mwb research

Vulcan Energy Resources Ltd.

Australia | Basic Resources | MCap EUR 473.7m

4 October 2024

UPDATE

Acquisition of Landau geothermal plant announced

BUY (BUY)

Target price	**EUR 10.50** (10.50)
Current price	EUR 2.62
Up/downside	300.2%

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What's it all about?

Vulcan Energy Resources has signed an agreement to acquire Geox GmbH, including the geothermal plant and the licenses for energy production and lithium extraction in the Landau area. This acquisition will allow Vulcan to streamline operations and eliminate complexities from previous joint venture arrangements. By fully controlling the geothermal wells and lithium extraction, Vulcan aims to enhance efficiency and reduce risks during the commercial ramp-up of its Zero Carbon Lithium project. The deal includes a EUR 15m consideration, contingent on Vulcan securing financing for Phase One, and a EUR 3m loan to fund plant operations. Additionally, Vulcan secured a EUR 10m credit facility to ensure financial flexibility while awaiting long-term project funding. We rate Vulcan a BUY with a PT of EUR 10.50.

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Acquisition of Landau geothermal plant announced

Acquisition of Geox plant: Recently, Vulcan Energy Resources has announced that it has signed an agreement to acquire Geox GmbH. Geox' assets include a geothermal license for energy production and lithium extraction in the Landau area, co-located with Vulcan's planned lithium extraction and geothermal plants. Further, the Geox geothermal plant hosts Vulcan's CLEOP, the central lithium hydroxide optimization plant, which is used to optimize the downstream process in preparation for full-scale commercial production.

Rationale: Vulcan's move to acquire Geox is intended to consolidate ownership of the key assets involved in Phase One of the Zero Carbon Lithium project. With this acquisition, Vulcan eliminates complexities by taking control over the geothermal wells and lithium extraction process in the Landau area, as it replaces an existing joint venture and brine offtake agreement. In our view, the transaction will enhance operational efficiency by reducing the need to coordinate with JV partners, and, most importantly, mitigate risks during the project's commercial ramp-up and operational phases by having full decision-making authority.

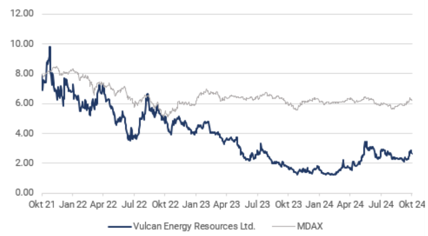
Financial details: According to the press release, Vulcan will be paying a consideration of EUR 15m. The payment is contingent on Vulcan securing its project financing for Phase One. If this financing is not completed by June 30, 2025, the payment could be extended by up to three years, with additional investments required by Vulcan in that case. Further, Vulcan has agreed to provide Geox with a EUR 3m secured loan to fund an operational workover, as the 3.2 MW geothermal power plant that has been on care and maintenance. As part of the agreement, IKAV, the previous owner of Geox, will retain ownership of the land associated with the geothermal plant, leasing it back to Vulcan. Vulcan will make annual lease payments and pay royalties on heat, electricity, and lithium extraction.

Loan Facility: Vulcan secured a EUR 10m credit facility from BNP Paribas to provide short-term financial flexibility ahead of completing the equity and debt financing for Phase One of the project. This facility is a revolving credit arrangement over a period of five years, and it is secured against Vulcan's geothermal power plant in Insheim.

-continued next page

Vulcan Energy	2021	2022	2023	2024E	2025E	2026E
Sales	3.8	3.6	6.8	7.3	9.0	204.9
Growth yoy	na	-4.7%	87.3%	8.3%	22.5%	2,176.7%
EBITDA	-14.9	-11.0	-22.3	-44.8	-67.9	108.0
EBIT	-17.7	-13.9	-28.8	-56.0	-100.5	55.1
Net profit	-18.9	-13.4	-24.7	-137.0	-186.1	-15.7
Net debt (net cash)	-175.4	-134.1	-78.7	-396.6	401.4	772.5
Net debt/EBITDA	11.8x	12.2x	3.5x	8.9x	-5.9x	7.2x
EPS reported	-0.15	-0.09	-0.16	-0.76	-0.96	-0.08
DPS	0.00	0.00	0.00	0.00	0.00	0.00
Dividend yield	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross profit margin	131.2%	110.2%	340.1%	18.3%	-344.4%	68.5%
EBITDA margin	-392.3%	-304.3%	-328.9%	-609.3%	-754.4%	52.7%
EBIT margin	-466.6%	-383.4%	-425.0%	-762.3%	-1,116.7%	26.9%
ROCE	-7.1%	-5.8%	-10.4%	-3.2%	-5.9%	2.8%
EV/EBITDA	-20.0x	-30.8x	-17.7x	-1.7x	-12.9x	11.5x
EV/EBIT	-16.8x	-24.5x	-13.7x	-1.4x	-8.7x	22.6x
PER	-17.4x	-28.0x	-16.9x	-3.5x	-2.7x	-32.8x
FCF yield	-3.5%	-2.0%	-5.7%	-24.5%	-25.7%	37.9%

Source: Company data, mwb research



Source: Company data, mwb research

High/low 52 weeks	3.59 / 1.21
Price/Book Ratio	1.6x

Ticker / Symbols

ISIN	AU0000066086
WKN	A2PV3A
Bloomberg	VUL:GR

Changes in estimates

		Sales	EBIT	EPS
2024E	old	7.3	-56.0	-0.76
	Δ	0.0%	na%	na%
2025E	old	9.0	-100.5	-0.96
	Δ	0.0%	na%	na%
2026E	old	204.9	55.1	-0.08
	Δ	0.0%	0.0%	na%

Key share data

Number of shares: (in m pcs)	180.52
Book value per share: (in EUR)	1.68
Ø trading vol.: (12 months)	33,109

Major shareholders

F. Wedin	8.8%
Hancock Prospecting	7.5%
CIMIC Group	5.8%
Free Float	72.8%

Company description

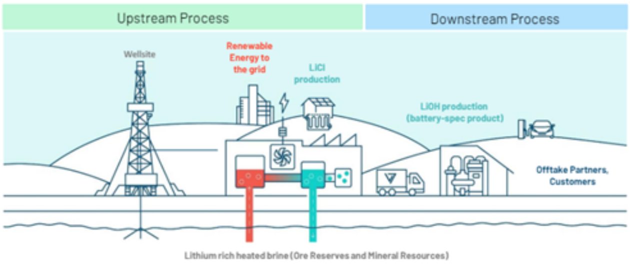
Vulcan Energy Resources Ltd. is an Australian lithium chemicals & renewable energy company, developing a project in the Upper Rhine Valley in Germany that combines hydro-geothermal energy with the extraction of the lithium contained in the geothermal brine without polluting the environment with emissions, waste material or toxic substances. With a CO_2 footprint of "zero", the project is predestined to mark the beginning of the decarbonization of the battery industry.

