

## Research Update

### NOSA PLUGS AB

Nosa Plugs AB, a medical technology company, develops, manufactures, and sells intranasal breathing products. Products include plugs for odor protection, allergies, and smell training. Nosa Plugs AB (publ) was incorporated in 2014 and is headquartered in Stockholm, Sweden.

CEO: Adrian Liljefors  
CoB: Dan Josefsberg  
[www.nosaplugs.com](http://www.nosaplugs.com)

Listing: Nasdaq First North Stockholm  
Share price, latest: 0.6 SEK  
Market Cap: 131 SEKm  
Enterprise Value: 127 SEKm

CapitalIQ: OM:NOSA  
Bloomberg: NOSA:SS

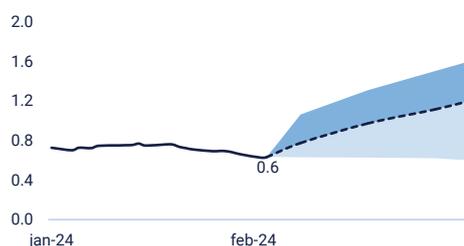
### SHARE PRICE



	12M	YTD	6M	1M
Development (%)	14	-22	-28	-14

Source: S&P Capital IQ

### VALUATION INTERVAL (SEK)



	BEAR	BASE	BULL
Target Price (SEK)	0.6	1.2	1.6
Potential (%)	0%	99%	152%

Source: S&P Capital IQ and Carlsquare estimates

### CARLSQUARE EQUITY RESEARCH

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## Record-breaking sales funding the pipeline

The fourth quarter for Nosa Plugs saw sales reach a new record. The company now has distributors in important markets such as France and Spain. Furthermore, NOSA raised money to accelerate the development of NOSA drug delivery. Given that the key factors of the drug delivery plugs are still unknown, we cannot estimate the value of the development. We reiterate our target price of SEK 1.2 per share pending further information.

### NOSA smell training launched at the Medica fair

NOSA launched their smell training plugs at the Medica fair in Düsseldorf in mid-November of last year as the first CE-marked solution for parosmia and hyposmia (reduced ability to smell). After being well received there, NOSA executed the first step in a three-step process for launching the smell training plugs. The first step consists mainly of selling in NOSA's channels and through online marketplaces such as Amazon. The second step will be to market and sell the product through retailers and distributors. This is the current phase of the product launch, with many of the orders in late December supposed to generate revenues in Q1 of 2024. Pending the conclusion of the ongoing study at Karolinska, expected in May, NOSA will execute the third step which is to target pharmacies. While the packing of the product is currently done manually, an external partner will assume the responsibility. This is expected to strengthen the gross margin from Q2 onwards.

### NOSA drug delivery making progress

The drug delivery plugs have been making steady developmental progress and the recent rights issue was conducted to accelerate this further. On February 5, NOSA announced results from testing of their drug delivery plugs. Substances were tested before the study to select the ones best suited for NOSA drug delivery. After deciding on one substance, testing began in an independent laboratory in Lund using, among other things, an artificial nose to track dispersal and uptake. The study revealed that the substance was both dispersed and taken up by the nose at a desirable rate at the desired locations in the nose. Furthermore, the results of the test also showed that the uptake could be very fast. Being able to combine fast uptake and slow release is a very unique property that is highly sought after in several indications. NOSA has a patented technique of casting their plugs with substances in gaseous form which allows for uptake through the olfactory bulb, one of the few places where drugs can circumvent the blood-brain barrier (BBB) and avoid the first-pass effect.

### Valuation will be reviewed following choice of indication

Since we derived our cost estimates the development of NOSA drug delivery has accelerated. Combine this with higher-than-expected costs associated with the launch of the smell training plugs as well as faster than expected hiring of new staff and the forecast has become even tighter. We have updated our estimates for the costs associated with personnel expenses as well as our costs pertaining to R&D. As was discussed in our [interview with CEO Adrian Liljefors](#), the number of patients, timeline and costs are beginning to become clear regarding the drug delivery project. However, the substance, indication, and market being addressed are yet undecided. This affects our model since costs can credibly be included but the value generated from the investments cannot. We hope to learn more about the targets of the project in the coming months and expect that once these factors are known, we can include the upside in our model. We note that, given our updated estimates, we expect NOSA to barely squeak through to profitability with the current cash supply. Alas, there is little room for delays or unexpected costs. In summary we judge it more appropriate to reiterate our fair share value of SEK 1.2 per share until more information about NOSA drug delivery is released in the spring. After more information has been given on the target drug and indication, we will fully incorporate the development and reflect it in our target price.

