#### EQUITY RESEARCH – COMMISSIONED RESEARCH Research report prepared by DNB Markets, a division of DNB Bank ASA

Information Technology

Q4 results review

This report was completed and disseminated at 7:28 CET on 12 February 2020

# ESG insight

# IAR SYSTEMS

# Closer to end of investment phase

We remain confident IAR's substantial investments in IoT security and RISC-V should accelerate sales growth, as these markets are seemingly ramping up worldwide (albeit from a low base). We expect proof of this in 2020e to contribute to a share price re-rating but we have lowered our fair value to SEK230–275 (250– 300), after cutting our 2020–2021e EBIT by 5%.

**Q4 EBIT 6% below our forecast**, with organic sales growth of -1% (our estimate 0%) as major transactions remained lumpy while a protracted consolidation of chip vendors keeps hampering industry growth. Although CEO Stefan Skarin mentioned growing and considerable interest in new product launches, they have yet not resulted in meaningful sales given their recency. Opex growth of 5% and higher amortisation of intangible assets meant the EBIT margin was 25.4% (down 4.9%-points YOY) with a boost from capitalisation of development costs of SEK23m. A DPS of SEK3.00 (down 40% YOY) was proposed for 2019, owing to lower tax-loss carry-forwards and higher investments, which we consider should have been cut already in 2018.

**Synergy back from the cold.** We like that IAR has renegotiated terms for the Renesas Synergy agreement, whereby IAR will take responsibility for migrating ~5,000 active users to its licence model in 2020 (we identify SEK30m–50m sales potential).

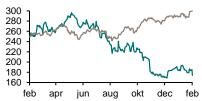
**2020–2021e EBIT cut by 5%,** reflecting 1) the slower ramp-up of security tools (we forecast sales of SEK25m in 2020e); and 2) the Renesas Royalty agreement being replaced by perpetual licence sales.

**Fair value lowered to SEK230–275 (250–300)** to reflect our updated forecasts, on which IAR is trading at a 2020e P/E of 24x, corresponding to a ~20% discount to its historical average, while we estimate that IAR's legacy business should be valued at a minimum of SEK160/share, providing some sort of indicative floor for the share price. While we are in the early stages of IoT security and RISC-V, we continue to believe that IAR Systems is well positioned to benefit from secular tailwinds for its industry-leading tool portfolio and expect the growth rates to accelerate to double-digits from 2020, providing building blocks to take its investment case to the next level.

Year-end Dec	2016	2017	2018	2019	2020e	2021e	2022e
Revenue (SEKm)	328	345	385	406	451	540	590
EBITDA adj (SEKm)	113	127	140	146	182	235	266
EBIT adj (SEKm)	101	107	119	108	133	170	195
PTP (SEKm)	100	106	117	107	130	167	192
EPS rep (SEK)	6.18	6.33	6.67	5.96	7.19	9.17	10.56
EPS adj (SEK)	6.18	6.33	6.67	5.88	7.19	9.17	10.56
DPS (SEK)	7.00	5.00	5.00	5.00	3.00	3.60	4.59
Revenue growth (%)	5.4	5.1	11.7	5.3	11.3	19.6	9.4
EBITDA growth adj (%)	15.2	12.4	10.1	4.1	25.1	29.0	12.9
EPS growth adj (%)	23.0	2.6	5.3	-11.8	22.3	27.6	15.1
EBITDA margin adj (%)	34.5	36.9	36.4	35.9	40.4	43.6	45.0
EV/Sales adj (x)	7.63	6.58	8.32	6.30	5.28	4.36	3.89
EV/EBITDA adj (x)	22.1	17.8	22.9	17.5	13.1	10.0	8.7
EV/EBIT adj (x)	24.9	21.1	27.0	23.6	18.0	13.9	11.8
P/E adj (x)	33.4	29.8	36.4	31.6	24.2	19.0	16.5
P/Book (x)	9.31	8.22	6.02	4.28	3.65	3.27	2.94
ROE (%)	27.3	28.1	21.6	14.2	15.8	18.2	18.8
ROCE (%)	34.9	33.6	26.1	16.6	16.9	19.9	21.0
Dividend yield (%)	3.4	2.6	2.1	2.7	1.7	2.1	2.6

Source: Company (historical figures), DNB Markets (estimates)





MARKETS

#### SUMMARY

SUMMART	
Share price (SEK)	174
Tickers	IARB SS, IARb.ST
CAPITAL STRUCTURE	
No. of shares (m)	13.6
No. of shares fully dil. (m)	13.7
Market cap. (SEKm)	2,372
NIBD adj end-2020e (SEKm	n) 11
Enterprise value adj (SEKm	) 2,383
Net debt/EBITDA adj (x)	0.06
Free float (%)	100

Source: Company, DNB Markets (estimates)

NEXT EVENT			
Q1 2020		29/	04/2020
ESTIMATE CHAN	GES (SEK)		
Year-end Dec	2020e	2021e	2022e
Sales (old)	470.6	569.4	
Sales (new)	451.5	539.9	590.4
Change (%)	-4.1	-5.2	nm
EPS (old)	7.47	9.77	
EPS (new)	7.19	9.17	10.56
Change (%)	-3.8	-6.2	nm

Source: DNB Markets,

This report has been commissioned and paid for by the company, and is deemed to constitute an acceptable minor non-monetary benefit as defined in MiFID II

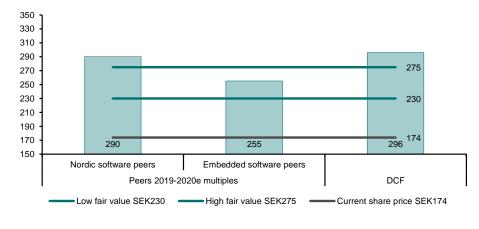
#### ANALYSTS Joachim Gunell

Please see the last two pages for important information. This research report was not produced in the US. Analysts employed by non-US affiliates are not registered/ qualified research analysts with FINRA in the United States.

<sup>—</sup>IAR Systems —OMXS30 (Rebased) Source: Factset

# Overview





Source: DNB Markets

#### Downside risks to our fair value

- Failure to resurrect the growth story. If investors lose trust in IAR Systems' ability to resume growth, it could trigger a share devaluation, as in 2017.
- Disappointing disclosures regarding key strategic partnerships, in terms of when they will materialise and the fee structure. For instance, the Renesas Synergy agreement has yet to appear in IAR Systems' sales. Thus, it would be negative if the Secure Thingz collaboration were to fall short of management's expectations.
- IAR Systems is highly sensitive to a strengthening of the SEK (particularly against the USD, EUR and JPY).

#### **DNB Markets estimates**

- We believe IAR 3.0 will mark the point when the market starts to view it as the go-to tools partner for global names as they position their embedded systems ahead of the IoT. We would highlight the market opportunity within secure embedded systems and RISC-V.
- We expect the sales growth acceleration in 2020 to cement its central position in the embedded industry's key growth themes.
- We estimate that IAR Systems should generate a 2019-2022 EPS CAGR of 21%, with the true potential expected beyond our forecast period.

Source: DNB Markets

#### Valuation methodology

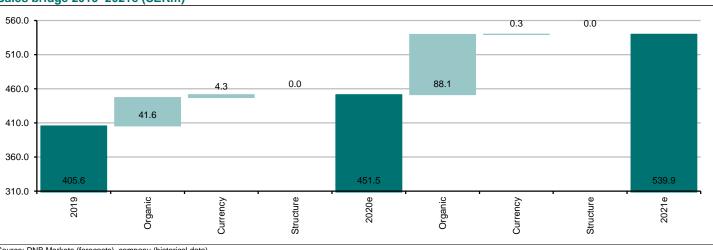
- Blending our total peer group of Nordic software and embedded software peers with a DCF suggests a fair value of SEK230-275 (250-300) from our 12-month perspective (methodology unchanged).
- Applying IAR's five-year historical valuation to our 2020 estimates suggests SEK215-245.
- Our estimates correspond to a 2020e P/E of 24x, an EV/EBIT of 18x, and an EV/sales of 5x, comprising a 15-20% discount to its five-year average.

Source: DNB Markets

Source: DNB Markets

#### Upside risks to our fair value

- The company over-delivering on its financial targets (particularly 10-15% organic growth).
- If IAR Systems' new security offering gains faster penetration than we assume by leveraging on its headstart, we believe there is potential for shareholder value creation beyond our fair value.
- Value-enhancing acquisitions to be integrated in its product offering or new strategic partnerships.
- Better cost control (as it has a reputation for tight cost control), implying higher margins.



#### Sales bridge 2019–2021e (SEKm)

Source: DNB Markets

Source: DNB Markets (forecasts), company (historical data)

# **ESG** overview

#### Sustainability assessment

Р	ositive	Negative
	IAR Systems' software development tools are market-leading in terms of code quality, analysis, functional safety and security. Its software ensures that the code is in line with industry standards, thereby guaranteeing its reliability when applied. Increased IoT security legislation drives demand for its products as its OEM customers must comply with new security design requirements.	<ul> <li>Data loss or security bugs in the software code could trigger regulatory scrutiny as well as legal costs and reputational damage, hampering its growth prospects.</li> <li>IAR Systems' competitiveness relies greatly on its ability to continuously innovate. For this, its highly skilled workforce is a key resource. Failure to attract and retain such professionals could lead to delays in innovation and a loss of market share.</li> </ul>
Actions being taken ∎ by company	Embedded programmers clearly need to protect their code from IP theft and illegal copying, as IoT security issues are becoming increasingly prevalent. Following the acquisition of Secure Thingz, IAR Systems' tools are increasingly linked to sustainability as they help developers take control of security from inception in the IP throughout the lifecycle of a digital product.	IAR Systems' development tools are the most used in the embedded industry owing to its leading optimisation technology, comprehensive debugger quality and renowned technical support. This is confirmed by its loyal customer base. It has 46,000 OEM customers and 150,000 technology users of which 95% are recurring customers, we believe.
Koy ESC drivors		

### Key ESG drivers

- Short-term Today, less than 4% of new IoT devices have embedded security. ABI research forecasts that penetration will increase to 20% by 2022.
  - IAR Systems' security offering (C-Trust and Embedded Trust) ensures that its customers' intellectual property is protected against IP theft, overproduction, piracy, and that software updates can be managed in a secure fashion. In other words, it creates a secure infrastructure and protects its customers' digital products from sabotage programmes and data intrusion. Examples of customer use cases have included:
    - A leading vending machine provider whose IP was stolen (stolen credit card and transaction details), a global white goods company whose stolen IP led to twice as many products manufactured, a leading door sensor provider whose IP was stolen internally, which led to direct revenue loss etc.
- Long-term Regulators will also play an active role in the longterm uptake of secure development tools. This is having an increasing impact on programmers' designs as applications need to remain secure across the entire lifecycle to comply with new legislation. We note legislation initiatives in Europe (UK government, ETSI, ENISA), the US (California IoT Security law, NIST evolving cyber security act), and government initiatives across Singapore, Japan, South Korea, and China etc.

