Alzchem
(CDAX, Chemicals, ACT GR)

WARBURG RESEARCH

Buy	
EUR 40.00	
Price	EUR 24.90
Upside	**60.6 %**

Value Indicators:	EUR
DCF:	40.10
FCF-Value Potential 23-25:	43.26
SotP 23-24:	43.31

Warburg ESG Risk Score:	**2.7**
ESG Score (MSCI based):	3.0
Balance Sheet Score:	4.0
Market Liquidity Score:	1.0

Description:

Alzchem is an integrated specialty chemicals provider

Market Snapshot:	EUR m
Market cap:	253.4
No. of shares (m):	10.2
EV:	390.9
Freefloat MC:	119.3
Ø Trad. Vol. (30d):	138.97 th

Shareholders:	
Freefloat	47.08 %
LIVIA Corporate Dev. SE	25.13 %
for two na GmbH	15.05 %
HDI Vier CE GmbH	12.74 %

Key Figures (WRe):	2023e
Beta:	1.6
Price / Book:	1.5 x
Equity Ratio:	39 %
Net Fin. Debt / EBITDA:	0.8 x
Net Debt / EBITDA:	1.9 x

Stellar performance not adequately reflected in the share price

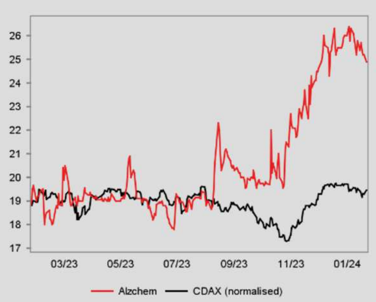
Alzchem is a producer of bulk and specialty chemicals and is located in Trostberg, Germany. Its production setup differs from most other chemical producers in Europe and even globally - while others mostly rely on crude-oil derivates or natural gas as raw materials, Alzchem uses coke coal, limestone and electricity to generate chemical building blocks. These chemical building blocks are used to synthesize bulk and specialty chemicals along the company's value chains. Thus, despite its rather small size in comparison to major European chemical companies, Alzchem is fully backward integrated into its raw materials. Based on its alternative route to chemicals production, Alzchem has access to a range of rather exotic compounds that cater to attractive market niches, especially in the food, feed, and agriculture industry. As Alzchem has been expanding its production of specialty chemicals especially since 2019, its EBITDA progression benefitted from an increasing share of earnings from high-margin products. The niche markets, e.g. for creatine and creatine precursors, continue to expand, driven not only by underlying megatrends like population growth and aging population but also new applications. We regard the underlying growth trend of the company as fully intact and set to continue for the medium and long term but, in our view, this is not adequately reflected in the current share price.

Recent development included a choppy performance in FY 2022 as the company faced a massive increase in raw-material costs and especially power prices in Germany, as a consequence of Western sanctions on Russia following the war in Ukraine. In 2023, however, Alzchem managed to raise its prices and fully pass on higher raw-material and energy costs to customers. In some bulk product groups, price increases were met with firm resistance. This became especially visible in Alzchem's Basics & Intermediates segment. Asian producers, benefitting from significantly lower raw-material and energy costs, made for tough competition. As a consequence, Alzchem decided to refrain from chasing market share in low-margin products, but rather to reduce volumes. In parallel, recently expanded production capacity was fully utilised, especially for the high-margin products Creapure® and CreAMINO® (food and feed supplements respectively), generating positive mix effects.

As a consequence, Alzchem recorded a sales-decline of -2.7% yoy to EUR 397.9m in 9M 2023 driven by lower volumes (-12.8% yoy) but higher prices (+10.3% yoy). The volume drop was mostly attributable to the Basics & Intermediates segment (-24.1% yoy). As a result, the Specialty Chemicals segment's share of Group sales increased to 57.4% from 52.4%. This positive trend is expected to be sustainable. 9M EBITDA was EUR 56.3m in 2023, +19.8% yoy. Both segments, Basics & Intermediates and Specialty Chemicals, contributed to the favourable development. While Specialty Chemicals EBITDA improved by 9.4% yoy to EUR 49.5m, Basics & Intermediates EBITDA managed to jump by 482% yoy to EUR 6.3m which was mainly explained by the tiny comparison base. The group's EBITDA margin increased to 14.2%, from 11.5% yoy.

We expect Alzchem to have reached its 2023 EBITDA guidance of approx. EUR 80m, which indicates a yoy-increase of ca. 30%. This marks the company's best EBITDA ever, a stark contrast to the dismal performance of the European chemical industry in 2023.

Based on our earnings estimates, we reiterate our PT of EUR 40 (based on a DCF calculation) as well as our Buy recommendation. In our view, the share price does not give full credit to the stellar performance of 2023 nor does it adequately reflect the expectation of favourable operational development in the periods to come.