The purpose of this loan is to cover general corporate purposes and preparatory works for Phase One while the larger, long-term funding is still pending. Importantly, the funds are not intended to finance the Geox acquisition itself but rather serve as a bridge.

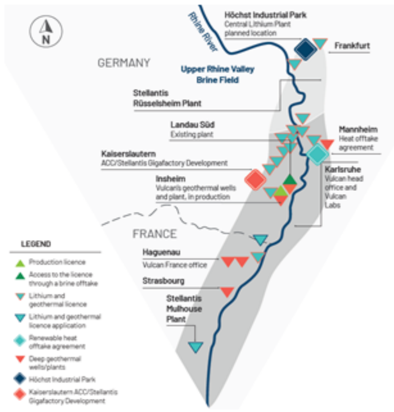
Conclusion: The wait for the financing to be finalized continues. In the meantime, Vulcan continues to work on the details, and extended its financial flexibility to cover immediate project costs and working capital. While this does not reflect immediate financial pressure, the deal structure of the Geox transaction reflects the importance of finalizing the financing in the coming months. Against this background, we rate Vulcan a BUY, confirming our PT of EUR 10.50.

Investment case in six charts

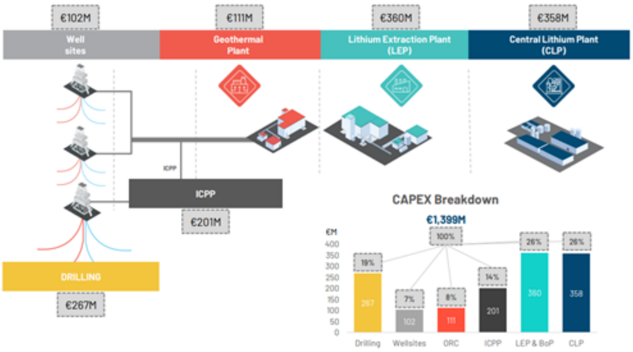
Products & Services



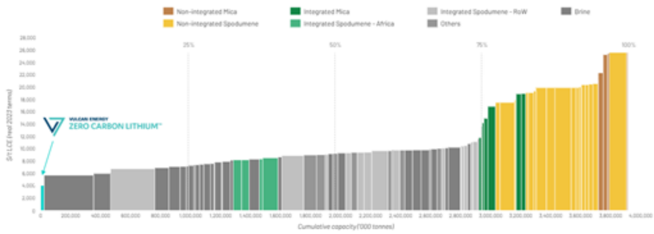
Footprint in Germany and France



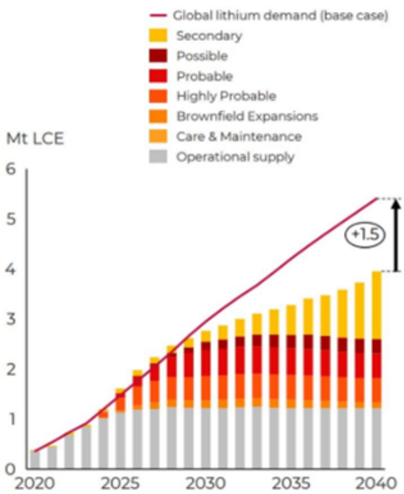
CAPEX Breakdown Phase 1



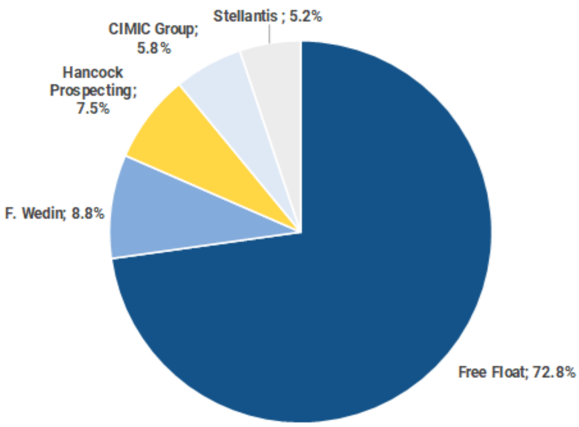
Global cost curve LHM (projected 2035)



Global supply/demand balance



Major Shareholders



Source: Company data; mwb research

Company Background

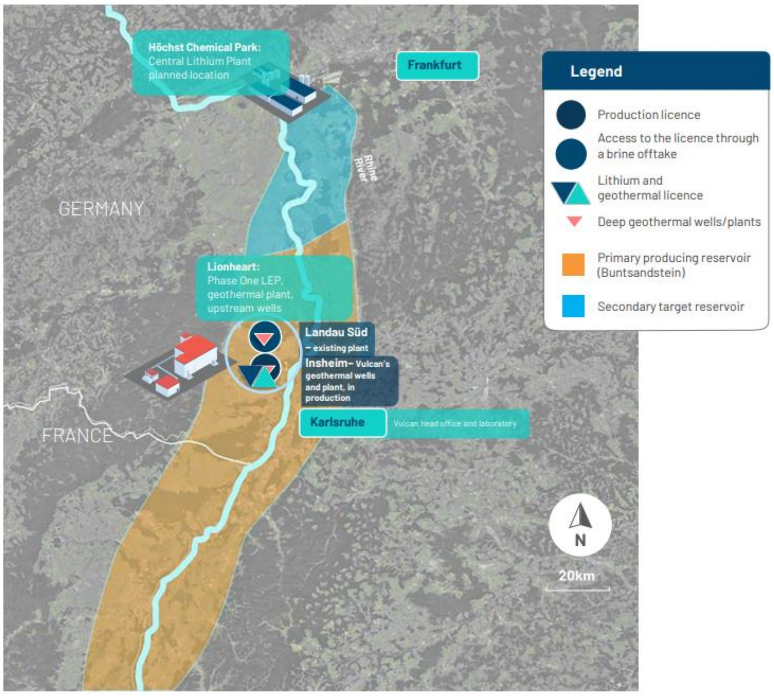
Vulcan in a nutshell:

Battery grade lithium hydroxide from brine sources in Germany – Vulcan has been on target for becoming a leading supplier of a material that is central to the electrification strategies of the automotive industry. And by operating geothermal plants, the company plans to provide renewable energy and heat to public and commercial customers in Germany.

Vulcan's Zero Carbon Lithium Project combines operations of extraction in the lithium-rich geothermal brine of the Upper Rhine Valley, of upgrading lithium to a high purity hydroxide (LiOH) as well as the production of hydrogeothermal energy (renewable electricity and heat). Thermal water will be used as energy source, and thus the extraction of lithium contained in the brine will run without polluting the environment with emissions, waste material or toxic substances. With a **CO_2 footprint of "zero"**, the project is predestined to mark the beginning of the decarbonization of the battery industry.

