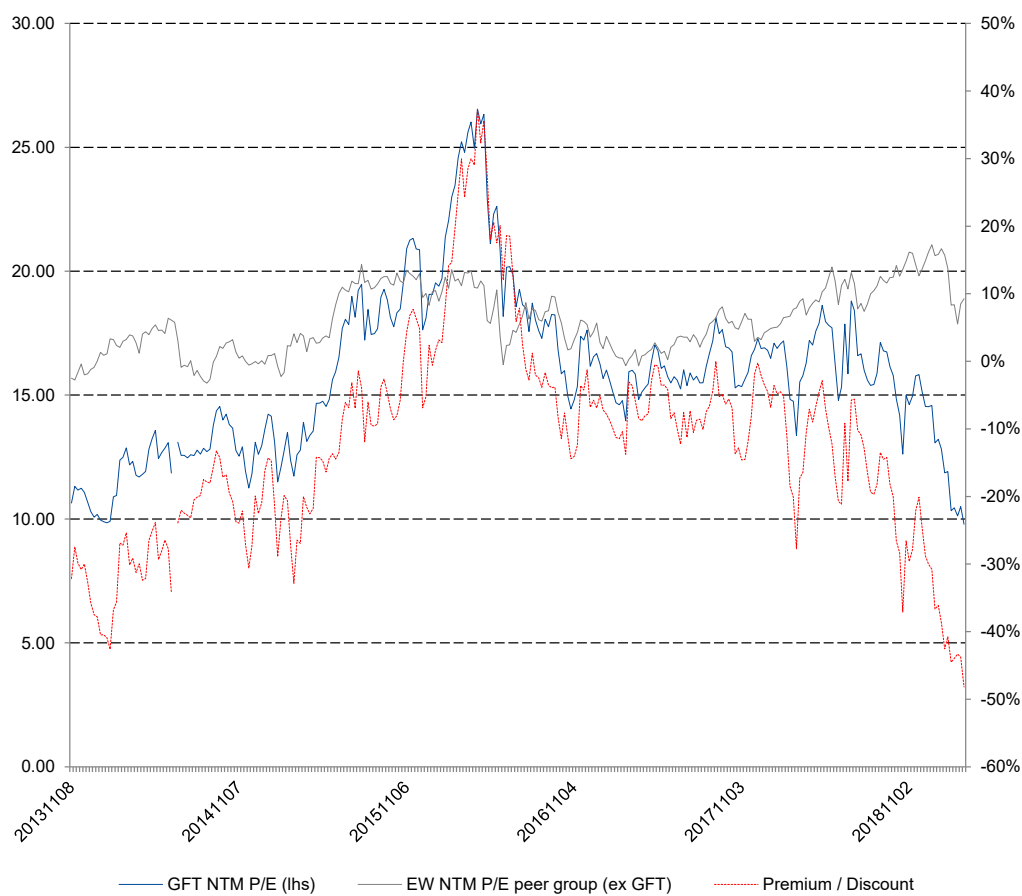
## Risks to the investment case

As indicated in the triggers and drivers section, the greatest single risk to our investment case is project cuts at GFT's top client Deutsche Bank. In the past, Deutsche Bank used this measure to save costs towards year-end. In our eyes, the risks from last minute project cuts towards the year-end are real, but in manageable amounts, as they have been communicated, integrated into the guidance, and should be more than reflected in the share price. Additionally, as for all technology companies, it is crucial for GFT to attract sufficient and educated IT talent. Anecdotal evidence suggests that competition about talent is meanwhile also fought in near- and off-shore locations.

## Valuation and recommendation

Based on our DCF analysis, we derive a fair value of EUR 14.30, which is equivalent to 81% upside. Since we do not believe GFT to re-rate that significantly within our 12-month forecast period, we stick to the historical multiple. Based on GFT's historical valuation and its valuation relative to a list of global IT services companies, we derive a fair multiple of 16x NTM EPS. With regard to our NTM EPS estimate of EUR 0.84, we derive a target price of EUR 13.50, which is equivalent to an upside of 71%. The current pricing of the shares reflects a "zero growth scenario", which is by all means too pessimistic, in our view. We rate GFT with a Buy rating.

## Exhibit 2: 5yr NTM P/E vs IT services peer group



Source: Pareto, Factset

PROFIT & LOSS (fiscal year) (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Revenues	264	365	374	423	419	407	438	458
EBITDA	21	35	45	32	33	38	45	48
Depreciation & amortisation	(3)	(7)	(10)	(12)	(15)	(13)	(13)	(13)
EBIT	18	28	34	20	19	25	31	35
Net interest	(0)	(1)	(2)	(2)	(2)	(2)	(3)	(3)
Other financial items	(0)	-	-	(1)	(1)	(1)	-	-
Profit before taxes	18	27	33	17	16	22	29	32
Taxes	(4)	(7)	(6)	(9)	(0)	(2)	(7)	(8)
Minority interest	-	-	-	-	-	-	-	-
Net profit	14	20	25	9	16	20	22	25
EPS reported	0.52	0.76	0.96	0.33	0.60	0.77	0.84	0.94
EPS adjusted	0.52	0.76	0.96	0.33	0.65	0.77	0.84	0.94
DPS	0.25	0.25	0.30	0.30	0.30	0.30	0.30	0.35
BALANCE SHEET (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Tangible non current assets	8	18	26	31	29	52	47	43
Other non-current assets	73	131	147	144	136	154	153	153
Other current assets	78	115	106	128	135	139	141	146
Cash & equivalents	47	38	47	62	72	62	81	97
Total assets	206	302	327	366	373	407	421	439
Total equity	87	100	124	117	115	128	142	159
Interest-bearing non-current debt	27	34	83	86	106	133	133	133
Interest-bearing current debt	1	46	1	18	5	-	-	-
Other Debt	85	114	111	136	137	138	138	140
Total liabilities & equity	206	302	327	366	373	407	421	439
CASH FLOW (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Cash earnings	34	51	38	34	20	33	36	37
Change in working capital	(27)	(36)	5	(15)	3	(3)	(1)	(4)
Cash flow from investments	(17)	(68)	(32)	(17)	(9)	(53)	(8)	(8)
Cash flow from financing	21	43	(3)	13	(3)	13	(8)	(8)
Net cash flow	11	(9)	9	15	10	(10)	19	17
CAPITALIZATION & VALUATION (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Share price (EUR end)	6.5	12.4	31.6	20.5	13.0	7.9	7.9	7.9
Number of shares end period	26	26	26	26	26	26	26	26
Net interest bearing debt	(19)	42	36	42	39	71	52	35
Enterprise value	157	376	876	590	391	287	268	251
EV/Sales	0.6	1.0	2.3	1.4	0.9	0.7	0.6	0.5
EV/EBITDA	7.6	10.9	19.7	18.6	11.7	7.5	6.0	5.3
EV/EBIT	8.8	13.4	25.6	29.9	20.8	11.4	8.5	7.2
P/E reported	12.5	16.4	32.8	63.0	21.8	10.3	9.3	8.4
P/E adjusted	12.5	16.4	32.8	63.0	20.2	10.3	9.3	8.4
P/B	1.9	3.3	6.7	4.6	3.0	1.6	1.5	1.3
FINANCIAL ANALYSIS & CREDIT METRICS	2013	2014	2015	2016	2017	2018e	2019e	2020e
ROE adjusted (%)	16.3	21.3	22.5	7.1	14.6	16.6	16.5	16.4
Dividend yield (%)	3.9	2.0	0.9	1.5	2.3	3.8	3.8	4.4
EBITDA margin (%)	7.8	9.5	11.9	7.5	8.0	9.4	10.3	10.4
EBIT margin (%)	6.7	7.7	9.2	4.7	4.5	6.2	7.2	7.6
NIBD/EBITDA	(0.94)	1.21	0.82	1.33	1.18	1.85	1.16	0.74
EBITDA/Net interest	-	34.12	26.17	18.13	21.13	17.84	17.22	18.76



## Significant mid-term potential from cloud transformation

*Intershop offers a competitive e-commerce solution that suffered from low visibility in its relevant market in the past. Declines in revenue resulted into non-profitability paired with uninspiring share price development. With the help of software giant Microsoft, Intershop intensifies its efforts to target the thriving B2B segment via a cloud offering. This turnaround scenario with focus on revenue growth is a high risk / high reward case, in our view. We rate Intershop with a Buy rating and a target price of EUR 1.75.*

### Investment case

By cooperating with Microsoft, Intershop aims at establishing itself in the cloud / subscription market and accessing a broadened customer universe. The sales and technology partnership gives Intershop access to a huge ecosystem and client base and complements Intershop's offering.

With a "cloud first" approach Intershop's sales growth has been negative in FY2018, but group sales are expected to grow at 13% p.a. over the next five years. At the same time, growth will enable operating leverage and should improve EBIT margin by 480bps to 6.0% by 2020. Based on the growth scenario, FCF should follow the positive earnings development.

Additionally, as many of Intershop's former competitors were acquired by multinational software companies, Intershop may also draw attention from potential acquirers, especially in light of the solution's good reputation. A typical premium paid for comparable public companies is at around 50%. Comparing Intershop's fundamentals to comparable companies and transactions multiples, we observe that Intershop's multiples have significant potential to re-rate if the company can deliver on its growth targets.

EURm	2016	2017	2018e	2019e	2020e
Revenues	34	36	32	40	52
EBITDA	0	3	(3)	1	6
EBIT	(2)	0	(5)	(1)	3
EPS	(0.09)	(0.02)	(0.16)	(0.03)	0.08
EPS adj	(0.07)	(0.02)	(0.15)	(0.03)	0.08
DPS	-	-	-	-	-
EV/EBITDA	-	17.7	-	37.9	8.7
EV/EBIT	-	-	-	-	16.7
P/E adj	-	-	-	-	21.2
P/B	2.16	3.67	3.77	4.09	3.43
ROE (%)	-	-	-	-	17.6
Div yield (%)	-	-	-	-	-
Net debt	(7)	(6)	(6)	(3)	(4)

Source: Pareto



Target price (EUR)	1.7
Share price (EUR)	1.6

### Forecast changes

%	2018e	2019e	2020e
Revenues	NM	NM	NM
EBITDA	NM	NM	NM
EBIT adj	NM	NM	NM
EPS reported	NM	NM	NM
EPS adj	NM	NM	NM

Source: Pareto

Ticker	ISHG.DE, ISH2 GY
Sector	Software & Services
Shares fully diluted (m)	34.9
Market cap (EURm)	56
Net debt (EURm)	-6
Minority interests (EURm)	0
Enterprise value 18e (EURm)	50
Free float (%)	62

### Performance



Source: Factset

**Pareto Securities AS has been paid by the issuer to produce this research report. This material is considered by Pareto Securities to qualify as an acceptable minor non-monetary benefit according to the EU MIFID 2 directive.**

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*Independent provider of e-commerce software*

## Company profile

Intershop is an e-commerce software developer with a competitive solution suited for complex commerce applications. Intershop's solution has been awarded strong ratings by independent software research providers such as Gartner or Forrester. In the most recent Forrester report, Intershop has been declared a leading B2B Commerce Suite provider with the highest rating for the current offering. During the last couple of years, however, the company suffered from low visibility in its relevant market, leading to a sales decline from EUR 53m in 2013 to EUR 34m in 2016.

