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

Information Technology

Q3 results review

This report was completed and disseminated at 7:18 CET on 28 October 2021



IAR SYSTEMS

Winds of change

IAR Systems is trading at a 2022e EV/EBIT of 12x. Although the recent CEO dismissal could cloud short-term operational momentum, we believe it could signal a turning point in IAR Systems' two-year uphill climb. Having reset our forecasts for Secure Thingz, we have cut our fair value to SEK130–220 (150–220) and expect IAR to report 19% organic sales growth YOY in 2022e.

What we learnt from Q3: 1) on our numbers, IAR reported 17% underlying organic growth in Q3 YOY (adjusted for revenue recognition of strategic customers); 2) IAR will review its licence model and we do not rule out an eventual SaaS transformation; and 3) acting CEO Richard Lind gave a good first impression but revealed no strategic news.

2022–2023e EPS reduced by 21–17%, as: 1) our Embedded Workbench forecasts are broadly unchanged, but 2) we have cut our sales expectations for Secure Thingz for 2022–2023e by 80%, which has thus lowered our group sales forecasts by 8%, which, at a 97% gross margin, has had a material effect on our EPS estimates. The board's CEO dismissal signals an ambition to accelerate and improve the sales organisation, which to us suggests that near-term traction is still a few quarters out while a new CEO implements the changes needed. The medium-term embedded security market opportunity with an 'out of the box' solution for mainstream MCUs remains lucrative for IAR, but it will probably take time before IoT device security regulation and standards really affect the marketplace, in our view.

Fair value cut to SEK130–220 (150–220), to reflect our estimate changes, corresponding to a 2022e EV/EBIT of 22x. We estimate that the legacy workbench business should be valued at cSEK130/share and as we get more signals that IAR Systems has reached a turning point of its negative two-year earnings-revisions trend, perceptions of the company may change. On the downside, it could take a few quarters before a new CEO can accelerate IAR's growth strategy and with new eyes on its ~SEK400m investments in IoT security, there could be impairment risks.

Year-end Dec	2017	2018	2019	2020	2021e	2022e	2023e
Revenue (SEKm)	345	385	406	372	360	427	487
EBITDA adj (SEKm)	127	140	146	133	124	165	204
EBIT adj (SEKm)	107	119	108	84	71	103	134
PTP (SEKm)	106	117	107	77	67	98	126
EPS rep (SEK)	6.33	6.67	5.96	4.36	3.83	5.40	7.00
EPS adj (SEK)	6.33	6.67	5.96	4.36	3.80	5.40	7.00
DPS (SEK)	5.00	5.00	3.00	0.00	0.00	1.90	2.70
Revenue growth (%)	5.1	11.7	5.3	-8.3	-3.2	18.6	13.9
EBITDA growth adj (%)	12.4	10.1	4.1	-9.0	-6.4	32.9	23.5
EPS growth adj (%)	2.6	5.3	-10.6	-26.8	-12.9	42.3	29.5
EBITDA margin adj (%)	36.9	36.4	35.9	35.7	34.5	38.6	41.9
EV/Sales adj (x)	6.58	8.32	6.30	5.12	3.37	2.79	2.39
EV/EBITDA adj (x)	17.8	22.9	17.5	14.3	9.8	7.2	5.7
EV/EBIT adj (x)	21.1	27.0	23.6	22.7	17.2	11.6	8.7
P/E adj (x)	29.8	36.4	31.2	32.1	24.6	17.3	13.4
P/Book (x)	8.22	6.02	4.28	3.11	1.84	1.72	1.59
ROE (%)	28.1	21.6	14.2	9.9	7.9	10.3	12.4
ROCE (%)	33.6	26.1	17.7	12.4	9.4	12.3	15.1
Dividend yield (%)	2.6	2.1	1.6	0.0	0.0	2.0	2.9
FCF yield (%)	3.6	1.4	0.9	1.9	3.4	3.6	5.3

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

IARB versus OMXS30 (12m)



Source: Factset

SI	ш	۱л	RИ	۸	D
J	J,	VI.	IVI	m	n

Share price (SEK)	93.6
Tickers	IARB SS
CAPITAL STRUCTURE	
No. of shares (m)	13.6
No. of shares fully dil. (m)	13.7
Market cap. (SEKm)	1,277
NIBD adj end-2021e (SEKm)	-63
Enterprise value adj (SEKm)	1,214
Net debt/EBITDA adj (x)	-0.51
Eroo float (%)	100

Source: Company, DNB Markets (estimates)

Note: Unless otherwise stated, the share prices in this note are the last closing price.

NEXT EVENT

Q4 202 I		10/	02/2022
ESTIMATE CHANG	ES (SEK)		
Year-end Dec	2021e	2022e	2023e
0-1 (-1-1)	200.0	4040	500 F

10/02/2022

Year-end Dec	2021e	2022e	2023e
Sales (old)	383.0	464.9	530.5
Sales (new)	360.2	427.3	486.8
Change (%)	-5.9	-8.1	-8.2
EPS (old)	4.80	6.80	8.43
EPS (new)	3.80	5.40	7.00
Change (%)	-20.9	-20.5	-17.0

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

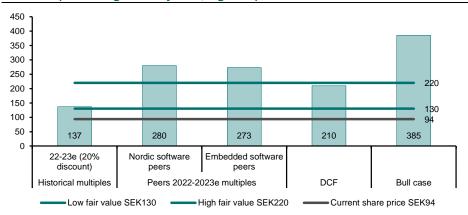
ANALYSTS

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.

Overview

Valuation (add listing currency here, e.g. SEK)



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 2019.
- Disappointing disclosures regarding key strategic partnerships in terms of when they will materialise and the fee structure (as seen with its Renesas Synergy agreement). Thus, it would be negative if the Secure Thingz collaboration were to fall short of management's expectations.
- Impairments of goodwill.
- IAR Systems is highly sensitive to a strengthening of the SEK (particularly against the USD, EUR, and JPY).

Source: DNB Markets

DNB Markets estimates

- As a market leader in a niche industry growing by the mid-single digits for its core programming tools with the potential to accelerate organic growth to 15–20% from new product launches (for which SEK400m+ of R&D investments has already been taken), our assessed medium-term value-creation potential remains high, but so is the burden of execution at this stage.
- We estimate that IAR Systems should generate a 2020–2023 EPS CAGR of 17%, with significant potential expected beyond our forecast period.

Source: DNB Markets

Valuation methodology

- Blending our peer group of Nordic software and embedded software peers with IAR Systems' historical multiples and a DCF suggests a SEK130–220 fair value (methodology unchanged).
- Applying its historical valuation (P/E 26x, EV/EBIT 20x) to our 2022 estimates suggests SEK140–190.
- On our estimates, IAR Systems is valued at 2022e P/E of 17x, an EV/EBIT of 12x, and an EV/sales of 3x.

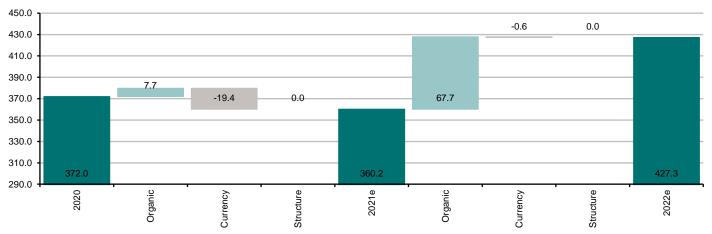
Source: DNB Markets

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.

Source: DNB Markets

Sales bridge 2020-2022e (SEKm)



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

ESG overview

Sustainability assessment

_					
0	$\overline{}$	0	ж		.,
_	u	3	ш	ч	v

Conclusions

- 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.

by company

Actions being taken ■ Embedded programmers 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.

Negative

- 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.
- 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.
- 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, 95% of which are recurring customers, we believe.

Key ESG drivers

Short-term

- Today, fewer than 5% 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, and 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 being manufactured; a leading door-sensor provider, whose IP was stolen internally, which led to direct revenue loss, etc.
- Regulators are likely to play an active role in the long-term uptake of secure development tools. This should have an impact on programmers' designs, as applications need to remain secure across the entire lifecycle to comply with new legislation. We note legislative initiatives in Europe (UK government, ETSI, ENISA) and the US (California IoT Security law, NIST's evolving cyber security act), and government initiatives across Singapore, Japan, South Korea, China, etc.