Estimated resources of Vulcan's Upper Rhine Valley Project have reached a total of approx. 27.7 million t LCE in JORC-compliant terms (Measured and Indicated Resource: 11.2 million t LCE). A portion of 4.16 million t LCE has been classified in the Measured category.

Phase 1 area

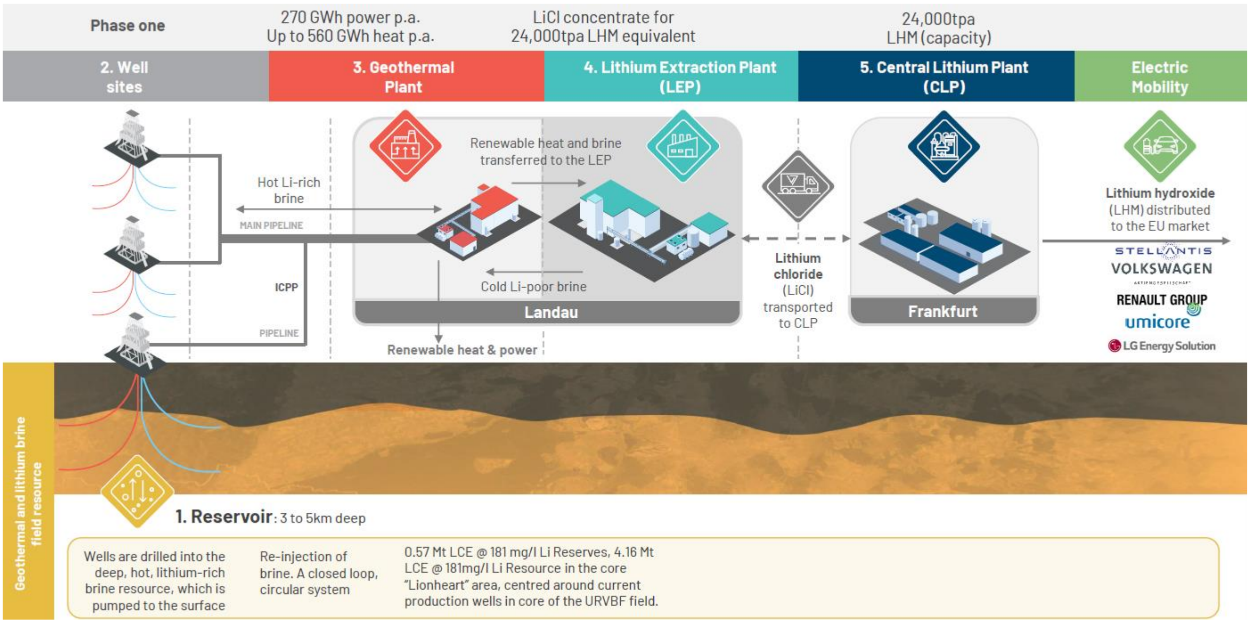


Source: Company data

How Vulcan's system works:

The system consists of extraction wells, drilled into the deep, hot, lithium-rich brine resource, which is pumped to the surface. Reinjection wells are used to feed the water back into the reservoir after part of the thermal energy stored in it has been cooled and lithium from brine has been extracted in the Lithium Extraction Plant (LEP). The lithium in the form of lithium chloride will be transported to Vulcan's Central Lithium Plant (CLP) at Frankfurt Höchst Chemical Park, where it will be converted to battery grade lithium hydrate monohydrate (LHM) using electrolysis.

Vulcan's system

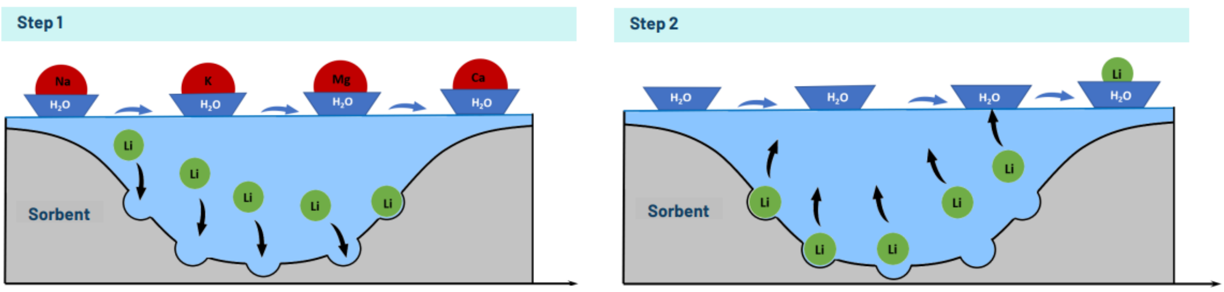


Source: Company data

Technology:

In Vulcan's project areas, a staged development will implement a process, which is known as **Adsorption-type Direct Lithium Extraction** (**A-DLE**). This technology bases on proven effective for more than 20 years in industrial lithium carbonate production, while offering a higher lithium yield and very low environmental impact compared to traditional methods such as evaporation or hard-rock mining. A-DLE provides lower operating cost and less waste as this method requires the use of water instead of acid to recover lithium, and naturally heated sub-surface brines do not have to be pre-treated. Also, production times are much shorter. Vulcan's produced lithium can be adapted to meet specific requirements and serve as a precursor product in different forms. Vulcan can extract lithium of high purity relative to hard rock and evaporative lithium, meeting very high product quality standards, particularly in the battery electric vehicle industry.

A-DLE process



- Brine has a high salinity – it contains ions of various sizes and electric charges.
- Water molecules surrounding the ions make up a hydration shell.
- Small lithium ions require a double hydration shell to stabilise their electric charge in the solution.
- In brines with high salinity this is not possible due to the competition for water molecules with the other ions.
- Thus, lithium chloride adsorbs to the surface of the sorbent material.
- During loading, lithium chloride is adsorbed on the sorbent while all the other ions stay in the brine.

- When the loaded sorbent is washed with water, an excess of free water molecules becomes available to the lithium ions.
- Formation of a double hydration shell is an energetically favoured process, which drives the desorption of the lithium chloride from the surface of the sorbent material.
- This process is called elution and the collected wash water that contains the lithium chloride is called the eluate.
- Eluate has a high concentration of lithium chloride and low concentration of impurities, enabling conversion to lithium hydroxide.

