COVID vaccine phase III trial ongoing

The pipeline is progressing at a rapid pace. Bavarian Nordic commenced recruitment into the phase III trial for the COVID-19 vaccine ABNCoV2 earlier this month and aims for launches in the EU & US in 2023. In mid-2023, the company expects to finish pre-clinical work on the HER2-targeted breast cancer vaccine, potentially paving the way to first-in-human testing in 2024. We reiterate our Buy recommendation and set a price target of SEK 25/share.

COVID vaccine phase III underway, possible revenue stream from next year

The licensee Bavarian Nordic has commenced phase III development of ABNCoV2 as a universal vaccine for COVID-19 in a head-to-head trial against Pfizer/BioNTech's Corminaty designed to show non-inferiority as well as possibly superiority. Phase III data is expected towards year-end. Submission in the EU and the US is planned in 2023, with a view to obtaining Emergency Use Authorizations (EUA) later next year. Our base case scenario assumes risk-adjusted peak sales of EUR 300m in the first year, with a 30% annual decline thereafter as the pandemic subsides. However, we see blockbuster potential and/or greater longevity if clinical points of differentiation emerge in the phase III data and vaccination rates remain high. ExpreS^{2}ion is eligible for direct payments from AdaptVac and has a 34% stake in AdaptVac, which is eligible to receive tiered royalties and up to EUR 136m in milestone payments from Bavarian Nordic.

Budding pipeline includes the pre-clinical HER2-vaccine ES2B-C001

We regard the HER2-targeted vaccine E2SB-C001 as the company's highest profile early-stage pipeline asset. It is expected to move into the clinic in 2024, pending full pre-clinical data in mid-2023e. The asset has blockbuster potential in case of success and could emerge as a major profit driver in the next decade. Other pipeline assets that could launch in the outer years include the influenza and malaria vaccines the company is developing in collaborations. ExpreS^{2}ion is aiming to move further projects into pre-clinical development in the coming years.

The flagship projects ABNCoV2 and ES2B-C001 contribute equally to FV

We set a price target of SEK 25 based on our estimated project NPVs, with the COVID-19 and Her2-targeted vaccines each contributing nearly SEK 12. Significant upside arises in case of substantial clinical differentiation of ABNCoV2 and/or higher vaccination rates as well as the potential de-risking of ES2B-C001 over time. Downside chiefly arises from (pre-)clinical or regulatory failure of key assets, as well as severe delays to ABNCoV2 or a sudden end to the pandemic.

With this note, Marietta Miemietz assumes coverage of ExpreS^{2}ion Biotech.

SEKm	2020	2021	2022e	2023e	2024e
Revenues	15	14	12	32	27
EBITDA	(28)	(47)	(97)	(58)	(10)
EBIT	(31)	(48)	(101)	(62)	(14)
EPS	(1,15)	(1,59)	(2,29)	(1,37)	(0,35)
EPS adj	(1,15)	(1,59)	(2,29)	(1,37)	(0,35)
DPS	-	-	-	-	-
EV/EBITDA	-	-	-	-	-
EV/EBIT	-	-	-	-	-
P/E adj	-	-	-	-	-
P/B	3,10	7,05	3,46	6,01	7,40
ROE (%)	-	-	-	-	-
Div yield (%)	-	-	-	-	-
Net debt	(104)	(35)	(19)	30	40

Source: Pareto Securities

Target price (SEK)	**25,0**	▲ **BUY**
Share price (SEK)	11,2	– HOLD
		▼ SELL

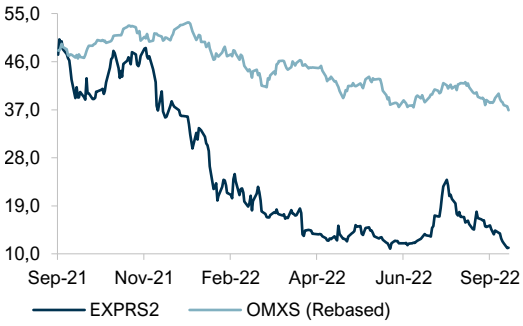
Forecast changes

%	2022e	2023e	2024e
Revenues	-	(89)	(87)
EBITDA	-	NM	NM
EBIT adj	-	NM	NM
EPS reported	39	NM	NM
EPS adj	39	NM	NM

Source: Pareto Securities

Ticker	EXPRS2.ST, EXPRS2 SS
Sector	Healthcare
Shares fully diluted (m)	37,0
Market cap (SEKm)	412
Net debt (SEKm)	-19
Minority interests (SEKm)	0
Enterprise value 22e (SEKm)	400
Free float (%)	83