- To stay ahead of the competition, IAR Systems' relies heavily on its employees in the development and innovation of new technologies.
- Following the integration of Secure Thingz, IAR Systems' addressable market has expanded from application development into manufacturing and update management (the entire lifecycle of embedded systems). To keep pace with competition in a larger market, it needs to retain highly skilled software engineers, which could come at a higher cost than its traditional business.
  - As an increasingly larger part of IAR Systems should revolve around Cambridge-based Secure Thingz, this could create some corporate cultural challenges versus the Uppsala-based legacy business.
- Considering its offering of software development tools to over 46,000 clients, as well as the sensitive nature of the data it handles, IAR Systems' is exposed to possible hacking attempts and misappropriation of technological data.

# Q4 results

Sales were SEK107m (1% below our SEK108m estimate) with adj. EBIT of SEK27m (6% below our SEK29m forecast), while EPS was SEK1.46 (8% below our SEK1.58). Organic sales growth in Q4 was -1% YOY (we expected flat), as IAR Systems' focus on larger strategic customer wins was not as successful in 2019 as 2018 in the legacy business, while security sales and RISC-V sales have yet to materialise. Still, we note that sales growth in local currencies is up 7% YOY, mainly driven by Europe and Asia, while IAR commented that its new product launches (security and RISC-V) are attracting considerable and growing interest (albeit from a low base).

The adj. EBIT margin was 25.4% (down 4.9%-points YOY), and high capitalisation of development costs boosted earnings by SEK23m and continue to depress FCF related to IAR Systems' most comprehensive product launches in its history earlier this year (Secure Thingz and RISC-V). This is not a concern to us, however, as: 1) we expect this to drive double-digit sales growth in the next 3–5 years; and 2) we estimate the underlying EBIT margin in legacy IAR Systems remains an impressive ~35%.

Figure 1: Q4	results versus	s expectations
--------------	----------------	----------------

Key highlights	Q4 2	2019	Deviation (%)	Deviation,	Q4 2018	DNBe
(SEKm, except per share data)	Actual	DNB	DNB	DNB	Actual	2020e
Sales	106.8	108.2	-1%	-1	102.8	451.5
EBIT adjusted	27.1	29.0	-6%	-2	31.1	132.6
Margin	25.4%	26.8%	-1.4pp		30.3%	29.4%
One-offs	0.0	0.0			0.0	0.0
EBIT	27.1	29.0	-6%	-2	31.1	132.6
Margin	25.4%	26.8%	-1.4pp		30.3%	29.4%
EPS	1.46	1.58	-8%	0	1.60	7.19
Growth YOY						
Sales grow th	3.9%	5.3%	-1.4pp		17.4%	11.3%
-of w hich organic	-1.3%	-0.1%	-1.2pp		10.0%	10.3%
-of which FX	5.2%	5.4%	-0.2pp		7.3%	1.1%
Divisions		Q4 2019			Q4 2018	2020e
(SEKm)					Actual	DNE
Sales						
Legacy IAR Systems	105.1	106.1	-1%	-1	97.8	426.0
Royalty-based revenue	1.4	1.6	-14%	0	1.5	0.0
Secure Thingz	0.3	0.5	-37%	0	3.5	25.4
Group	106.8	108.2	-1%	-1	102.8	451.5
EBIT adjusted						
Legacy IAR Systems + Secure Thin	25.7	27.3	-6%	-2	29.6	132.6
Royalty-based revenue	1.4	1.6	-14%	0	1.5	0.0
Group	27.1	29.0	-6%	-2	31.1	132.6
FX impact						
Sales	5.2%	5.4%	-0.2pp		7.3%	1.1%
EBIT	9.3%	14.6%	-5.3pp		15.7%	3.0%

# **Estimate revisions**

We have lowered our 2020–2021e EPS by ~5% reflecting 1) the slower ramp-up of security tools (we forecast sales of SEK25m in 2020e); and 2) the Renesas Royalty agreement being replaced by a perpetual licence agreement. We now forecast a 2019–2022 EPS CAGR of 21%.

#### Figure 2: Estimate changes

		Old			New			Change	
(SEKm, except per share data)	2019	2020e	2021e	2019	2020e	2021e	2019	2020e	2021e
Sales									
Legacy IAR Systems	399.0	422.3	451.0	398.0	426.0	455.4	0%	1%	1%
Royalty-based revenue	6.1	7.1	12.2	5.9	0.0	0.0	-4%	-100%	-100%
Secure Thingz	1.9	41.2	106.3	1.7	25.4	84.5	-9%	-38%	-21%
Group Total	407.0	470.6	569.4	405.6	451.5	539.9	0%	-4%	-5%
EBIT adjusted									
Legacy IAR Systems + Secure Thingz	104.2	131.3	168.9	102.5	132.6	169.7	-2%	1%	0%
Royalty-based revenue	6.1	7.1	12.1	5.9	0.0	0.0	-2%	-100%	-100%
Group Total	110.3	138.3	180.9	108.4	132.6	169.7	-2%	-4%	-6%
EBIT adjusted margin									
Legacy IAR Systems + Secure Thingz	26.0%	28.3%	30.3%	25.6%	29.4%	31.4%	-35bp	105bp	113bp
Royalty-based revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0bp	0bp	0bp
Group Total	27.1%	29.4%	31.8%	26.7%	29.4%	31.4%	-37bp	-2bp	-34bp
Organic growth components									
Legacy IAR Systems	4.9%	5.9%	6.2%	1.8%	5.9%	6.5%	-316bp	-2bp	33bp
Royalty-based revenue	0.1%	0.2%	1.1%	0.1%	-1.5%	0.0%	-4bp	-170bp	-106bp
Secure Thingz	-0.8%	9.6%	13.7%	-0.9%	5.8%	13.0%	-4bp	-377bp	-75bp
Group Total	4.2%	15.7%	21.0%	1.0%	10.3%	19.5%	-324bp	-549bp	-148bp
Group									
Sales	407.0	470.6	569.4	405.6	451.5	539.9	0%	-4%	-5%
Sales grow th	5.7%	15.6%	21.0%	5.3%	11.3%	19.6%	-37bp	-431bp	-141bp
Organic	4.2%	15.7%	21.0%	1.0%	10.3%	19.5%	-324bp	-549bp	-148bp
Structure	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0bp	0bp	0bp
Currency	1.4%	-0.1%	0.0%	4.3%	1.1%	0.1%	287bp	118bp	7bp
Gross profit	397.6	459.7	556.3	394.8	439.3	525.5	-1%	-4%	-6%
Margin	97.7%	97.7%	97.7%	97.3%	97.3%	97.3%	-35bp	-39bp	-35bp
EBIT adjusted	110.3	138.3	180.9	108.4	132.6	169.7	-2%	-4%	-6%
Margin	27.1%	29.4%	31.8%	26.7%	29.4%	31.4%	-37bp	-2bp	-34bp
Adjustments	0.0	0.0	0.0	0.0	0.0	0.0			
EBIT	110.3	138.3	180.9	108.4	132.6	169.7	-2%	-4%	-6%
Margin	27.1%	29.4%	31.8%	26.7%	29.4%	31.4%	-37bp	-2bp	-34bp
Net financial Items	-1.7	-2.5	-3.3	-1.4	-2.3	-3.0			
Pretax profit	108.6	135.8	177.6	107.0	130.3	166.7	-1%	-4%	-6%
Тах	-25.8	-34.0	-44.4	-25.8	-32.3	-41.7	0%	-5%	-6%
Tax rate	23.8%	25.0%	25.0%	24.1%	24.8%	25.0%	36bp	-24bp	0bp
Net profit	82.8	101.9	133.2	81.2	98.0	125.0	-2%	-4%	-6%
EPS adjusted	6.00	7.47	9.77	5.88	7.19	9.17	-2%	-4%	-6%
EPS	6.07	7.47	9.77	5.96	7.19	9.17	-2%	-4%	-6%
DPS	5.00	5.00	5.50	5.00	3.00	3.60	0%	-40%	-35%