Source: Company data

Pre-commercial stage:

Vulcan's first pilot plant has been operating since April 2021, using live geothermal brine from existing wells. To train staff in a pre-commercial environment prior to the start of commercial production for targeted operational readiness in 2026, Vulcan is setting up demonstration plants for the extraction and the electrolysis. In September 2023, Vulcan completed its in-house designed Lithium Extraction Optimisation Plant (LEOP) at the GeoX geothermal plant in Landau. Start of operations occured in November 2023. The Central Lithium Electrolysis Optimisation Plant (CLEOP) in Frankfurt's Höchst industrial park has been completed in 2024.

Optimization plants

Source: Company data

Phase One – Commercial stage:

The upstream area for Phase One comprises the Lionheart district, consisting of three licence areas. Vulcan plans to drill additional production and reinjection wells, and to build a new geothermal plant with a planned output of 275GWh of renewable power and 560GWh of heat. For lithium extraction, a large LEP is planned with a total targeted capacity of 24,000 t per year LHM equivalent. Vulcan is targeting the start of production in H2 2026, followed by a ramp up phase during 2027. According to the BES, OPEX was estimated with c. EUR 4,000 per t LHM. The CAPEX for Phase One is currently estimated with EUR 1.4bn.

Commercial LEP

Phase One commercial: Lithium Extraction Plant (LEP)

- **Building permit submitted in November 2023**, in line with Vulcan's timeline.
- Will be constructed next to new Phase One Geothermal Plant in Landau.
- Total **targeted capacity to be 24,000tpa LHM equivalent in LiCl form.**
- From the LEP, **LiCl solution will be transported** to the CLP at Industrial Park Höchst (Frankfurt).
- **Modular build allows** for further phased development across other phases in Upper Rhine Valley Brine Field (URVBF).

Planned new commercial Phase One Geothermal Plant and Lithium Extraction Plant (LEP) in Landau

Source: Company data

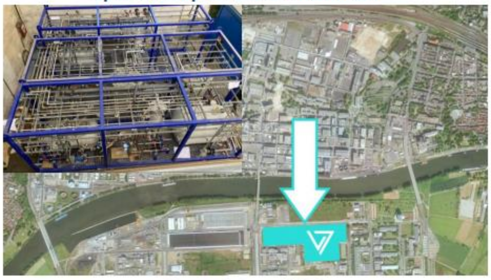
Commercial CLP

NEW CENTRAL LITHIUM PLANT (CLP)

- CLP planned to be located in Frankfurt (Höchst Industrial Park). Close to 100,000sqm secured.
- **Targeted 24,000tpa LHM capacity with space for further modular expansion**.
- Conversion of LiCl to battery grade LHM using electrolysis. By-products HCl and Sodium Hypochlorite. Significant synergies with existing chlor-alkali producers in the same chemical park, e. g. Nobian.
- Höchst is one of Europe's largest industrial estates and is home to around 90 chemical and pharmaceutical companies.
- Targeting late 2025 for commercial start of operations.
- Optimisation plant under construction, planned to start operation in H2, training staff in pre-commercial operational setting, will send significant volume of product to offtakers for pre-qualifications. Intended to ensure **commercial operational readiness.**

Commercial CLP

Optimisation plant under construction



Secured plot at Höchst

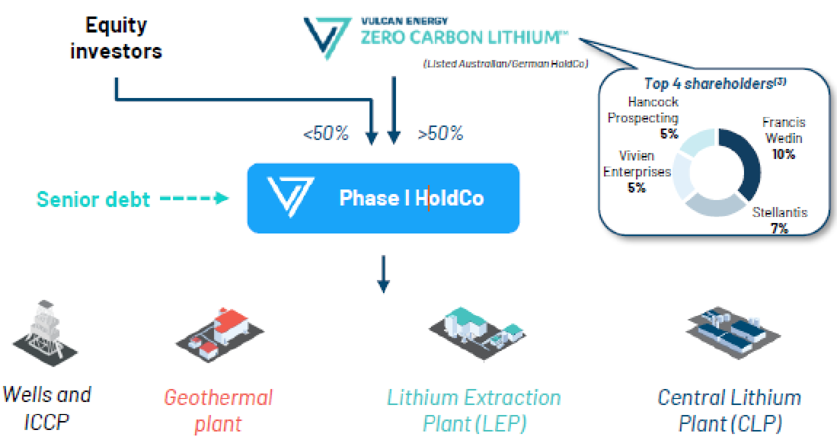
Source: Company data

Financing:

Vulcan has released its bridging engineering study (BES), which focuses on Vulcan's Lionheart area. The BES provides favorable project economics while also further de-risking potential. Completing the bridging study marks the kick-off for financing of phase 1. Overall, Vulcan is targeting a debt-to-equity ratio of 65:35 for the overall funding of Phase 1. The company intends to raise the needed funds via debt and equity financing, while also applying for public funding. The equity investments are planned on project level. By doing that, Vulcan sees opportunities to bring investors aboard while minimizing dilution.

In addition, Vulcan has received a conditional, non-binding Letter of Support from Export Finance Australia (EFA) for up to AUD 200 million (~EUR 120 million) for the upcoming financing of Phase One. Additionally, Vulcan has already secured substantial in-principle government-backed ECA support, subject to customary conditions, from Bpifrance Assurance Export, the French ECA, SACE, the Italian ECA, and EDC, the Canadian ECA. Currently, the EIB is considering a financing up to EUR 500m.

Contemplated financing structure



Source: Company data

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Valuation

DCF Model

By using a 25% risk weighting on Equity value, the DCF model results in a **fair value of EUR 10.44 per share.**

In our base case scenario, revenues are based on an average sales price at **USD 22.5** thousand/ton of lithium hydroxide.

WACC. Starting point is a equity beta of 1.60. Unleverering and correcting for mean reversion yields an asset beta of 1.06. Combined with a risk-free rate of 2.0% and an equity risk premium of 6.0% this yields cost of equity of 11.5%. With pre-tax cost of borrowing at 7.0%, a tax rate of 25.0% and target debt/equity of 0.7 this results in a long-term WACC of 9.0%.