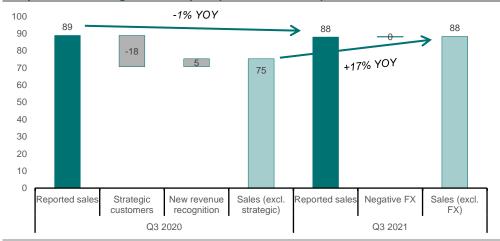
- To stay ahead of the competition, IAR Systems relies heavily on its employees in the development and innovation of new technologies.
- Following the integration of Secure Thingz, IAR Systems' addressable market has expanded from application development into manufacturing and update management (the 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.

Source: DNB Markets

Long-term

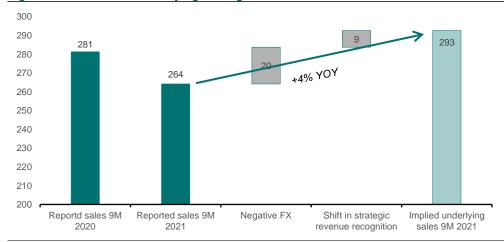
Is the underlying growth at a turning point?

Figure 1: Implied organic sales growth in Q3 2021 YOY excluding strategic customer comparables and negative FX impact (Q3 2020–Q3 2021)



Source: Company (underlying data), DNB Markets (graph structuring)

Figure 2: We calculate underlying sales growth of 4% YOY YTD 2021



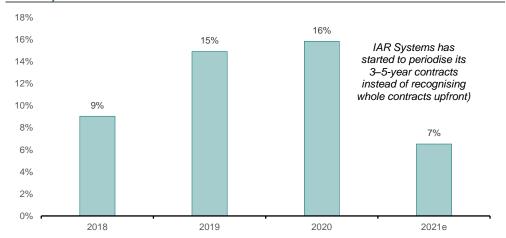
Source: Company (underlying data), DNB Markets (graph structuring)

Figure 3: IAR Systems – organic growth YOY adj. for new accounting method of strategic customers signals organic growth is already at a turning point



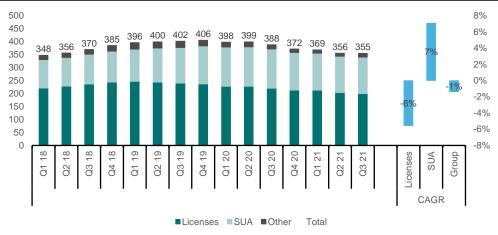
Source: Company (underlying data), DNB Markets (graph structuring)

Figure 4: IAR Systems – strategic sales as % of group (shift in accounting method in Q2 2021)



Source: Company (underlying data), DNB Markets (graph structuring)

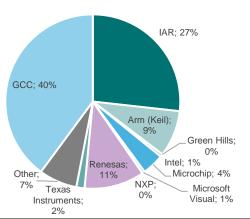
Figure 5: LTM sales by product segment and CAGR (Q1 2018-Q3 2021)



Source: Company (underlying data), DNB Markets (graph structuring)

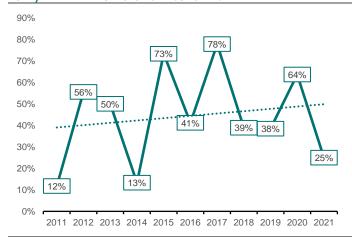
Is IAR System losing market share?

Figure 6: IAR Systems' compiler frequency in EEMBC's CoreMark benchmark (2015–2021)



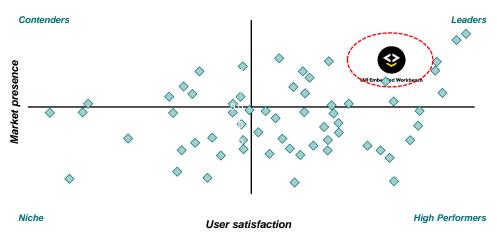
Source: EEMBC (industry alliance, which develops benchmarks to help system designers to select optimal processors and understand performance and energy characteristics of their systems. CoreMark is a benchmark that measures the performance of microcontrollers (MCUs) and central processing units (CPUs) used in embedded systems.)

Figure 7: Frequency of complier selection excl. GCC (2011–2021) in EEMBC's CoreMark benchmark



Source: EEMBC (industry alliance, which develops benchmarks to help system designers to select optimal processors and understand performance and energy characteristics of their systems. CoreMark is a benchmark that measures the performance of microcontrollers (MCUs) and central processing units (CPUs) used in embedded systems.)

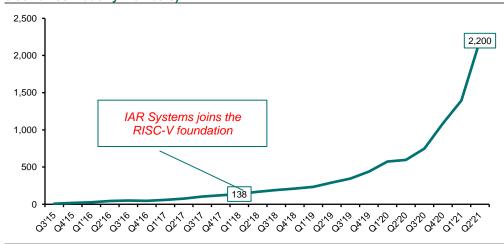
Figure 8: G2 Grid for Low-Code Development Platforms



Source: G2 Grid

Note: G2 scores products and sellers based on reviews gathered from its user community, as well as data aggregated from online sources and social networks. Score is based on market presence and user satisfaction

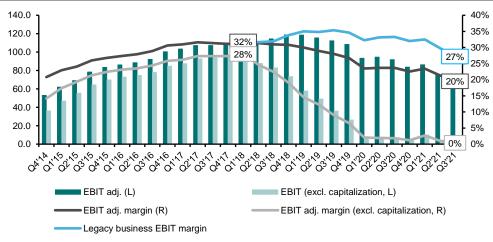
Figure 9: 2,000+ RISC-V ecosystem members growing at 90%+ YTD (number of electronics industry members)



Source: RISC-V Foundation

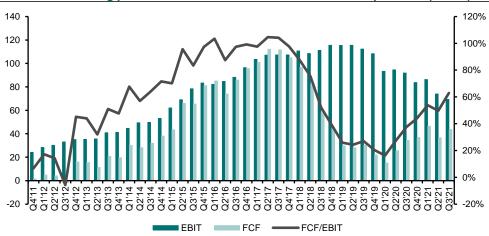
What is the underlying profitability?

Figure 10: EBIT and margin trajectory (excluding capitalisation of development costs) (LTM, Q4 2014–Q3 2021)



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

Figure 11: Unimpressive cash conversion since the Secure Thingz acquisition in 2018 could be at a turning point after SEK400m+ of investments in new products (SEKm)



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

Valuation

Figure 12: IAR Systems EV/12-month trailing EBIT (2012–2021)

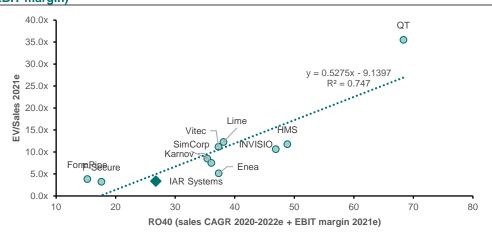


Figure 13: IAR Systems – share price versus consensus NTM EPS (SEK)



Source: Bloomberg (underlying data), DNB Markets (graph structuring)

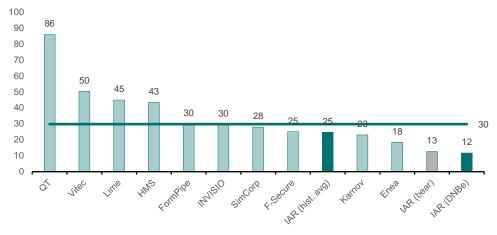
Figure 14: IARs selected Nordic peers EV/sales 2021e versus RO40 (sales CAGR + EBIT margin)



Source: Bloomberg (underlying data), DNB Markets (graph structuring)

Source: Bloomberg (underlying data), DNB Markets (graph structuring)

Figure 15: IARs selected Nordic peers EV/EBIT 2022e



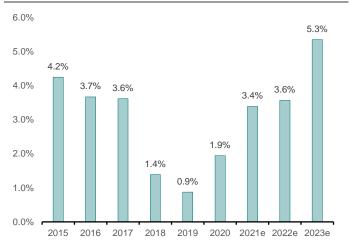
Source: Bloomberg (underlying data), DNB Markets (graph structuring)

Figure 16: IAR investments in intangible assets since 2016 + acquisitions (SEKm)



Source: Company and Bloomberg (underlying data), DNB Markets (graph structuring)

Figure 17: IAR Systems FCF yield (2015-2023e)