### Financial Key Ratios (SEKm)

	2021A	2022A	2023A	2024E	2025E	2026E
Net revenues	3.9	6.7	10.4	21.8	43.5	65.5
Gross Profit	3.2	4.6	7.0	14.7	28.9	43.6
EBIT	-9.8	-13.9	-14.1	-14.7	-5.3	5.7
EBT	-10.2	-14.1	-14.2	-15.3	-5.2	5.7
Earnings per share	-0.99	-0.69	-0.08	-0.07	-0.02	0.03
EV/Sales	NaN	NaN	17.9x	8.5x	4.3x	2.8x
EV/EBITDA	NM	NM	NM	NM	NM	20.7x
EV/EBIT	NM	NM	NM	NM	NM	32.8x

Source: Company information and Carlsquare estimates

# Investment Case

Nosa Plugs has a family of products centered around intranasal breathing with the core product being the Nosa odor control menthol plugs. The company has also developed new products for, e-g., preventing infections and allergic reactions, with plugs in development for intranasal drug delivery.

## Strong organic growth of core products

With Nosa menthol plugs as the original and primary product, growth has been both strong and steady, with a sales CAGR of 24% in 2019-2022. We expect an average annual sales growth of 32.8% during our forecast period. We leave our estimated fair share value unchanged at SEK 1.2 after full dilution, an upside of 99%. This also applies to the bull and bear cases at SEK 1.6 and 0.6 respectively.

- **Listed through reverse acquisition and picking up steam.** Nosa Plugs was a private company until March of 2023 when it was listed on the Nasdaq First North Stockholm exchange. More precisely, on the 15th of March, Nosa Plugs bought out FRISQ Holding AB from the stock exchange through a reverse merger. Nosa Plugs AB bought 100% of the shares in the created entity NoseOption AB for SEK 74.9 million. The payment was made with 111.6 million shares in Nosa Plugs AB at SEK 0.671 per share. Following the acquisition, the original owners of Nosa Plugs AB held 62% of the shares, with the remainder owned by FRISQ Holding AB's original owners.
- **Strong organic growth with no obvious bottleneck.** NOSA has had very strong organic growth, and this is expected to continue with the recent launch of smell training plugs. Growing around 84% in Q4 of 2023 YoY and 52% for FY2023 YoY, the company has been able to generate considerable momentum in its sales. More importantly, the growth has not come at the cost of margins. Instead, investments have been made in anticipation of sustained growth with added factory capacity and efficient sales through the usage of influencers.
- **Two business legs secure both short and long-term growth.** With a strong core of products that are growing in both the B2B and B2C segments, NOSA can fund the development of long-term projects such as plugs for intranasal drug delivery. This is all based upon the patented and unique method of being able to cast gaseous forms into plastics in a way that enables a slow and steady release. In a recently completed pre-clinical study of NOSA drug delivery in an artificial nose, it was observed that both administration and uptake were strong. This allows for drugs to pass through the olfactory bulb and, thus, circumvent both the BBB and the first-pass effect.
- **Strong management and board inspire faith in long-term goals.** The company raised money in Q4 of 2023 through an accelerated bookbuild scheme. Not only was the money raised without guarantors, but it also attracted new institutional investors. Furthermore, a share issue targeting the board was carried out without a discount, to avoid dilution. This inspires confidence that the company is not only moving in the right direction but that there is internal unity in the developmental activities. Should further financing needs come up, although this is not expected, we expect favorable conditions.