DCF (EURm) (except per share data and beta)	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	Terminal value
NOPAT	-84.5	-133.6	36.8	160.7	203.1	204.7	239.5	275.2	
Depreciation & amortization	11.2	32.6	52.9	82.3	81.7	81.1	80.5	80.0	
Change in working capital	-22.3	-4.4	-19.0	-45.0	-35.0	-41.5	-24.3	66.4	
Chg. in long-term provisions	0.6	1.9	225.8	321.7	117.0	0.0	0.0	0.0	
Capex	-150.2	-765.2	-644.5	-80.7	-83.0	-83.0	-83.0	-83.0	
Cash flow	-245.1	-868.7	-348.1	439.0	283.8	161.3	212.8	338.6	4,931.7
Present value	-239.9	-776.5	-284.3	327.6	194.1	101.5	124.5	187.6	2,641.8
WACC	9.5%	9.5%	9.5%	9.5%	9.4%	9.3%	9.0%	8.5%	9.0%

DCF per share derived from	
Total present value	2,276.4
Mid-year adj. total present value	2,378.9
Net debt / cash at start of year	-78.7
Financial assets	22.1
Provisions and off b/s debt	0.3
Equity value	2,479.7
No. of shares outstanding	180.5
Discounted cash flow / share	**10.44**
upside/(downside)	**297.9%**
Share price	**2.62**

DCF avg. growth and earnings assumptions	
Planning horizon avg. revenue growth (2024E-2031E)	86.9%
Terminal value growth (2031E - infinity)	2.0%
Terminal year ROCE	14.2%
Terminal year WACC	9.0%

Terminal WACC derived from	
Cost of borrowing (before taxes)	7.0%
Long-term tax rate	25.0%
Equity beta	1.60
Unlevered beta (industry or company)	1.06
Target debt / equity	0.7
Relevered beta	1.58
Risk-free rate	2.0%
Equity risk premium	6.0%
Cost of equity	11.5%

Sensitivity analysis DCF

Change in WACC (%-points)	Long term growth 1.0%	1.5%	2.0%	2.5%	3.0%
2.0%	5.8	6.2	6.6	7.1	7.7
1.0%	7.2	7.7	8.3	9.0	9.7
0.0%	8.9	9.6	10.4	11.4	12.5
-1.0%	11.2	12.2	13.3	14.7	16.4
-2.0%	14.2	15.7	17.4	19.5	22.2

Share of present value	
2024E-2027E	-42.7%
2028E-2031E	26.7%
terminal value	116.1%

Source: mwb research

mwb research

FCF Yield Model

Due to the fact that companies rarely bear sufficient resemblance to peers in terms of geographical exposure, size or competitive strength and in order to adjust for the pitfalls of weak long-term visibility, an Adjusted Free Cash Flow analysis (Adjusted FCF) has been conducted.

The adjusted Free Cash Flow Yield results in a fair value between EUR -3.87 per share based on 2024E and EUR 18.35 per share on 2028E estimates.

The main driver of this model is the level of return available to a controlling investor, influenced by the cost of that investors' capital (opportunity costs) and the purchase price – in this case the enterprise value of the company. Here, the adjusted FCF yield is used as a proxy for the required return and is defined as EBITDA less minority interest, taxes and investments required to maintain existing assets (maintenance capex).

FCF yield in EURm	2024E	2025E	2026E	2027E	2028E
EBITDA	**-44.8**	**-67.9**	**108.0**	**358.4**	**444.6**
- Maintenance capex	11.2	32.6	52.9	82.3	81.7
- Minorities	42.5	58.2	4.5	46.4	69.1
- tax expenses	-31.5	-42.6	-3.7	51.5	76.7
= Adjusted FCF	**-67.0**	**-116.0**	**54.3**	**178.2**	**217.1**
Actual Market Cap	**493.8**	**493.8**	**493.8**	**493.8**	**493.8**
+ Net debt (cash)	-396.6	401.4	772.5	339.6	28.7
+ Pension provisions	0.0	0.0	0.0	0.0	0.0
+ Off b/s financing	0.0	0.0	0.0	0.0	0.0
- Financial assets	22.1	22.1	22.1	22.1	22.1
- Acc. dividend payments	0.0	0.0	0.0	0.0	0.0
EV Reconciliations	-418.7	379.3	750.4	317.5	6.6
= Actual EV'	**75.1**	**873.1**	**1,244.2**	**811.3**	**500.4**
Adjusted FCF yield	**-89.2%**	**-13.3%**	**4.4%**	**22.0%**	**43.4%**
base hurdle rate	7.0%	7.0%	7.0%	7.0%	7.0%
ESG adjustment	1.0%	1.0%	1.0%	1.0%	1.0%
adjusted hurdle rate	6.0%	6.0%	6.0%	6.0%	6.0%
Fair EV	**-1,116.8**	**-1,934.0**	**904.2**	**2,970.5**	**3,618.9**
- EV Reconciliations	-418.7	379.3	750.4	317.5	6.6
Fair Market Cap	**-698.1**	**-2,313.3**	**153.8**	**2,653.0**	**3,612.3**
No. of shares (million)	180.5	193.5	196.9	196.9	196.9
Fair value per share in EUR	**-3.87**	**-11.95**	**0.78**	**13.48**	**18.35**
Premium (-) / discount (+)	**-247.4%**	**-555.6%**	**-70.2%**	**413.6%**	**599.3%**

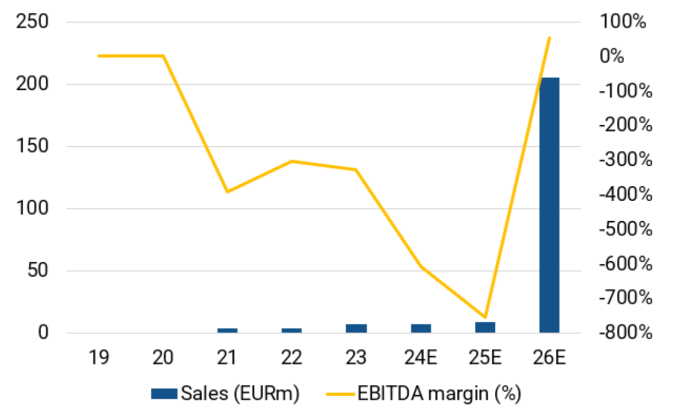
Sensitivity analysis fair value						
	4.0%	-7.0	-17.0	3.1	21.0	27.5
	5.0%	-5.1	-14.0	1.7	16.5	22.0
Adjusted hurdle rate	**6.0%**	**-3.9**	**-12.0**	**0.8**	**13.5**	**18.3**
	7.0%	-3.0	-10.5	0.1	11.3	15.7
	8.0%	-2.3	-9.5	-0.4	9.7	13.8

Source: Company data; mwb research

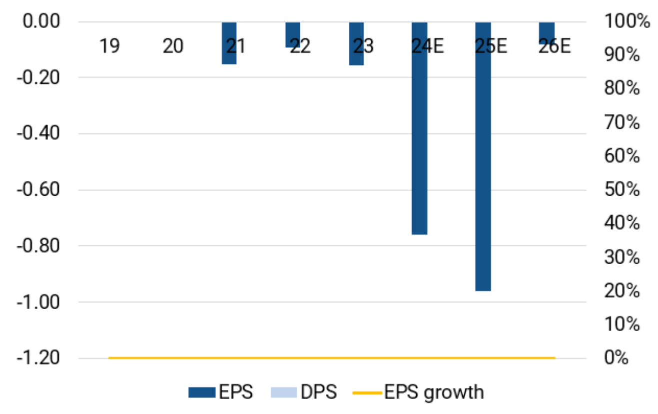
Simply put, the model assumes that investors require companies to generate a minimum return on the investor's purchase price. The required after-tax return equals the model's hurdle rate of 7.0%. Anything less suggests the stock is expensive; anything more suggests the stock is cheap. **ESG adjustments might be applicable. A high score indicates high awareness for environmental, social or governance issues and thus might lower the overall risk an investment in the company might carry. A low score on the contrary might increase the risk of an investment and might therefore trigger a higher required hurdle rate.**