*All eyes on cloud order intake / sales growth*

## Upcoming triggers and drivers

In the short-term, we expect that the focus will be on how well the initial positive reception of the cloud offering carries further momentum. Therefore, we identify the release of Q4 results in February 2019 to be the next potential trigger besides large deal announcements via ad-hoc releases. Cloud order intake is a particularly important indicator to us on how fast the cloud business has the potential to compensate for declines in license sales.

In addition, as Intershop reaches a critical size, acquisition fantasies may increasingly be played by the market, offering support for the shares.

**Next scheduled reporting:** Preliminary Q4 results on February 20, 2019.

*Despite increased efforts in marketing, Intershop's solution may fail to create sufficient market perception*

## Risks to the investment case

The major risk we see is that Intershop may not be able to achieve revenue growth and may consequently face difficulties maintaining operating profitability. We therefore consider the stock's profile high risk / high reward. Potential threats for growth arise if Intershop is not able to create the expected brand perception in the market and accordingly does not win as many new customers as required to achieve the company's targets.

As for most software companies, finding appropriate talent is key to remain competitive. If Intershop cannot staff its departments that are central for the future development of the group (e.g. research & development, sales and marketing), the company is at risk to fall behind competition.

*Target price of EUR 1.75*

## Valuation and recommendation

Based on our DCF analysis, we derive a target price of EUR 1.75 and rate Intershop's shares with a Buy rating, due to the significant potential inherent in the turnaround cloud transformation story.

## Exhibit 3: DCF analysis

EUR m	Phase I					Phase II					Phase III
	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	
<b>Revenues</b>	<b>32</b>	<b>40</b>	<b>52</b>	<b>60</b>	<b>67</b>	<b>74</b>	<b>81</b>	<b>86</b>	<b>91</b>	<b>94</b>	
growth rate	-11.0%	24.8%	30.2%	16.7%	11.9%	10.2%	8.6%	6.9%	5.3%	3.6%	
<b>EBIT</b>	<b>-5.0</b>	<b>-1.2</b>	<b>3.1</b>	<b>5.0</b>	<b>6.4</b>	<b>7.1</b>	<b>7.7</b>	<b>8.3</b>	<b>8.7</b>	<b>9.0</b>	
EBIT margin	-15.8%	-3.0%	6.0%	8.2%	9.6%	9.6%	9.6%	9.6%	9.6%	9.6%	
<b>Tax</b>	<b>0.0</b>	<b>0.4</b>	<b>-1.0</b>	<b>-1.6</b>	<b>-2.0</b>	<b>-2.2</b>	<b>-2.4</b>	<b>-2.6</b>	<b>-2.7</b>	<b>-2.8</b>	
Tax rate	32%	32%	32%	32%	32%	32%	32%	32%	32%	32%	
<b>Depr. &amp; Amort.</b>	<b>2.5</b>	<b>2.6</b>	<b>2.9</b>	<b>3.2</b>	<b>3.4</b>	<b>3.8</b>	<b>4.2</b>	<b>4.5</b>	<b>4.7</b>	<b>4.9</b>	
% of sales	7.8%	6.5%	5.5%	5.2%	5.1%	5.2%	5.2%	5.2%	5.2%	5.2%	
<b>Capex</b>	<b>-2.7</b>	<b>-3.2</b>	<b>-3.5</b>	<b>-3.8</b>	<b>-3.7</b>	<b>-4.1</b>	<b>-4.4</b>	<b>-4.7</b>	<b>-5.0</b>	<b>-5.2</b>	
% of sales	8.5%	8.0%	6.8%	6.3%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	
<b>Change in NWC</b>	<b>0.5</b>	<b>-0.8</b>	<b>-1.2</b>	<b>-0.8</b>	<b>-0.7</b>	<b>-0.7</b>	<b>-0.6</b>	<b>-0.6</b>	<b>-0.4</b>	<b>-0.3</b>	
% of sales	-16%	2.0%	2.3%	14%	10%	0.9%	0.8%	0.6%	0.5%	0.3%	
<b>Free Cash Flow</b>	<b>-4.8</b>	<b>-2.2</b>	<b>0.3</b>	<b>1.9</b>	<b>3.4</b>	<b>3.9</b>	<b>4.4</b>	<b>4.9</b>	<b>5.3</b>	<b>5.6</b>	<b>71.3</b>
growth rate	nm	-53.9%	nm	nm	77.6%	14.5%	12.0%	10.0%	8.1%	6.5%	2.0%
<b>Present Value FCF</b>	<b>-4.7</b>	<b>-2.0</b>	<b>0.2</b>	<b>1.4</b>	<b>2.3</b>	<b>2.4</b>	<b>2.5</b>	<b>2.5</b>	<b>2.4</b>	<b>2.4</b>	<b>30.0</b>

PV Phase I	-3	Risk free rate	3.5%	Targ. equity ratio	90%
PV Phase II	12	Premium Equity	5.0%	Beta	1.4
PV Phase III	30	Premium Debt	5.0%	WACC	10.0%

<b>Enterprise value</b>	<b>39</b>	<b>Sensitivity</b>	<b>Growth in phase III</b>				
- Net Debt (Cash)	-6		<b>1.0%</b>	<b>1.5%</b>	<b>2.0%</b>	<b>2.5%</b>	<b>3.0%</b>
- Pension Provisions	0	<b>9.01%</b>	1.84	1.91	1.98	2.07	2.17
- Minorities & Peripherals	0	<b>9.51%</b>	1.74	1.79	1.86	1.93	2.02
+ MV of financial assets	0	<b>WACC 10.01%</b>	1.65	1.70	<b>1.75</b>	1.81	1.88
- Paid-out dividends for last FY	0	<b>10.51%</b>	1.57	1.61	1.65	1.71	1.77
+/- Other EV items	15	<b>11.01%</b>	1.49	1.53	1.57	1.61	1.66

<b>Equity value</b>	<b>61</b>
Number of shares	34.9
Value per share (€)	1.75
Current Price (€)	1.61
Upside	9%

Source: Pareto

PROFIT & LOSS (fiscal year) (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Revenues	54	46	43	34	36	32	40	52
EBITDA	0	(2)	3	0	3	(3)	1	6
Depreciation & amortisation	(4)	(4)	(3)	(2)	(2)	(2)	(3)	(3)
EBIT	(3)	(6)	0	(2)	0	(5)	(1)	3
Net interest	0	0	(0)	(0)	(0)	(0)	(0)	(0)
Other financial items	-	-	-	-	-	-	-	-
Profit before taxes	(3)	(6)	0	(3)	0	(5)	(1)	3
Taxes	(0)	(0)	(0)	(0)	(1)	(0)	0	(0)
Minority interest	-	-	-	-	-	-	-	-
Net profit	(3)	(7)	0	(3)	(1)	(6)	(1)	3
EPS reported	(0.11)	(0.22)	0.00	(0.09)	(0.02)	(0.16)	(0.03)	0.08
EPS adjusted	(0.11)	(0.24)	0.00	(0.07)	(0.02)	(0.15)	(0.03)	0.08
DPS	-	-	-	-	-	-	-	-
BALANCE SHEET (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Tangible non current assets	1	1	0	1	1	1	1	1
Other non-current assets	12	10	11	10	10	10	10	10
Other current assets	13	8	6	6	6	5	6	8
Cash & equivalents	7	6	15	11	9	9	6	6
Total assets	34	25	33	27	25	25	23	25
Total equity	24	18	19	16	15	15	14	16
Interest-bearing non-current debt	-	-	5	3	2	3	2	1
Interest-bearing current debt	-	-	1	1	1	1	1	-
Other Debt	10	8	8	7	7	6	6	8
Total liabilities & equity	34	25	33	27	25	25	23	25
CASH FLOW (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Cash earnings	1	(4)	3	(0)	2	(3)	1	5
Change in working capital	(5)	4	2	(0)	(0)	1	(1)	(1)
Cash flow from investments	(3)	(1)	(2)	(2)	(3)	(3)	(3)	(4)
Cash flow from financing	-	-	6	(1)	(1)	6	(1)	(1)
Net cash flow	(7)	(1)	9	(4)	(2)	0	(4)	(0)
CAPITALIZATION & VALUATION (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Share price (EUR end)	1.48	1.07	1.24	1.10	1.78	1.61	1.61	1.61
Number of shares end period	30	30	31	32	32	35	35	35
Net interest bearing debt	(7)	(6)	(9)	(7)	(6)	(6)	(3)	(4)
Enterprise value	37	26	29	28	50	50	53	52
EV/Sales	0.7	0.6	0.7	0.8	1.4	1.6	1.3	1.0
EV/EBITDA	76.1	-	8.3	-	17.7	-	37.9	8.7
EV/EBIT	-	-	-	-	-	-	-	16.7
P/E reported	-	-	-	-	-	-	-	21.2
P/E adjusted	-	-	-	-	-	-	-	21.2
P/B	1.8	1.8	2.0	2.2	3.7	3.8	4.1	3.4
FINANCIAL ANALYSIS & CREDIT METRICS	2013	2014	2015	2016	2017	2018e	2019e	2020e
ROE adjusted (%)	-	-	0.0	-	-	-	-	17.6
Dividend yield (%)	-	-	-	-	-	-	-	-
EBITDA margin (%)	0.9	-	8.1	0.3	7.9	-	3.5	11.5
EBIT margin (%)	-	-	0.4	-	1.2	-	-	6.0
NIBD/EBITDA	(15.14)	2.98	(2.68)	(63.06)	(2.18)	2.32	(2.46)	(0.71)
EBITDA/Net interest	-	-	23.25	4.30	8.53	-	10.10	63.15

## Qualitative growth that has its price

*Nemetschek is one of the leading global Architecture-Engineering-Construction (AEC) software suppliers with a comprehensive offering for a variety of customer groups. We regard Nemetschek as a high-quality play due to its intact growth drivers, well-executed strategy, and strong cash flow generation. Despite a sound set of fundamentals and supportive external factors, we see Nemetschek's shares currently fully valued and issue a Hold rating with a TP of EUR 105.*

### Investment case

While the increasing mandatory adaption of Building Information Modeling (BIM) for public construction tenders drives demand from a regulatory perspective, the underinvested construction vertical additionally has a lot of digitalisation potential in order to overcome structural productivity deficits. Nemetschek is a provider of precisely those solutions that shall help its customers to significantly improve efficiency and eventually profitability.