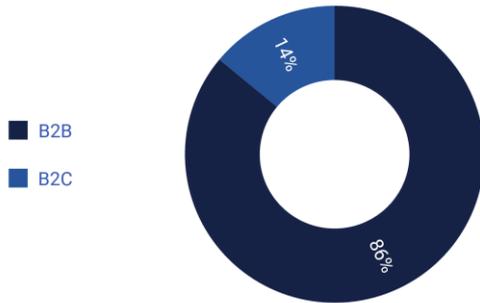
## Quarterly sales comparison

### Geography and customer mix

In terms of the geographical distribution of sales, we note a major near-term inflection point being the addition of NOSA plugs in NHS frameworks. As the UK represents a large market that NOSA is currently penetrating together with its partner Mediq, formerly Bunzl, a breakthrough here could entail a growth spurt in sales. For other geographies, new partnerships and distributors were added in Q4. One such partnership is with Abena-Frantex, one of the larger distributors in France, which was announced in late November. Another distributor added later in December was Bastos Medical for the Spanish market. Both countries were priority markets for NOSA. While Abena-Frantex will initially focus on odor control, Bastos Medical will provide the entire range of products.

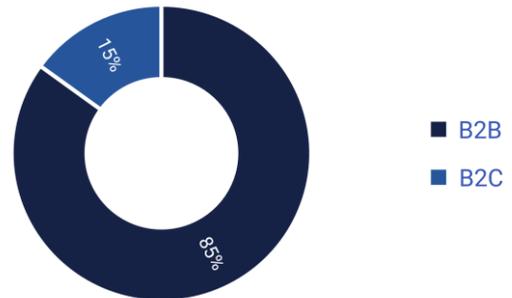
In terms of the consumer mix the change was slightly different from our expectations. Given the launch of the smell training plugs in B2C channels during the quarter, we expected a somewhat larger pull towards this segment. The small increase of one percentage point highlights the strong growth of the odor control plugs in B2B channels. As was mentioned in our previous quarterly update, we expect smell training to really pick up in Q1, as NOSA executes the second step of its three-step rollout.

**B2B and B2C sales mix Q3 2023 (%)**



Source: Company information

**B2B and B2C sales mix Q4 2023 (%)**



Source: Company information

## Estimates

### Updates take into account recent developments

The largest changes to our estimates are associated with indirect costs, in particular, pertaining to personnel, general, and R&D. The company has ramped up the development of NOSA drug delivery since our latest update. The directed share issue, awarding SEK 18.5 million in Q1 of 2024 after issuing costs and another SEK 13 million if fully subscribed in Q4 of 2024, has been communicated to be enough to reach proof-of-concept with the drug delivery plugs. The expected timeline is around 2 years, with further laboratory testing preceding a phase I clinical trial. NOSA expects to include around 30 patients in the study but naturally, it is yet very early to predict what amount will be needed.

Given the information available at the time of writing, we have accounted for increased costs stemming from the heightened R&D activity. It is worth noting that more information regarding the project is expected to be delivered later this spring. Accordingly, we expect our estimates to be updated as more details regarding the coming studies are revealed. Furthermore, the company has hired new employees faster than we had expected, with a head count at yearend of 11 FTEs (7). As a result, we have shifted our hiring curve to reflect a quicker pace in the near term and a sequentially slower pace in the mid-term.

### NOSA Q4, 2023 Net sales and earnings vs CSQ Forecast (SEKm)

	Q4, 23E	Q4, 23A	Deviation (%)
Net sales	4.6	3.6	-22.0%
Gross profit*	3.1	2.4	-23.0%
Gross profit margin*	67.5%	65.2%	
EBITDA	-1.0	-4.6	-360.0%
EBITDA margin	Neg.	Neg.	
EBIT	-2.2	-5.0	-127.3%
EBIT margin	Neg.	Neg.	
EBT	-2.3	-5.0	-117.4%
EPS (SEK)	-0.01	-0.03	-200.0%