Performance



Source: FactSet

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Budding pipeline based on ExpreS2 platform

Vaccine development based on the proprietary ExpreS2 platform

ExpreS^{2}ion is developing vaccines based on its proprietary ExpreS2 technology platform, a recombinant protein expression platform based on *Drosophila melanogaster* (fruit fly) S2 cell lines. The platform allows for the attachment of antigens to capsid virus-like particles (cVLP), which is used in both the COVID-19 and HER2-targeted vaccines. The company offers contract research organization (CRO) services based on its technology but has de-emphasized this part of the business to focus on the budding pipeline. It aims to generate additional molecules to enter pre-clinical development over the coming years. In this section, we provide an overview over key projects and financials:

- **The COVID-19 universal booster vaccine ABNCoV2.** The pivotal phase III trial is underway, with a launch expected as early as next year. This project is part of the AdaptVac joint venture, where ExpreS^{2}ion holds a 34% stake, and has been outlicensed to Bavarian Nordic.
- **The HER2-targeted therapeutic breast cancer vaccine ES2B-C001**. The company expects to complete all pre-clinical work in mid-2023 and, pending the data, is aiming for first-in-human testing in 2024. This asset was licensed from AdaptVac in February 2021. Owing to the sheer size of the HER2-positive breast cancer market, it has clear blockbuster potential, with clinical data and success in different tumour settings set to determine peak sales potential.
- **Influenza vaccine.** Pre-clinical work is underway as part of the INDIGO Consortium's quest for low-cost, next generation influenza vaccines. This project is not part of the AdaptVac joint venture. The project has blockbuster potential before risk-adjustment.
- **Malaria vaccines**. The first phase I trials are underway or planned to start shortly by ExpreS^{2}ion's academic collaborator University of Oxford. This project is not part of the AdaptVac joint venture. While malaria is a niche area where the company tags the potential addressable market at more than EUR 400m, we reckon that success could result in a meaningful revenue contribution, in addition to further validation of the Expres2 technology.

As summarized below, we anticipate extensive newsflow over the next six to twelve months, with key data expected to be released in respect of both the COVID-19 and HER2+ vaccines.

Near-term newsflow

Date	Description	Relevance
November 17, 2022	Q3 2022 results	We anticipate an update on recruitment into the ABNCoV2 phase III trial as well as an update on timelines for all pipeline projects.
Q4 2022e	Malaria Pfs 48/45 vaccine phase I start	The University of Oxford is seeking to commence enrolment in the phase I trial of the transmission-targeted malaria vaccine. The study is showing as "not yet recruiting" on *ClinicalTrials* (identifier NCT05400746).
Towards year-end '22e	ABNCoV2 phase III data	We look for clinical differentiation versus Corminaty, for example greater efficacy and eventually durability, as well as confirmation that the data will support a near-term regulatory submission.
February 9, 2023	FY 2022 report	We expect updates on all projects including recent and next steps for ABNCoV2.
H1 2023e	ABNCoV2 EU & US regulatory submission	We expect Bavarian Nordic to request an Emergency Use Authorization and anticipate a rapid regulatory review, assuming that COVID-19 booster vaccinations remain a high priority for healthcare systems.
H1 2023e	Malaria RH5-VLP vaccine phase I start	The University of Oxford is expected to commence enrolment in the phase I trial of the blood-targeted virus-like particle (VLP) malaria vaccine.
Mid-2023e	HER2-vaccine ES2B-C001 pre-clinical data	We expect ExpreS^{2}ion to decide on a possible phase I start in 2024e based on these data.
H2 2023e	ABNCoV2 EU & US regulatory decision	We would expect the regulatory authorities to grant Emergency Use Authorization (EUA) if warranted by the clinical data as well as the state of the pandemic.
H2 2023e	Malaria RH5 vaccine phase I read-out	Data read-out is expected from the phase I trial of the blood-targeted malaria vaccine

Source: Pareto Securities Research, Company data, Clinicaltrials.gov

COVID-19 universal booster vaccine ABNCoV2

In phase III as a booster in EU & US

ABNCoV2 is currently in phase III as a universal booster vaccine for COVID-19 prophylaxis in the EU and the US. The licensee Bavarian Nordic is not currently developing this vaccine candidate for the emerging markets but would be open to partnering in these territories if another vaccine manufacturer were to take the lead in the development as a primary vaccine.