With at least 1-2 successful acquisitions p.a. over the last five years, M&A activities form an integral part of the company's impressive growth strategy (5yr historical revenue CAGR: 18%; 9M 2018: 18% at cc, 16% organic at cc). The strong cash flow generation further allows Nemetschek to pursue growth opportunities with internal financing. Outside its existing offering, Nemetschek evaluates growth opportunities in adjacent market segments such as new verticals in media / entertainment or the smart building sector.

Despite the solid fundamentals and the recent weakness in the sector, Nemetschek looks more or less fully valued to us at 49x 2019 EPS. We initiate coverage with a Hold rating and a TP of EUR 105.

EURm	2016	2017	2018e	2019e	2020e
Revenues	337	396	453	515	587
EBITDA	88	108	123	140	159
EBIT	70	86	101	113	137
EPS	1.22	1.94	1.89	2.12	2.58
EPS adj	1.18	1.74	1.89	2.12	2.58
DPS	0.65	0.75	0.80	0.80	0.90
EV/EBITDA	24.0	26.5	32.5	28.2	24.3
EV/EBIT	30.4	33.1	39.6	34.7	28.3
P/E adj	46.6	43.0	54.8	48.8	40.2
P/B	10.67	12.78	14.71	12.39	10.21
ROE (%)	25.8	35.2	29.3	27.5	27.9
Div yield (%)	1.2	1.0	0.8	0.8	0.9
Net debt	(16)	(24)	(1)	(60)	(131)

Source: Pareto



Target price (EUR)	105
Share price (EUR)	104

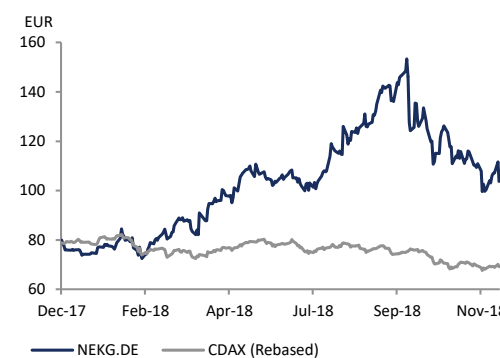
### Forecast changes

%	2018e	2019e	2020e
Revenues	NM	NM	NM
EBITDA	NM	NM	NM
EBIT adj	NM	NM	NM
EPS reported	NM	NM	NM
EPS adj	NM	NM	NM

Source: Pareto

Ticker	NEKG.DE, NEM GR
Sector	Software & Services
Shares fully diluted (m)	38.5
Market cap (EURm)	3,992
Net debt (EURm)	0
Minority interests (EURm)	3
Enterprise value 18e (EURm)	3,995
Free float (%)	47

### Performance



Source: Factset

### Analysts

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*Developer of application software for the AEC and media / entertainment industry*

*Mandatory BIM and necessary productivity improvements in the construction industry fuel demand, upside from M&A*

*High growth expectations reflected in the shares*

*Target price of EUR 105*

## Company profile

Nemetschek is a holding company that unites market-leading brands with solutions for the architecture-engineering-construction (AEC, 94% of FY2018e group revenue) and media / entertainment industry. The solutions include 3D-planning tools, project management, efficiency and collaboration and facility management tools. Nemetschek's offering covers the complete life-cycle in construction from virtual planning over time and cost calculation, tendering and contract awarding to the construction process and management of the completed building. The media / entertainment offering encompasses 3D modelling and graphical design software.

## Upcoming triggers and drivers

The main growth drivers for Nemetschek are the increasing digitalisation of the AEC industry due to regulatory required BIM application and the need for productivity increases at construction companies. As an example, Nemetschek demonstrated at its first CMD in mid-November how one of the leading general contractors was able to realise efficiency gains in its operations in a way that operating earnings multiplied over just three years by the factor 5x.

Besides organic growth drivers, Nemetschek has an impressive M&A track record, with at least 1-2 successful acquisitions p.a. since 2013. Since we did not include potential M&A in our model, further upside may arise from deal announcements (8-10 targets in the pipeline, c. EUR 250m dry powder for acquisitions).

Disappointments in expected growth that is reflected in the share price can be a negative trigger, in our view.

**Next scheduled reporting:** preliminary Q4 results expected in February, annual report expected in March 2019.

## Risks to the investment case

After extraordinary multiple expansion over FY2017 and most of FY2018, Nemetschek lost c. 33% of market capitalisation since peak-levels in mid-September. At still rich valuation levels, Nemetschek might suffer further from negative sector sentiment, although the fundamentals continue to seem in place to us. Moreover, with already 50% recurring revenues, we would expect a certain downturn resilience of the business.

More generally, we observe that despite the recent sell-off there is still a lot of growth priced in. Over our 5yr detail planning period, we forecast 14% organic growth, in line with mid-point guidance of 13%-15%. As FY2019/FY2020 consensus growth estimates are slightly above our estimates, a slowdown of expected growth rates would put currently elevated multiples at risk and significant multiple compression could be the consequence.

As an internationally active company, Nemetschek is exposed to currency fluctuations, particularly the USD, JPY, CHF, GBP, HUF, NOK, and SEK, which can impact on the group's results.

## Valuation and recommendation

We derive a target price of EUR 105 based on our DCF analysis. This is equivalent to 49x 2019 EPS. Although the valuation looks rich, we give credit to a high quality business that showed extraordinary growth over the last five years. With intact growth drivers we do not expect Nemetschek to leave the growth path in the near- and mid-term. The 3yr historical price-earnings multiple of 43x results from steady multiple expansion until H1 2018. With an upside of 2% we rate Nemetschek with a Hold rating.

## Exhibit 4: DCF analysis

EUR m	Phase I					Phase II					Phase III
	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	
<b>Revenues</b>	<b>453</b>	<b>515</b>	<b>587</b>	<b>670</b>	<b>760</b>	<b>858</b>	<b>962</b>	<b>1,072</b>	<b>1,186</b>	<b>1,305</b>	
growth rate	14.5%	13.8%	14.0%	14.0%	13.5%	12.8%	12.1%	11.4%	10.7%	10.0%	
<b>EBITDA</b>	<b>123</b>	<b>140</b>	<b>159</b>	<b>181</b>	<b>209</b>	<b>239</b>	<b>271</b>	<b>305</b>	<b>341</b>	<b>378</b>	
EBITDA margin	27.2%	27.1%	27.1%	27.1%	27.6%	27.8%	28.1%	28.4%	28.7%	29.0%	
<b>EBIT</b>	<b>101</b>	<b>113</b>	<b>137</b>	<b>161</b>	<b>190</b>	<b>220</b>	<b>251</b>	<b>283</b>	<b>318</b>	<b>354</b>	
EBIT margin	22.3%	22.0%	23.3%	24.1%	25.0%	25.6%	26.1%	26.4%	26.8%	27.1%	
<b>Tax</b>	<b>-26.3</b>	<b>-29.5</b>	<b>-35.5</b>	<b>-41.9</b>	<b>-49.5</b>	<b>-57.2</b>	<b>-65.2</b>	<b>-73.7</b>	<b>-82.6</b>	<b>-91.9</b>	
Tax rate	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%	
<b>Depr. &amp; Amort.</b>	<b>21.9</b>	<b>26.4</b>	<b>22.6</b>	<b>20.3</b>	<b>19.1</b>	<b>18.9</b>	<b>19.8</b>	<b>21.2</b>	<b>23.0</b>	<b>24.9</b>	
% of sales	4.8%	5.1%	3.8%	3.0%	2.5%	2.2%	2.1%	2.0%	1.9%	1.9%	
<b>Capex</b>	<b>-10.4</b>	<b>-12.1</b>	<b>-13.8</b>	<b>-15.7</b>	<b>-17.8</b>	<b>-18.6</b>	<b>-20.1</b>	<b>-21.9</b>	<b>-24.0</b>	<b>-26.1</b>	
% of sales	2.3%	2.3%	2.3%	2.3%	2.3%	2.2%	2.1%	2.0%	2.0%	2.0%	
<b>Change in WC &amp; P</b>	<b>-7.4</b>	<b>-7.2</b>	<b>-6.7</b>	<b>-7.6</b>	<b>-8.4</b>	<b>-8.6</b>	<b>-9.6</b>	<b>-10.7</b>	<b>-11.6</b>	<b>-12.4</b>	
% of sales	16%	14%	11%	11%	11%	10%	10%	10%	10%	10%	
<b>Free Cash Flow</b>	<b>78.9</b>	<b>91.0</b>	<b>103.2</b>	<b>116.2</b>	<b>133.7</b>	<b>154.4</b>	<b>175.7</b>	<b>198.3</b>	<b>222.5</b>	<b>248.0</b>	<b>5,866.9</b>
growth rate	nm	15.4%	13.4%	12.5%	15.1%	15.5%	13.8%	12.9%	12.2%	11.5%	3.0%
<b>Present Value FCF</b>	<b>78.5</b>	<b>84.3</b>	<b>89.1</b>	<b>93.4</b>	<b>100.1</b>	<b>107.8</b>	<b>114.2</b>	<b>120.0</b>	<b>125.5</b>	<b>130.3</b>	<b>3,081.8</b>

<b>PV Phase I</b>	<b>445</b>	<b>Risk free rate</b>	3.5%	<b>Targ. equity ratio</b>	90%
<b>PV Phase II</b>	<b>598</b>	<b>Premium equity</b>	5.0%	<b>Beta</b>	0.9
<b>PV Phase III</b>	<b>3,082</b>	<b>Premium debt</b>	0.3%	<b>WACC</b>	7.4%