Q3 results

Figure 18: Q3 results versus expectations

Key highlights	Q3 20	21	Deviation (%)	Deviation,	Q3 2020	DNBe
(SEKm, except per share data)	Actual	DNB	DNB	DNB	Actual	2021e
Sales	87.9	92.7	-5%	-5	88.9	360.2
Gross profit	85.1	90.1	-6%	-5	86.2	348.0
Margin	96.8%	97.2%			97.0%	96.6%
EBIT adjusted	18.8	20.4	-8%	-2	25.4	70.5
Margin	21.4%	22.0%	-0.6pp		28.6%	19.6%
One-offs	2.1	0.0				0.1
EBIT	20.9	20.4	2%	1	25.4	70.6
Margin	23.8%	22.0%	1.8pp		28.6%	19.6%
EPS	1.17	1.12	4%	0	1.37	3.80
Growth YOY						
Sales growth	-1.1%	4.3%	-5.4pp		-11.1%	-3.2%
-of which organic	-0.7%	5.1%	-5.7pp		-5.6%	2.1%
-of w hich FX	-0.4%	-0.8%	0.4pp		-5.5%	-5.2%
Divisions	Q3 20	21			Q3 2020	2021e
(SEKm)	Actual	DNB			Actual	DNB
Sales						
Legacy IAR Systems	87.8	92.2	-5%	-4	88.5	359.5
Royalty-based revenue	0.0	0.0	n.a.	0	0.0	0.0
Secure Thingz	0.1	0.5	-80%	0	0.4	0.7
Group	87.9	92.7	-5%	-5	88.9	360.2
EBIT adjusted						
Legacy IAR Systems + Secure Thing	18.8	20.4	-8%	-2	25.4	70.5
Royalty-based revenue	0.0	0.0	n.a.	0	0.0	0.0
Group	18.8	20.4	-8%	-2	25.4	70.5
FX im pact						
Sales	-0.4%	-0.8%	0.4pp		-5.5%	-5.2%
EBIT	4.7%	4.7%	0pp		-11.7%	-19.4%

Estimate revisions

Figure 19: Estimate changes

Figure 19: Estimate changes		Old			New		Change			
(SEKm, except per share data)	2021e	2022e	2023e	2021e	2022e	2023e	2021e	2022e	2023e	
Sales										
Legacy IAR Systems	380.5	429.1	458.8	359.5	425.9	466.8	-6%	-1%	2%	
Royalty-based revenue	0.0	0.0	0.0	0.0	0.0	0.0				
Secure Thingz	2.5	35.7	71.7	0.7	1.4	20.0	-72%	-96%	-72%	
Group Total	383.0	464.9	530.5	360.2	427.3	486.8	-6%	-8%	-8%	
EBIT adjusted										
Legacy IAR Systems + Secure Thingz	88.4	128.5	160.4	70.5	102.7	133.6	-20%	-20%	-17%	
Royalty-based revenue	0.0	0.0	0.0	0.0	0.0	0.0				
Group Total	88.4	128.5	160.4	70.5	102.7	133.6	-20%	-20%	-17%	
EBIT adjusted margin										
Legacy IAR Systems + Secure Thingz	23.1%	27.6%	30.2%	19.6%	24.0%	27.4%	-351bp	-360bp	-279bp	
Royalty-based revenue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0bp	0bp	0bp	
Group Total	23.1%	27.6%	30.2%	19.6%	24.0%	27.4%	-351bp	-360bp	-279bp	
Organic growth components										
Legacy IAR Systems	8.8%	11.9%	6.4%	3.2%	18.6%	9.6%	-560bp	667bp	316bp	
Royalty-based revenue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0bp	0bp	0bp	
Secure Thingz	-0.7%	8.6%	7.7%	-1.2%	0.2%	4.4%	-48bp	-842bp	-334bp	
Group Total	8.1%	20.5%	14.1%	2.1%	18.8%	13.9%	-608bp	-175bp	-18bp	
Group										
Sales	383.0	464.9	530.5	360.2	427.3	486.8	-6%	-8%	-8%	
Sales growth	3.0%	21.4%	14.1%	-3.2%	18.6%	13.9%	-613bp	-276bp	-18bp	
Organic	8.1%	20.5%	14.1%	2.1%	18.8%	13.9%	-608bp	-175bp	-18bp	
Structure	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0bp	0bp	0bp	
Currency	-5.2%	0.8%	0.0%	-5.2%	-0.2%	0.0%	-4bp	-101bp	0bp	
Gross profit	369.6	450.0	515.1	348.0	414.2	473.3	-6%	-8%	-8%	
Margin	96.5%	96.8%	97.1%	96.6%	96.9%	97.2%	13bp	14bp	13bp	
EBIT adjusted	88.4	128.5	160.4	70.5	102.7	133.6	-20%	-20%	-17%	
Margin	23.1%	27.6%	30.2%	19.6%	24.0%	27.4%	-351bp	-360bp	-279bp	
Adjustments	-2.0	0.0	0.0	0.1	0.0	0.0				
EBIT	86.4	128.5	160.4	70.6	102.7	133.6	-18%	-20%	-17%	
Margin	22.6%	27.6%	30.2%	19.6%	24.0%	27.4%	-296bp	-360bp	-279bp	
Net financial Items	-3.7	-5.7	-8.0	-3.6	-5.1	-7.2				
Pretax profit	82.7	122.8	152.4	67.0	97.6	126.4	-19%	-21%	-17%	
Tax	-19.2	-30.1	-37.3	-15.1	-23.9	-31.0	-22%	-21%	-17%	
Tax rate	23.2%	24.5%	24.5%	22.5%	24.5%	24.5%	-74bp	0bp	0bp	
Net profit	63.5	92.7	115.0	51.9	73.7	95.4	-18%	-21%	-17%	
EPS adjusted	4.80	6.80	8.43	3.80	5.40	7.00	-21%	-21%	-17%	
EPS	4.65	6.80	8.43	3.83	5.40	7.00	-18%	-21%	-17%	
DPS	0.00	2.40	3.40	0.00	1.90	2.70		-21%	-21%	

Source: DNB Markets

Figure 20: Quarterly estimates by division

(SEKm, except per share data)	Q1'20	Q2'20	Q3'20	Q4'20	Q1'21	Q2'21	Q3'21	Q4'21e	Q1'22e	Q2'22e	Q3'22e	Q4'22e
Sales												
Legacy IAR Systems	91.4	97.6	88.5	89.5	88.6	87.2	87.8	95.9	98.1	109.3	108.8	109.7
Royalty-based revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Secure Thingz	0.9	2.5	0.4	1.2	0.3	0.2	0.1	0.1	0.2	0.3	0.4	0.5
Group Total	92.3	100.1	88.9	90.7	88.9	87.4	87.9	96.0	98.3	109.6	109.2	110.2
EBIT												
Legacy IAR Systems + Secure Thingz	14.4	25.0	25.4	19.0	17.0	12.7	20.7	20.2	21.0	26.2	26.7	28.8
Royalty-based revenue	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Group Total	14.4	25.0	25.4	19.0	17.0	12.7	20.7	20.2	21.0	26.2	26.7	28.8
EBIT adjusted margin												
Legacy IAR Systems + Secure Thingz	15.8%	25.6%	28.7%	21.2%	19.2%	14.6%	23.6%	21.1%	21.4%	23.9%	24.6%	26.3%
Royalty-based revenue	10.070	20.070	20.1 70	21.270	10.270	11.070	20.070	21.170	21.170	20.070	21.070	20.070
Group Total	15.6%	25.0%	28.6%	20.9%	19.1%	14.5%	23.5%	21.0%	21.4%	23.9%	24.5%	26.1%
Organic growth												
Legacy IAR Systems	-11.0%	-0.8%	-5.6%	-10.6%	5.9%	-2.4%	-0.7%	6.9%	10.0%	24.9%	25.0%	15.0%
Royalty-based revenue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Secure Thingz	-0.1%	0.0%	0.0%	-0.1%	0.0%	0.0%	0.0%	-1.2%	-0.1%	0.1%	0.3%	0.4%
Group Total	-11.1%	-0.8%	-5.6%	-10.8%	6.0%	-2.4%	-0.7%	5.7%	9.9%	25.1%	25.3%	15.4%
Group												
Sales	92.3	100.1	88.9	90.7	88.9	87.4	87.9	96.0	98.3	109.6	109.2	110.2
Sales grow th	-7.5%	1.1%	-11.1%	-15.1%	-3.7%	-12.7%	-1.1%	5.9%	10.6%	25.4%	24.2%	14.7%
Organic	-11.1%	-0.8%	-5.6%	-10.8%	6.0%	-2.4%	-0.7%	5.7%	9.9%	25.1%	25.3%	15.4%
Structure	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Currency	3.6%	1.9%	-5.5%	-4.3%	-9.6%	-10.3%	-0.4%	0.2%	0.7%	0.4%	-1.1%	-0.6%
Gross profit	88.3	96.7	86.2	86.7	85.5	84.7	85.1	92.7	94.8	106.6	106.1	106.7
Margin	95.7%	96.6%	97.0%	95.6%	96.2%	96.9%	96.8%	96.6%	96.5%	97.2%	97.1%	96.9%
EBIT adjusted	14.4	25.0	25.4	19.0	17.0	14.7	18.6	20.2	21.0	26.2	26.7	28.8
Margin	15.6%	25.0%	28.6%	20.9%	19.1%	16.8%	21.2%	21.0%	21.4%	23.9%	24.5%	26.1%
Adjustments	0.0	0.0	0.0	0.0	0.0	-2.0	2.1	0.0	0.0	0.0	0.0	0.0
EBIT	14.4	25.0	25.4	19.0	17.0	12.7	20.7	20.2	21.0	26.2	26.7	28.8
Margin	15.6%	25.0%	28.6%	20.9%	19.1%	14.5%	23.5%	21.0%	21.4%	23.9%	24.5%	26.1%
Net financial Items	-0.1	-1.9	-0.5	-4.5	-0.6	-1.2	-0.3	-1.5	-0.4	-2.0	-0.2	-2.5
Pretax profit	14.3	23.1	24.9	14.5	16.4	11.5	20.4	18.7	20.6	24.1	26.6	26.3
Tax	-3.2	-5.5	-6.2	-2.5	-3.6	-2.2	-4.7	-4.6	-5.0	-5.9	-6.5	-6.5
Tax rate	22.4%	23.8%	24.9%	17.2%	22.0%	19.1%	23.0%	24.5%	24.5%	24.5%	24.5%	24.5%
Net profit	11.1	17.6	18.7	12.0	12.8	9.3	15.7	14.1	15.6	18.2	20.0	19.9
EPS adjusted	0.81	1.29	1.37	0.88	0.94	0.83	1.00	1.04	1.14	1.34	1.47	1.46
EPS	0.81	1.29	1.37	0.88	0.94	0.68	1.17	1.04	1.14	1.34	1.47	1.46
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	0.00	0.00