Potential points of differentiation: potency, technology, ease of use

ABNCoV2 has a number of attributes that could provide points of differentiation in the highly competitive COVID-19 booster vaccine market, notably:

- **Alternative technology.** ExpreS^{2}ion Biotechnologies' capsid virus-like particle (cVLP) technology would provide an alternative to the somewhat controversial current technologies and could potentially result in efficacy or safety advantages.
- **Non-adjuvanted vaccine,** potentially providing safety and tolerability advantages.
- **Strong and durable efficacy:** Early data point towards protection rates in excess of 90%, with coverage of all circulating variants. Bavarian Nordic also hopes to show greater durability.
- **No cold chain requirements.** Although refrigeration is the standard, storage at room temperature is feasible, thus facilitating stockpiling by governments, particularly if the vaccine offers strong protection against all variants of concern.

Trial designed to show a non-inferior or superior immune response versus Corminaty

A head-to-head phase III study (ClinicalTrials identifier: NCT05329220) against the entrenched competitor Corminaty started in September. The primary endpoint is neutralizing antibodies against the Wuhan wild type COVID-19 virus. Testing is hierarchical: if non-inferiority against Corminaty is met, the protective immune response will be evaluated

for superiority to Corminaty. Secondary endpoints include the protection against variants of concern. The targeted enrolment is 4,000 patients across various cohorts.

Positive phase II data against COVID-19, including the omicron variant

The decision to move into phase III was made based on positive phase II data released in late 2021 and H1 2022. Top-line data released in December 2021 and February 2022 showed that a single vaccination with 50µg or 100µg ABNCoV2 can boost neutralizing antibodies to levels exceeding 90%, irrespective of the type of vaccine previously received or the protective immune response previously achieved. In May, additional phase II data showing efficacy against the omicron variant were released, demonstrating a similar boost in neutralizing antibodies against the omicron variant as against the Wuhan wild type, albeit a lower level of absolute protection.

We tag the risk-adjusted peak sales at EUR 300m

Our valuation of the ABNCoV2 project is based exclusively on the molecule's development as a booster vaccine for the Western hemisphere, implying upside should an opportunity arise to develop the vaccine for Emerging Markets. Our base case scenario assumes peak sales of EUR 300m, based on the following key assumptions:

- **Launch in H2 2023e.** Bavarian Nordic envisages study completion before year-end, followed by a regulatory filing in the EU initially and subsequently the US, implying scope for an Emergency Use Authorization in both territories next year. We assume a launch in time for the autumn COVID-19 booster season in 2023 in our base case scenario, but note that the timeline depends on various factors that are difficult to predict, such as recruitment speed, COVID-19 case levels and the perceived public health threat from COVID-19 next year. We reckon that a severe delay would not only push out timelines to revenue generation but could significantly reduce the peak sales potential if the COVID-19 pandemic subsides in the interim.
- **Trajectory & decay curve: peak sales in the first year, 30% decline annually** thereafter as the pandemic subsides. We note upside in case of pandemic flares in subsequent years or in case of an endemic illness requiring regular booster shots, similar to influenza.
- **Number of annual booster shots: 200 million.** We would expect substantially all individuals who are eligible for booster shots to be eligible to receive ABNCoV2, based on Bavarian Nordic's strategy to develop the vaccine candidate as a universal booster, and based on phase II data suggesting that the efficacy of ABNCoV2 does not depend on the type of vaccine previously received. The combined population of the EU and US stands at roughly 0.8 billion. According to the *Centers for Disease Control and Prevention* (CDC), more than 109 million Americans, or roughly one third of the total population, have received a first booster and roughly 22.5 million have already received a second booster over the last year. We expect the number of booster shots administered in H2 2023 and beyond to depend heavily on the perceived threat to public health and consequently vaccination recommendations at the time and see a risk of growing "vaccine fatigue" over time. We prudently assume that only roughly 200 million booster shots will be administered in 2023.
- **Penetration rate in the low double-digit percentage range.** We see a wide range of potential market share outcomes for ABNCoV2 as a function of the phase III data and the competitive landscape at the time of launch. We note Bavarian Nordic's marketing prowess, particularly in the Northern European countries, with strong capabilities across Europe and globally. In the event of highly differentiated clinical data, particularly strong durability of the protective immune response, we envisage an overall penetration rate in the high teens, with the highest penetration achieved in Northern Europe and the lowest share in the US, where key competitors are entrenched. Conversely, if ABNCoV2 merely demonstrates non-inferiority to Corminaty, without any obvious points of clinical differentiation, we would expect peak penetration rates in the single-digit range, with non-clinical factors such as ease of use and individual preferences for a particular technology determining use.
- **Revenues per dose: USD or EUR 15.** Bavarian Nordic has not yet communicated a pricing strategy. We would expect the company to set a price point at or near the amounts charged by other vaccine manufacturers for COVID-19 booster vaccines and other "regular" jabs such as influenza vaccines. Since we exclude any potential future revenues from emerging markets from our forecasts, we do not take any complexity associated with global pricing into consideration. We see significant upside to our pricing assumptions in case of significant clinical differentiation, but caution that longer durability of protection could potentially result in a recommendation for less frequent injections, which could mitigate the revenue upside.
- **Likelihood of approval:** 74%, in line with the standard success probability for vaccines in phase III based on Clinical Development success rates published by the BioMed tracker, though we note that success rates of up to 85% have been reported in the literature.