Source: Company information and Carlsquare estimates

### Costs, estimates compared to actuals (SEKm), Q4



Source: Carlsquare estimates

**Net Sales (SEKm) and growth (%), 2024E-2030E**



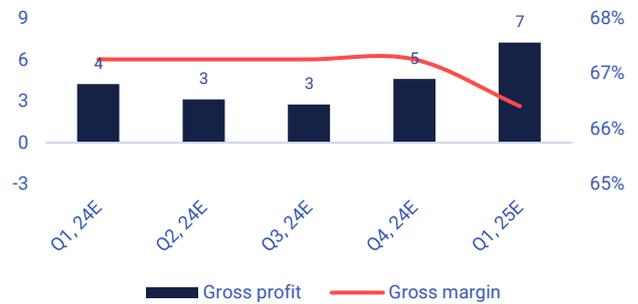
Source: Carlsquare estimates

**Net sales (SEKm) and growth (%),**



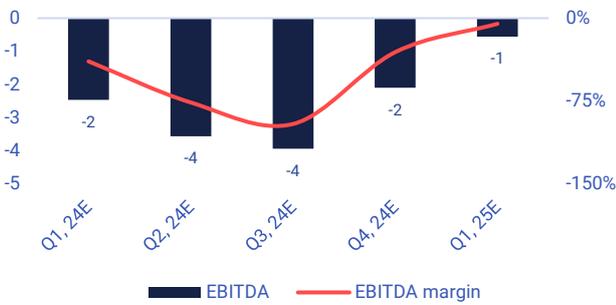
Source: Carlsquare estimates

**Gross profit (SEKm) and gross margin (%)**



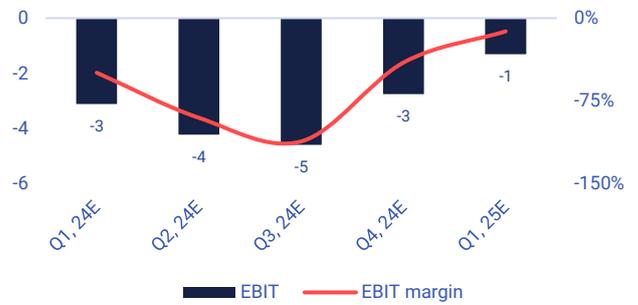
Source: Carlsquare estimates

**EBITDA (SEKm) and EBITDA-margin (%)**



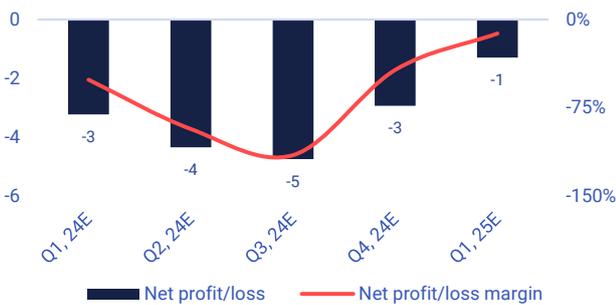
Source: Carlsquare estimates

**EBIT (SEKm) and EBIT-margin (%)**



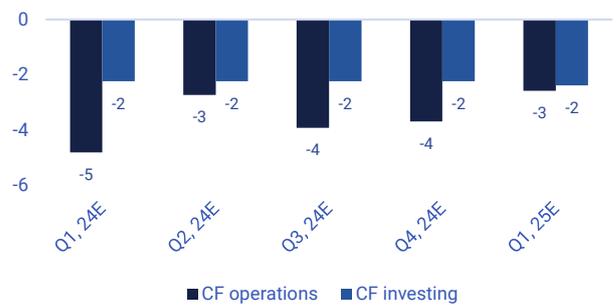
Source: Carlsquare estimates

**Net profit (SEKm) and net margin (%)**



Source: Carlsquare estimates

**Cashflow (SEKm)**



Source: Carlsquare estimates

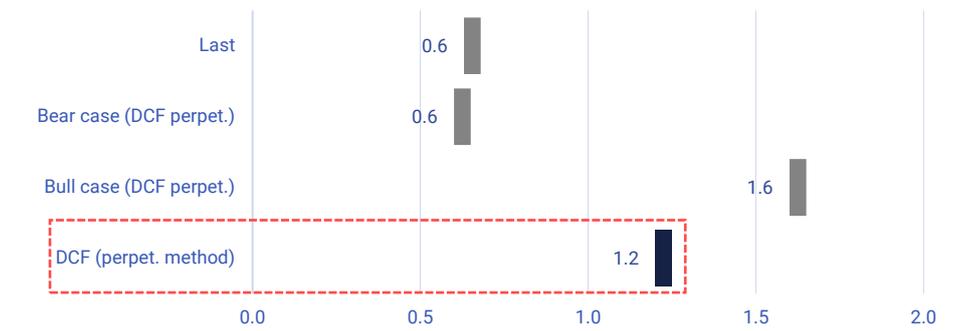
## Valuation

### We reiterate our target price pending inflection point

We choose to reiterate our previous target price of SEK 1.2 per share that we communicated in mid-December. We judge that this reflects the most credible way of valuing the company pending the crucial information expected to come soon. The same goes for our bull and bear scenarios.