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

Figure 21: IAR Systems valuation versus listed peers

	Mkt. cap.		P/E (x)		Е	V/EBIT	(x)	Е	V/Sales	(x)	Div. yi	eld (%)	ROE	(%)	EBIT r	nargin	CAGR 2	020-2022	2e (%)
	(SEKbn)	2021	2022e	2023e	2021	2022e	2023e	2021	2022e	2023e	2021e	2022e	2021e	2022e	2021e	2022e	Sales	EBIT	EPS
IAR Systems (DNBe)	1.3	24.6	17.3	13.4	17.3	11.6	8.6	3.4	2.8	2.4	0.0	2.0	7	10	19.6	24.0	7	11	11
Premium/discount		-64%	-70%	-72%	-70%	-75%	-77%	-81%	-81%	-81%									
IAR Systems (Cons.)	1.3	19.5	13.8	11.1	14.2	9.3	7.2	3.3	2.7	2.4		2.6	10	13	22.5	27.7	11	20	19
Premium/discount		-72%	-76%	-77%	-75%	-80%	-81%	-81%	-81%	-81%									
Nordic software peers																			
QT Group	42.6		109.3	73.8		85.8	57.2	35.5	26.1	20.3	0.0	0.1	52	49	24.8	30.0	44	70	69
Admicom	4.5	51.5	43.5	35.9	38.9	32.8	26.5	17.7	15.0	12.8	1.1	1.3	35	35	45.1	44.7	16	16	46
Fortnox	36.1	142.8	96.2	68.9	113.3	74.7	51.8	38.0	28.2	21.6	0.1	0.2	35	33	33.4	37.4	35	35	36
HMS Networks	22.3	64.8	56.2	51.7	51.7	43.3	39.2	11.8	9.9	9.3	0.5	0.6	29	32	23.1	22.9	26	38	38
INVISIO Communications	7.3	88.1	39.2	27.0	67.5	29.6	19.7	10.6	7.7	6.2	0.6	1.1	19	36	15.7	25.4	31	40	46
Lime Technologies	4.7	63.3	51.4	42.0	59.9	44.8	35.9	12.3	10.5	9.2	0.6	0.6	48	50	20.3	22.9	18	18	16
SimCorp	42.1	40.6	36.2	32.7	31.4	27.9	25.1	8.5	7.8	7.2	1.0	1.1	35	34	26.9	27.7	8	12	13
Vitec Software	17.2	55.6	48.5	42.5	59.0	50.3	42.3	11.2	10.0	9.0	0.4	0.5	20	18	19.1	20.0	18	35	30
Embedded software peers																			
Cadence Design Systems	402.4	51.9	47.4	42.8	41.9	37.4	32.6	15.5	14.3	13.2	0.2	1.2	35	33	37.0	37.5	10	18	15
ANSYS	278.9	52.7	47.3	42.5	42.8	39.7	37.3	17.3	15.6	14.3	0.0	0.0	14	14	41.0	40.7	13	18	12
Xilinx	392.1	60.6	48.8	44.4	56.8	45.5	37.4	14.1	12.2	11.1	0.8	0.8	29	26	25.0	26.6	7	8	6
Altium	32.1	86.9	77.0	63.6	64.2	57.1	46.4	19.8	16.8	14.3	1.2	1.2	20	19	31.1	29.3	6	2	5
Average	106.9	69.0	58.4	47.3	57.0	47.4	37.6	17.7	14.5	12.4	0.5	0.7	31	32	28.5	30.4	19	26	28
Median	34.1	60.6	48.7	42.7	56.8	44.0	37.3	14.8	13.2	12.0	0.5	0.7	32	33	26.0	28.5	17	18	23

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 the growing demand for digital technology. We believe it has a resilient business model based on selling flexible right-to-use licences to access its wholly owned software toolchain (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 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).

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

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

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 c40% global market share. In our view, IAR Systems' competitive strengths include: 1) its complete toolchain for product developers; 2) as it is independent, it can support a wide range of design architecture – 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; 3) superior quality, as its commercial customers cannot compromise tools' code performance, reliability, user-friendliness, or time-to-market by using inferior technologies, such as open-source alternatives; 4) it is 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 Systems leads the market for software development tools with c40% global market share

Key competitive strengths:

- 1) unique and complete toolchain
- 2) independence
- 3) high-quality products
- 4) frontrunner in security solutions
- 5) management's ability to achieve its long-term potential

IAR 4.0

IAR Systems has gone through various phases since 2010 in which it has streamlined the business towards proprietary software, created a more specialised company, and shifted its project-based business model to scalable licence sales, which has substantially improved margins. In our view, it is now heading into a fourth phase: the growth story. We believe that IAR 4.0 (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 IoT.

Setting the scene for the growth story

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 indicate a continuation of the solid industry growth of the past decade. Global Market Insights estimates a 6% market CAGR until 2025. We believe the factors that could affect growth for IAR Systems are likely to be: 1) a continued increase in the number (and complexity) of embedded systems driven by the 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.

Numerous market drivers indicate a continuation of the solid industry growth

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

After acquiring Secure Thingz in March 2018, we believe IAR Systems is the frontrunner in offering secure embedded systems. Thefts of IP (code), cloning, counterfeiting, etc., have made security issues the no.1 barrier to IoT adoption. The security market for embedded systems is in its inception phase, but we expect it to grow rapidly through 2023, driven by: 1) securing IP as a business imperative; and 2) increasingly stringent security legislation. The share of secure, new embedded products is set to grow. In Q2 2019, IAR Systems launched its security offering (C-Trust and Embedded Trust), which ensures that customers' IP is protected against theft, overproduction, and piracy, and that software updates can be managed securely.

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 be a swing factor for its operations

We forecast 2020-2023 sales and EBIT CAGRs of 9% and 17%, respectively

We forecast a 2020–2023 sales CAGR and untapped potential in security solutions for embedded systems of 9%, and an EBIT CAGR of 17% 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; and 4) rapid RISC-V adoption.

This should be driven by a 10% organic sales CAGR for its legacy licensing business (99% of 2020 sales), including new launches in 64-bit, RISC-V, and Linux, 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. In our view, the key 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 low single digits of group sales), setting the stage for accelerated 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 Increased penetration from existing and new technologies in the IAR Embedded Workbench, which should drive add-on sales.