<b>Enterprise value</b>	<b>4,125</b>	<b>Sensitivity</b>	<b>Growth in phase III</b>				
- Net Debt (Cash)	-24		<b>2.0%</b>	<b>2.5%</b>	<b>3.0%</b>	<b>3.5%</b>	<b>4.0%</b>
- Pension Provisions	2	<b>6.62%</b>	106	116	129	146	169
- Minorities & Peripherals	2	<b>6.99%</b>	97	105	116	129	147
+ MV of financial assets	0	<b>WACC 7.35%</b>	90	97	<b>105</b>	116	130
- Paid-out dividends for last FY	29	<b>7.72%</b>	83	89	96	105	116
+/- Other EV items	-63	<b>8.09%</b>	78	83	89	96	105

<b>Equity value</b>	<b>4,053</b>
Number of shares	38.5
Value per share (€)	105
Current Price (€)	104
Upside	2%

Source: Pareto

<b>PROFIT &amp; LOSS (fiscal year) (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
<b>Revenues</b>	<b>186</b>	<b>218</b>	<b>285</b>	<b>337</b>	<b>396</b>	<b>453</b>	<b>515</b>	<b>587</b>
<b>EBITDA</b>	<b>46</b>	<b>57</b>	<b>69</b>	<b>88</b>	<b>108</b>	<b>123</b>	<b>140</b>	<b>159</b>
Depreciation & amortisation	(11)	(10)	(18)	(19)	(23)	(23)	(27)	(24)
<b>EBIT</b>	<b>36</b>	<b>47</b>	<b>53</b>	<b>70</b>	<b>86</b>	<b>101</b>	<b>113</b>	<b>137</b>
Net interest	0	0	1	(1)	7	(1)	(1)	(0)
Other financial items	-	-	-	-	-	-	-	-
<b>Profit before taxes</b>	<b>36</b>	<b>47</b>	<b>54</b>	<b>69</b>	<b>94</b>	<b>101</b>	<b>113</b>	<b>137</b>
Taxes	(11)	(13)	(16)	(20)	(18)	(26)	(29)	(36)
Minority interest	(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
<b>Net profit</b>	<b>24</b>	<b>31</b>	<b>36</b>	<b>47</b>	<b>75</b>	<b>73</b>	<b>82</b>	<b>99</b>
EPS reported	2.49	0.82	0.93	1.22	1.94	1.89	2.12	2.58
<b>EPS adjusted</b>	<b>2.49</b>	<b>0.82</b>	<b>0.93</b>	<b>1.18</b>	<b>1.74</b>	<b>1.89</b>	<b>2.12</b>	<b>2.58</b>
DPS	1.32	0.40	0.50	0.65	0.75	0.80	0.80	0.90
<b>BALANCE SHEET (EURm)</b>								
<b>Tangible non current assets</b>	<b>5</b>	<b>11</b>	<b>14</b>	<b>14</b>	<b>15</b>	<b>24</b>	<b>17</b>	<b>13</b>
Other non-current assets	94	183	231	273	287	355	347	343
Other current assets	31	41	42	55	55	65	74	82
Cash & equivalents	49	57	84	112	104	131	141	212
<b>Total assets</b>	<b>179</b>	<b>292</b>	<b>371</b>	<b>455</b>	<b>461</b>	<b>575</b>	<b>579</b>	<b>649</b>
Total equity	118	137	167	202	228	274	325	394
Interest-bearing non-current debt	-	48	62	70	44	81	81	81
Interest-bearing current debt	-	12	19	26	36	49	-	-
Other Debt	59	93	121	155	151	169	171	172
<b>Total liabilities &amp; equity</b>	<b>179</b>	<b>292</b>	<b>371</b>	<b>455</b>	<b>461</b>	<b>575</b>	<b>579</b>	<b>649</b>
<b>CASH FLOW (EURm)</b>								
Cash earnings	40	51	65	88	99	113	110	124
Change in working capital	(0)	(6)	0	(8)	(2)	(7)	(7)	(7)
Cash flow from investments	(22)	(79)	(41)	(48)	(55)	(99)	(12)	(14)
Cash flow from financing	(14)	4	0	(6)	(45)	19	(81)	(33)
Net cash flow	4	8	27	29	(9)	27	10	71
<b>CAPITALIZATION &amp; VALUATION (EURm)</b>								
<b>Share price (EUR end)</b>	<b>12.6</b>	<b>20.9</b>	<b>46.0</b>	<b>55.3</b>	<b>74.8</b>	<b>103.7</b>	<b>103.7</b>	<b>103.7</b>
Number of shares end period	10	39	39	39	39	39	39	39
Net interest bearing debt	(49)	3	(3)	(16)	(24)	(1)	(60)	(131)
<b>Enterprise value</b>	<b>75</b>	<b>811</b>	<b>1,772</b>	<b>2,116</b>	<b>2,862</b>	<b>3,995</b>	<b>3,937</b>	<b>3,867</b>
EV/Sales	0.4	3.7	6.2	6.3	7.2	8.8	7.6	6.6
<b>EV/EBITDA</b>	<b>1.6</b>	<b>14.3</b>	<b>25.5</b>	<b>24.0</b>	<b>26.5</b>	<b>32.5</b>	<b>28.2</b>	<b>24.3</b>
EV/EBIT	2.1	17.4	33.6	30.4	33.1	39.6	34.7	28.3
P/E reported	5.0	25.6	49.4	45.3	38.6	54.8	48.8	40.2
<b>P/E adjusted</b>	<b>5.0</b>	<b>25.6</b>	<b>49.4</b>	<b>46.6</b>	<b>43.0</b>	<b>54.8</b>	<b>48.8</b>	<b>40.2</b>
P/B	1.0	6.0	10.8	10.7	12.8	14.7	12.4	10.2
<b>FINANCIAL ANALYSIS &amp; CREDIT METRICS</b>								
ROE adjusted (%)	21.4	24.7	23.7	24.7	31.2	29.0	27.3	27.6
Dividend yield (%)	10.5	1.9	1.1	1.2	1.0	0.8	0.8	0.9
EBITDA margin (%)	24.9	26.0	24.4	26.1	27.3	27.2	27.1	27.1
EBIT margin (%)	19.2	21.3	18.5	20.7	21.9	22.3	22.0	23.3
NIBD/EBITDA	(1.05)	0.05	(0.05)	(0.18)	(0.22)	(0.01)	(0.43)	(0.82)
EBITDA/Net interest	-	-	-	-	-	-	-	-



## Preparing the industrial future

*PSI Software AG sells management and control software for the utilities, manufacturing, raw material, logistics and public transport industries. Having presented record order intake figures throughout FY2018, we think that the growth story is not yet over. With intact market growth drivers and upside from margin improvements from the shift from a project to a product company, we rate PSI with a Buy rating and a TP of EUR 20.70.*

### Investment case

In the long term PSI will benefit from regulatory changes in Germany (energy transition, Diesel-bans in the cities) as well as from the disruption taking place in the Automotive sector due to the fight for market share in the electric vehicles segment. The transition to green energy calls for intelligent grid management systems that are able to match energy supply and demand, while at the same time guaranteeing the supply reliability even during peak times. Furthermore, the transition to an electrified car fleet demands rethinking of how cars are manufactured. The traditional assembly-line is likely to be replaced in favour of a smart "swarm production". For either of the problems mentioned above PSI delivers an intelligent solution.

PSI is currently transitioning from a rather project-driven company towards a product company that sells more modularised software than it has in the past. This offers significant margin upside once the harmonisation of the IT-platform is completed.

For its still relatively small size, PSI bears limited cluster risk in its customer portfolio (largest single customer over the last years typically <5%). Additionally, the customer exposure is spread over several industries, which mitigates exposure to cyclical downturns in certain customer industries to some extent.

In sum, we appreciate the combination of long-term prospects and margin upside from harmonising the IT platform and initiate coverage with a Buy rating and a target price of EUR 20.70.

EURm	2016	2017	2018e	2019e	2020e
Revenues	177	186	199	211	222
EBITDA	16	18	20	23	25
EBIT	12	13	16	18	20
EPS	0.55	0.61	0.73	0.85	0.96
EPS adj	0.55	0.65	0.73	0.85	0.96
DPS	0.22	0.23	0.25	0.28	0.32
EV/EBITDA	12.4	17.2	13.7	11.8	10.3
EV/EBIT	16.9	22.9	17.3	14.6	12.5
P/E adj	22.3	28.4	22.7	19.5	17.3
P/B	2.54	3.62	2.95	2.67	2.40
ROE (%)	11.5	12.2	13.5	14.4	14.6
Div yield (%)	1.8	1.2	1.5	1.7	1.9
Net debt	(43)	(36)	(34)	(43)	(53)

Source: Pareto



Target price (EUR)	21
Share price (EUR)	17

### Forecast changes

%	2018e	2019e	2020e
Revenues	NM	NM	NM
EBITDA	NM	NM	NM
EBIT adj	NM	NM	NM
EPS reported	NM	NM	NM
EPS adj	NM	NM	NM

Source: Pareto

Ticker	PSAGN.DE, PSAN GY
Sector	Software & Services
Shares fully diluted (m)	15.6
Market cap (EURm)	258
Net debt (EURm)	16
Minority interests (EURm)	0
Enterprise value 18e (EURm)	274
Free float (%)	39

### Performance



Source: Factset

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### Analysts

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*Software developer of controlling and management applications for complex optimisation problems*

*Energy transition, electrification of the car fleet, and smart production main growth drivers*

*Industry-wide investment backlogs / regulatory risk*

*Target price of EUR 20.70*

## Company profile

PSI Software AG develops and integrates process control and optimisation application software mainly for utilities, manufacturers, metal producers, logistics and public transport companies. The software is designed to control and manage flows (e.g. of energy, materials, vehicles) and with the help of PSI's proprietary algorithm the solution solves complex optimisation problems for the most efficient (probabilistic) "solution".

## Upcoming triggers and drivers

One of PSI's main market growth drivers is the ongoing electrification of the car fleet that will lead to increased energy consumption from private and public households in order to charge their cars. Furthermore, with Diesel bans coming into effect in some major cities in Germany, the public transport providers that also operate Diesel buses need to comply by offering more emission-friendly services. Finally, the energy transition initiated by the German coalition in 2010 that aims at reducing greenhouse emissions by 80-95% by 2050, while at the same time consuming 60% final energy from green renewable sources, serves as a major growth driver that not only requires investments into infrastructure, but also into grid management solutions that ensure the operation of a stable network.

Since PSI regularly reports closed deals, we expect steady deal flow to continue into H1 2019, underlining the current strong demand for the company's solutions.