Financials in six charts

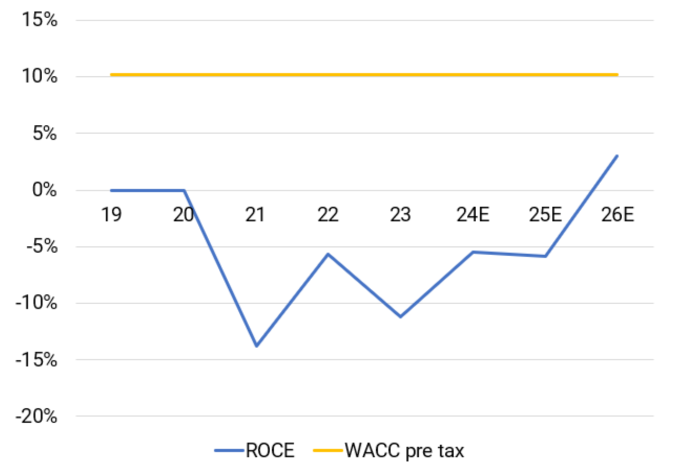
Sales vs. EBITDA margin development



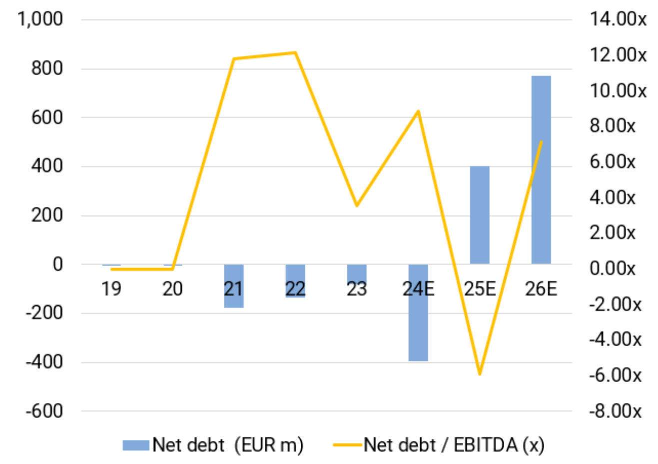
EPS, DPS in EUR & yoy EPS growth



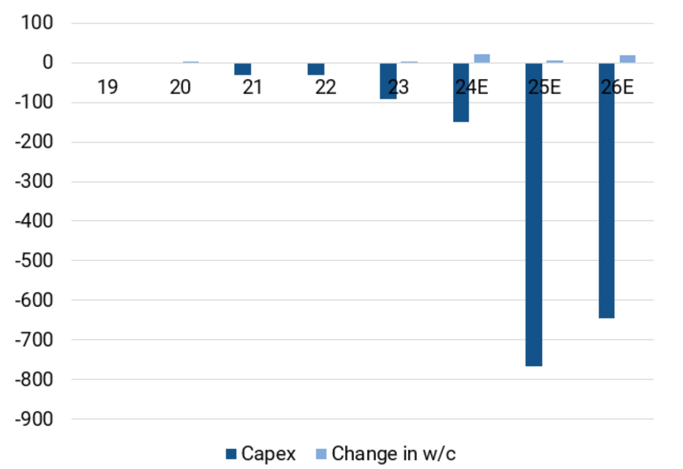
ROCE vs. WACC (pre tax)



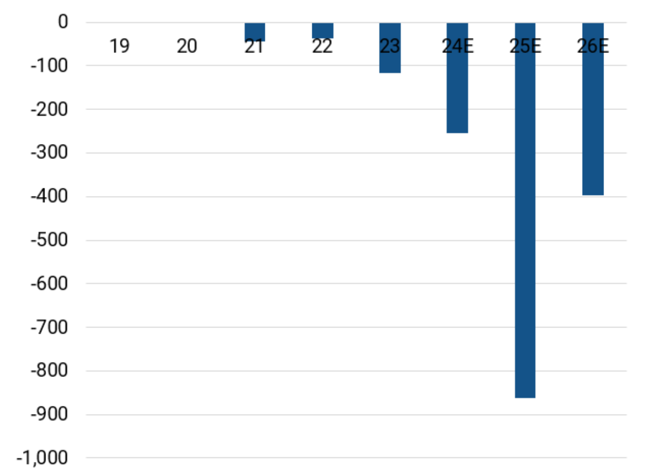
Net debt and net debt/EBITDA



Capex & chgn in w/c requirements in EURm



Free Cash Flow in EURm



Source: Company data; mwb research

Financials

Profit and loss (EURm)	2021	2022	2023	2024E	2025E	2026E
Sales	**3.8**	**3.6**	**6.8**	**7.3**	**9.0**	**204.9**
Sales growth	na	-4.7%	87.3%	8.3%	22.5%	2,176.7%
Cost of sales	-1.2	-0.4	-16.3	6.0	40.0	64.6
Gross profit	**5.0**	**4.0**	**23.1**	**1.3**	**-31.0**	**140.3**
SG&A expenses	21.2	14.1	31.8	50.0	65.0	75.0
Research and development	0.0	0.0	0.0	0.0	0.0	0.0
Other operating expenses (income)	-1.3	1.5	20.1	7.3	4.5	10.2
EBITDA	**-14.9**	**-11.0**	**-22.3**	**-44.8**	**-67.9**	**108.0**
Depreciation	2.1	2.3	5.9	11.2	32.6	52.9
EBITA	-14.4	-13.3	-28.2	-56.0	-100.5	55.1
Amortisation of goodwill and intangible assets	0.5	0.6	0.7	0.0	0.0	0.0
EBIT	**-17.7**	**-13.9**	**-28.8**	**-56.0**	**-100.5**	**55.1**
Financial result	-0.8	0.3	3.4	-70.0	-70.0	-70.0
Recurring pretax income from continuing operations	-18.5	-13.6	-25.4	-126.0	-170.5	-14.9
Extraordinary income/loss	0.0	0.0	-1.1	0.0	0.0	0.0
Earnings before taxes	-18.5	-13.6	-26.6	-126.0	-170.5	-14.9
Taxes	0.4	-0.1	-1.8	-31.5	-42.6	-3.7
Net income from continuing operations	-18.9	-13.4	-24.7	-94.5	-127.9	-11.2
Result from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0
Net income	**-18.9**	**-13.4**	**-24.7**	**-94.5**	**-127.9**	**-11.2**
Minority interest	0.0	0.0	0.0	-42.5	-58.2	-4.5
Net profit (reported)	-18.9	-13.4	-24.7	-137.0	-186.1	-15.7
Average number of shares	124.67	143.33	159.33	180.52	193.52	196.86
EPS reported	**-0.15**	**-0.09**	**-0.16**	**-0.76**	**-0.96**	**-0.08**