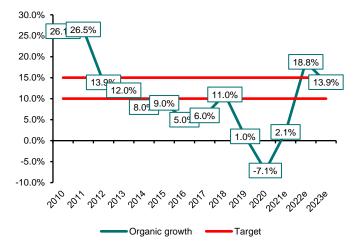
IAR Systems' security offering lends the greatest growth potential, in our view, as it has a solid track record of offering new products to existing customers. In a simplified scenario, we believe its existing customer base could represent a >SEK10bn revenue pool for its security offering. This should 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 2020–2023 EBIT CAGR of 27%, which implies an increase in the margin from 23% in 2020 to 27% in 2023e, driven by: 1) solid organic volume growth; and 2) ample operational leverage (hurt in 2018–2020 by the integration of Secure Thingz) in 2021–2023e, 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

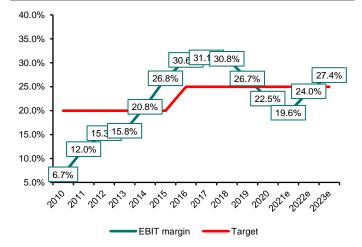
We expect Secure Thingz to contribute to group sales with 2% organic growth CAGR in 2020–2023

Figure 22: Organic sales growth (2010-2023e)



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

Figure 23: Adj. EBIT margin (2010-2023e)



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.

Figure 24: IAR Systems' financial targets - reported and DNB Markets' estimates

		Reporte	d fiscal yea	rs		DNB Mai	rkets' estimate	timates		
	2016	2017	2018	2019	2020	IAR target	2021e	2022e	2023e	
Organic growth	5.0%	6.0%	11.0%	1.0%	-7.1%	10–15%	2.1%	18.8%	13.9%	
EBIT margin	30.6%	31.1%	30.8%	26.7%	22.5%	>25%	19.6%	24.0%	27.4%	
Payout ratio	113.3%	79.0%	74.9%	83.9%	0.0%	30–50%	0%	35%	39%	

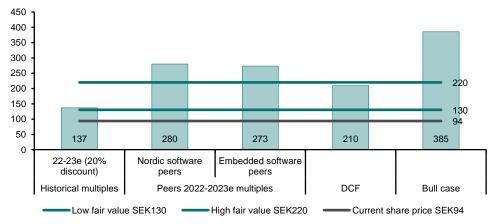
Source: DNB Markets (forecasts), company (historical data and targets)

We calculate a fair value of SEK130-220/share

Based on IAR Systems' historical valuation multiples (P/E of 26x, EV/EBIT of 20x), our group of Nordic software peers, embedded software peers, and our DCF model, we calculate a fair value of SEK130–220/share. At the current share price, our estimates calculate to a 2022e P/E of 17x, an EV/EBIT of 12x, and an EV/sales of 3x.

Fair value of SEK130-220/share





Source: DNB Markets

Summary of negatives

The key negatives that could affect our fair value are: 1) an inability to resurrect the growth story, e.g. if IAR Systems 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 participants with significant resources that have thus far 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 >99% of sales from markets outside Sweden but 50% of its cost base in SEK).

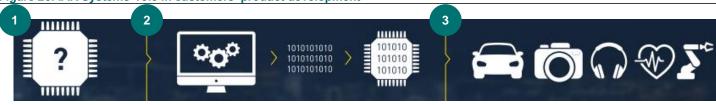
- Large competitors with significant resources have thus far overlooked the potential in software tools for embedded systems
- Failure to resurrect the growth story. Having reported average local-currency growth of 20% in 2010–2013, 9% in 2014–2015, and 3% in 2016–2020, we believe the key potential negative 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.
- IAR Systems is sensitive to fluctuations in the SEK
- FX headwinds. Although >99% of sales are from markets outside Sweden, we estimate ~50% of the fixed cost base is denominated in SEK; 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 2020, we estimate a ~10% FX headwind for sales and a ~30% headwind for 2021 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 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 opensource names is a limited risk for IAR Systems' offering, any success for these alternatives could result in reduced licensing revenues for IAR Systems.
- Growth prospects could be hampered by further consolidation
- 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. Also, 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 its offering, this could impede its ability to address new market trends that should contribute to growth.
- Large companies entering the market. While we believe the 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), 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.
- Retaining talented employees is key
- 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 softwaredevelopment tools that programme the chips.

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 timeto-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 26: IAR Systems' role in customers' product development



Before a processor can be used in a product, it needs to be programmed

Product developers use IAR Embedded Workbench to give the processor the correct instructions to control the finished product

Once the processor has been programmed and installed in the finished product, its ready to go to market

Source: Company

Source: Company

Headquartered in Uppsala (Sweden), the company holds a leading global market share of ~40% with 95%+ of sales stemming from markets outside the Nordics and a headcount of 210. IAR Systems' business model is primarily licence-based, where customers pay for a flexible right-to-use licence to access the IAR Embedded Workbench®, giving it attractive and steady revenue streams (~35% recurring revenues). In addition, IAR Systems underwent 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 the launch of a subscription-based model for RISC-V tools, we believe the building blocks are in place to take the case to the next level.

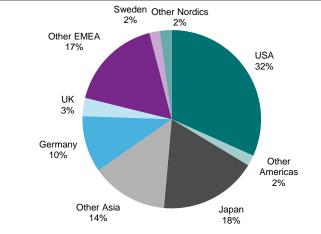
- IAR Embedded Workbench (99% of 2020 sales), based on the number of licence users (perpetual software keys) of the IAR Embedded Workbench sold when a developer programmes a product. The traditional licence costs cSEK30,000-50,000 (upfront), while the customer can add support and updates for an annual cost of 20% of the licence price.
- Secure Thingz (1%). C-Trust at ~SEK30,000/seat as a perpetual licence targeting IAR Systems' 150,000 users and Embedded Trust at ~SEK150,000/seat as an annual subscription licence targeting the security experts at IAR Systems' 46,000 OEM customers.

40% global market share with 57% licence-based revenues, which are flexible for customers and leverage the number of programmers using its licence...

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

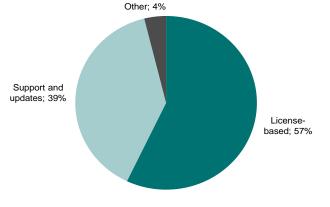
...complemented by royalty-based revenue that leverages the number of chips used in customers' production. which falls straight through to EBIT

Figure 27: Geographical sales split (2020)



Source: Company

Figure 28: Sales by business model (2020)



Source: Company

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

With 2020 net sales of SEK372m, IAR Systems is 3x larger than the company acquired in 2005. While generating a sales CAGR of 8% over the past 10 years, it was able to significantly boost underlying profitability from an adj. EBIT margin of 12.3% in 2007 to 22.5% in 2020, which we attribute to: 1) the scalability of its high-gross-margin standardised software; 2) the increased focus on proprietary products; and 3) increased cost-efficiency (given the large fixed cost base, where personnel costs represent 65% of sales).

...with profitable growth, a sales CAGR of 8%, and an adj. EBIT CAGR of 22% in the past 10 years

Figure 29: IAR Systems – sales (SEKm) and adj. EBIT margin

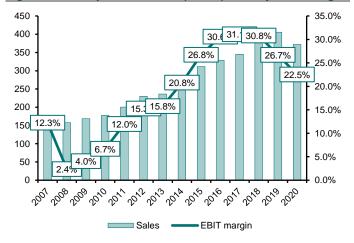
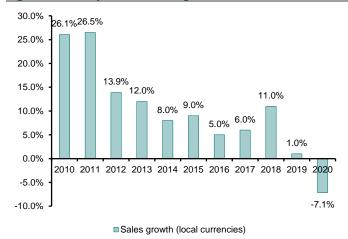


Figure 30: IAR Systems - sales growth in local currencies



Source: Company

IAR Systems' key competitive advantage in our view is its flagship product, the IAR Embedded

Workbench, which is a complete toolchain for customers. As it is 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 to offer several adjacent products integrated into the IAR Embedded Workbench to optimise the code programming, for instance C-STAT and C-RUN (static and dynamic analysis that qualityassures 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 - combined with a comprehensive support organisation - has 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 and offers a complete solution...