**Next scheduled reporting:** Q4 results expected in March 2019.

## Key risks

In the past, PSI was concerned, when certain industries / regions cut their IT / Software spending. For example, PSI lost accumulated EUR 20m revenues in the South East Asian division over the last five years as a consequence of curbed investments following declining raw material prices. Similarly, the uncertainty in the European metals market (US tariffs), may be an obstacle to growth, if customers postpone software investments.

As PSI is engaged in critical infrastructure projects and to some extent in regions with exposure to international political risk (Russia, Middle East), we also see risks that come from changes in regulation or politically motivated barriers to trade that might lead to project delays / cancellations.

## Valuation and recommendation

We value PSI Software AG based on our DCF analysis. Our target price of EUR 20.70 implies a target NTM P/E of 24x. With an upside of 25%, we rate PSI Software AG with a Buy recommendation.

## Exhibit 5: DCF analysis

EUR m	Phase I					Phase II					Phase III
	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	
<b>Revenues</b>	<b>198.7</b>	<b>210.7</b>	<b>221.9</b>	<b>230.8</b>	<b>237.8</b>	<b>244.5</b>	<b>251.0</b>	<b>257.3</b>	<b>263.3</b>	<b>269.0</b>	
growth rate	6.8%	6.1%	5.3%	4.1%	3.0%	2.8%	2.7%	2.5%	2.3%	2.2%	
<b>EBIT</b>	<b>15.8</b>	<b>18.3</b>	<b>20.4</b>	<b>21.9</b>	<b>23.8</b>	<b>25.2</b>	<b>26.6</b>	<b>28.0</b>	<b>29.5</b>	<b>30.9</b>	
EBIT margin	8.0%	8.7%	9.2%	9.5%	10.0%	10.3%	10.6%	10.9%	11.2%	11.5%	
<b>Tax</b>	<b>-3.8</b>	<b>-4.4</b>	<b>-4.9</b>	<b>-5.2</b>	<b>-5.7</b>	<b>-6.0</b>	<b>-6.4</b>	<b>-6.7</b>	<b>-7.1</b>	<b>-7.4</b>	
Tax rate	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	
<b>Depr. &amp; Amort.</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	<b>3.9</b>	<b>3.8</b>	<b>3.8</b>	<b>3.8</b>	<b>3.8</b>	
% of sales	2.1%	2.1%	1.9%	1.9%	1.8%	1.6%	1.5%	1.5%	1.5%	1.4%	
<b>Capex</b>	<b>-4.2</b>	<b>-4.2</b>	<b>-4.2</b>	<b>-4.2</b>	<b>-4.3</b>	<b>-4.0</b>	<b>-4.0</b>	<b>-4.0</b>	<b>-4.0</b>	<b>-4.0</b>	
% of sales	2.1%	2.0%	1.9%	1.8%	1.8%	1.7%	1.6%	1.5%	1.5%	1.5%	
<b>Change in WC</b>	<b>-7.0</b>	<b>-1.0</b>	<b>-0.6</b>	<b>0.2</b>	<b>0.8</b>	<b>0.8</b>	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.6</b>	
% of sales	-3.5%	-0.5%	-0.3%	0.1%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%	
<b>Free Cash Flow</b>	<b>5.2</b>	<b>13.0</b>	<b>15.1</b>	<b>16.9</b>	<b>18.8</b>	<b>19.8</b>	<b>20.8</b>	<b>21.9</b>	<b>22.9</b>	<b>24.0</b>	<b>432.2</b>
growth rate	nm	nm	15.9%	12.2%	11.4%	5.1%	5.1%	5.0%	4.8%	4.6%	2.0%
<b>Present Value FCF</b>	<b>5.1</b>	<b>12.0</b>	<b>12.9</b>	<b>13.5</b>	<b>14.0</b>	<b>13.6</b>	<b>13.3</b>	<b>13.0</b>	<b>12.6</b>	<b>12.3</b>	<b>221.3</b>

<b>PV Phase I</b>	<b>58</b>	<b>Risk free rate</b>	3.5%	<b>Targ. equity ratio</b>	90%
<b>PV Phase II</b>	<b>65</b>	<b>Premium Equity</b>	5.0%	<b>Beta</b>	0.9
<b>PV Phase III</b>	<b>221</b>	<b>Premium Debt</b>	0.8%	<b>WACC</b>	7.7%

<b>Enterprise value</b>	<b>344</b>	<b>Sensitivity</b>	<b>Growth in phase III</b>				
- Net Debt (Cash)	-36		<b>1.0%</b>	<b>1.5%</b>	<b>2.0%</b>	<b>2.5%</b>	<b>3.0%</b>
- Pension Provisions	51	<b>6.89%</b>	21.2	22.6	24.3	26.4	29.0
- Minorities & Peripherals	0	<b>7.27%</b>	19.8	21.0	22.4	24.1	26.3
+ MV of financial assets	0	<b>WACC 7.66%</b>	18.5	19.5	<b>20.7</b>	22.2	23.9
- Paid-out dividends for last FY	4	<b>8.04%</b>	17.3	18.2	19.3	20.5	22.0
+/- Other EV items	-2	<b>8.42%</b>	16.3	17.1	18.0	19.0	20.3

<b>Equity value</b>	<b>324</b>
Number of shares	15.6
Value per share (€)	20.70
Current Price (€)	16.55
Upside	25%

Source: Pareto

PROFIT & LOSS (fiscal year) (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Revenues	176	175	184	177	186	199	211	222
EBITDA	8	12	15	16	18	20	23	25
Depreciation & amortisation	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
EBIT	4	8	11	12	13	16	18	20
Net interest	(2)	(2)	(2)	(1)	(1)	(1)	(1)	(1)
Other financial items	-	-	-	-	-	-	-	-
Profit before taxes	3	6	9	11	13	15	17	20
Taxes	(3)	(2)	(2)	(3)	(3)	(4)	(4)	(5)
Minority interest	-	-	-	-	-	-	-	-
Net profit	0	4	7	9	9	11	13	15
EPS reported	0.02	0.26	0.48	0.55	0.61	0.73	0.85	0.96
EPS adjusted	0.24	0.26	0.48	0.55	0.65	0.73	0.85	0.96
DPS	-	-	0.21	0.22	0.23	0.25	0.28	0.32
BALANCE SHEET (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Tangible non current assets	14	13	12	12	13	13	13	14
Other non-current assets	89	102	96	96	90	96	96	96
Other current assets	54	48	53	48	54	60	61	61
Cash & equivalents	22	29	39	43	38	34	43	53
Total assets	178	192	200	199	194	203	213	224
Total equity	69	68	73	75	80	88	97	107
Interest-bearing non-current debt	3	0	0	-	-	-	-	-
Interest-bearing current debt	4	5	3	-	3	-	-	-
Other Debt	62	72	76	72	61	65	66	66
Total liabilities & equity	178	192	200	199	194	203	213	224
CASH FLOW (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Cash earnings		14	11	14	12	16	18	19
Change in working capital		10	3	(1)	(11)	(7)	(1)	(1)
Cash flow from investments	(4)	(14)	(2)	(3)	(4)	(6)	(4)	(4)
Cash flow from financing	(7)	(2)	(2)	(7)	(1)	(7)	(4)	(4)
Net cash flow	(12)	8	10	4	(5)	(4)	8	10
CAPITALIZATION & VALUATION (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Share price (EUR end)	13.6	11.9	12.9	12.2	18.5	16.6	16.6	16.6
Number of shares end period	16	16	16	16	16	16	16	16
Net interest bearing debt	(15)	(24)	(35)	(43)	(36)	(34)	(43)	(53)
Enterprise value	238	210	214	201	306	274	266	256
EV/Sales	1.3	1.2	1.2	1.1	1.6	1.4	1.3	1.2
EV/EBITDA	29.8	18.2	13.9	12.4	17.2	13.7	11.8	10.3
EV/EBIT	57.0	27.4	19.3	16.9	22.9	17.3	14.6	12.5
P/E reported	-	45.6	27.1	22.3	30.5	22.7	19.5	17.3
P/E adjusted	55.9	45.6	27.1	22.3	28.4	22.7	19.5	17.3
P/B	3.1	2.7	2.8	2.5	3.6	2.9	2.7	2.4
FINANCIAL ANALYSIS & CREDIT METRICS	2013	2014	2015	2016	2017	2018e	2019e	2020e
ROE adjusted (%)		6.0	10.5	11.5	13.1	13.5	14.4	14.6
Dividend yield (%)	-	-	1.6	1.8	1.2	1.5	1.7	1.9
EBITDA margin (%)	4.5	6.6	8.4	9.1	9.5	10.1	10.7	11.2
EBIT margin (%)	2.4	4.4	6.0	6.7	7.2	8.0	8.7	9.2
NIBD/EBITDA	(1.86)	(2.08)	(2.30)	(2.67)	(2.00)	(1.72)	(1.89)	(2.14)
EBITDA/Net interest	4.98	5.64	8.50	21.53	19.04	19.47	22.86	26.07

## Reinventing the construction sector

*RIB Software is an application software company with customers in the construction industry. The company not only markets its established iTWO 4.0 solution, but also engages as an incubator for innovative solutions that aim at digitalising the construction industry. Based on our SOTP valuation, we derive a target price of EUR 20.40 and issue a Buy recommendation.*

### Investment case

RIB Software offers planning and control software solutions for the construction industry that are suitable for Building Information Modeling (BIM) applications. Since BIM becomes increasingly mandatory in public tenders and the construction industry still has a lot of catch-up potential in order to overcome its productivity deficit, we regard the market's growth drivers as attractive.

On company-level, RIB can be considered an established player in the market with >1,000 key account customers. Besides, RIB is breaking new ground with innovative solutions that have huge growth opportunities. YTwo (integrated supply chain solution) and MTWO (vertical cloud for the construction industry) are both based on RIB's iTWO 4.0 software and shall help to achieve the next milestones in terms of revenue / market cap.