AdaptVac, where ExpreS^{2}ion holds a 34% stake, is eligible for milestones and royalties

ExpreS^{2}ion Biotechnologies stands to benefit from the potential success of ABNCoV2 both indirectly, through its 34% stake in the originator AdaptVac, and directly, through royalties and milestone payments from AdaptVac.

AdaptVac stands to receive the following payments from the licensee Bavarian Nordic:

- **An upfront payment of EUR 4m** paid in July 2020
- **Up to EUR 136m in development and sales milestones.** While a split based on the various milestones has not been provided, we note that Bavarian Nordic recorded a contingent liability of SEK 596m (ca. EUR 77m) representing the net present value in its 2021 annual report.
- **Tiered royalties** in the single digit to double-digit percentage range on Bavarian Nordic's revenues.

ExpreS^{2}ion Biotechnologies has the following arrangement with AdaptVac:

- **34% stake in AdaptVac**
- **Up to EUR 2m in commercial milestone payments**
- **A low double-digit percentage of the royalties** AdaptVac receives from Bavarian Nordic

HER2-targeted breast cancer vaccine ES2B-C001

Pre-clinical work to be completed in mid-2023; phase I start in 2024e

ExpreS^{2}ion is currently conducting toxicity studies and scaling up cGMP (current Good Manufacturing Practice) manufacturing. The company expects to complete all pre-clinical work in mid-2023 and to begin first-in-human testing in 2024. The company's initial target is HER2-positive breast cancer.

Preliminary pre-clinical data suggest high potency

In late May, ExpreS^{2}ion announced initial positive pre-clinical proof-of-concept data in transgenic mice. 100% of the mice vaccinated with adjuvanted ES2B-C001 were metastasis-free, while all control animals had lung nodules. Moreover, 73% of the mice vaccinated with an adjuvant-free formulation were free from metastases.

The market for HER2-positive breast cancer exceeds EUR 15bn and is highly developed

HER2 ranks among the most highly validated targets for the treatment of cancer, with numerous successful drugs. ExpreS^{2}ion tags the market potential for HER2-positive breast cancer at more than EUR 15bn. We see further upside if the emerging "HER2-low" space is taken into account, following the initial success of AstraZeneca/Daichi Sankyo's Enhertu in cancers that express HER2 at a level that was considered to be below the threshold for current drugs, and note that some non-breast tumours also over-express HER2.

We see blockbuster potential before risk adjustment

We forecast peak sales before and after risk adjustment of EUR 1.7bn and EUR 65m respectively, based on our preliminary assumptions of a target patient population of ca. 46,000 advanced breast cancer patients in the US and top 5 EU countries, average of EUR 185,000 per patient and a 20% penetration rate. We note that both the eligible patient population and the treatment duration will depend on clinical data, with scope for significant upside to the former if ES2B-C001 moves into earlier or HER2-low settings, and upside or downside to revenue per patient as a function of the latter. Owing to the asset's early stage, we currently tag the likelihood of approval at approximately 4% and would raise the success probability to 10% upon the transition to phase I.

Pay-aways to AdaptVac look modest to us

ExpreS^{2}ion licensed the asset from AdaptVac in February 2021, in return for decreasing its stake in AdaptVac to 34%, from 50%. Contingent payments to AdaptVac look modest to us, with aggregate milestones of up to SEK 215m and a low single-digit royalty on net sales.

Hemagglutinin-targeted influenza vaccine

Pre-clinical work underway as part of the INDIGO flu jab consortium

This project is part of efforts by the INDIGO consortium to develop low-cost next-generation influenza vaccines. ExpreS^{2}ion supplies antigen based on its Expres2 platform. At present, pre-clinical pharmacology work is being conducted. Toxicology work and a manufacturing scale-up in 2023e are subject to future grants.