Source: DNB Markets

## Figure 3: Quarterly estimates by division

(SEKm, except per share data)	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	Q3'19	Q4'19	Q1'20e	Q2'20e	Q3'20e	Q4'20e
Sales	4110	42.10	4010	44.10	4110		40 10	4410	Q. 200		40 200	- 200
Legacy IAR Systems	87.6	93.8	95.5	97.8	98.0	96.8	98.1	105.1	99.2	107.7	106.0	113.4
Royalty-based revenue	1.3	1.3	1.4	1.5	1.4	1.5	1.6	1.4	0.0	0.0	0.0	0.0
Secure Thingz	0.0	0.5	1.0	3.5	0.4	0.7	0.3	0.3	0.4	0.5	4.9	19.4
Group Total	88.9	95.6	97.9	102.8	99.8	99.0	100.0	106.8	99.6	108.2	110.9	132.8
EBIT												
Legacy IAR Systems + Secure Thingz	28.2	22.4	29.9	29.6	28.0	22.3	26.5	25.7	27.0	30.8	34.0	40.7
Royalty-based revenue	1.3	1.3	1.4	1.5	1.4	1.5	1.6	1.4	0.0	0.0	0.0	0.0
Group Total	29.5	23.7	31.3	31.1	29.4	23.8	28.1	27.1	27.0	30.8	34.0	40.7
EBIT adjusted margin												
Legacy IAR Systems + Secure Thingz	32.2%	23.9%	31.3%	30.3%	28.6%	23.0%	27.0%	24.5%	27.2%	28.6%	32.1%	35.9%
Royalty-based revenue	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%				
Group Total	33.2%	24.8%	32.0%	30.3%	29.5%	24.0%	28.1%	25.4%	27.1%	28.5%	30.7%	30.7%
Organic growth												
Legacy IAR Systems	4.9%	7.9%	6.5%	9.6%	3.4%	-2.3%	-2.7%	-1.2%	-2.0%	9.8%	7.8%	7.9%
Royalty-based revenue	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	-1.4%	-1.5%	-1.6%	-1.3%
Secure Thingz	0.0%	0.0%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.2%	4.6%	17.9%
Group Total	5.0%	8.1%	6.7%	10.0%	3.5%	-2.3%	-2.8%	-1.3%	-3.4%	8.1%	10.8%	24.5%
Group												
Group Sales	88.9	95.6	97.9	102.8	99.8	99.0	100.0	106.8	99.6	108.2	110.9	132.8
Sales grow th	2.9%	9 <b>5.0</b> 10.1%	16.3%	17.4%	12.3%	3.6%	2.1%	3.9%	-0.2%	9.3%	10.9%	24.3%
6	2.9 <i>%</i> 5.0%	8.1%	6.7%	10.0%	3.5%	-2.3%	-2.8%	-1.3%	-0.2 %	9.3 <i>%</i> 8.1%	10.9%	24.5%
Organic Structure	0.0%	0.0%	0.7%	0.0%	0.0%	-2.3% 0.0%	-2.8%	0.0%	-3.4%	0.1%	0.0%	24.5% 0.0%
Currency	-2.1%	2.1%	0.0 <i>%</i> 9.6%	7.3%	0.0% 8.8%	0.0% 5.9%	4.9%	5.2%	3.2%	1.2%	0.0%	-0.2%
Gross profit	-2.1% 86.1	<b>93.7</b>	9.0 % 95.8	100.6	97.7	96.5	4.9 % 97.5	103.1	97.5	105.5	108.1	-0.2 /8 128.2
Margin	96.9%	98.0%	97.9%	97.9%	97.9%	97.5%	97.5%	96.5%	97.9%	97.5%	97.5%	96.5%
EBIT adjusted	29.5	26.9	31.3	31.1	29.4	23.8	28.1	90.3 /8 <b>27.1</b>	27.0	30.8	34.0	<b>40.7</b>
Margin	33.2%	28.1%	32.0%	30.3%	29.5%	24.0%	28.1%	25.4%	27.1%	28.5%	30.7%	<b>40.7</b> 30.7%
	0.0	-3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.370	0.0	0.0
Adjustments EBIT	29.5	-3.2 23.7	31.3	31.1	29.4		28.1	27.1	27.0	30.8	0.0 34.0	40.7
						23.8						
Margin	33.2%	24.8%	32.0%	30.3%	29.5%	24.0%	28.1%	25.4%	27.1%	28.5%	30.7%	30.7%
Net financial Items	-0.4	-1.7	-0.3	0.6	-0.2	-2.0	0.7	0.1	-0.6	-1.5	-0.1	0.0
Pretax profit	29.1	22.0	31.0	31.7	29.2	21.8	28.8	27.2	26.4	29.3	33.9	40.7
Tax Tour sets	-6.3	-5.8	-4.2	-9.9	-6.3	-5.1	-7.2	-7.2	-6.4	-7.2	-8.5	-10.2
Tax rate	21.6%	26.4%	13.5%	31.2%	21.6%	23.4%	25.0%	26.5%	24.1%	24.7%	25.0%	25.0%
Net profit	22.8	16.2	26.8	21.8	22.9	16.7	21.6	20.0	20.0	22.0	25.4	30.5
EPS adjusted	1.81	1.43	1.97	1.60	1.64	1.20	1.58	1.46	1.47	1.62	1.87	2.24
EPS	1.81	1.20	1.97	1.60	1.68	1.23	1.58	1.47	1.47	1.62	1.87	2.24
DPS Source: DNB Markets (forecasts), company (hist	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00	3.00	0.00	0.00

Source: DNB Markets (forecasts), company (historical data)

	Mkt. cap.		P/E (x)		EV/EBIT (x)		E\	//Sales (	(x)	Div. yield (%)		ROE (%)		EBIT r	nargin	CAGR 2	019-2021	e (%)	
	(SEKbn)	2019e	2020e	2021e	2019e	2020e	2021e	2019e	2020e	2021e	2019e	2020e	2019e	2020e	2019e	2020e	Sales	EBIT	EPS
IAR Systems (DNBe)	2.4	29.2	24.2	19.0	21.6	17.7	13.7	5.8	5.2	4.3	2.9	1.7	14	15	26.7	29.4	13	22	21
Premium/discount		-43%	-49%	-47%	-51%	-53%	-52%	-53%	-50%	-51%									
IAR Systems (Cons.)	2.4	29.5	23.7	19.3	21.4	17.8	14.3	5.9	5.1	4.4	3.0	3.1	15	17	26.9	28.4	15	22	23
Premium/discount		-43%	-50%	-46%	-51%	-53%	-50%	-53%	-51%	-50%									
Nordic software peers																			
QT Group	5.7		86.9	38.1		65.7	29.5	9.5	7.5	6.1	0.0	0.6	-4	26	-0.5	11.2	25		
Admicom	4.2	77.7	55.7	42.7	60.4	42.4	31.9	24.8	18.5	14.5	0.9	1.2	38	40	41.0	43.1	31	36	35
Fortnox	11.7	87.3	67.9	51.9	67.3	51.0	38.2	21.8	17.1	13.5	0.3	0.4	61	50	32.2	32.8	27	31	30
HMS Networks	6.9	35.8	35.0	28.8	27.3	27.1	21.3	4.7	4.7	4.2	1.3	1.4			17.4	17.0	6	11	11
INVISIO Communications	6.0	60.0	45.6	35.6	53.0	35.4	27.6	11.7	9.5	7.8	0.8	1.1	30	32	21.9	26.6	22	37	30
Lime Technologies	2.5	53.2	41.6	32.2	48.9	37.5	28.5	8.7	7.3	6.3	0.9	1.1	79	67	17.6	19.2	17	29	28
SimCorp	40.0	37.4	37.9	31.2	29.8	29.6	24.4	8.5	7.8	7.1	1.1	1.1	49	38	28.4	26.1	10	10	10
Vitec Software	7.1	43.1	32.9	29.9	46.8	35.2	30.5	6.4	5.5	4.9	0.6	0.7	18	23	13.7	15.6	14	24	20
Embedded software peers																			
Cadence Design Systems	203.8	34.5	32.3	30.3	27.9	25.2	22.5	9.0	8.4	7.9			43	30	31.9	32.0	7	7	7
ANSYS	237.1	45.6	42.6	38.8	35.4	31.3	27.7	16.0	14.4	13.2	0.0	0.0	19	17	44.7	44.6	10	10	8
Xilinx	215.1	23.8	26.5	24.9	22.9	25.9	22.8	6.9	6.7	6.4	1.6	1.6	34	30	31.8	27.1	4	-1	-2
Altium	35.3	68.5	60.3	49.0	61.8	47.6	37.0	20.6	17.0	13.9	1.0	1.2	32	31	33.5	35.6	22	28	18
Average	64.6	51.5	47.1	36.1	43.8	37.8	28.5	12.4	10.4	8.8	0.8	0.9	36	35	26.1	27.6	16	20	18
Median	9.4	45.6	42.1	33.9	46.8	35.3	28.1	9.2	8.1	7.5	0.9	1.1	34	31	30.1	26.9	16	24	18

#### Figure 4: IAR Systems valuation versus listed peers

Source: Bloomberg (underlying data), DNB Markets (further calculations)

# Summary of positives

#### World-leading provider of software development tools and services

Sweden-based IAR Systems is a world-leading provider of software tools and services for embedded systems (a chip containing embedded software) that enable the development of digital products for 46,000+ customers with 150,000+ users in end-markets, underpinned by growing demand for digital technology. We believe IAR Systems has a resilient business model selling flexible right-to-use licences to access its wholly owned software tool-chain (the IAR Embedded Workbench), which enables close customer relationships, high customer retention and consistent revenue streams, complemented by a royalty-based agreement with world-leading processor vendor Renesas Electronics. The March 2018 acquisition of Secure Thingz (the leading provider of advanced security solutions that help customers to take control of digital products from inception) has made IAR Systems the frontrunner ahead of the paradigm shift associated with security solutions for embedded systems in the Internet of Things (IoT).

#### Embedded resilience in a sticky business

We consider IAR Systems' key competitive advantage to be its proprietary technology platform, the IAR Embedded Workbench, which holds a ~40% global market share, as: 1) it is a unique line-up of a complete tool-chain for product developers; 2) being independent, IAR Systems supports a wide range of design architecture, meaning customers can choose the programming environment and tools according to their own needs, regardless of processor or project, which avoids locking customers in to one technical platform; 3) superior quality as its commercial customers cannot compromise on tools' code performance, reliability, user-friendliness, or time-to-market using inferior technologies such as open-source alternatives; 4) it is now a leading participant in embedded systems security, and should be able to leverage its head-start and unique technology to maximise the market potential; and 5) a scaled-up management team with the ability to execute the growth potential in the business, in our view.

#### IAR 3.0

IAR Systems has gone through various phases since 2010, having: 1) streamlined the business towards proprietary software, creating a more specialised company; and 2) shifted its projectbased business model to scalable licence sales, which has substantially improved margins. In our view, it is now heading into its third phase: the growth story. We believe that IAR 3.0 (our interpretation of IAR Systems' next phase) marks the shift from being a supplier of a compiler to becoming the go-to software tool partner for global names such as Amazon and Renesas Electronics, as they position their embedded systems ahead of the Internet of Things (IoT).

#### Growing addressable market with the spread of digital technology

The spread of digital technology is driving the market for embedded systems. Thus, the market has numerous underlying drivers that all indicate a continuation of the solid industry growth of the past decade. Global Market Insights estimates a 7% market CAGR until 2023e, and we believe the factors that should affect growth for IAR Systems are likely to be: 1) continued increase in the number (and complexity) of embedded systems driven by IoT; 2) demand for reliable and advanced software tools that offer faster time-to-market and a complete development platform; 3) the automotive opportunity as cars become mobile computing platforms; 4) RISC-V adoption; 5) market consolidation and participants becoming too dominant; and 6) untapped potential in security solutions for embedded systems.