This year, the company collected EUR 130m in a capital increase in order to invest into Managed Service Providers (MSPs) to increase the speed of the international MTWO roll-out. By 2020 the company targets 100,000 MTWO users, which is a massive growth avenue for the company. Incorporating the potential from the start-up businesses, we value RIB with a TP of EUR 20.40, based on our SOTP valuation. We initiate coverage with a Buy recommendation

EURm	2016	2017	2018e	2019e	2020e
Revenues	98	108	130	152	186
EBITDA	33	40	40	49	62
EBIT	23	30	28	35	48
EPS	0.32	0.41	0.31	0.42	0.66
EPS adj	0.18	0.27	0.25	0.33	0.59
DPS	0.16	0.18	0.21	0.21	0.33
EV/EBITDA	13.1	25.6	12.5	10.0	7.5
EV/EBIT	18.6	34.9	17.7	13.9	9.7
P/E adj	69.0	91.2	54.1	39.7	22.5
P/B	1.92	3.82	1.61	1.57	1.49
ROE (%)	5.0	6.3	4.2	5.0	7.6
Div yield (%)	1.3	0.7	1.6	1.6	2.5
Net debt	(135)	(95)	(193)	(204)	(222)

Source: Pareto



Target price (EUR)	20.4
Share price (EUR)	13.3

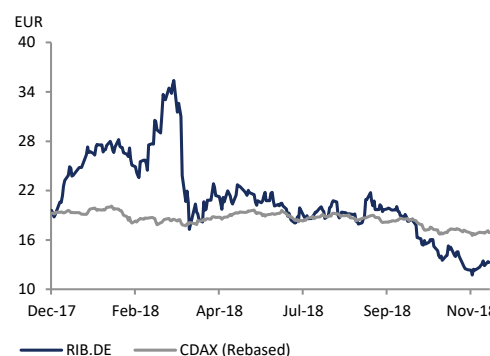
### Forecast changes

%	2018e	2019e	2020e
Revenues	NM	NM	NM
EBITDA	NM	NM	NM
EBIT adj	NM	NM	NM
EPS reported	NM	NM	NM
EPS adj	NM	NM	NM

Source: Pareto

Ticker	RIB.DE, RIB GY
Sector	Software & Services
Shares fully diluted (m)	51.7
Market cap (EURm)	687
Net debt (EURm)	-189
Minority interests (EURm)	0
Enterprise value 18e (EURm)	497
Free float (%)	81

### Performance



Source: Factset

**Pareto Securities AS has been paid by the issuer to produce this research report. This material is considered by Pareto Securities to qualify as an acceptable minor non-monetary benefit according to the EU MIFID 2 directive.**

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*Established software developer and innovator for the construction industry*

*Growth drivers: regulatory compliance and pressure to improve productivity in the construction industry*

*Triggers ahead: first meaningful revenues via MTWO & Y TWO in FY2019e*

*Unsuccessful roll-out of MTWO / competition from major players*

*Target price of EUR 20.40*

## Company profile

RIB Software SE is an application software company that develops and markets modular and end-to-end planning and control software solutions to the building and construction industry. The software is used for the design, construction and maintenance of buildings and plants. RIB also provides consulting and training for implementation projects as well as an e-commerce platform. The company can be separated into an established software developer on the one side and into an incubator for innovative solutions that drive digitalisation in the construction industry on the other side.

## Upcoming triggers and drivers

RIB Software operates in a market with huge growth potential in the years to come. First, more and more countries adopt binding Building Information Modeling (BIM) standards in public tenders in order to avoid cost and time overruns (Scandinavia since 2010, UK since 2016, Germany follows in 2020). Second, the decline in real productivity in the construction industry demands for solutions that help overcome excessive waste and inefficiencies at construction companies. Therefore, we see two major growth drivers that help growing the BIM market for construction-related software by 15-20% p.a. until 2022, according to Marketsandmarkets and Zion Research.

In 2016, RIB Software founded Y TWO, a JV with FLEX, which aims at revolutionising the supply chain in construction. In short, construction companies will be able to order their necessary supplies for the construction site directly via RIB's software, thus saving costs by eliminating intermediaries. This project has a huge potential to re-route the flow of construction material through RIB's platform. So far, no meaningful revenues have been generated, but the company recently announced that first orders haven been processed by now. Additionally, in cooperation with Microsoft, RIB kicked-off MTWO earlier this year. The world's first vertical cloud is targeted at all participants in the construction process and available as a subscription service. The company targets 100,000 paying users by the end of 2020. We expect first meaningful revenues in FY2019e, as the first customers are currently on-boarding.

## Risks to the investment case

RIB's management raises high expectations regarding their new businesses. If project delays or insufficient market acceptance of the new product cannot fulfil these expectations, this might lead to disappointments and negative earnings revisions.

So far, RIB has a focused product portfolio that is built around iTWO. As BIM will evolve further, there may be the risk that an industry "standard" for BIM technology emerges, which could work in favour or against RIB Software. Furthermore, the building process is intellectual property to construction companies, which is why constructors / home developers may be reluctant to move their knowledge into the cloud.

**Next scheduled reporting:** preliminary Q4 results on February 22, 2019.

## Valuation and recommendation

We value RIB Software based on our SOTP analysis. The valuations for the business segments iTWO, Y TWO and MTWO are calculated individually based on separate DCF analyses. The start-ups Y TWO and MTWO enter our SOTP valuation with only 10% of the total DCF value (90% start-up discount) due to the early stage of the business. Since our target price of EUR 20.40 is equivalent to an upside of 54%, we rate RIB Software with a Buy recommendation.

## Exhibit 6: SOTP valuation

in EUR per share	FV	FV RIB	FV Y TWO	FV M TWO
<b>Base case scenario</b>	<b>20</b>	16	1	3
<b>Bear case scenario</b> (RIB stand-alone value)	<b>16</b>	16	0	0
<b>Bull case scenario</b> (Y TWO partner buy-in, 2m M TWO subscribers by 2022)	<b>29</b>	16	2	11

Source: Pareto



PROFIT & LOSS (fiscal year) (EURm)	2013	2014	2015	2016	2017	2018e	2019e	2020e
Revenues	57	70	82	98	108	130	152	186
EBITDA	19	35	25	33	40	40	49	62
Depreciation & amortisation	(5)	(6)	(9)	(10)	(11)	(12)	(14)	(14)
EBIT	13	29	16	23	30	28	35	48
Net interest	(0)	(0)	0	(0)	3	(0)	(0)	(0)
Other financial items	-	-	-	-	-	-	-	-
Profit before taxes	13	29	16	23	30	24	31	49
Taxes	(4)	(8)	(6)	(9)	(11)	(8)	(10)	(15)
Minority interest	(0)	-	0	0	-	-	-	-
Net profit	9	21	11	15	18	15	22	34
EPS reported	0.24	0.52	0.24	0.32	0.41	0.31	0.42	0.66
EPS adjusted	0.16	0.45	0.17	0.18	0.27	0.25	0.33	0.59
DPS	0.06	0.16	0.16	0.16	0.18	0.21	0.21	0.33
<b>BALANCE SHEET (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
Tangible non current assets	6	7	7	16	17	18	17	16
Other non-current assets	76	103	124	175	171	201	198	197
Other current assets	18	18	26	29	77	83	87	95
Cash & equivalents	78	138	174	135	100	198	209	227
Total assets	178	266	331	355	366	500	511	535
Total equity	143	226	286	292	295	428	438	462
Interest-bearing non-current debt	-	-	-	-	5	5	5	5
Interest-bearing current debt	-	-	-	-	-	-	-	-
Other Debt	32	36	42	60	63	64	64	65
Total liabilities & equity	178	266	331	355	366	500	511	535
<b>CASH FLOW (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
Cash earnings	17	24	21	38	45	29	39	49
Change in working capital	(1)	(3)	(2)	14	(22)	(4)	(4)	(7)
Cash flow from investments	25	(11)	(23)	(75)	(29)	(45)	(12)	(13)
Cash flow from financing	(13)	43	37	(16)	(1)	117	(11)	(11)
Net cash flow	29	59	37	(39)	(35)	97	11	18
<b>CAPITALIZATION &amp; VALUATION (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
Share price (EUR end)	7.2	10.9	11.3	12.5	24.8	13.3	13.3	13.3
Number of shares end period	37	42	46	45	45	52	52	52
Net interest bearing debt	(78)	(138)	(174)	(135)	(95)	(193)	(204)	(222)
Enterprise value	193	328	345	429	1,032	497	486	468
EV/Sales	3.4	4.7	4.2	4.4	9.5	3.8	3.2	2.5
EV/EBITDA	10.3	9.3	13.8	13.1	25.6	12.5	10.0	7.5
EV/EBIT	14.4	11.3	20.9	18.6	34.9	17.7	13.9	9.7
P/E reported	30.1	20.9	46.3	38.7	60.9	42.7	31.8	20.1
P/E adjusted	43.7	24.2	64.8	69.0	91.2	54.1	39.7	22.5
P/B	1.9	2.0	1.8	1.9	3.8	1.6	1.6	1.5
<b>FINANCIAL ANALYSIS &amp; CREDIT METRICS</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
ROE adjusted (%)	4.3	9.7	3.0	2.8	4.2	3.4	4.0	6.8
Dividend yield (%)	0.8	1.5	1.4	1.3	0.7	1.6	1.6	2.5
EBITDA margin (%)	32.9	50.3	30.5	33.4	37.2	30.5	32.1	33.4
EBIT margin (%)	23.6	41.3	20.1	23.5	27.3	21.6	23.0	26.0
NIBD/EBITDA	(4.18)	(3.90)	(6.97)	(4.14)	(2.36)	(4.84)	(4.17)	(3.57)
EBITDA/Net interest	28.03	-	-	-	-	-	-	-

## Fresh DNA for a software veteran

*Software AG is a developer of database and middleware software that facilitates the digital transformation of their clients. While the mature mainframe software business is appreciated for its low operating costs and steady earnings contributions, the Digital Business Platform is supposed to be the future growth driver of the group. The company's new CEO Sanjay Brahmawar will reveal Software's strategy update "Helix" at the company's CMD in February 2019.*

### Investment case

We regard Software's product businesses as strategic complements. The database management software cash cow (Adabas & Natural) generates high operating margins (~70%), while the Digital Business Platform (DBP) is the growth driver of the business with focus on driving the digitalisation processes in an enterprise context and targeting the megatrend IoT. Since the IoT business is only in an early stage, it is still a relatively insignificant division (FY2018e: c. 3-4% of group revenues). But, we observe rapid growth (>100% at cc by 9M 2018) and Software targets high double-digit growth rates in order to accumulate market share in the relevant IoT market over the next two years. Once the IoT business is really lifting off, Software should benefit from a usage-based revenue model (based on the number of connected devices, API calls and data volume), which should scale with the number of IoT use cases and applications. Therefore, the company targets a highly relevant and promising (but also competitive) market. As exponential growth in the division is not yet in our sight, we think it is too early to project overly aggressive IoT growth scenarios. Since our view approximately aligns with market expectations, we issue a hold rating, based on our DCF-derived 12-month target price of EUR 40.