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

Figure 31: IAR Embedded Workbench® sold to >46,000 customer organisations

IDE Tools **Build Tools** C-SPY Debugger C-Trust **Embedded Trust** SIEMENS - Security development environment - Identity and ceritificate Adds security to IAR Embedded Workbench Delivery of secure an - Edito - IAR C/C++ Compiler Simulator driver Hardware debugging >46.000 - Project manager
- Library Tools AssemblerLinkerRISC-V support · Power debugging · RTOS plugins Dräg encrypted code - Inhibits unauthorized Secure Boot Manager BREAS manufacturing - Secure deployment and manufacturing mastering ASSA **SECURE** THINGZ SYSTEMS

Source: Company (information), DNB Markets (graph structuring)

Forecast changes – P&L

		New			Old			Change	
(SEKm)	2021e	2022e	2023e	2021e	2022e	2023e	2021e	2022e	2023e
Revenues	360	427	487	383	465	530	-23	-38	-44
Cost of sales	-12	-13	-13	-13	-15	-15	1	2	2
Gross profit	348	414	473	370	450	515	-22	-36	-42
Operating expenses	-224	-249	-269	-230	-259	-284	7	10	15
EBITDA	124	165	204	139	191	231	-15	-26	-27
EBITDA adj	124	165	204	139	191	231	-15	-26	-27
EBITDA margin (%)	34.5	38.6	41.9	36.3	41.1	43.5	-1.8	-2.4	-1.6
Depreciation	-4	-5	-5	-3	-4	-5	0	0	0
Amortisation	-50	-58	-65	-49	-58	-65	-1	0	1
EBIT	71	103	134	86	129	160	-16	-26	-27
EBIT adj	71	103	134	88	129	160	-18	-26	-27
Net financial items	-4	-5	-7	-4	-6	-8	0	1	1
PBT	67	98	126	83	123	152	-16	-25	-26
Taxes	-15	-24	-31	-19	-30	-37	4	6	6
Minorities	0	0	0			0			0
Net profit	52	74	95	63	93	115	-12	-19	-20
Adjustments to net profit	0	0	0	-1	0	0	2	0	0
Net profit adj	52	74	95	62	93	115	-10	-19	-20
Per share data (SEK)									
EPS	3.83	5.40	7.00	4.65	6.80	8.43	-0.83	-1.39	-1.44
EPS adj	3.80	5.40	7.00	4.80	6.80	8.43	-1.00	-1.39	-1.44
DPS ordinary	0.00	1.90	2.70	0.00	2.40	3.40	0.00	-0.50	-0.70
DPS	0.00	1.90	2.70	0.00	2.40	3.40	0.00	-0.50	-0.70
D1 0	0.00	1.00	2.70	0.00	2.40	0.40	0.00	0.00	0.70
Other key metrics (%)									
Revenue growth	-3.2	18.6	13.9	3.0	21.4	14.1	-6.1	-2.8	-0.2
EBIT adj growth	-15.9	45.7	30.0	5.5	45.4	24.8	-21.4	0.4	5.2
EPS adj growth	-12.9	42.3	29.5	10.1	41.6	24.1	-23.0	0.6	5.4
Avg. number of shares (m)	14	14	14	14	14	14	0	0	0
Capex	-77	-81	-89	-76	-81	-88	-1	0	-1
OpFCF	47	84	115	63	110	142	-16	-26	-28
Working capital	60	80	120	61	103	153	-10 -1	-22	-33
NIBD adj	-63	-83	-114	-59	-83	-128	-1 -4	-22 1	-33 14
TAIDD day	00	- 00	117	-00	-00	120	7	<u>'</u>	

Source: DNB Markets

Forecast changes – By segment and assumptions

		New			Old			Change	
(SEKm)	2021e	2022e	2023e	2021e	2022e	2023e	2021e	2022e	2023e
Assumptions									
Revenue org. % YOY	2.06	18.79	13.93	8.15	20.54	14.11	-6.08	-1.75	-0.18
Structure impact % YOY	0.00	0.00	0.00			0.00			0.00
Currency impact % YOY	-5.23	-0.17	0.00	-5.19	0.83	0.00	-0.04	-1.01	0.00

Source: DNB Markets

Quarterly numbers

(SEKm)	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021e	Q1 2022e	Q2 2022e	Q3 2022e	Q4 2022e
Revenues	100	89	91	89	87	88	96	98	110	109	110
Cost of sales	-3	-3	-4	-3	-3	-3	-3	-3	-3	-3	-3
Gross profit	97	86	87	86	85	85	93	95	107	106	107
Operating expenses	-60	-49	-54	-56	-59	-50	-59	-61	-64	-62	-63
EBITDA	37	37	33	30	26	35	34	34	43	44	44
Depreciation	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
Amortisation	-11	-11	-13	-12	-12	-13	-12	-13	-15	-16	-14
EBIT	25	25	19	17	13	21	20	21	26	27	29
Net financial items	-2	-1	-5	-1	-1	0	-1	0	-2	0	-2
PBT	23	25	15	16	12	20	19	21	24	27	26
Taxes	-6	-6	-3	-4	-2	-5	-5	-5	-6	-7	-6
Minorities	0	0	0	0	0	0	0	0	0	0	0
Net profit	18	19	12	13	9	16	14	16	18	20	20
Adjustments to net profit	0	0	0	0	-1	2	0	0	0	0	0
Net profit adj	18	19	12	13	8	17	14	16	18	20	20
Dividend paid	0	0	0	0	0	0	0	0	-26	0	0
Avg. number of shares (m)	14	14	14	14	14	14	14	14	14	14	14
Per share data (SEK)											
EPS	1.29	1.37	0.88	0.94	0.68	1.17	1.04	1.14	1.34	1.47	1.46
EPS adj	1.29	1.37	0.88	0.94	0.83	1.00	1.04	1.14	1.34	1.47	1.46
DPS ordinary	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	0.00	0.00
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90	0.00	0.00
Growth and margins (%)											
Revenues, QOQ growth	8.5	-11.2	2.0	-2.0	-1.7	0.6	9.2	2.4	11.5	-0.4	0.9
Revenues, YOY growth	1.1	-11.1	-15.1	-3.7	-12.7	-1.1	5.9	10.6	25.4	24.2	14.7
EPS adj, YOY growth	7.8	-13.4	-40.0	15.4	-35.8	-27.3	18.1	21.6	61.5	47.6	40.5
Gross margin	96.6	97.0	95.6	96.2	96.9	96.8	96.6	96.5	97.2	97.1	96.9
EBITDA adj margin	36.8	41.4	35.8	33.5	29.7	39.6	35.0	34.9	38.9	40.4	40.0
Depreciation/revenues	-1.2	-0.4	-0.9	-0.7	-1.1	-1.1	-1.0	-0.8	-1.2	-1.2	-1.0
EBIT adj margin	25.0	28.6	20.9	19.1	16.8	21.2	21.0	21.4	23.9	24.5	26.1
Net profit margin	17.6	21.0	13.2	14.4	10.6	17.9	14.7	15.8	16.6	18.4	18.0

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

Adjustments to quarterly numbers

(SEKm)	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021e	Q1 2022e	Q2 2022e	Q3 2022e	Q4 2022e
EBITDA	37	37	33	30	26	35	34	34	43	44	44
EBITDA adj	37	37	33	30	26	35	34	34	43	44	44
EBIT	25	25	19	17	13	21	20	21	26	27	29
Other EBIT adjustments	0	0	0	0	-2	2	0	0	0	0	0
	_	-	-	_	_			-	•	_	_
EBIT adj	25	25	19	17	15	19	20	21	26	27	29
Net profit	18	19	12	13	9	16	14	16	18	20	20
Other EBIT adjustments	0	0	0	0	-2	2	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	18	19	12	13	8	17	14	16	18	20	20

Quarterly numbers by segment and assumptions

(SEKm)	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021e	Q1 2022e	Q2 2022e	Q3 2022e	Q4 2022e
Assumptions											
Revenue org. % YOY	-0.81	-5.60	-10.77	5.96	-2.40	-0.67	5.69	9.85	25.06	25.31	15.38
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	1.92	-5.50	-4.31	-9.64	-10.29	-0.45	0.17	0.70	0.36	-1.07	-0.64