#### Security for embedded systems could mark a paradigm shift for IAR Systems

Having acquired Secure Thingz in Q2 2018, we believe IAR Systems is now the frontrunner in offering secure embedded systems. Theft of IP (code), cloning, counterfeiting etc. has made security issues the number one barrier for IoT adoption. The security market for embedded systems is in its inception phase but we expect it to grow rapidly through 2022 driven by 1) securing IP is a business imperative and 2) increasingly stringent security legislation. Thus, the share of secure new embedded products is set to grow from 4% today to almost 20% by 2022e, according to ABI Research. In Q2 2019, IAR Systems launched it security offering (C-Trust and Embedded Trust), which ensures that its customers' intellectual property is protected against IP theft, overproduction, piracy, and that software updates can be managed in a secure fashion.

Its software tools and services enable the development of digital products...

...in end-markets underpinned by growing demand for digital technology

IAR Systems owns the market for software development tools with c50% global market share

Key competitive strengths:

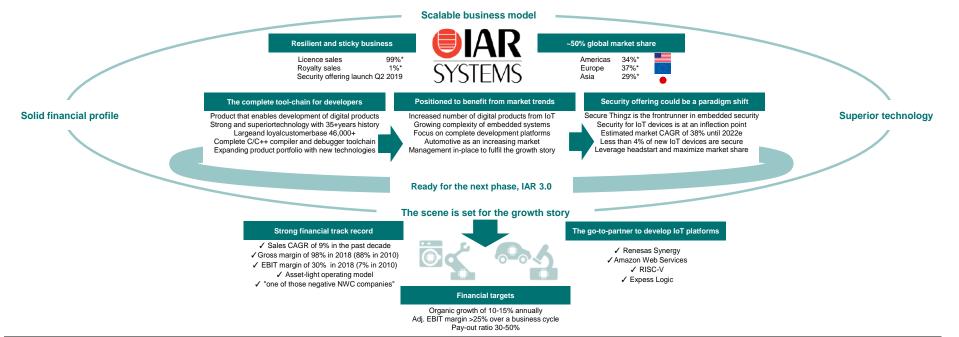
- 1) unique and complete tool-chain
- 2) independence
- 3) high-quality products
- 4) frontrunner in security solutions

5) management's ability to achieve its long-term potential

Setting the scene for the growth story

Numerous market drivers indicate a continuation of the solid industry growth

Untapped potential in security offering with an addressable market opportunity of USD3bn highlights that if IAR Systems is able to grab just a small market share, it could have a swing factor on its valuation



Source: Company (underlying data), DNB Markets (compilation)

#### We forecast 2019–2022 sales and EBIT CAGRs of 13% and 22%, respectively

We forecast a 2019–2022 sales CAGR of 13% and EBIT CAGR of 21% based on a strong market outlook underpinned by: 1) an increase in the number (and complexity) of embedded systems; 2) growing demand for reliable and advanced software tools that offer faster time-to-market and complete development platforms; 3) the automotive opportunity, as cars become mobile computing platforms; 4) rapid RISC-V adoption: and 5) minor uptake in royalties from Renesas Electronics. Moreover, we see additional prospects and untapped potential in security solutions for embedded systems.

This should be driven by a 6% organic sales CAGR for its legacy licensing business (98% of 2018 sales), as the aforementioned market drivers should translate into more processors and lines of code, driving demand for software development tools and possibly programmers (user keys) for IAR Systems, as well as a full user-friendly total solution enabling customers to re-use large amounts of code. The large growth opportunities for its legacy business are:

- 1 Growing RISC-V adoption, as its tools launched in May 2019 have been well received by customers (especially in China, which accounts for 1% of group sales), setting the stage for accelerating organic growth.
- 2 Strategic customer sales now represent c10–15% of sales, highlighting that larger OEMs (in some cases 100+ developers) are increasingly standardising on IAR Systems' tools.
- 3 In addition, increased penetration from existing and new technologies in the IAR Embedded Workbench should drive add-on sales.

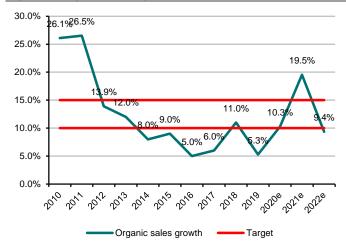
We estimate that revenues stemming from the royalty-based agreement with Renesas Electronics (1%) should contribute 1% organic sales CAGR for IAR Systems until 2021. We take a conservative approach when estimating the revenue impact.

IAR Systems' security offering lends the greatest growth potential, in our view, as IAR Systems has a solid track record of offering new products to existing customers. In a simplified scenario, we believe its existing customer base could represent a >SEK11bn revenue pool for its security offering. This should provide a long runway for future growth, but in the short term we expect: 1) security legislation to play an active role in the update of secure development tools; and 2) the company to focus on larger customer accounts. Furthermore, discussions with its customers and partners at Embedded World 2019 cemented our view of IAR Systems' value proposition.

We forecast a 2019–2022 EBIT CAGR of 22%, implying a margin gain from 27% in 2019 to 33% in 2022e, driven by: 1) solid organic volume growth; and 2) ample operational leverage (hurt in 2018–2019 by the integration of Secure Thingz) in 2020–2022e, as we believe IAR Systems should continue to benefit from economies of scale due to its large fixed cost base.

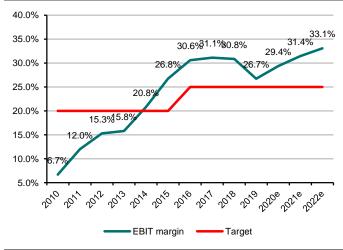
Market drivers should create more processors and lines of code, driving demand for software development tools, and a user-friendly total solution enabling customers to re-use code

We expect Secure Thingz to contribute to group sales with 8% organic growth CAGR in 2019–2022



#### Figure 6: Organic sales growth (2010–2021e)





Source: DNB Markets (forecasts), company (historical data)

#### **Financial targets**

IAR Systems has three financial targets: 1) average organic growth of 10–15% annually; 2) an adj. EBIT margin in excess of 25% over a business cycle; and 3) a dividend payout of 30–50% of annual net income. Our estimates are above IAR Systems' in 2020-2021e.

#### Figure 8: IAR Systems' financial targets – reported and DNB Markets' estimates

		Reporte	d fiscal yea	rs		DNB Markets' estimates					
	2015	2016	2017	2018	2019	IAR target	2020e	2021e	2022e		
Organic growth	9.0%	5.0%	6.0%	11.0%	1.0%	10-15%	10.3%	19.5%	9.4%		
EBIT margin	26.8%	30.6%	31.1%	30.8%	26.7%	>25%	29.4%	31.4%	33.1%		
Payout ratio	99.7%	113.3%	79.0%	74.9%	83.9%	30-50%	42%	39%	43%		

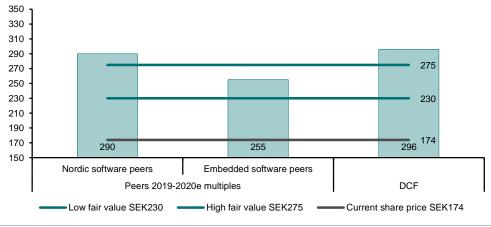
Source: DNB Markets (forecasts), company (historical data and targets)

#### We calculate a fair value of SEK230-275/share

Based on our group of Nordic software peers, embedded software peers, and our DCF model, we calculate a fair value of SEK230–275/share (previously 250–300). On the current share price, our estimates suggest a 2020e P/E of 24x, EV/EBIT of 18x, and EV/sales of 5x, while our fair value suggests share price potential upside of 30–60%.

Fair value of SEK230–275/share suggests potential upside of 30–60%

#### Figure 9: Valuation summary (SEK/share)



Source: DNB Markets

# Summary of negatives

The key risks that could affect our fair value are: 1) IAR Systems' inability to resurrect the growth story, e.g. if it failed to capture the underlying market growth, or if there was prolonged market consolidation (causing market uncertainty) or delays in key strategic initiatives; 2) market entry by large and well-resourced participants that, until now, have overlooked the potential in software tools for embedded systems; and 3) FX headwinds, as the company is fairly sensitive to fluctuations in the SEK as it does not hedge its currency flows (with >98% of sales from markets outside Sweden but 57% of its cost base in SEK).

- Failure to resurrect the growth story. Having reported average local-currency growth of 20% in 2010–2013, 9% in 2014–2015, and 7% in 2016–2018, we believe the key risk to the valuation is a failure to resurrect the organic growth story. While we have identified numerous market drivers that should fuel organic growth in our forecast period, an inability to capture these trends, delays in when the factors materialise, or disappointing disclosures regarding the new strategic alliances in royalty fees, licensing structures, etc. could raise questions about the operations and thus the valuation.
- FX headwinds. Although >98% of sales are from markets outside Sweden, the majority of the fixed cost base is denominated in SEK (we estimate ~58%); hence the company is fairly sensitive to fluctuations in this currency. If the SEK were to strengthen by 10% against its most important currencies (USD, EUR, JPY) as well as the GBP and KRW in 2018, we estimate a ~10% FX headwind on sales and a ~30% headwind on 2019 EBIT.
- Intensified competitive landscape. While the company holds leading positions across most processor types, it still faces a highly competitive environment, particularly from the independent supplier Green Hills Software and Arm's development tool, Kiel. If the competitiveness were to intensify or market growth rates were to abate, there could be pressure on the pricing of software licences (from those not giving it away free) in efforts to recapture growth or gain market share. While we believe the commercial viability of open source names is a limited risk for IAR Systems' offering today, any success for these alternatives could result in reduced licensing revenues for IAR Systems.
- Continued market consolidation. The ongoing consolidation trend among processor vendors could last longer than IAR Systems expects. If this continues to create market uncertainty and disrupt IAR Systems' partner network, it could hamper its growth prospects. Moreover, if the acquisitions of embedded software companies continue, it could cap IAR Systems' ability to integrate new technologies into its product offering. If it fails to acquire new technologies or create strategic alliances to integrate into IAR Systems' offering, this could impede its ability to address new market trends that should contribute to growth.
- Large company entering the market. While we believe barriers to entry are considerable, we also believe the attractiveness of this market has been somewhat overlooked by industry giants as they have often acquired development-tool companies and given away the products 'free' to reduce costs. As many competitors in the semiconductor industry (particularly processor vendors) but especially global giants such as Google and Amazon are well resourced, it could pose a threat if they were to consider increasing their presence in software development tools.
- Limited supply of qualified personnel. In an industry characterised by rapid technological development, it is vital for IAR Systems to continually improve its product offering through innovation. A need for its technology and products to be market-leading means it has to retain well-qualified employees, particularly in the technological aspects of product development. Failure to respond quickly to technological developments through qualified personnel could hurt its operations.
- Worsening economic conditions. A deteriorating global economy would probably cause a downturn in the cyclical semiconductor industry and customers' end-markets, which could affect the number of new microprocessors, and consequently demand for software development tools that programme the chips.