EURm	2016	2017	2018e	2019e	2020e
Revenues	872	879	861	895	935
EBITDA	257	260	262	276	296
EBIT	208	216	225	234	256
EPS	1.84	1.88	2.11	2.21	2.43
EPS adj	1.84	1.88	2.11	2.21	2.43
DPS	0.60	0.65	0.72	0.75	0.83
EV/EBITDA	10.5	13.7	9.8	9.0	7.9
EV/EBIT	12.9	16.6	11.4	10.6	9.2
P/E adj	18.8	24.9	17.1	16.3	14.8
P/B	2.28	3.20	2.17	1.99	1.82
ROE (%)	12.3	12.1	13.3	12.7	12.9
Div yield (%)	1.7	1.4	2.0	2.1	2.3
Net debt	(73)	(55)	(151)	(231)	(356)

Source: Pareto



Target price (EUR)	40
Share price (EUR)	36

### Forecast changes

%	2018e	2019e	2020e
Revenues	NM	NM	NM
EBITDA	NM	NM	NM
EBIT adj	NM	NM	NM
EPS reported	NM	NM	NM
EPS adj	NM	NM	NM

Source: Pareto

Ticker	SOWGN.DE, SOW GY
Sector	Software & Services
Shares fully diluted (m)	74.0
Market cap (EURm)	2,661
Net debt (EURm)	-107
Minority interests (EURm)	1
Enterprise value 18e (EURm)	2,555
Free float (%)	66

### Performance



Source: Factset

### Analysts

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*Developer of middleware and database software*

## Company profile

Software AG develops and sells database and middleware software. The historical origins of the company are database software applications for mainframes (Adabas & Natural segment), which generates very high operating margins of around 70%.

The Digital Business Platform (DBP) provides middleware solutions that complement existing IT landscapes in order to facilitate digital business transformation of Software's clients. The company also entered the IoT market. One avenue to set foot into the high growth market is for example the establishment of a strategic JV ADAMOS with mechanical engineers DMG Mori, Dürr, Carl Zeiss, ASM PT, and Engel Austria. Software provides the software platform that lays the foundation for engineering applications in an Industrial IoT context.

In the Consulting segment, Software AG supports the digitalisation process of their customers with custom consulting services.

*Strategic refresh of new CEO Sanjay Brahmawar at CMD on February 05, 2019*

## Upcoming triggers and drivers

Since the market for traditional database software mainframe is mature, Software AG anticipates declining business in the A&N segment for a while now. On the other hand, strong growth targeted via IoT applications (estimated relevant market size: c. 90bn-100bn by FYE 2018; EUR 170bn-190bn by FYE 2020 according to Boston Consulting Group). Software aims at participating from the trend and gaining market share over the next two years (FY 2018 Cloud & IoT revenue: c. EUR 32m; ~ EUR 100m by FYE 2020).

On February 05, 2019 Software AG will host its annual Capital Markets Day in London, where the new CEO Sanjay Brahmawar (in office since August 01, 2018) will present an updated corporate strategy.

Disappointments in the segment of the yet-to-be-distributed IoT cake might be a negative trigger, if Software does not meet growth targets.

**Next scheduled reporting:** FY 2018 results on January 31, 2019.

*Fight for talent, especially in a mature software segment*

## Risks to the investment case

As for most Software / IT services companies, Software depends on the availability of appropriate talent. Especially, the mature mainframe database software segment might face challenges recruiting new personnel since students likely prefer to specialise in areas with more promising career prospects.

As a globally active company, Software AG is further exposed to currency fluctuations, most notably the USD (9M 2018: c. 30% of group revenue in USD).

*Target price of EUR 40*

## Valuation and recommendation

We value Software AG based on our DCF analysis and arrive at a target price of EUR 40. We initiate coverage of Software AG with a Hold recommendation.

## Exhibit 7: DCF analysis

EUR m	Phase I					Phase II					Phase III
	2018e	2019e	2020e	2021e	2022e	2023e	2024e	2025e	2026e	2027e	
<b>Revenues</b>	<b>861</b>	<b>895</b>	<b>935</b>	<b>978</b>	<b>1,016</b>	<b>1,052</b>	<b>1,086</b>	<b>1,118</b>	<b>1,147</b>	<b>1,174</b>	
growth rate	-2.0%	4.0%	4.4%	4.6%	3.9%	3.6%	3.3%	2.9%	2.6%	2.3%	
<b>EBIT (unadj.)</b>	<b>225</b>	<b>234</b>	<b>256</b>	<b>275</b>	<b>284</b>	<b>294</b>	<b>304</b>	<b>313</b>	<b>321</b>	<b>328</b>	
EBIT margin	26.1%	26.2%	27.4%	28.1%	28.0%	28.0%	28.0%	28.0%	28.0%	28.0%	
<b>Tax</b>	<b>-69.6</b>	<b>-72.6</b>	<b>-79.4</b>	<b>-85.2</b>	<b>-88.1</b>	<b>-91.2</b>	<b>-94.2</b>	<b>-97.0</b>	<b>-99.5</b>	<b>-101.8</b>	
Tax rate	31%	31%	31%	31%	31%	31%	31%	31%	31%	31%	
<b>Depr. &amp; Amort.</b>	<b>37.1</b>	<b>42.1</b>	<b>39.9</b>	<b>38.3</b>	<b>37.0</b>	<b>34.2</b>	<b>33.2</b>	<b>33.0</b>	<b>33.3</b>	<b>33.5</b>	
% of sales	4.3%	4.7%	4.3%	3.9%	3.6%	3.3%	3.1%	3.0%	2.9%	2.9%	
<b>Capex</b>	<b>-25.8</b>	<b>-26.9</b>	<b>-28.0</b>	<b>-29.3</b>	<b>-30.5</b>	<b>-31.6</b>	<b>-32.6</b>	<b>-33.5</b>	<b>-34.4</b>	<b>-35.2</b>	
% of sales	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
<b>Change in WC &amp; P</b>	<b>23.3</b>	<b>-45.4</b>	<b>-12.4</b>	<b>-13.3</b>	<b>-11.8</b>	<b>-12.2</b>	<b>-12.6</b>	<b>-13.0</b>	<b>-13.3</b>	<b>-13.6</b>	
% of sales	-2.7%	5.1%	1.3%	1.4%	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%	
<b>Free Cash Flow</b>	<b>189.6</b>	<b>131.5</b>	<b>176.4</b>	<b>185.4</b>	<b>190.9</b>	<b>193.5</b>	<b>197.7</b>	<b>202.4</b>	<b>207.1</b>	<b>211.4</b>	<b>3,527.7</b>
growth rate	nm	-30.6%	34.1%	5.1%	3.0%	1.4%	2.1%	2.4%	2.3%	2.0%	2.0%
<b>Present Value FCF</b>	<b>188.5</b>	<b>121.0</b>	<b>150.0</b>	<b>145.9</b>	<b>139.0</b>	<b>130.3</b>	<b>123.1</b>	<b>116.6</b>	<b>110.4</b>	<b>104.2</b>	<b>1,738.6</b>

<b>PV Phase I</b>	<b>744</b>	<b>Risk free rate</b>	<b>3.5%</b>	<b>Targ. equity ratio</b>	<b>90%</b>
<b>PV Phase II</b>	<b>585</b>	<b>Premium Equity</b>	<b>5.0%</b>	<b>Beta</b>	<b>1.0</b>
<b>PV Phase III</b>	<b>1,739</b>	<b>Premium Debt</b>	<b>0.3%</b>	<b>WACC</b>	<b>8.1%</b>

<b>Enterprise value</b>	<b>3,068</b>	<b>Sensitivity</b>	<b>Growth in phase III</b>				
- Net Debt (Cash)	-55		<b>1.0%</b>	<b>1.5%</b>	<b>2.0%</b>	<b>2.5%</b>	<b>3.0%</b>
- Pension Provisions	44	<b>7.30%</b>	42	44	46	50	54
- Minorities & Peripherals	1	<b>7.71%</b>	39	41	43	46	49
+ MV of financial assets	0	<b>WACC 8.11%</b>	37	38	<b>40</b>	43	45
- Paid-out dividends for last FY	45	<b>8.52%</b>	35	36	38	40	42
+/- Other EV items	-47	<b>8.92%</b>	33	34	36	37	39

<b>Equity value</b>	<b>2,987</b>
Number of shares	74.0
Value per share (€)	40.00
Current Price (€)	35.96
Upside	11%