Profit and loss (common size)	2021	2022	2023	2024E	2025E	2026E
Sales	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Cost of sales	-31%	-10%	-240%	82%	444%	32%
Gross profit	**131%**	**110%**	**340%**	**18%**	**-344%**	**68%**
SG&A expenses	558%	389%	469%	681%	722%	37%
Research and development	0%	0%	0%	0%	0%	0%
Other operating expenses (income)	-34%	41%	296%	100%	50%	5%
EBITDA	**-392%**	**-304%**	**-329%**	**-609%**	**-754%**	**53%**
Depreciation	57%	63%	87%	153%	362%	26%
EBITA	-380%	-368%	-415%	-762%	-1,116%	27%
Amortisation of goodwill and intangible assets	13%	16%	10%	0%	0%	0%
EBIT	**-467%**	**-383%**	**-425%**	**-762%**	**-1,117%**	**27%**
Financial result	-20%	9%	50%	-953%	-778%	-34%
Recurring pretax income from continuing operations	-487%	-374%	-375%	-1,715%	-1,894%	-7%
Extraordinary income/loss	0%	0%	-17%	0%	0%	0%
Earnings before taxes	-487%	-374%	-392%	-1,715%	-1,894%	-7%
Taxes	10%	-3%	-27%	-429%	-474%	-2%
Net income from continuing operations	-496%	-371%	-365%	-1,286%	-1,421%	-5%
Result from discontinued operations (net of tax)	0%	0%	0%	0%	0%	0%
Net income	**-496%**	**-371%**	**-365%**	**-1,286%**	**-1,421%**	**-5%**
Minority interest	0%	0%	0%	-579%	-646%	-2%
Net profit (reported)	**-496%**	**-371%**	**-365%**	**-1,865%**	**-2,067%**	**-8%**

Source: Company data; mwb research

mwb research

Balance sheet (EURm)	2021	2022	2023	2024E	2025E	2026E
Intangible assets (exl. Goodwill)	**3.6**	**3.1**	**1.7**	**1.8**	**2.0**	**6.5**
Goodwill	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	71.9	100.4	187.1	325.9	1,058.3	1,645.4
Financial assets	5.9	6.0	22.1	22.1	22.1	22.1
FIXED ASSETS	**81.5**	**109.5**	**210.8**	**349.7**	**1,082.3**	**1,673.9**
Inventories	0.1	0.2	0.3	4.2	12.0	23.0
Accounts receivable	4.0	6.3	6.9	8.1	12.3	28.1
Other current assets	0.1	0.0	0.1	0.1	0.1	0.1
Liquid assets	175.4	134.1	78.7	1,396.6	598.6	227.5
Deferred taxes	0.0	0.0	0.0	0.0	0.0	0.0
Deferred charges and prepaid expenses	0.0	0.0	0.0	0.0	0.0	0.0
CURRENT ASSETS	**179.7**	**140.6**	**86.1**	**1,409.0**	**623.1**	**278.7**
TOTAL ASSETS	**261.1**	**250.1**	**296.9**	**1,758.7**	**1,705.4**	**1,952.7**
SHAREHOLDERS EQUITY	**247.3**	**233.2**	**268.3**	**239.3**	**176.4**	**190.2**
MINORITY INTEREST	0.0	0.0	0.0	507.5	507.5	507.5
Long-term debt	0.0	0.0	0.0	1,000.0	1,000.0	1,000.0
Provisions for pensions and similar obligations	0.0	0.0	0.0	0.0	0.0	0.0
Other provisions	4.1	5.9	7.8	8.5	10.4	236.1
Non-current liabilities	**4.1**	**5.9**	**7.8**	**1,008.5**	**1,010.4**	**1,236.1**
short-term liabilities to banks	0.0	0.0	0.0	0.0	0.0	0.0
Accounts payable	6.2	6.5	9.5	3.3	11.0	17.7
Advance payments received on orders	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities (incl. from lease and rental contracts)	3.2	4.5	11.2	0.0	0.0	1.0
Deferred taxes	0.3	0.1	0.1	0.1	0.1	0.1
Deferred income	0.0	0.0	0.0	0.0	0.0	0.0
Current liabilities	**9.7**	**11.0**	**20.8**	**3.4**	**11.1**	**18.8**
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	**261.1**	**250.1**	**296.9**	**1,758.7**	**1,705.4**	**1,952.7**

Balance sheet (common size)	2021	2022	2023	2024E	2025E	2026E
Intangible assets (excl. Goodwill)	**1%**	**1%**	**1%**	**0%**	**0%**	**0%**
Goodwill	0%	0%	0%	0%	0%	0%
Property, plant and equipment	28%	40%	63%	19%	62%	84%
Financial assets	2%	2%	7%	1%	1%	1%
FIXED ASSETS	**31%**	**44%**	**71%**	**20%**	**63%**	**86%**
Inventories	0%	0%	0%	0%	1%	1%
Accounts receivable	2%	3%	2%	0%	1%	1%
Other current assets	0%	0%	0%	0%	0%	0%
Liquid assets	67%	54%	27%	79%	35%	12%
Deferred taxes	0%	0%	0%	0%	0%	0%
Deferred charges and prepaid expenses	0%	0%	0%	0%	0%	0%
CURRENT ASSETS	**69%**	**56%**	**29%**	**80%**	**37%**	**14%**
TOTAL ASSETS	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
SHAREHOLDERS EQUITY	**95%**	**93%**	**90%**	**14%**	**10%**	**10%**
MINORITY INTEREST	0%	0%	0%	29%	30%	26%
Long-term debt	0%	0%	0%	57%	59%	51%
Provisions for pensions and similar obligations	0%	0%	0%	0%	0%	0%
Other provisions	2%	2%	3%	0%	1%	12%
Non-current liabilities	**2%**	**2%**	**3%**	**57%**	**59%**	**63%**
short-term liabilities to banks	0%	0%	0%	0%	0%	0%
Accounts payable	2%	3%	3%	0%	1%	1%
Advance payments received on orders	0%	0%	0%	0%	0%	0%
Other liabilities (incl. from lease and rental contracts)	1%	2%	4%	0%	0%	0%
Deferred taxes	0%	0%	0%	0%	0%	0%
Deferred income	0%	0%	0%	0%	0%	0%
Current liabilities	**4%**	**4%**	**7%**	**0%**	**1%**	**1%**
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Company data; mwb research