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

Annual P&L

(SEKm)	2014	2015	2016	2017	2018	2019	2020	2021e	2022e	2023e
Revenues	256	312	328	345	385	406	372	360	427	487
Cost of sales	-13	-10	-12	-9	-9	-11	-14	-12	-13	-13
Gross profit	243	301	316	337	376	395	358	348	414	473
Operating expenses	-179	-203	-203	-209	-236	-249	-225	-224	-249	-269
EBITDA	64	98	113	127	140	146	133	124	165	204
Depreciation	-2	-3	-3	-2	-3	-3	-3	-4	-5	-5
Amortisation	-8	-12	-14	-17	-22	-34	-46	-50	-58	-65
EBIT	53	83	97	107	116	108	84	71	103	134
Net financial items	0	0	0	-2	-2	-1	-7	-4	-5	-7
PBT	54	83	100	106	117	107	77	67	98	126
Taxes	-11	-20	-22	-26	-26	-26	-17	-15	-24	-31
Effective tax rate (%)	21	24	22	24	22	24	23	23	25	25
Minorities	0	0	0	0	0	0	0	0	0	0
Net profit	42	63	78	80	91	81	59	52	74	95
Adjustments to net profit	0	0	-3	0	-2	0	0	0	0	0
Net profit adj	42	63	75	80	88	81	59	52	74	95
Dividend paid	0	-63	-88	-63	-68	-68	0	0	-26	-37
Avg. number of shares	13	13	13	13	14	14	14	14	14	14
Per share data (SEK)										
EPS	3.34	5.02	6.18	6.33	6.67	5.96	4.36	3.83	5.40	7.00
EPS adj	3.34	5.02	6.18	6.33	6.67	5.96	4.36	3.80	5.40	7.00
DPS ordinary	0.00	5.00	7.00	5.00	5.00	3.00	0.00	0.00	1.90	2.70
DPS	0.00	5.00	7.00	5.00	5.00	3.00	0.00	0.00	1.90	2.70
Growth and margins (%)										
Revenue growth	8.3	21.9	5.4	5.1	11.7	5.3	-8.3	-3.2	18.6	13.9
EPS adj growth	59.2	50.2	23.0	2.6	5.3	-10.6	-26.8	-12.9	42.3	29.5
Gross margin	95.0	96.7	96.3	97.5	97.7	97.3	96.2	96.6	96.9	97.2
EBITDA margin	24.9	31.5	34.5	36.9	36.4	35.9	35.7	34.5	38.6	41.9
EBITDA adj margin	24.9	31.5	34.5	36.9	36.4	35.9	35.7	34.5	38.6	41.9
Depreciation/revenues	-0.9	-0.8	-0.8	-0.7	-0.7	-0.8	-0.8	-1.0	-1.1	-1.1
EBIT margin	20.8	26.8	29.4	31.1	30.0	26.7	22.5	19.6	24.0	27.4
EBIT adj margin	20.8	26.8	30.6	31.1	30.8	26.7	22.5	19.6	24.0	27.4
PBT margin	21.0	26.7	30.5	30.6	30.4	26.4	20.6	18.6	22.8	26.0
Net profit margin	16.5	20.3	23.8	23.2	23.6	20.0	16.0	14.4	17.3	19.6

Adjustments to annual P&L

(SEKm)	2014	2015	2016	2017	2018	2019	2020	2021e	2022e	2023e
EBITDA	64	98	113	127	140	146	133	124	165	204
EBITDA adj	64	98	113	127	140	146	133	124	165	204
EBIT	53	83	97	107	116	108	84	71	103	134
Other EBIT adjustments	0	0	-4	0	-3	0	0	0	0	0
EBIT adj	53	83	101	107	119	108	84	71	103	134
Net profit	42	63	78	80	91	81	59	52	74	95
Other EBIT adjustments	0	0	-4	0	-3	0	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	42	63	75	80	88	81	59	52	74	95
Per share data (SEK)										
EPS	3.34	5.02	6.18	6.33	6.67	5.96	4.36	3.83	5.40	7.00
Recommended adjustment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.03	0.00	0.00
EPS adj	3.34	5.02	6.18	6.33	6.67	5.96	4.36	3.80	5.40	7.00

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

Cash flow

(SEKm)	2014	2015	2016	2017	2018	2019	2020	2021e	2022e	2023e
Net profit	42	63	78	80	91	81	59	52	74	95
Depreciation and amortisation	10	15	17	20	25	37	49	54	62	70
Cash flow from operations (CFO)	70	99	114	124	93	106	118	121	126	157
Capital expenditure	-32	-19	-19	-19	-47	-84	-81	-77	-81	-89
Acquisitions/Investments	0	0	0	0	-171	-19	0	0	0	0
Divestments	0	1	0	0	0	0	0	0	0	0
Cash flow from investing (CFI)	-32	-18	-19	-38	-218	-102	-81	-77	-81	-89
Free cash flow (FCF)	39	80	95	86	-125	4	37	43	45	68
Net change in debt	0	0	0	0	0	30	6	1	0	0
Dividends paid	0	-63	-88	-63	-68	-68	0	0	-26	-37
Share issue (repurchase)	-53	0	0	0	172	0	0	0	0	0
Other	0	0	0	0	4	-14	-30	-18	-9	0
Cash flow from financing (CFF)	-53	-64	-88	-63	108	-52	-25	-17	-35	-37
Total cash flow (CFO+CFI+CFF)	-15	17	7	23	-17	-49	12	26	11	31
FCFF calculation										
Free cash flow	39	80	95	86	-125	4	37	43	45	68
Less: tax shields/other	0	0	0	0	0	0	0	0	0	0
Less: acquisitions	0	0	0	0	171	19	0	0	0	0
Less: divestments	0	-1	0	0	0	0	0	0	0	0
Growth (%)										
CFO	72.7	40.4	15.7	8.5	-25.3	14.1	12.0	1.8	4.9	24.5
CFI	-66.0	42.3	-3.3	-98.9	-478.5	53.0	20.4	5.1	-4.7	-10.1
FCF	78.7	108.3	18.5	-9.4	-244.7	102.8	957.1	16.8	5.3	50.0
CFF	-550.8	-19.5	-39.0	28.5	270.4	-148.3	52.7	30.9	-105.3	-5.6
FCFF	nm	nm	nm	nm	nm	nm	nm	nm	nm	nm

Balance sheet

(SEKm)	2014	2015	2016	2017	2018	2019	2020	2021e	2022e	2023e
Assets	375	399	396	410	722	825	834	910	948	1,007
Inventories	4	5	6	5	7	7	6	6	7	8
Trade receivables	39	44	48	51	63	67	59	55	63	72
Other receivables	11	20	19	12	38	52	64	59	59	59
Current financial assets	0	0	0	0	0	0	0	0	0	0
Cash and cash equivalents	71	89	99	120	106	61	68	96	107	138
Current assets	124	158	172	187	214	186	196	216	236	276
Property, plant and equipment	8	7	6	6	9	64	54	14	13	11
Other intangible assets	186	192	197	194	484	568	577	673	693	714
Deferred tax assets	51	37	16	3	13	5	4	4	4	4
Non-current financial assets	6	5	5	20	2	2	3	3	3	3
Non-current assets	251	241	224	223	508	639	638	694	712	731
Total assets	375	399	396	410	722	825	834	910	948	1,007
Equity and liabilities	375	399	396	410	722	825	834	910	948	1,007
Total equity	289	291	280	290	550	592	613	695	742	801
Trade payables	5	5	5	6	7	9	5	6	5	6
Other payables and accruals	65	84	92	31	131	117	111	46	46	46
Short-term debt	1	1	1	1	2	38	35	18	18	18
Total current liabilities	71	90	99	102	140	164	150	156	156	156
Long-term debt	2	1	2	2	1	41	32	15	6	6
Deferred tax liabilities	15	17	15	14	30	27	37	43	43	43
Other non-current liabilities	0	1	1	2	2	1	1	1	1	1
Total non-current liabilities	16	18	18	17	32	69	70	59	50	50
Total liabilities	87	108	116	120	172	233	220	215	205	206
Total equity and liabilities	375	399	396	410	722	825	834	910	948	1,007
Key metrics										
Net interest bearing debt	-68	-88	-97	-117	-103	18	-2	-63	-83	-114