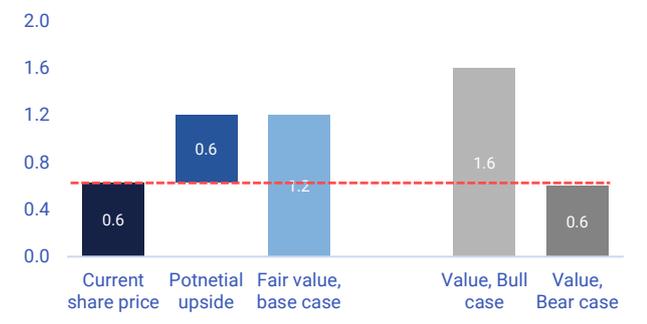
Compared to our previous quarterly update, the WACC is somewhat lower owing to a smaller risk-free rate. The valuation is currently weighed down by development costs that are unanswered by corresponding sales derived from the drug delivery plugs, as has been explained earlier in the update. We find the coming two quarters to be vitally important as current financing, albeit sufficient, leaves little room for disappointments. The subscription of the warrants of series TO 2023/2024 is important when it comes to securing the continued development of the drug delivery plugs. However, we note that the company has a, relatively speaking, good opportunity for cost-cutting should it be necessary, easing concerns about the need for any more dilutive financing. Most importantly, information about NOSA drug delivery will allow us to credibly reflect the value of the project in our estimated fair share value. With this in mind, we eagerly await this key piece of news.