We see blockbuster potential before risk-adjustment

The company tags the potential commercial market at more than EUR 4bn. We see blockbuster potential for the vaccine candidate in the event of success but tag the likelihood of approval at just 4% while the asset is in pre-clinical development.

Malaria vaccines

Collaboration with the University of Oxford; first-in-human testing

ExpreS^{2}ion Biotechnologies supports malaria research by the University of Oxford, the originator of AstraZeneca's highly successful COVID-19 vaccine Vaxzevria. It supplies a vaccine formulation including antigen as well as an adjuvant obtained from NovaVax. A number of projects are underway to target malaria at the blood, transmission and placental level. The most advanced projects are in phase I (blood-targeted RH5, with a planned read-

out in H2 2023) or expected to enter phase I over the next nine months (Pfs48/45 – transmission; RH5-VLP – blood).

Malaria is a niche market

Although malaria represents a niche opportunity – the company tags the commercial market at over EUR 400m – we believe that success could potentially result in meaningful revenues and contribute to the validation of the company's technology. With initial phase I trials underway, we tag the likelihood of approval at 10%.

Key financials

The company is well-capitalised with a SEK 168m cash position at Q2 '22

Following a capital increase in April that resulted in gross process of ca. SEK 73m, ExpreS^{2}ion is well-capitalized, with cash and cash equivalents of nearly SEK 168m at the end of Q2 2022. Monthly cash burn is currently ca. SEK 7m and is expected to remain at a similar level going forward, owing to a recent step-up in R&D spend linked to the HER2-vaccine and personnel costs, while revenues from the Contract Research business are expected to be modest in light of the company's focus on its pipeline.

The company has a warrant program that includes several tranches:

- **TO2 – completed.** 612,084 warrants were exercised between June and August, bringing the total number of shares to 37,606,796 and resulting in a cash inflow of nearly SEK 3m.
- **TO6 – exercise window October through December 2024.** This program covers 1 million warrants with a strike price of approximately SEK 17.
- **TO7 – exercise window June through August 2024.** This program covers up to 1,050,000 warrants with a higher strike price.

Valuation: we see an NPV-based fair value of SEK 25 per share

The COVID-19 and HER2-targeted vaccines contribute equally to FV

We set a price target of SEK 25 per share based on project NPVs as shown below. Note that our fair value estimate of the AdaptVac equity stake reflects contributions from ABNCoV2 only at this stage. We thus estimate the fair value of both the COVID-19 and the HER2-targeted vaccine at more than SEK 450m each. We note that fair value per share would increase to SEK 29 if ABNCoV2 were to prove highly differentiated and if we were to assume a high-teens penetration rate. This would further increase to SEK 48 if we were to additionally assume a stable COVID-19 market from 2023 to perpetuity, rather than the aggressive 30% fade rate we apply from 2024 onwards. Such a bull case scenario is plausible in light of widely held concerns that COVID-19 could become endemic in key Western markets.

Sum-of-the-parts valuation based on project Net pPresent Values (NPVs)

Sum of the Parts Valuation		NPV (SEK m)	Per Share (SEK)	% of Total Fair Value
ABNCoV2 (Royalties)		50	1.30	5 %
ES2B-C001		457	11.84	47 %
Influenza		42	1.10	4 %
Malaria		27	0,70	3 %
Unallocated		-195	-5.04	-20 %
AdaptVac Equity Stake		408	10.58	42 %
Total		**790**	**20.48**	**82 %**
Debt		-5	-0.12	0 %
Cash & CE		188	4.87	19 %
Shares outstanding (Pro Forma for Dilution)		38.60		
Fair Value		**974**	**25**	100 %

Source: Pareto Securities

PROFIT & LOSS (fiscal year) (SEKm)	2017	2018	2019	2020	2021	2022e	2023e	2024e
Revenues	**10**	**9**	**14**	**15**	**14**	**12**	**32**	**27**
EBITDA	**(9)**	**(16)**	**(16)**	**(28)**	**(47)**	**(97)**	**(58)**	**(10)**
Depreciation & amortisation	(2)	(3)	(3)	(3)	(2)	(4)	(4)	(4)
EBIT	**(11)**	**(18)**	**(19)**	**(31)**	**(48)**	**(101)**	**(62)**	**(14)**
Net interest	(0)	(1)	(1)	(4)	1	(0)	(2)	(2)
Other financial items	-	-	-	-	-	-	-	-
Profit before taxes	**(12)**	**(19)**	**(20)**	**(35)**	**(48)**	**(101)**	**(64)**	**(16)**
Taxes	2	2	2	3	4	21	13	3
Minority interest	-	-	-	-	-	-	-	-
Net profit	**(10)**	**(17)**	**(17)**	**(32)**	**(44)**	**(80)**	**(52)**	**(13)**
EPS reported	(0,73)	(1,35)	(0,63)	(1,15)	(1,59)	(2,29)	(1,37)	(0,35)
EPS adjusted	**(0,73)**	**(1,35)**	**(0,63)**	**(1,15)**	**(1,59)**	**(2,29)**	**(1,37)**	**(0,35)**
DPS	-	-	-	-	-	-	-	-