Valuation ratios

(SEKm)	2014	2015	2016	2017	2018	2019	2020	2021e	2022e	2023e
Enterprise value										
Share price (SEK)	74.75	150.00	206.00	189.00	243.00	186.00	139.80	93.60	93.60	93.60
Number of shares (m)	12.63	12.63	12.63	12.63	13.62	13.63	13.63	13.64	13.64	13.64
Market capitalisation	944	1,895	2,602	2,387	3,310	2,535	1,905	1,277	1,277	1,277
Net interest bearing debt	-68	-88	-97	-117	-103	18	-2	-63	-83	-114
Adjustments to NIBD	0	0	0	0	0	0	0	0	0	0
Net interest bearing debt adj	-68	-88	-97	-117	-103	18	-2	-63	-83	-114
EV	876	1,807	2,505	2,270	3,206	2,554	1,904	1,214	1,194	1,163
EV adj	876	1,807	2,505	2,270	3,206	2,554	1,904	1,214	1,194	1,163
Valuation										
EPS	3.34	5.02	6.18	6.33	6.67	5.96	4.36	3.83	5.40	7.00
EPS adj	3.34	5.02	6.18	6.33	6.67	5.96	4.36	3.80	5.40	7.00
DPS ordinary	0.00	5.00	7.00	5.00	5.00	3.00	0.00	0.00	1.90	2.70
DPS	0.00	5.00	7.00	5.00	5.00	3.00	0.00	0.00	1.90	2.70
P/E	22.4	29.9	33.4	29.8	36.4	31.2	32.1	24.5	17.3	13.4
P/E adj	22.4	29.9	33.4	29.8	36.4	31.2	32.1	24.6	17.3	13.4
P/B	3.27	6.51	9.31	8.22	6.02	4.28	3.11	1.84	1.72	1.59
Average ROE	14.5%	21.9%	27.3%	28.1%	21.6%	14.2%	9.9%	7.9%	10.3%	12.4%
Earnings yield adj	4.5%	3.3%	3.0%	3.4%	2.7%	3.2%	3.1%	4.1%	5.8%	7.5%
Dividend yield	0.0%	3.3%	3.4%	2.6%	2.1%	1.6%	0.0%	0.0%	2.0%	2.9%
Free cash flow yield	4.1%	4.2%	3.7%	3.6%	-3.8%	0.1%	1.9%	3.4%	3.6%	5.3%
EV/SALES	3.42	5.80	7.63	6.58	8.32	6.30	5.12	3.37	2.79	2.39
EV/SALES adj	3.42	5.80	7.63	6.58	8.32	6.30	5.12	3.37	2.79	2.39
EV/EBITDA	13.8	18.4	22.1	17.8	22.9	17.5	14.3	9.8	7.2	5.7
EV/EBITDA adj	13.8	18.4	22.1	17.8	22.9	17.5	14.3	9.8	7.2	5.7
EV/EBIT	16.5	21.7	26.0	21.1	27.7	23.6	22.7	17.2	11.6	8.7
EV/EBIT adj	16.5	21.7	24.9	21.1	27.0	23.6	22.7	17.2	11.6	8.7
EV/capital employed	3.0	6.2	8.9	6.4	5.8	3.8	2.8	1.5	1.4	1.3
EV/NOPLAT	22.2	29.3	35.1	28.6	37.5	31.8	30.7	23.2	15.7	11.8
EV/OpFCF (taxed)	50.1	31.6	36.6	28.3	51.4	75.1	64.5	42.4	20.8	14.5

Key accounting ratios

	2014	2015	2016	2017	2018	2019	2020	2021e	2022e	2023e
Profitability (%)										
ROA	11.3	16.4	19.6	19.9	16.0	10.5	7.2	6.0	7.9	9.8
ROCE	18.1	28.5	34.9	33.6	26.1	17.7	12.4	9.4	12.3	15.1
ROCE after tax	13.4	21.1	25.8	24.8	19.3	13.1	9.2	7.0	9.1	11.2
Return on invested capital (%)										
Net PPE/revenues	3.1	2.1	1.9	1.8	2.3	15.7	14.6	3.9	3.0	2.2
Working capital/revenues	20.9	22.0	22.4	24.6	19.3	5.4	12.3	16.6	18.8	24.7
Cash flow ratios (%)										
FCF/revenues	15.1	25.8	29.0	25.0	-32.4	0.9	9.9	12.0	10.6	14.0
FCF yield (%)	4.1	4.2	3.7	3.6	1.4	0.9	1.9	3.4	3.6	5.3
CFO/revenues	27.5	31.7	34.8	35.9	24.0	26.1	31.8	33.5	29.6	32.3
CFO/market capitalisation	7.4	5.2	4.4	5.2	2.8	4.2	6.2	9.4	9.9	12.3
CFO/capex	217.6	508.8	614.0	652.1	197.9	126.4	145.5	155.9	156.2	176.6
CFO/current liabilities	99.4	110.2	115.8	121.1	66.2	64.4	78.9	77.0	81.2	100.6
Cash conversion ratio	91.5	126.8	122.2	107.9	-137.6	4.3	62.3	83.2	61.7	71.5
Capex/revenues	12.6	6.2	5.7	5.5	12.1	20.6	21.9	21.5	18.9	18.3
Capex/depreciation	1404.3	776.0	744.0	791.7	1800.0	2696.8	2625.8	2179.0	1796.5	1635.6
OpFCF margin	12.2	25.3	28.8	31.4	24.2	15.3	13.8	13.0	19.7	23.6
Total payout ratio	0.0	99.6	113.3	78.9	75.0	50.4	0.0	0.0	35.1	38.6
Leverage and solvency (x)										
Net debt/EBITDA	-1.08	-0.89	-0.85	-0.92	-0.74	0.13	-0.01	-0.51	-0.50	-0.56
Total debt/total capital (BV)	0.01	0.00	0.01	0.01	0.00	0.10	0.08	0.04	0.03	0.02
LTD / (LTD + equity (MV))	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.01	0.00	0.00
Cash conversion cycle										
Inventory turnover days	104.7	180.7	167.5	223.3	267.7	223.1	147.6	181.2	191.9	214.9
Receivables turnover days	70.9	74.5	74.7	66.2	96.1	106.8	120.2	115.9	104.6	97.9
Credit period	147.1	170.1	158.6	244.8	296.1	310.9	129.4	183.4	148.9	164.8
Cash conversion cycle	28.5	85.1	83.7	44.8	67.7	18.9	138.3	113.7	147.7	147.9

28 October 2021

Important Information

Company: IAR Systems
Coverage by Analyst: Joachim Gunel
Date: 27/10/2021

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.

Risk warning - generally high risk

The risk of investing in financial instruments is generally high. Past performance is not a reliable indicator of future performance, and estimates of future performance are based on assumptions that may not be realised. When investing in financial instruments, the value of the investment may increase or decrease, and the investor may lose all or part of their investment. Careful consideration of possible financial distress should be made before investing in any financial instrument.

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.

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	600	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.

Recommendation distribution and corporate clients for the last 12 months

	Buy	Hold	Sell	No_rec	Total
Number	161	89	14	23	287
% of total	56%	31%	5%	8%	
DNB Markets client	26%	11%	2%	4%	125

^{***}Share positions as part of DNB Group. Holdings as part of DNB Markets investment services activity are not included.

28 October 2021

Legal statement

This Report is a research report within the meaning of Regulation (EU) NO 596/2014 on market abuse (Market Abuse Regulation), and has been prepared in accordance with rules set out in relevant industry standards issued by The Norwegian Securities Dealers Association. This Report has been prepared as general information and is therefore not intended as a personal recommendation of particular financial instruments or strategies, and does not constitute personal investment advice as defined the Norwegian securities trading act (Norwegian verdipapirhandelloven).

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 who are preparing this report from utilizing or being aware of information available in the DNB Group that may be relevant to the recipients' decisions. 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. Please contact DNB Markets at 08940 (+47 915 08940) for further information and inquiries regarding this report.

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 investor, as these terms have been defined under Singapore's Financial Advisers 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 FAR. 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 have a reasonable basis for making investment recommendations to you as the client. Section 36 of the FAA requires a financial adviser to include, within any circular or written communications in which he makes recommendations concerning securities, a statement of the nature of any interest which the financial adviser or or an institutional investor in the report is intended for and is to be circulated only to persons who are classified as an accredited inve

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 Rules 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., 30 Hudson Yards, 81st Floor, New York, NY 10001, telephone number +1 212-551-9800.

In Canada

The Information has been distributed in reliance on the International Dealer Exemption pursuant to NI 31-103 section 8.18. 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, Inc.'s head office is Norway. 3) There may be difficulty enforcing legal rights against DNB Bank ASA (DNB Markets) and DNB Markets, Inc. is head office is Norway. 3) There may be difficulty enforcing legal rights against DNB Bank ASA (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: MLT Aikins, 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: Field LLP, 601, 4920 52nd Street, Yellowknife, NT X1A 3T1. Nunavut: Field LLP, P.O. Box 1734, House 2436, 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., 1 Place Ville Marie, Suite 3000, Montréal, QC H3B 4N8. Saskatchewan: MLT Aikins, 1500 Hill Centre I, 1874 Scarth Street, Regina, SK S4P 4E9. Yukon: Macdonald & Company, Suite 200, Financial Plaza, 204 Lambert Street,

In Brazi

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.