Until now large well-resourced competitors have overlooked the potential in software tools for embedded systems

IAR Systems is sensitive to fluctuations in the SEK

Growth prospects could be hampered by further consolidation

Retaining talented employees is key

# **Business overview**

Dating back to 1983, IAR Systems is an independent provider of software for the programming of microprocessors in embedded systems (the control function in digital products). Its leading software – the IAR Embedded Workbench – facilitates, quality-assures, and improves the time-to-market of programming instructions in processors. The customer base of 46,000+ OEM customers and 150,000+ technology users is found mainly in end-markets underpinned by growing demand for digital technology and embedded systems, such as industrial automation, medical technology, telecommunications, consumer electronics, and the automotive industry.

World-leading provider of software for programming processors in embedded systems, which enable the development of digital products

#### Figure 10: IAR Systems' role in customers' product development



Source: Company

programmed

Headquartered in Uppsala (Sweden), the company holds a leading global market share of ~50% with 95%+ of sales stemming from markets outside the Nordics and a headcount of 215. IAR Systems' business model is primarily licence-based, where customers pay for a flexible right-touse licence to access the IAR Embedded Workbench®, giving it attractive and steady revenue streams (~30% recurring revenues). In addition to this, IAR Systems has undergone two of the most comprehensive product launches in its history in 2019. With the launch of its security offering (C-Trust and Embedded Trust) as well as for RISC-V tools introducing a subscription-based model, we believe the building blocks are in place take the case to the next level:

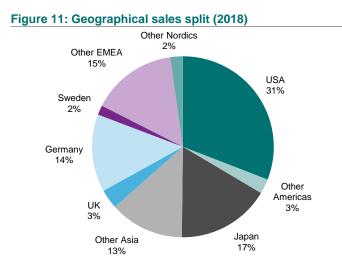
- IAR Embedded Workbench (99% of 2019 sales) based on the number of licence users (perpetual software keys) of the IAR Embedded Workbench sold when a developer programmes a product. The traditional licence costs cSEK30,000 (upfront) while the customer can add support and updates for an annual cost of 20% of the licence price.
- Secure Thingz (0%). C-Trust at ~SEK30,000/seat as a perpetual licence targeting IAR's 150,000 users, Embedded Trust at ~SEK150,000/seat as an annual subscription licence targeting the security experts at IAR Systems' 46,000 OEM customers.

50% global market share with 98% licence-based revenues, which are flexible for customers and leverage the number of programmers using its licence...

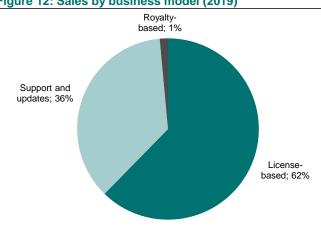
...In 2019, IAR Systems via its RISC-V tools and Embedded Trust also introduced a subscription model...

... complemented by royalty-based revenue that leverages the number of chips used in customers' production, which falls straight through to EBIT

Royalty-based sales (1%) based on the number of chips produced in Renesas Synergy.



### Figure 12: Sales by business model (2019)



Source: Company

IAR Systems was acquired by IT conglomerate Nocom in 2005. However, by 2010 Nocom (known as Intoi by then) wanted to focus on proprietary software and create a more specialised company, so it kept only IAR Systems and took on that name.

With 2019 net sales of SEK406m, IAR Systems is 3x larger than the company acquired in 2005. While generating a sales CAGR of 9% over the past 10 years, it was able to significantly boost underlying profitability from an adj. EBIT margin of 12.3% in 2007 to 26.7% in 2019, which we attribute to: 1) the scalability of its high-gross-margin standardised software; 2) more focus on proprietary products; and 3) increased cost-efficiency (given the large fixed cost base, where personnel costs represent 46% of sales).

From an IT conglomerate to a streamlined proprietary software provider...

...with profitable growth, sales CAGR of 9% and adj. EBIT CAGR of 32% in the past 10 years

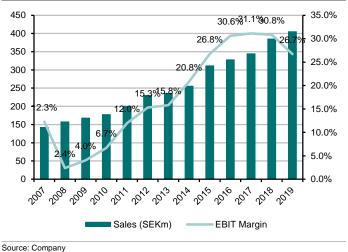


Figure 13: IAR Systems – sales (SEKm) and adj. EBIT margin



2010

2011

25.0%

20.0%

15.0%

10.0%

5.0%

0.0%

26.1% 26.5%

IAR Systems' key competitive advantage in our view is its flagship product, the IAR Embedded Workbench, which is a complete tool-chain for customers. Being independent, the software supports 14,000+ processors for embedded systems from the major process vendors with 8-, 16-, and 32-bit architecture, meaning customers can choose the programming environment and tools according to their own needs regardless of processor or project, which avoids locking customers into one technical platform. Moreover, it can re-use 70–80% of previously developed code instead of rewriting it (saving time and resources).

Over the past few years, IAR Systems has expanded its product portfolio and now offers several adjacent products integrated in the IAR Embedded Workbench to optimise the code programming, for instance C-STAT and C-RUN (static and dynamic analysis that quality-assures and strengthens the reliability of the programming), Embedded Trust (security development environment for IoT solutions) and C-Trust (delivering secure, encrypted code) through its acquisition of Secure Thingz, as well as support for RISC-V, positioning IAR Systems in two of the embedded industry's hottest themes. In addition to driving add-on sales, this has – combined with a comprehensive support organisation – translated into impressive customer retention (95% recurring customers) and strengthened IAR Systems' competitiveness.

Key competitive advantage: cutting-edge wholly owned technology that maximises customer benefits offering a complete solution...

9.0%

2015

8.0%

2014

Sales growth (local currencies)

11.0%

2018

6.0%

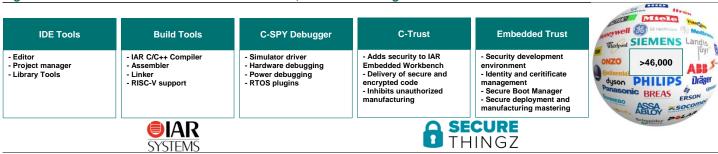
2017

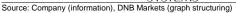
5.0%

2016

...which, combined with complementary integrated products and comprehensive support, means a loyal customer base (95% recurring customers)

#### Figure 15: IAR Embedded Workbench ® sold to >46,000 customer organisations







12.0%

2013

13.9%

2012

## Forecast changes – P&L

		New			Old			Change	
(SEKm)	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e
Revenues	451	540	590	471	569		-19	-30	
Cost of sales	-12	-14	-16	-11	-13		-1	-1	
Gross profit	439	525	575	460	556		-20	-31	
Operating expenses	-257	-290	-309	-270	-305		14	15	
EBITDA	182	235	266	189	251		-7	-16	
EBITDA adj	182	235	266	189	251		-7	-16	
EBITDA margin (%)	40.4	43.6	45.0	40.2	44.1	nm	0.2	-0.6	nm
Depreciation	-4	-5	-5	-4	-5		0	1	
Amortisation	-46	-61	-65	-47	-65		1	4	
EBIT	133	170	195	138	181		-6	-11	
EBIT adj	133	170	195	138	181		-6	-11	
,					-		_		
Net financial items	-2	-3	-3	-2	-3		0	0	
PBT	130	167	192	136	178		-6	-11	
Taxes	-32	-42	-48	-34	-44		2	3	
Minorities	0	0	0	0	0		0	0	
Net profit	98	125	144	102	133		-4	-8	
Adjustments to net profit	0	0	0	0	0		0	0	
Net profit adj	98	125	144	102	133		-4	-8	
Davishava data (CEK)									
<i>Per share data (SEK)</i> EPS	7.19	9.17	10.56	7.47	9.77		-0.28	-0.60	
	7.19 7.19			7.47			-0.28		
EPS adj DPS ordinary	3.00	9.17 3.60	10.56 4.59	7.47 5.00	9.77 5.50		-0.28 -2.00	-0.60 -1.90	
DPS ordinary	3.00	3.60	4.59 4.59	5.00 5.00	5.50 5.50		-2.00	-1.90 -1.90	
DP3	3.00	3.60	4.59	5.00	5.50		-2.00	-1.90	
Other key metrics (%)									
Revenue growth	11.3	19.6	9.4	15.6	21.0	nm	-4.3	-1.4	nm
EBIT adj growth	22.3	28.0	15.1	25.4	30.8	nm	-3.1	-2.8	nm
EPS adj growth	22.3	27.6	15.1	24.6	30.8	nm	-2.3	-3.2	nm
Avg. number of shares (m)	14	14	14	14	14		0	0	
Capex	-95	-106	-91	-86	-96		-9	-10	
OpFCF	88	130	175	103	155		-16	-26	
Working capital	34	70	131	30	63		4	7	
NIBD adj	11	-19	-73	1	-24		10	6	

Source: DNB Markets

## Forecast changes – By segment and assumptions

		New			Old			Change	
(SEKm)	2020e	2021e	2022e	2020e	2021e	2022e	2020e	2021e	2022e
Assumptions									
Revenue org. % YOY	10.25	19.52	9.35	15.74	21.00		-5.49	-1.48	
Structure impact % YOY	0.00	0.00	0.00		0.00			0.00	
Currency impact % YOY	1.06	0.07	0.00	-0.12	0.00		1.18	0.07	