Cash flow statement (EURm)	2021	2022	2023	2024E	2025E	2026E
Net profit/loss	-18.9	-13.5	-27.0	-94.5	-127.9	-11.2
Depreciation of fixed assets (incl. leases)	0.0	1.7	5.2	11.2	32.6	52.9
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	0.0	0.6	0.7	0.0	0.0	0.0
Others	4.4	1.6	-0.6	0.6	1.9	225.8
Cash flow from operations before changes in w/c	-14.4	-9.6	-21.7	-82.6	-93.4	267.5
Increase/decrease in inventory	0.0	0.0	0.0	-3.8	-7.8	-11.0
Increase/decrease in accounts receivable	-0.1	-1.0	-0.8	-1.2	-4.3	-15.7
Increase/decrease in accounts payable	0.5	3.3	-1.7	-6.2	7.7	6.7
Increase/decrease in other w/c positions	0.0	-0.1	0.1	-11.1	0.0	1.0
Increase/decrease in working capital	0.4	2.2	-2.4	-22.3	-4.4	-19.0
Cash flow from operating activities	**-11.3**	**-7.4**	**-24.0**	**-104.9**	**-97.8**	**248.4**
CAPEX	-32.2	-30.5	-92.6	-150.2	-765.2	-644.5
Payments for acquisitions	-31.5	0.0	-0.2	0.0	0.0	0.0
Financial investments	-30.0	-1.2	0.3	0.0	0.0	0.0
Income from asset disposals	29.3	0.0	0.0	0.0	0.0	0.0
Cash flow from investing activities	**-64.4**	**-31.8**	**-92.5**	**-150.2**	**-765.2**	**-644.5**
Cash flow before financing	-75.7	-39.2	-116.5	-255.1	-863.0	-396.1
Increase/decrease in debt position	0.0	0.0	0.0	1,000.0	0.0	0.0
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	171.8	0.0	64.6	573.0	65.0	25.0
Dividends paid	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.2	-0.5	-1.8	0.0	0.0	0.0
Effects of exchange rate changes on cash	6.6	-1.7	-1.3	0.0	0.0	0.0
Cash flow from financing activities	**178.6**	**-2.1**	**61.4**	**1,573.0**	**65.0**	**25.0**
Increase/decrease in liquid assets	102.9	-41.3	-55.1	1,317.9	-798.0	-371.1
Liquid assets at end of period	**175.4**	**134.1**	**78.7**	**1,396.6**	**598.6**	**227.5**

Source: Company data; mwb research

Regional sales split (EURm)	2021	2022	2023	2024E	2025E	2026E
Domestic	0.0	0.0	0.0	0.0	0.0	0.0
Europe (ex domestic)	0.0	0.0	0.0	0.0	0.0	0.0
The Americas	0.0	0.0	0.0	0.0	0.0	0.0
Asia	0.0	0.0	0.0	0.0	0.0	0.0
Rest of World	0.0	0.0	0.0	0.0	0.0	0.0
Total sales	**3.8**	**3.6**	**6.8**	**7.3**	**9.0**	**204.9**

Regional sales split (common size)	2021	2022	2023	2024E	2025E	2026E
Domestic	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Europe (ex domestic)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
The Americas	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Asia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Rest of World	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total sales	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: Company data; mwb research

Ratios	2021	2022	2023	2024E	2025E	2026E
Per share data						
Earnings per share reported	-0.15	-0.09	-0.16	-0.76	-0.96	-0.08
Cash flow per share	-0.09	-0.05	-0.15	-0.64	-0.67	0.99
Book value per share	1.98	1.63	1.68	1.33	0.91	0.97
Dividend per share	0.00	0.00	0.00	0.00	0.00	0.00
Valuation						
P/E	-17.4x	-28.0x	-16.9x	-3.5x	-2.7x	-32.8x
P/CF	-28.8x	-50.7x	-17.4x	-4.1x	-3.9x	2.6x
P/BV	1.3x	1.6x	1.6x	2.0x	2.9x	2.7x
Dividend yield (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	-3.5%	-2.0%	-5.7%	-24.5%	-25.7%	37.9%
EV/Sales	78.5x	93.8x	58.2x	10.5x	97.2x	6.1x
EV/EBITDA	-20.0x	-30.8x	-17.7x	-1.7x	-12.9x	11.5x
EV/EBIT	-16.8x	-24.5x	-13.7x	-1.4x	-8.7x	22.6x
Income statement (EURm)						
Sales	3.8	3.6	6.8	7.3	9.0	204.9
yoy chg in %	Infinity%	-4.7%	87.3%	8.3%	22.5%	2,176.7%
Gross profit	5.0	4.0	23.1	1.3	-31.0	140.3
Gross margin in %	131.2%	110.2%	340.1%	18.3%	-344.4%	68.5%
EBITDA	-14.9	-11.0	-22.3	-44.8	-67.9	108.0
EBITDA margin in %	-392.3%	-304.3%	-328.9%	-609.3%	-754.4%	52.7%
EBIT	-17.7	-13.9	-28.8	-56.0	-100.5	55.1
EBIT margin in %	-466.6%	-383.4%	-425.0%	-762.3%	-1,116.7%	26.9%
Net profit	-18.9	-13.4	-24.7	-137.0	-186.1	-15.7
Cash flow statement (EURm)						
CF from operations	-11.3	-7.4	-24.0	-104.9	-97.8	248.4
Capex	-32.2	-30.5	-92.6	-150.2	-765.2	-644.5
Maintenance Capex	0.0	0.0	0.0	11.2	32.6	52.9
Free cash flow	-43.5	-37.9	-116.7	-255.1	-863.0	-396.1
Balance sheet (EURm)						
Intangible assets	3.6	3.1	1.7	1.8	2.0	6.5
Tangible assets	71.9	100.4	187.1	325.9	1,058.3	1,645.4
Shareholders' equity	247.3	233.2	268.3	239.3	176.4	190.2
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	4.1	5.9	7.8	1,008.5	1,010.4	1,236.1
Net financial debt	-175.4	-134.1	-78.7	-396.6	401.4	772.5
w/c requirements	-2.0	-0.0	-2.3	8.9	13.4	33.4
Ratios						
ROE	-7.6%	-5.8%	-9.2%	-39.5%	-72.5%	-5.9%
ROCE	-7.1%	-5.8%	-10.4%	-3.2%	-5.9%	2.8%
Net gearing	-70.9%	-57.5%	-29.3%	-165.8%	227.5%	406.1%
Net debt / EBITDA	11.8x	12.2x	3.5x	8.9x	-5.9x	7.2x

Source: Company data; mwb research

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