### Net Sales (SEKm) and growth (%), 2024E-2030E



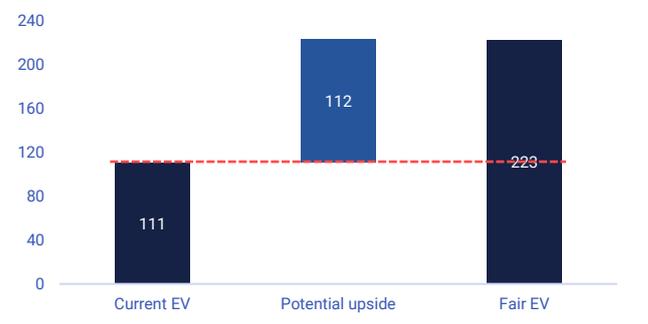
Source: Carlsquare estimates

### Fair value per share (SEK), three scenarios



Source: Carlsquare estimates

### Visualization E.V., base (SEKm)



Source: Carlsquare estimates

# Key Figures and Accounts

## Income Statement (SEKm), Quarterly

	Q1, 23A	Q2, 23A	Q3, 23A	Q4, 23A	Q1, 24E	Q2, 24E	Q3, 24E	Q4, 24E
Net sales	2	3	2	4	6	5	4	7
Total revenue	2	3	2	4	6	5	4	7
Gross profit	1	2	1	2	4	3	3	5
EBITDA	-2	-3	-4	-5	-2	-4	-4	-2
Adj. EBITDA	-2	-3	-4	-5	-2	-4	-4	-2
EBIT	-2	-3	-4	-5	-3	-4	-5	-3
Adj. EBIT	-2	-3	-4	-5	-3	-4	-5	-3
EBT	-2	-3	-4	-5	-3	-4	-5	-3
Adj. EBT	-2	-3	-4	-5	-3	-4	-5	-3
Net profit/loss	-2	-3	-4	-5	-3	-4	-5	-3
Adj. Net profit/loss	-2	-3	-4	-5	-3	-4	-5	-3
Basic EPS adj. (SEK)	0	0	0	0	0	0	0	0
<b>Growth</b>	<b>Q1, 23</b>	<b>Q2, 23</b>	<b>Q3, 23</b>	<b>Q4, 23</b>	<b>Q1, 24E</b>	<b>Q2, 24E</b>	<b>Q3, 24E</b>	<b>Q4, 24E</b>
Net sales	25%	63%	15%	115%	199%	70%	113%	89%
Total revenue	13%	59%	7%	95%	199%	66%	111%	89%
Gross profit	735%	546%	229%	180%	192%	66%	114%	94%
EBITDA	70%	57%	53%	53%	-59%	-21%	-11%	54%
EBIT	69%	59%	55%	55%	-63%	-28%	-17%	45%
EBT	69%	59%	55%	55%	-67%	-31%	-21%	42%
Net profit/loss	69%	59%	55%	55%	-67%	-31%	-21%	42%
<b>Margins</b>	<b>Q1, 23</b>	<b>Q2, 23</b>	<b>Q3, 23</b>	<b>Q4, 23</b>	<b>Q1, 24E</b>	<b>Q2, 24E</b>	<b>Q3, 24E</b>	<b>Q4, 24E</b>
Gross margin	69%	67%	67%	66%	67%	67%	67%	67%
EBITDA margin	-74%	-105%	-183%	-127%	-39%	-76%	-96%	-31%
Adj. EBITDA margin	-74%	-105%	-183%	-127%	-39%	-76%	-96%	-31%
EBIT margin	-90%	-117%	-201%	-139%	-49%	-90%	-112%	-40%
Adj. EBIT margin	-90%	-118%	-201%	-139%	-49%	-90%	-112%	-40%
EBT margin	-91%	-118%	-201%	-139%	-51%	-93%	-115%	-43%
Adj. EBT margin	-91%	-118%	-201%	-139%	-51%	-93%	-115%	-43%
Profit margin	-91%	-118%	-201%	-139%	-51%	-93%	-115%	-43%
Adj. profit margin	-91%	-118%	-201%	-139%	-51%	-93%	-115%	-43%

Source: Company information and Carlsquare estimates

**Income statement (SEKm), yearly**

	2021A	2022A	2023A	2024E	2025E	2026E	2027E
Net sales	3.9	6.7	10.4	21.8	43.5	65.5	85.4
Total operating income	4.5	6.7	10.5	21.8	43.5	65.5	85.4
COGS	-1.4	-2.1	-3.5	-7.2	-14.6	-21.9	-28.7
Gross profit	3.2	4.6	7.0	14.7	28.9	43.6	56.7
Other operating expenses, less COGS and D&A	-10.9	-12.3	-19.7	-26.8	-31.2	-34.6	-47.6
EBITDA	-7.8	-7.7	-12.7	-12.1	-2.3	9.0	9.1
Adj. EBITDA	-7.8	-7.7	-45.1	-12.1	-2.3	9.0	9.1
Dep. and amort.	-2.0	-6.2	-1.5	-2.6	-3.0	-3.3	-3.9
EBIT	-9.8	-13.9	-14.1	-14.7	-5.3	5.7	5.3
Adj. EBIT	-9.8	-13.9	-46.5	-14.7	-5.3	5.7	5.3
Net finances	-0.4	-0.3	0.0	-0.6	0.1	0.1	0.1
EBT	-10.2	-14.1	-14.2	-15.3	-5.2	5.7	5.3
Adj. EBT	-22.9	-14.1	-14.2	-15.2	-5.2	5.7	5.3
Tax	0.0	-3.7	0.0	0.0	0.0	-0.2	0.2
Net profit/loss	-10.2	-17.8	-14.2	-15.3	-5.2	5.5	5.5
Adj. net profit/loss	-22.9	-17.8	-14.2	-15.2	-5.2	5.5	5.5
Basic EPS adj.	-1.0	-0.7	-0.1	-0.1	0.0	0.0	0.0
<b>Growth</b>	<b>2021A</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>
Net sales	-15%	71%	55%	110%	99%	51%	30%
Tot. revenue	-8%	49%	56%	108%	99%	51%	30%
Gross profit	34%	47%	52%	110%	97%	51%	30%
EBITDA	-34%	1%	-64%	4%	81%	493%	2%
Adj. EBITDA	-34%	1%	-484%	73%	81%	493%	2%
EBIT	-32%	-41%	-2%	-4%	64%	208%	-7%
Adj. EBIT	-32%	-41%	-236%	68%	64%	208%	-7%
EBT	-36%	-39%	0%	-8%	66%	210%	-7%
Adj. EBT	-204%	38%	0%	-8%	66%	211%	-7%
Net profit/loss	-36%	-75%	21%	-8%	66%	206%	-1%
Adj. net profit	-204%	22%	21%	-8%	66%	207%	-1%
Basic EPS adj.	2%	-30%	-89%	-5%	-66%	-208%	-2%
<b>Margins</b>	<b>2021A</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>
Gross profit	70%	69%	67%	67%	66%	67%	66%
EBITDA margin	-173%	-115%	-121%	-56%	-5%	14%	11%
Adj. EBITDA margin	-173%	-115%	-430%	-56%	-5%	14%	11%
EBIT margin	-218%	-206%	-135%	-67%	-12%	9%	6%
Adj. EBIT margin	-218%	-206%	-444%	-67%	-12%	9%	6%
EBT margin	-226%	-210%	-135%	-70%	-12%	9%	6%
Adj. EBT margin	-508%	-210%	-135%	-70%	-12%	9%	6%
Profit margin	-226%	-265%	-135%	-70%	-12%	8%	6%
Adj. profit margin	-508%	-265%	-135%	-70%	-12%	8%	6%