BALANCE SHEET (SEKm)	2017	2018	2019	2020	2021	2022e	2023e	2024e
Tangible non current assets	1	1	1	1	1	1	1	0
Other non-current assets	11	9	7	5	105	102	100	97
Other current assets	5	5	5	6	9	7	7	7
Cash & equivalents	2	6	5	107	37	126	77	67
Total assets	**17**	**21**	**19**	**119**	**152**	**236**	**185**	**172**
Total equity	7	8	(1)	95	140	121	70	57
Interest-bearing non-current debt	6	7	1	2	2	107	107	107
Interest-bearing current debt	-	-	-	-	-	-	-	-
Other Debt	4	6	18	22	10	8	8	8
Total liabilites & equity	**17**	**21**	**19**	**119**	**152**	**236**	**185**	**172**

CASH FLOW (SEKm)	2017	2018	2019	2020	2021	2022e	2023e	2024e
Cash earnings	(8)	(13)	(12)	(17)	(47)	(76)	(48)	(9)
Change in working capital	(0)	0	(1)	(2)	1	0	-	-
Cash flow from investments	(0)	(1)	(1)	(1)	1	(1)	(1)	(1)
Cash flow from financing	4	19	13	123	75	166	-	-
Net cash flow	(5)	5	(1)	101	(70)	89	(49)	(10)

VALUATION (SEKm)	2017	2018	2019	2020	2021	2022e	2023e	2024e
Share price (SEK end)	**9,4**	**5,7**	**3,50**	**10,6**	**35,8**	**11,2**	**11,2**	**11,2**
Number of shares end period	13	12	28	28	28	38	38	38
Net interest bearing debt	5	1	(4)	(104)	(35)	(19)	30	40
Enterprise value	**130**	**72**	**93**	**189**	**954**	**400**	**449**	**460**
EV/Sales	13,3	8,2	6,7	12,4	-	33,4	14,0	17,1
EV/EBITDA	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
EV/EBIT	-	-	-	-	-	-	-	-
P/E reported	-	-	-	-	-	-	-	-
P/E adjusted	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
P/B	18,6	8,6	-	3,1	7,1	3,5	6,0	7,4

FINANCIAL ANALYSIS	2017	2018	2019	2020	2021	2022e	2023e	2024e
ROE adjusted (%)	-	-	-	-	-	-	-	-
Dividend yield (%)	-	-	-	-	-	-	-	-
EBITDA margin (%)	-	-	-	-	-	-	-	-
EBIT margin (%)	-	-	-	-	-	-	-	-
NIBD/EBITDA	(0,53)	(0,05)	0,25	3,69	0,76	0,19	(0,51)	(4,13)
EBITDA/Net interest	-	-	-	-	52,94	-	-	-

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Appendix A

Disclosure requirements in accordance with Commission Delegated Regulation (EU) 2016/958 and the FINRA Rule 2241

The below list shows companies where Pareto Securities AS - together with affiliated companies and/or persons – owns a net long position of the shares exceeding 0,5 % of the total issued share capital in any company where a recommendation has been produced or distributed by Pareto Securities AS.

Companies	No. of shares	Holdings in %
Bonheur	239 548	0,56 %
Pareto Bank	15 250 970	21,83 %
Selvaag Bolig	4 311 865	4,60 %
Sparebank 1 Nord-Norge	4 471 827	4,45 %
Sparebank 1 SMN	2 332 018	1,80 %
Sparebank 1 SR-Bank	2 270 190	0,89 %
SpareBank 1 Østfold Akershus	1 231 177	9,94 %
SpareBank 1 Østlandet	3 859 463	3,63 %
Sparebanken Møre	566 833	1,15 %
Sparebanken Sør	333 449	2,13 %
Sparebanken Vest	6 852 337	6,38 %
NEXT Biometrics	710 901	0,78 %
SpareBank 1 Sørøst-Norge	2 165 678	3,43 %

Pareto Securities AS may hold financial instruments in companies where a recommendation has been produced or distributed by Pareto Securities AS in connection with rendering investment services, including Market Making.