Source: DNB Markets

### **Quarterly numbers**

(SEKm)	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019e	Q2 2019e	Q3 2019e	Q4 2019e	Q1 2020e
Revenues	84	88	89	96	98	103	100	99	100	107	100
Cost of sales	-2	-3	-3	-2	-2	-2	-2	-3	-3	-4	-2
Gross profit	82	85	86	94	96	101	98	97	98	103	98
Operating expenses	-49	-53	-51	-64	-58	-63	-59	-64	-60	-66	-59
EBITDA	34	32	35	30	38	38	38	33	38	37	39
Depreciation	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Amortisation	-5	-5	-5	-6	-6	-6	-9	-8	-9	-9	-11
EBIT	29	27	30	24	31	31	29	24	28	27	27
Net financial items	0	0	0	-2	0	1	0	-2	1	0	-1
PBT	28	26	29	22	31	32	29	22	29	27	26
Taxes	-8	-7	-6	-6	-4	-10	-6	-5	-7	-7	-6
Minorities	0	0	0	0	0	0	0	0	0	0	0
Net profit	20	20	23	16	27	22	23	17	22	20	20
Adjustments to net profit	0	0	0	-2	0	0	0	0	0	0	0
Net profit adj	20	20	23	14	27	22	23	17	22	20	20
Dividend paid	0	0	0	-68	0	0	0	-68	0	0	0
Avg. number of shares (m)	13	13	13	14	14	14	14	14	14	14	14
Per share data (SEK)											
EPS	1.61	1.56	1.81	1.20	1.97	1.60	1.68		1.58	1.47	1.47
EPS adj	1.61	1.56	1.81	1.43	1.97	1.60	1.64	1.20	1.58	1.46	1.47
DPS ordinary	0.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
DPS	0.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	0.00	0.00	0.00
Growth and margins (%)											
Revenues, QOQ growth	-3.0	4.0	1.5	7.5	2.4	5.0	-2.9	-0.8	1.0	6.8	-6.7
Revenues, YOY growth	3.8	3.1	2.9	10.1	16.3	17.4	12.3	3.6	2.1	3.9	-0.2
EPS adj, YOY growth	-6.9	-2.0	21.3	-15.1	22.5	2.6	-9.2	-16.1	-19.8	-8.5	-10.4
Gross margin	97.7	97.0	96.9	98.0	97.9	97.9	97.9	97.5	97.5	96.5	97.9
EBITDA adj margin	40.1	36.4	39.0	31.4	38.6	36.6	38.5	33.2	37.5	34.6	39.0
Depreciation/revenues	-0.7	-0.7	-0.6	-0.6	-0.7	-0.8	-0.5	-1.0	-0.7	-0.8	-0.6
EBIT adj margin	34.0	30.6	33.2	28.1	32.0	30.3	29.5	24.0	28.1	25.4	27.1
Net profit margin	24.1	22.5	25.6	16.9	27.4	21.2	22.9	16.9	21.6	18.7	20.1

Source: Company (historical figures), DNB Markets (estimates)

## Adjustments to quarterly numbers

(SEKm)	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019e	Q2 2019e	Q3 2019e	Q4 2019e	Q1 2020e
EBITDA	34	32	35	30	38	38	38	33	38	37	39
EBITDA adj	34	32	35	30	38	38	38	33	38	37	39
EBIT	29	27	30	24	31	31	29	24	28	27	27
Other EBIT adjustments	0	0	0	-3	0	0	0	0	0	0	0
EBIT adj	29	27	30	27	31	31	29	24	28	27	27
Net profit	20	20	23	16	27	22	23	17	22	20	20
Other EBIT adjustments	0	0	0	-3	0	0	0	0	0	0	0
Tax adjustments	0	0	0	0	0	0	0	0	0	0	0
Other adjustments	0	0	0	0	0	0	0	0	0	0	0
Net profit adj	20	20	23	14	27	22	23	17	22	20	20

### Quarterly numbers by segment and assumptions

(SEKm)	Q3 2017	Q4 2017	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019e	Q2 2019e	Q3 2019e	Q4 2019e Q	1 2020e
Assumptions											
Revenue org. % YOY	8.38	8.47	4.98	8.06	6.65	10.05	3.49	-2.30	-2.76	-1.26	-3.41
Structure impact % YOY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Currency impact % YOY	-4.56	-5.41	-2.08	2.07	9.62	7.31	8.77	5.86	4.90	5.16	3.22

Source: Company (historical figures), DNB Markets (estimates)

#### **Annual P&L**

(SEKm)	2013	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Revenues	236	256	312	328	345	385	406	451	540	590
Cost of sales	-15	-13	-10	-12	-9	-9	-11	-12	-14	-16
Gross profit	222	243	301	316	337	376	395	439	525	575
Operating expenses	-171	-179	-203	-203	-209	-236	-249	-257	-290	-309
EBITDA	51	64	98	113	127	140	146	182	235	266
Depreciation	-2	-2	-3	-3	-2	-3	-3	-4	-5	-5
Amortisation	-7	-8	-12	-14	-17	-22	-34	-46	-61	-65
EBIT	41	53	83	97	107	116	108	133	170	195
Net financial items	0	0	0	0	-2	-2	-1	-2	-3	-3
PBT	37	54	83	100	106	117	107	130	167	192
Taxes	-12	-11	-20	-22	-26	-26	-26	-32	-42	-48
Effective tax rate (%)	31	21	24	22	24	22	24	25	25	25
Minorities	0	0	0	0	0	0	0	0	0	0
Net profit	26	42	63	78	80	91	81	98	125	144
Adjustments to net profit	3	0	0	-3	0	-2	0	0	0	0
Net profit adj	29	42	63	75	80	88	81	98	125	144
Dividend paid	-23	0	-63	-88	-63	-68	-68	-41	-49	-63
Avg. number of shares	12	13	13	13	13	14	14	14	14	14
Per share data (SEK)										
EPS	2.10	3.34	5.02	6.18	6.33	6.67	5.96	7.19	9.17	10.56
EPS adj	2.10	3.34	5.02	6.18	6.33	6.67	5.88	7.19	9.17	10.56
DPS ordinary	1.85	0.00	5.00	7.00	5.00	5.00	5.00	3.00	3.60	4.59
DPS	1.85	0.00	5.00	7.00	5.00	5.00	5.00	3.00	3.60	4.59
Growth and margins (%)										
Revenue growth	2.7	8.3	21.9	5.4	5.1	11.7	5.3	11.3	19.6	9.4
EPS adj growth	83.4	59.2	50.2	23.0	2.6	5.3	-11.8	22.3	27.6	15.1
Gross margin	93.9	95.0	96.7	96.3	97.5	97.7	97.3	97.3	97.3	97.3
EBITDA margin	21.4	24.9	31.5	34.5	36.9	36.4	35.9	40.4	43.6	45.0
EBITDA adj margin	21.4	24.9	31.5	34.5	36.9	36.4	35.9	40.4	43.6	45.0
Depreciation/revenues	-0.9	-0.9	-0.8	-0.8	-0.7	-0.7	-0.8	-0.8	-0.9	-0.9
EBIT margin	17.5	20.8	26.8	29.4	31.1	30.0	26.7	29.4	31.4	33.1
EBIT adj margin	15.8	20.8	26.8	30.6	31.1	30.8	26.7	29.4	31.4	33.1
PBT margin	15.8	21.0	26.7	30.5	30.6	30.4	26.4	28.9	30.9	32.5
Net profit margin	11.0	16.5	20.3	23.8	23.2	23.6	20.0	21.7	23.2	24.4

## Adjustments to annual P&L

(SEKm)	2013	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
EBITDA	51	64	98	113	127	140	146	182	235	266
EBITDA adj	51	64	98	113	127	140	146	182	235	266
EBIT	41	53	83	97	107	116	108	133	170	195
Other EBIT adjustments	4	0	0	-4	0	-3	0	0	0	0
EBIT adj	37	53	83	101	107	119	108	133	170	195
Net profit	26	42	63	78	80	91	81	98	125	144
Other EBIT adjustments	4	0	0	-4	0	-3	0	0	0	0
Tax adjustments	0	0	0	0	0	0	0	0	0	0
Other adjustments	0	0	0	0	0	0	0	0	0	0
Net profit adj	29	42	63	75	80	88	81	98	125	144
Per share data (SEK)										
EPS	2.10	3.34	5.02	6.18	6.33	6.67	5.96	7.19	9.17	10.56
Recommended adjustment	0.00	0.00	0.00	0.00	0.00	0.00	-0.08	0.00	0.00	0.00
EPS adj	2.10	3.34	5.02	6.18	6.33	6.67	5.88	7.19	9.17	10.56

Source: Company (historical figures), DNB Markets (estimates)

### **Cash flow**

(SEKm)	2013	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Net profit	26	42	63	78	80	91	81	98	125	144
Depreciation and amortisation	9	10	15	17	20	25	37	50	66	70
Cash flow from operations (CFO)	41	70	99	114	124	93	106	143	185	207
Capital expenditure	-21	-32	-19	-19	-19	-47	-84	-95	-106	-91
Acquisitions/Investments	0	0	0	0	0	-171	0	0	0	0
Divestments	0	0	1	0	0	0	0	0	0	0
Cash flow from investing (CFI)	-19	-32	-18	-19	-38	-218	-102	-95	-106	-91
Free cash flow (FCF)	22	39	80	95	86	-125	4	48	79	117
Net change in debt	0	0	0	0	0	0	30	0	0	0
Dividends paid	-23	0	-63	-88	-63	-68	-68	-41	-49	-63
Share issue (repurchase)	22	-53	0	0	0	172	0	0	0	0
Other	12	0	0	0	0	4	-14	0	0	0
Cash flow from financing (CFF)	12	-53	-64	-88	-63	108	-52	-41	-49	-63
Total cash flow (CFO+CFI+CFF)	33	-15	17	7	23	-17	-49	8	30	54
FCFF calculation										
Free cash flow	22	39	80	95	86	-125	4	48	79	117
Less: tax shields/other	0	0	0	0	0	0	0	0	0	0
Less: acquisitions	0	0	0	0	0	171	0	0	0	0
Less: divestments	0	0	-1	0	0	0	0	0	0	0
Growth (%)										
CFO	6.3	72.7	40.4	15.7	8.5	-25.3	14.1	35.4	28.9	12.5
CFI	-5.5	-66.0	42.3	-3.3	-98.9	-478.5	53.0	7.4	-11.7	14.3
FCF	6.9	78.7	108.3	18.5	-9.4	-244.7	102.8	1284.3	62.5	48.4
CFF	1866.7	-550.8	-19.5	-39.0	28.5	270.4	-148.4	21.5	-19.9	-27.6
FCFF	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm

### **Balance sheet**

(SEKm)	2013	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Assets	370	375	399	396	410	722	825	886	962	1,046
la ventaria a	0	4	-	0	-	7	7	0	0	10
Inventories Trade receivables	3 34	4 39	5 44	6 48	5 51	7 63	7 67	8 74	9 79	10 87
Other receivables	34 15	39 11	44 20	40 19	12	38	52	74 52	79 52	52
Current financial assets	13	0	20	0	0	0	0	0	0	0
Cash and cash equivalents	82	71	89	99	120	106	61	68	98	152
Current assets	135	124	158	172	120	<b>214</b>	186	<b>202</b>	<b>238</b>	<b>301</b>
				=						
Property, plant and equipment	6	8	7	6	6	9	7	7	7	5
Other intangible assets	164	186	192	197	194	484	624	669	709	731
Defferred tax assets	59	51	37	16	3	13	5	5	5	5
Non-current financial assets	5	6	5	5	20	2	2	2	2	2
Non-current assets	235	251	241	224	223	508	639	684	724	744
Total assets	370	375	399	396	410	722	825	886	962	1,046
Equity and liabilities	370	375	399	396	410	722	825	886	962	1,046
Total equity	295	289	291	280	290	550	592	649	725	807
Trade payables	6	5	5	5	6	7	9	13	13	15
Other payables and accruals	54	65	84	92	31	131	32	32	32	32
Short-term debt	1	1	1	1	1	2	38	38	38	38
Total current liabilities	61	71	90	99	102	140	164	168	168	170
Long-term debt	1	2	1	2	2	1	41	41	41	41
Deferred tax liabilities	13	15	17	15	14	30	27	27	27	27
Other non-current liabilities	0	0	1	1	2	2	1	1	1	1
Total non-current liabilities	14	16	18	18	17	32	69	69	69	69
Total liabilities	75	87	108	116	120	172	233	237	237	239
Total equity and liabilities	370	375	399	396	410	722	825	886	962	1,046
Key metrics										
Net interest bearing debt	-79	-68	-88	-97	-117	-103	18	11	-19	-73

## Valuation ratios

(SEKm)	2013	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Enterprise value										
Share price (SEK)	39.77	74.75	150.00	206.00	189.00	243.00	186.00	174.00	174.00	174.00
Number of shares (m)	12.34	12.63	12.63	12.63	12.63	13.62	13.63	13.63	13.63	13.63
Market capitalisation	491	944	1,895	2,602	2,387	3,310	2,535	2,372	2,372	2,372
Net interest bearing debt	-79	-68	-88	-97	-117	-103	18	11	-19	-73
Adjustments to NIBD	0	0	0	0	0	0	0	0	0	0
Net interest bearing debt adj	-79	-68	-88	-97	-117	-103	18	11	-19	-73
EV	411	876	1,807	2,505	2,270	3,206	2,554	2,383	2,353	2,299
EV adj	411	876	1,807	2,505	2,270	3,206	2,554	2,383	2,353	2,299
Valuation										
EPS	2.10	3.34	5.02	6.18	6.33	6.67	5.96	7.19	9.17	10.56
EPS adj	2.10	3.34	5.02	6.18	6.33	6.67	5.88	7.19	9.17	10.56
DPS ordinary	1.85	0.00	5.00	7.00	5.00	5.00	5.00	3.00	3.60	4.59
DPS	1.85	0.00	5.00	7.00	5.00	5.00	5.00	3.00	3.60	4.59
P/E	18.9	22.4	29.9	33.4	29.8	36.4	31.2	24.2	19.0	16.5
P/E adj	18.9	22.4	29.9	33.4	29.8	36.4	31.6	24.2	19.0	16.5
P/B	1.66	3.27	6.51	9.31	8.22	6.02	4.28	3.65	3.27	2.94
Average ROE	9.4%	14.5%	21.9%	27.3%	28.1%	21.6%	14.2%	15.8%	18.2%	18.8%
Earnings yield adj	5.3%	4.5%	3.3%	3.0%	3.4%	2.7%	3.2%	4.1%	5.3%	6.1%
Dividend yield	4.6%	0.0%	3.3%	3.4%	2.6%	2.1%	2.7%	1.7%	2.1%	2.6%
Free cash flow yield	4.4%	4.1%	4.2%	3.7%	3.6%	-3.8%	0.1%	2.0%	3.3%	4.9%
EV/SALES	1.74	3.42	5.80	7.63	6.58	8.32	6.30	5.28	4.36	3.89
EV/SALES adj	1.74	3.42	5.80	7.63	6.58	8.32	6.30	5.28	4.36	3.89
EV/EBITDA	8.1	13.8	18.4	22.1	17.8	22.9	17.5	13.1	10.0	8.7
EV/EBITDA adj	8.1	13.8	18.4	22.1	17.8	22.9	17.5	13.1	10.0	8.7
EV/EBIT	10.0	16.5	21.7	26.0	21.1	27.7	23.6	18.0	13.9	11.8
EV/EBIT adj	11.0	16.5	21.7	24.9	21.1	27.0	23.6	18.0	13.9	11.8
EV/capital employed	1.4	3.0	6.2	8.9	6.4	5.8	3.4	2.9	2.6	2.4
EV/NOPLAT	13.5	22.2	29.3	35.1	28.6	37.5	31.8	24.3	18.7	15.9
EV/OpFCF (taxed)	20.8	50.1	31.6	36.6	28.3	51.4	75.1	44.7	27.5	18.5

# Key accounting ratios

	2013	2014	2015	2016	2017	2018	2019	2020e	2021e	2022e
Profitability (%)										
ROA	7.5	11.3	16.4	19.6	19.9	16.0	10.5	11.5	13.5	14.3
ROCE	13.4	18.1	28.5	34.9	33.6	26.1	16.6	16.9	19.9	21.0
ROCE after tax	9.9	13.4	21.1	25.8	24.8	19.3	12.3	12.5	14.7	15.5
Return on invested capital (%)										
Net PPE/revenues	2.6	3.1	2.1	1.9	1.8	2.3	1.8	1.7	1.3	0.9
Working capital/revenues	31.2	20.9	22.0	22.4	24.6	19.3	5.4	7.5	12.9	22.2
Cash flow ratios (%)										
FCF/revenues	9.1	15.1	25.8	29.0	25.0	-32.4	0.9	10.7	14.6	19.8
FCF/market capitalisation	4.4	4.1	4.2	3.7	3.6	-3.8	0.1	2.0	3.3	4.9
CFO/revenues	17.2	27.5	31.7	34.8	35.9	24.0	26.1	31.7	34.2	35.1
CFO/market capitalisation	8.3	7.4	5.2	4.4	5.2	2.8	4.2	6.0	7.8	8.7
CFO/capex	192.9	217.6	508.8	614.0	652.1	197.9	126.4	151.2	174.5	229.0
CFO/current liabilities	66.8	99.4	110.2	115.8	121.1	66.2	64.4	85.1	109.7	121.8
Cash conversion ratio	83.4	91.5	126.8	122.2	107.9	-137.6	4.3	49.4	63.0	81.2
Capex/revenues	8.9	12.6	6.2	5.7	5.5	12.1	20.6	21.0	19.6	15.3
Capex/depreciation	959.1	1404.3	776.0	744.0	791.7	1800.0	2696.8	2508.3	2217.0	1674.3
OpFCF margin	12.5	12.2	25.3	28.8	31.4	24.2	15.3	19.4	24.0	29.6
Total payout ratio	88.0	0.0	99.6	113.3	78.9	75.0	83.8	41.7	39.2	43.4
Leverage and solvency (x)										
Net debt/EBITDA	-1.57	-1.08	-0.89	-0.85	-0.92	-0.74	0.13	0.06	-0.08	-0.28
Total debt/total capital (BV)	0.01	0.01	0.00	0.01	0.01	0.00	0.10	0.09	0.08	0.08
LTD / (LTD + equity (MV))	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02
Cash conversion cycle										
Inventory turnover days	83.1	104.7	180.7	167.5	223.3	267.7	223.1	245.4	227.0	228.5
Receivables turnover days	75.3	70.9	74.5	74.7	66.2	96.1	106.8	101.9	88.8	86.1
Credit period	143.5	147.1	170.1	158.6	244.8	296.1	310.9	399.4	338.4	357.0
Cash conversion cycle	14.8	28.5	85.1	83.7	44.8	67.7	18.9	-52.1	-22.7	-42.3

# Important Information

 Company:
 IAR Systems

 Coverage by Analyst:
 Joachim Gunell

 Date:
 11-2-2020

This report has been prepared by DNB Markets, a division of DNB Bank ASA. DNB Bank ASA is a part of the DNB Group. This report is based on information obtained from public sources that DNB Markets believes to be reliable but which DNB Markets has not independently verified, and DNB Markets makes no guarantee, representation or warranty as to its accuracy or completeness. This report does not, and does not attempt to, contain everything material which there is to be said about the Company. Any opinions expressed herein reflect DNB Markets' judgement at the time the report was prepared and are subject to change without notice. The report is planned updated minimum every quarter.

Any use of non-DNB logos in this report is solely for the purpose of assisting in identifying the relevant issuer. DNB is not affiliated with any such issuer.

This report is for clients only, and not for publication, and has been prepared for information purposes only by DNB Markets, a division of DNB Bank ASA.