EoP = End of period. Source: Company information and Carlsquare estimates

**Balance sheet (SEKm)**

	2021A	2022A	2023E	2024E	2025E	2026E	2027E
Tot. intangible assets	7	1	22	6	11	16	21
Tot. tangible assets	3	2	2	7	12	17	22
Tot. other fixed assets	5	1	1	1	1	1	1
Total fixed assets	14	5	25	15	24	34	44
Inventories	2	2	3	5	6	10	9
Accounts Receivables	1	1	2	3	4	6	8
Other current assets	1	1	2	1	1	2	3
Cash	4	2	1	9	6	0	1
Total current assets	8	6	8	17	17	19	20
Total assets	22	11	33	31	41	53	64
Total equity	17	7	27	22	17	22	28
Debt to creditors	0	0	0	0	0	0	0
Other long-term liabilities	3	1	1	5	18	21	25
Tot. long-term liabilities	3	1	1	5	18	21	25
Short-term debt to creditors	0	0	0	0	0	0	0
Accounts payable	1	1	3	3	4	6	8
Other short-term liabilities	1	1	2	1	2	2	3
Tot. short-term debt	2	3	5	4	6	9	12
Total debt	5	3	6	9	25	31	37
Tot. equity and debt	22	11	33	31	41	53	64
<b>Liquidity</b>	<b>2,021.0</b>	<b>2,022.0</b>	<b>2,023.0</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>
Current ratio	4	2	1	4	3	2	2
Cash ratio	2	1	0	2	1	0	0
<b>Leverage</b>	<b>2,021.0</b>	<b>2,022.0</b>	<b>2,023.0</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>
Net debt(+)/Net cash(-)	-1	-1	1	-2	13	22	25
Net debt/EBITDA	NM	NM	NM	NM	NM	-2	-3
Net debt/Equity	NM	NM	0	NM	-1	-1	-1
Equity/Total Assets	1	1	1	1	0	0	0

Source: Company information and Carlsquare estimates

**Cash flow (SEKm)**

	2021A	2022A	2023E	2024E	2025E	2026E	2027E
C.F., operations b4 delta W.C.	-8	-8	-13	-13	-2	9	9
Delta operating capital	0	1	-5	-2	-1	-4	1
C.F. operations	-8	-7	-18	-15	-3	5	11
C.F. investing	-2	0	15	-9	-10	-10	-10
Free cash flow			-3	-24	-13	-5	0
C.F. financing	10	6	2	32	10	0	0
Cash flow	0	-2	-1	8	-3	-5	0
Cash, BoP	4.2	4	2	1	9	6	0
Cash, EoP	4	2	1	9	6	0	1
<b>Key ratios</b>	<b>2021A</b>	<b>2022A</b>	<b>2023</b>	<b>2024E</b>	<b>2025E</b>	<b>2026E</b>	<b>2027E</b>
C.F. operations/Total operating income	-175%	-103%	-167%	-69%	-8%	7%	13%
C.F. operations/EBITDA	102%	89%	139%	125%	153%	53%	119%

Source: Company information and Carlsquare estimates

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