Please find below an overview of material interests in shares held by employees in Pareto Securities AS, in companies where a recommendation has been produced or distributed by Pareto Securities AS. "By material interest" means holdings exceeding a value of NOK 50 000.

Company	Analyst holdings*	Total holdings
AF Gruppen	0	1 675
Aker ASA	500	2 694
Aker BP	0	29 538
Aker Carbon Capture	0	4 926
Aker Horizons	0	180 838
Aprila Bank ASA	0	22 675
ArcticZymes Technologies	0	684
Austevoll Seafood	0	2 523
Avance Gas	0	4 000
Awilco LNG	0	30 000
Belships	0	12 500
Bonheur	0	30 678
Borregaard ASA	0	500
Bouvet	0	1 240
BW Energy	0	103 641
BW Offshore	0	9 650
Circa Group	0	6 550
Cloudberry Clean Energy	0	100 250
Crayon	0	1 080
Desert Control	0	32 500
DNB	0	40 496
DNO	0	70 258
Elkem	0	101 147
Elmera Group ASA	0	22 119
ELOP	0	140 000
Equinor	0	2 623
Europris	0	17 208
Flex LNG	0	717
Frontline	0	11 775
Gaming Innovation Group	0	25 912
Gjensidige Forsikring	0	7 671
Grieg Seafood	0	3 334
Hafnia Ltd.	0	149 415
Huddly	0	923 514
HydrogenPro	0	36 991
Höegh Autoliners	0	2 500
Kitron	0	18 536
Komplett Bank	0	187 800
Kongsberg Gruppen	0	281
KWS	75	75
Lea bank	0	31 499
Lerøy Seafood Group	0	35 021
Meltwater	0	24 000
Mowi	0	1 347
MPC Container Ships	0	12 545
NEXT Biometrics	0	710 901
Nordic Semiconductor	0	11 182
Noreco	0	500
Norse Atlantic	0	40 000
Norsk Hydro	0	85 819
Norske Skog	0	74 249
Northern Drilling Ltd.	0	178 000
Odfjell Drilling	0	28 581
Okeanis Eco Tankers	0	1 272
Orkla	0	24 336
Panoro Energy	0	28 373
Pareto Bank	0	1 280 624
Pexip Holding	0	322 083
PGS	0	8 176
Protector Forsikring	0	15 300
Pryme	0	7 401
Pyrum Innovations	0	100
Quantafuel	0	8 797
REC Silicon	0	28 991
SalMar	0	104
Sandnes Sparebank	0	2 500
Scatec	0	31 009
Seadrill Ltd	0	6 426
Sparebank 1 Nord-Norge	0	4 350
Sparebank 1 SMN	0	10 414
Sparebank 1 SR-Bank	0	12 909
SpareBank 1 Østlandet	0	921
Sparebanken Møre	0	1 080
Sparebanken Sør	0	16 140
Sparebanken Vest	0	7 456
Stolt-Nielsen	0	2 233
Storebrand	0	3 277
Subsea 7	0	34 332
Telenor	0	7 984
TGS	0	600
Vow	0	12 081
Vow Green Metals	0	19 681
Vår Energi	0	173 695
Wallenius Wilhemsen	0	2 250
Yara	0	16 798
Zaptec	0	11 610

This overview is updated monthly (last updated 15.09.2022).

*Analyst holdings refers to positions held by the Pareto Securities AS analyst covering the company.

Appendix B

Disclosure requirements in accordance with Article 6(1)(c)(iii) of Commission Delegated Regulation (EU) 2016/958

Overview over issuers of financial instruments where Pareto Securities AS have prepared or distributed investment recommendation, where Pareto Securities AS have been lead manager/co-lead manager or have rendered publicly known not immaterial investment banking services over the previous 12 months:

Add Energy
Aker ASA
Aker Clean Hydrogen
Aker Offshore Wind
Akershus Energi Varme AS
Alva Industries AS
Aprila Bank ASA
Barramundi Group Pte. Ltd.
Bekk og Strøm AS, SV Vattenkraft AB
BioInvent
Biomega Group AS
Boreal Holding AS
Borr Drilling
Brooge Petroleum and Gas
BW LPG
BW Offshore
Cabonline Group Holding AB
Cavai AS
Cloudberry Clean Energy
DNO
ELOP
Enapter AG
Ensurge Micropower
Esmaeilzadeh Holding
First Camp Group AB
Flex LNG
Global Agrajes (Fertiberia group)
Golar LNG
Gram Car Carriers
Green Transition Holding
Greenfood
Grøntvedt AS
Hafslund Eco
Hagal AS
HMH Holding
Ice Group
Immunopharma
InoBat Auto
International Petroleum Corporation
Island Green Power Ltd
JP/Politiken's Forlag
Kalera
Kebony
Keppel FELS Limited
KMC Properties
Kruse Smith
Kvitebjørn Energi AS
Lerøy Seafood Group
Memmo Family
Mime Petroleum
Modex AS
Multitude SE
Navios Maritime Aquisitions
Navios Maritime Holdings
Nordic Halibut
Norske Skog
Norwegian Block Exchange
Odfjell Oceanwind
Okea AS
Otello Corporation
Pandion Energy
Pareto Bank
PetroNor E&P
PHM Group
poLight
Polight ASA
Pronofa AS
Protector Forsikring
Pryme
Pyrum Innovations
Qred Holding
Quantafuel
Saga Robotics
Salmon Evolution
Sartorius-Herbst
Seagems Norway
Seajacks
Shamaran Petroleum
Slate European Holdings
Swedencare
TEMPTON GmbH
Tierklinik Hofheim GbR
Tise AS
Trønderenergi AS
Vestby Logistikk Holding
Vår Energi
Waldorf Production UK Ltd
Waste Plastic Upcycling
Wattif EV
wheel.me
Ymber AS
Ørn Software

This overview is updated monthly (this overview is for the period 31.08.2021 – 30.09.2022).

Appendix C

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

Distribution of recommendations

Recommendation	% distribution
Buy	78 %
Hold	21 %
Sell	1 %

Distribution of recommendations (transactions*)

Recommendation	% distribution
Buy	92 %
Hold	8 %
Sell	0 %

* Companies under coverage with which Pareto Securities Group has on-going or completed public investment banking services in the previous 12 months

This overview is updated monthly (last updated 14.09.2022).

Appendix D

This section applies to research reports prepared by Pareto Securities AB.

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The beneficial holding of the Pareto Group is 1 % or more of the total share capital of the following companies included in Pareto Securities AB's research coverage universe: None

The Pareto Group has material holdings of other financial instruments than shares issued by the following companies included in Pareto Securities AB's research coverage universe: None

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ADDvise
BioInvent
Cibus Nordic Real Estate AB
Egetis Therapeutics
Mentice
Media & Games Invest plc.
Oscar Properties
Sedana Medical
Shamaran Petroleum Corp
Studentbostäder i Norden
Swedencare
VEF
VNV Global

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ByggPartner i Dalarna Holding
Implantica
Isofol Medical
Linkfire
Media & Games Invest plc.
Mentice AB
SciBase Holding
Sedana Medical
ShaMaran Petroleum
Signup Software
Tethys Oil
VEF

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Backaheden Fastighets AB
Bonäsudden Holding AB (publ)
Borglanda Fastighets AB
Bosjö Fastigheter AB
Fleming Properties AB
Halmslätten Fastighets AB (publ)
Korsängen Fastighets AB (publ)
Krona Public Real Estate AB
Logistri Fastighets AB
Mälaråsen AB
One Publicus Fastighets AB
Origa Care AB (publ)
Preservium Property AB

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Appendix E

Disclosure requirements in accordance with Article 6(1)(c)(i) of Commission Delegated Regulation (EU) 2016/958

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Daldrup & Söhne
Demire
Epigenomics AG*
Gesco *
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Gigaset *
Heidelberg Pharma *
Intershop Communications AG
Leifheit
Logwin *
Manz AG *
MAX Automation SE
Merkur Bank
MLP *
Mühl Produkt & Service AG
mutares
Northern Data AG
OVB Holding AG
Procredit Holding *
PSI SOFTWARE AG *
PWO *
S&T AG *
SMT Scharf AG *
Surteco Group *
Syzygy AG *
Viscom *

* The designated sponsor services include a contractually agreed provision of research services.

Appendix F

Disclosure requirements in accordance with Article 6(1)(c)(iv) of Commission Delegated Regulation (EU) 2016/958

Sponsored Research
Pareto Securities has entered into an agreement with these companies about the preparation of research reports and – in return - receives compensation.

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CLIQ Digital
Daldrup & Söhne
Dermapharm Holding SE
Enapter
Expres2ion Biotechnologies
Gerry Weber
Hypoport AG
Intershop Communications AG
Leifheit
MAX Automation SE
Merkur Bank
Mynaric
mutares
Northern Data AG
OHB SE
OVB Holding AG
Siegfried Holding AG

This overview is updated monthly (last updated 15.09.2022).