Source: Pareto

<b>PROFIT &amp; LOSS (fiscal year) (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
<b>Revenues</b>	<b>973</b>	<b>858</b>	<b>873</b>	<b>872</b>	<b>879</b>	<b>861</b>	<b>895</b>	<b>935</b>
<b>EBITDA</b>	<b>243</b>	<b>218</b>	<b>260</b>	<b>257</b>	<b>260</b>	<b>262</b>	<b>276</b>	<b>296</b>
Depreciation & amortisation	(45)	(50)	(56)	(49)	(44)	(37)	(42)	(40)
<b>EBIT</b>	<b>198</b>	<b>168</b>	<b>203</b>	<b>208</b>	<b>216</b>	<b>225</b>	<b>234</b>	<b>256</b>
Net interest	(8)	(9)	(3)	(4)	1	2	3	5
Other financial items	-	-	-	-	-	-	-	-
<b>Profit before taxes</b>	<b>190</b>	<b>158</b>	<b>201</b>	<b>204</b>	<b>217</b>	<b>226</b>	<b>237</b>	<b>261</b>
Taxes	(56)	(48)	(61)	(64)	(76)	(70)	(73)	(81)
Minority interest	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
<b>Net profit</b>	<b>134</b>	<b>110</b>	<b>139</b>	<b>140</b>	<b>140</b>	<b>156</b>	<b>163</b>	<b>180</b>
EPS reported	1.60	1.39	1.78	1.84	1.88	2.11	2.21	2.43
<b>EPS adjusted</b>	<b>1.60</b>	<b>1.39</b>	<b>1.78</b>	<b>1.84</b>	<b>1.88</b>	<b>2.11</b>	<b>2.21</b>	<b>2.43</b>
DPS	0.46	0.50	0.55	0.60	0.65	0.72	0.75	0.83
<b>BALANCE SHEET (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
Tangible non current assets	64	61	56	76	73	104	91	80
Other non-current assets	1,123	1,134	1,127	1,180	1,170	1,171	1,158	1,156
Other current assets	359	336	330	327	299	276	325	339
Cash & equivalents	450	318	301	375	366	462	432	556
<b>Total assets</b>	<b>1,997</b>	<b>1,849</b>	<b>1,815</b>	<b>1,957</b>	<b>1,907</b>	<b>2,012</b>	<b>2,005</b>	<b>2,131</b>
Total equity	966	1,013	1,090	1,197	1,118	1,226	1,337	1,461
Interest-bearing non-current debt	203	340	213	200	100	200	200	200
Interest-bearing current debt	410	111	113	101	210	110	-	-
Other Debt	367	342	363	417	435	431	424	425
<b>Total liabilities &amp; equity</b>	<b>1,997</b>	<b>1,849</b>	<b>1,815</b>	<b>1,957</b>	<b>1,907</b>	<b>2,012</b>	<b>2,005</b>	<b>2,131</b>
<b>CASH FLOW (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
Cash earnings	166	126	193	197	165	193	206	220
Change in working capital	5	17	(7)	7	25	23	(45)	(12)
Cash flow from investments	(176)	5	33	(60)	(73)	(73)	(27)	(28)
Cash flow from financing	161	(283)	(239)	(81)	(107)	(48)	(163)	(56)
Net cash flow	134	(132)	(18)	74	(9)	96	(30)	124
<b>CAPITALIZATION &amp; VALUATION (EURm)</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
<b>Share price (EUR end)</b>	<b>25.4</b>	<b>20.2</b>	<b>26.4</b>	<b>34.5</b>	<b>46.9</b>	<b>36.0</b>	<b>36.0</b>	<b>36.0</b>
Number of shares end period	87	87	79	79	76	74	74	74
Net interest bearing debt	163	133	26	(73)	(55)	(151)	(231)	(356)
<b>Enterprise value</b>	<b>2,423</b>	<b>1,933</b>	<b>2,149</b>	<b>2,694</b>	<b>3,569</b>	<b>2,555</b>	<b>2,475</b>	<b>2,351</b>
EV/Sales	2.5	2.3	2.5	3.1	4.1	3.0	2.8	2.5
<b>EV/EBITDA</b>	<b>10.0</b>	<b>8.9</b>	<b>8.3</b>	<b>10.5</b>	<b>13.7</b>	<b>9.8</b>	<b>9.0</b>	<b>7.9</b>
EV/EBIT	12.2	11.5	10.6	12.9	16.6	11.4	10.6	9.2
P/E reported	15.9	14.5	14.9	18.8	24.9	17.1	16.3	14.8
<b>P/E adjusted</b>	<b>15.9</b>	<b>14.5</b>	<b>14.9</b>	<b>18.8</b>	<b>24.9</b>	<b>17.1</b>	<b>16.3</b>	<b>14.8</b>
P/B	2.3	1.7	1.9	2.3	3.2	2.2	2.0	1.8
<b>FINANCIAL ANALYSIS &amp; CREDIT METRICS</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018e</b>	<b>2019e</b>	<b>2020e</b>
ROE adjusted (%)	13.2	11.2	13.3	12.3	12.1	13.3	12.7	12.8
Dividend yield (%)	1.8	2.5	2.1	1.7	1.4	2.0	2.1	2.3
EBITDA margin (%)	25.0	25.4	29.7	29.5	29.5	30.4	30.9	31.7
EBIT margin (%)	20.4	19.5	23.3	23.9	24.5	26.1	26.2	27.4
NIBD/EBITDA	0.67	0.61	0.10	(0.28)	(0.21)	(0.58)	(0.84)	(1.20)
EBITDA/Net interest	28.93	23.69	-	58.61	-	-	-	-

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	"Hold"	Pareto Securities Research expects this financial instrument's total return to be between -10% and 10% over the next 12 months
	"Sell"	Pareto Securities Research expects this financial instrument's total return to be negative by more than 10% over the next 12 months

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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	1,988,203	9.53%	SpareBank 1Østfold Akersl	1,129,560	9.12%
Pareto Bank ASA	10,839,382	18.49%	Sparebanken Vest	4,506,060	7.63%

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	1,988,203	9.53%	SpareBank 1SMN	1,879,292	1.45%
NHST Media Group AS	21,475	1.85%	SpareBank 1Østfold Akersl	1,129,560	9.12%
Pareto Bank ASA	10,839,382	18.49%	Sparebanken Møre	311,739	3.15%
Selvaag Bolig ASA	2,179,147	2.32%	Sparebanken Sør	460,589	2.94%
SpareBank 1BV	1,549,440	2.46%	Sparebanken Vest	4,506,060	7.63%
SpareBank 1Nord-Norge	1,129,459	1.12%			

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	Golden Ocean Group	0	1,824	Prosafe	0	5,984
Aker	0	514	Grieg Seafood	0	770	Protector Forsikring	0	14,285
Aker BP	0	860	Helgeland Sparebank	0	1,700	REC Silicon	0	159,908
Aker Solutions	0	2,085	Höegh LNG	0	8,703	SailMar	0	130
AKVA Group	0	1,500	Ice Group AS	0	55,500	Sandnes Sparebank	0	18,032
Archer	0	73,520	Jæren Sparebank	0	500	Scatec Solar	0	35,635
Atea	0	450	Komplett Bank	0	99,357	Seadrill	0	6,615
Austevoll Seafood	0	5,780	Kongsberg Gruppen	0	4,010	Selvaag Bolig	0	10,000
Avance Gas	0	34,201	Lerøy Seafood	0	33,795	SpareBank 1BV	0	10,000
Axactor	0	21,647	Marine Harvest	0	1,864	SpareBank 1Nord-Norge	0	30,000
Bonheur	0	44,509	Monobank	0	1,355,000	SpareBank 1SMN	0	16,590
Borr Drilling	0	4,415	NEXT Biometrics	0	1,730	SpareBank 1SR-Bank	0	39,187
BWLPG	0	5,569	Nordic Semiconductor	0	6,000	SpareBank 1Østlandet	0	2,891
DNB	0	35,822	Norsk Hydro	0	112,501	Sparebanken Møre	0	6,550
DNO	0	24,392	Northern Drilling	0	2,099	Sparebanken Sør	0	43,280
DOF	0	138,498	Norwegian Air Shuttle	0	3,172	Sparebanken Øst	0	3,000
Entra	0	14,362	Norwegian Property	0	150,000	Storebrand	0	5,005
Equinor	0	10,266	Ocean Yield	0	31,967	Subsea 7	0	7,351
Europris	0	14,510	Odffell Drilling	0	8,731	Telenor	0	2,272
Faroe Petroleum	9,600	9,600	Orkla	0	23,746	TGS-NOPEC	0	2,000
Flex LNG	0	13,352	Panoro Energy	0	5,670	XXL	0	7,270
Frontline	0	13,943	Pareto Bank	0	963,509	Yara International	0	19,079
Gjensidige Forsikring	0	8,547	Petroleum Geo-Services	0	57,884	Zenterio	0	78,865

This overview is updated monthly (last updated 21.11.2018).

\*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:

Africa Energy	Floatel	Okea AS
Akva Group	Fortum	Pandion Energy
Arnarlix	Genel Energy	Pareto Bank
Atlantic Sapphire AS	Gfinity Plc	Petro Matad Limited
Avida Holding AB	Gulf Keystone Petroleum	Petrolat LLC
Bank Norwegian	Hertha BSC GmbH	Pioneer Public Properties Finland Oy
Borealis Finance	Hunter Group	Point Resources AS
Borr Drilling Limited	Idavang A/S	Quant AB
Brado AB	Instabank	Sakthi Global Auto Holdings
Camanchaca	Komplett Bank	Sand Hill Petroleum
DNO ASA	McDermott International	SAS
DOF ASA	MMA Offshore	Scatec Solar
Echo Energy	Monobank ASA	Scorpio Tankers
Eco Atlantic Oil and Gas	Nemaska Lithium	Shamran
Eidesvik Offshore	Northern Drilling	Siccar Point Energy
Eland Oil & Gas	Northmill Group AB	SL Bidco
Embarcadero Maritime II LLC	Norwegian Air Shuttle	SpareBank 1 Buskerud-Vestfold
Faroe Petroleum	Ocean Yield	Sparebanken Vest
FFS Bidco	Odfjell	Union Maritime Limited
Filo Mining Corp	Odfjell Drilling	Zwipe AS
Flex LNG		

*This overview is updated monthly (this overview is for the period 31.10.2017 – 31.10.2018).*

## Appendix C

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

### Distribution of recommendations

Recommendation	% distribution
Buy	76%
Hold	20%
Sell	4%

### Distribution of recommendations (transactions\*)

Recommendation	% distribution
Buy	100%
Hold	0%
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 21.11.2018).

## 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:

Aspire	Green Landscaping Holding	Powercell	Sedana Medical
Cibus Nordic Real Estate	Lehto Group	Magnolia Bostad	Shamara Petroleum
Climeon	Organoclick	Scibase	Vostok New Ventures

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:

Africa Oil	Cavotec	Isofol Medical	Shamara Petroleum
BlackPearl Resources Inc	Cibus Nordic Real Estate	Saltängen Property Invest	Tethys Oil
Byggmästare Anders J Ahlström	Delarka Holding	SciBase Holding	Vostok Emerging Finance
Byggpartner i Dalarna	International Petroleum Corporation	Sedana 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  
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## Appendix E

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

### Designated Sponsor

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Aixtron *	Gesco *	MOBOTIX AG	SMT Scharf AG *
Baywa	GFT Technologies *	MTU Aero Engines	Surteco Group *
Biotest *	Gigaset *	OVH Holding AG	Syzygy AG *
Brenntag	Heidelberg Pharma *	Procredit Holding *	TAKKT AG
CORESTATE Capital Holding S.A.	Hypoport AG	PSI SOFTWARE AG *	Vapiano
Daldrup & Soehne *	Intershop Communications AG	PWO *	va-Q-tec *
Demire	Logwin *	RIB Software *	Viscom *
Epigenomics AG *	Manz AG *	S&T AG *	windeln.de
Euromicron AG *	MAX Automation SE *	Schaltbau Holding AG	
Eyemaxx Real Estate	Merkur Bank	SCOUT24	

\* 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	Hypoport AG	OHB SE	Vapiano
Baywa	Intershop Communications AG	OVH Holding AG	
BB Biotech	Merkur Bank	Schaltbau Holding AG	
Eyemaxx Real Estate	MOBOTIX AG	Siegfried Holding AG	

This overview is updated monthly (last updated 05.12.2018).