This report is the property of DNB Markets. DNB Markets retains all intellectual property rights (including, but not limited to, copyright) relating to the report. Sell-side investment firms are not allowed any commercial use (including, but not limited to, reproduction and redistribution) of the report contents, either partially or in full, without DNB Markets' explicit and prior written consent. However, buy-side investment firms may use the report when making investment decisions, and may also base investment advice given to clients on the report. Such use is dependent on the buy-side investment firm citing DNB Markets as the source.

#### Conflict of interest

This report has been commissioned and paid for by the company, and is deemed to constitute an acceptable minor non-monetary benefit as defined in MiFID II.

This report has been commissioned and paid for by the Company.

Readers should assume that DNB Markets may currently or may in the coming three months and beyond be providing or seeking to provide confidential investment banking services or other services to the company/companies

Share positions in the company:	Analyst*	Employees**	DNB***
Number of shares	0	660	0

\*The analyst or any close associates. \*\*Share positions include people involved in the production of credit and equity research,

including people that could reasonably be expected to have access to it before distribution. \*\*\*Share positions as part of DNB Group. Holdings as part of DNB Markets investment services activity are not included.

Recommendation distribution and corporate clients for the last 12 months

	Buy	Hold	Sell	No_rec	Total					
Number	142	60	37	14	253					
% of total	56%	24%	15%	6%						
DNB Markets client	26%	9%	4%	2%	106					

#### Legal statement

These materials constitute research as defined in section 9-27 (1) of the Norwegian Securities Trading Regulations (Norwegian: verdipapirforskriften), and are not investment advice as defined in section 2-4(1) of the Norwegian securities trading act (Norwegian verdipapirhandelloven). It constitutes an acceptable minor non-monetary benefit as defined in MiFID II.

The analyst hereby certifies that (i) the views expressed in this report accurately reflect that research analyst's personal views about the company and the securities that are the subject of this report, and (ii) no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in this report. DNB Markets employees, including research analysts, may receive compensation that is generated by overall firm profitability. Confidentiality rules and internal rules restricting the exchange of information between different parts of DNB Markets/DNB Bank ASA or the DNB Group are in place to prevent employees of DNB Markets and the DNB Group have incorporated internal rules and regulations in order to avoid any potential conflicts of interest.

The Report has been prepared by DNB Markets, a division of DNB Bank ASA, a Norwegian bank organized under the laws of the Kingdom of Norway and under supervision by the Norwegian Financial Supervisory Authority, The Monetary Authority of Singapore, and on a limited basis by the Financial Conduct Authority and the Prudential Regulation Authority of the UK, and the Financial Supervisory Authority of Sweden. Details about the extent of our regulation by local authorities outside Norway are available from us on request.

It is issued subject to the General Business Terms for DNB Markets and information about the terms is available at www.dnb.no. For requests regarding the General Business Terms of the Singapore Branch of DNB Bank ASA, please contact +65 6212 6144. Information about the DNB Group can be found at www.dnb.com. DNB Markets is a member of The Norwegian Securities Dealers Association, which has issued recommendations and market standards for securities companies. The Association's Internet address where the recommendations and market standards can be found is: www.vpff.no. This report is not an offer to buy or sell any security or other financial instrument or to participate in any investment strategy. No liability whatsoever is accepted for any direct or indirect (including consequential) loss or expense arising from the use of this report. Distribution of research reports is in certain jurisdictions restricted by law. Persons in possession of this report should seek further guidance regarding such restrictions before distributing this report. The report is not to be distributed or forwarded to private persons in the UK or the US. Please contact DNB Markets at 08940 (+47 915 08940) for further information and inquiries regarding this report, including an overview on all recommendations from DNB Markets over the last 12 Months according to Market Abuse Regulations.

#### Additional information for clients in Singapore

The report has been distributed by the Singapore Branch of DNB Bank ASA. It is intended for general circulation and does not take into account the specific investment objectives, financial situation or particular needs of any particular person. You should seek advice from a financial adviser regarding the suitability of any product referred to in the report, taking into account your specific financial objectives, financial situation or particular needs before making a commitment to purchase any such product. You have received a copy of the report because you have been classified either as an accredited investor, an expert investor or as an institutional indvisers Act (Cap. 110) ("FAA") and/or the Financial Advisers Regulations ("FAR"). The Singapore Branch of DNB Bank ASA is a financial adviser exempt from licensing under the FAA but is otherwise subject to the legal requirements of the FAA and of the FAA. By virtue of your status as an accredited investor or as an expert investor, the Singapore Branch of DNB Bank ASA is, in respect of certain of its dealings with you or services rendered to you, exempt from having to comply with certain regulatory requirements of the FAA and FAR, including without limitation, sections 25, 27 and 36 of the FAA. Section 25 of the FAA requires a financial adviser to disclose material information concerning designated investment products which are recommended by the financial adviser to you as the client. Section 27 of the FAA requires a financial adviser to include, within any circular or written communications in which he makes recommendations to you as the client. Section 36 of the FAA in the singapore Branch of DNB Bank ASA at +65 6212 6144 in respect of any matters arising from, or in connection with, the report. The report is intended for and is to be circulated only to persons who are classified as an accredited investor or an institutional investor, please contact the Singapore Branch of DNB Bank ASA at +66 6212 6144. We, the DNB group, our associates, officers and/or empl

#### In the United States

Each research analyst named on the front page of this research report, or at the beginning of any subsection hereof, hereby certifies that (i) the views expressed in this report accurately reflect that research analyst's personal views about the company and the securities that are the subject of this report; and (ii) no part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in this report.

The research analyst(s) named on this report are foreign research analysts as defined by FINRA Rule 1050. The only affiliate contributing to this research report is DNB Bank through its DNB Markets division ("DNB Markets/DNB Bank"); the foreign research analysts employed by DNB Markets/DNB Bank are named on the first page; the foreign research analysts are not registered/qualified as research analysts with FINRA; foreign research analysts are not associated persons of DNB Markets, Inc. and therefore are not subject to the restrictions set forth in FINRA Rule 2241 and 2242 regarding restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

This is a Third Party Research Report as defined by FINRA Rules 2241 and 2242. Any material conflict of interest that can reasonably be expected to have influenced the choice of DNB Markets/DNB Bank as a research provider or the subject company of a DNB Markets/DNB Bank research report, including the disclosures required by FINRA Rules 2241 and 2242 can be found above.

This report is being furnished solely to Major U.S. Institutional Investors within the meaning of Rule 15a-6 under the U.S. Securities Exchange Act of 1934 and to such other U.S. Institutional Investors as DNB Markets, Inc. may determine. Distribution to non-Major U.S. Institutional Investors will be made only by DNB Markets, Inc., a separately incorporated subsidiary of DNB Bank that is a U.S. broker-dealer and a member of the Financial Industry Regulatory Authority ("FINRA") and the Securities Investor Protection Corporation ("SIPC").

Any U.S. recipient of this report seeking to obtain additional information or to effect any transaction in any security discussed herein or any related instrument or investment should contact DNB Markets, Inc., 200 Park Avenue, New York, NY 10166-0396, telephone number +1 212-551-9800.

#### In Canada

The Report has been distributed in reliance on the International Dealer Exemption pursuant to NI 31-103 subsection 8.18(2) and subsection 8.18(4)(b). Please be advised that: 1. DNB Bank ASA (DNB Markets) and DNB Markets, Inc. are not registered as a dealer in the local jurisdiction to make the trade. We provide our services in Canada as an exempt international dealer. 2. The jurisdiction of DNB Bank ASA (DNB Markets) and DNB Markets) and DNB Markets, Inc. because all or substantially all of their assets may be situated outside of Canada. 4. The name and address of the agent for service of process for DNB Bank ASA (DNB Markets) and DNB Markets, Inc. in the local jurisdiction is:

Iegai rights against DNB Bank ASA (DNB Markets) and DNB Markets, inc. because all of substantially all of their assets may be situated outside of Canada. 4. The name and address of the agent for service of process for DNB Bank ASA (DNB Markets) and DNB Markets) and DNB Markets, Inc. in the local jurisdiction is: Alberta: Blake, Cassels & Graydon LLP, 855 - 2nd Street S.W., Suite 3500, Bankers Hall East Tower, Calgary, AB T2P 4J8. British Columbia: Blakes Vancouver Services Inc., 595 Burrard Street, P.O. Box 49314, Suite 2600, Three Bentall Centre, Vancouver, BC V7X 1L3. Manitoba: Aikins, MacAulay & Thorvaldson LLP, 30th Floor, Commodity Exchange Tower, 360 Main Street, Winnipeg, MB R3C 4G1. New Brunswick: Stewart McKelvey, Suite 1000, Brunswick House, 44 Chipman Hill, PO Box 7289, Station A, Saint John, NB E2L 2A9. Newfoundland and Labrador: Stewart McKelvey, Suite 1100, Cabot Place, 100 New Gower Street, P.O. Box 5038, St. John's, NL A1C 5V3. Nova Scotia: Stewart McKelvey, Purdy's Wharf Tower One, 1959 Upper Water Street, Suite 900, P.O. Box 997, Halifax, NS B3J 2X2. Northwest Territories: Gerald Stang, Suite 201, 5120-49 Street, Yellowknife, NT X1A 1P8. Nunavut: Field LLP, P.O. Box 1779, Building 1088C, Iqaluit, NU X0A 0H0. Ontario: Blakes Extra-Provincial Services Inc., Suite 4000, 199 Bay Street, Toronto, ON M5L 1A9. Prince Edward Island: Stewart McKelvey, 65 Grafton Street, Charlottetown, PE C1A 1K8. Québec: Services Blakes Québec Inc., 600 de Maisonneuve Boulevard Ouest, Suite 2200, Tour KPMG, Montréal, QC H3A 3J2. Saskatchewan: MacPherson, Leslie & Tyerman LLP, 1500 Continental Bank Building, 1874 Scarth Street, Regina, SK S4P 4E9. Yukon: Grant Macdonald, Macdonald & Company, Suite 200, Financial Plaza, 204 Lambert Street, Whitehorse, YK Y1A 3T2.

In Brazil

The analyst or any close associates do not hold nor do they have any direct/indirect involvement in the acquisition, sale, or intermediation of the securities discussed herein. Any financial interests, not disclosed above, that the analyst or any close associates holds in the issuer discussed in the report is limited to investment funds that do not mainly invest in the issuer or industry discussed in the report and the management of which these persons cannot influence.