Rel. Performance vs CDAX:	
1 month:	-1.4 %
6 months:	29.0 %
Year to date:	-2.9 %
Trailing 12 months:	32.3 %

Company events:	
01.02.24	vRS
06.02.24	vRS
01.03.24	FY 2023
30.04.24	Q1

FY End: 31.12. in EUR m	CAGR (22-25e)	2019	2020	2021	2022	2023e	2024e	2025e
Sales	2.3 %	376.1	379.3	422.3	542.2	538.3	562.8	580.6
Change Sales yoy		0.2 %	0.8 %	11.3 %	28.4 %	-0.7 %	4.6 %	3.2 %
Gross profit margin		*60.8 %*	*64.4 %*	*62.0 %*	*50.8 %*	*54.3 %*	*53.6 %*	*53.9 %*
EBITDA	13.3 %	50.1	53.8	62.0	61.4	80.1	84.0	89.4
Margin		*13.3 %*	*14.2 %*	*14.7 %*	*11.3 %*	*14.9 %*	*14.9 %*	*15.4 %*
EBIT	19.6 %	30.6	30.7	37.6	35.9	54.8	57.0	61.4
Margin		*8.1 %*	*8.1 %*	*8.9 %*	*6.6 %*	*10.2 %*	*10.1 %*	*10.6 %*
Net income	11.5 %	18.0	19.7	27.6	30.1	34.8	37.8	41.7
EPS	11.3 %	1.77	1.94	2.72	2.96	3.42	3.71	4.09
EPS adj.	11.3 %	1.77	1.94	2.72	2.96	3.42	3.71	4.09
DPS	6.0 %	0.75	0.77	1.00	1.05	1.10	1.15	1.25
Dividend Yield		3.5 %	3.9 %	4.1 %	5.3 %	4.4 %	4.6 %	5.0 %
FCFPS		0.23	1.95	1.43	-3.23	3.38	2.62	2.16
FCF / Market cap		1.1 %	9.9 %	5.9 %	-16.3 %	13.6 %	10.5 %	8.7 %
EV / Sales		1.1 x	1.0 x	1.0 x	0.7 x	0.8 x	0.7 x	0.7 x
EV / EBITDA		8.1 x	7.2 x	6.9 x	6.1 x	5.0 x	4.7 x	4.3 x
EV / EBIT		13.2 x	12.6 x	11.3 x	10.5 x	7.4 x	6.9 x	6.2 x
P / E		12.0 x	10.2 x	8.9 x	6.7 x	7.3 x	6.7 x	6.1 x
P / E adj.		12.0 x	10.2 x	8.9 x	6.7 x	7.3 x	6.7 x	6.1 x
FCF Potential Yield		6.4 %	7.9 %	9.1 %	11.4 %	12.5 %	13.6 %	14.8 %
Net Debt		188.3	185.4	179.8	174.8	150.8	137.5	128.8
ROCE (NOPAT)		9.2 %	8.9 %	10.9 %	8.9 %	12.3 %	12.5 %	12.8 %
Guidance:	FY 2023: EBITDA slightly growing to up to EUR 80m							

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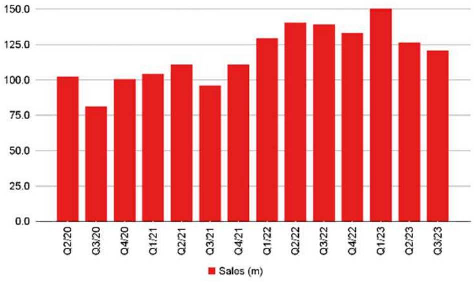
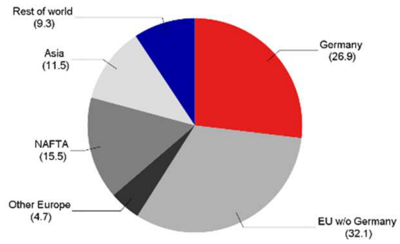
Sales development
in EUR m



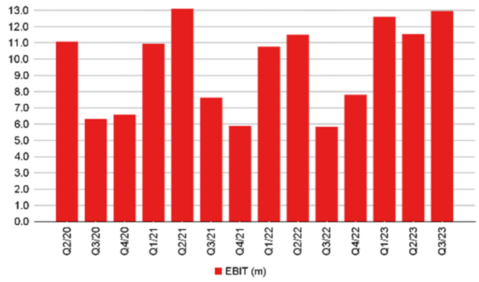
Source: Warburg Research

Sales by regions
2022; in %



Source: Warburg Research

EBIT development
in EUR m



Source: Warburg Research

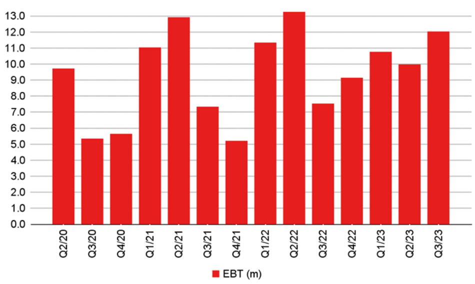
Company Background

- Alzchem goes back to the Bayerische Stickstoff-Werke GmbH (1908), which built a large calcium carbide and calcium cyanamide plant on the river Alz
- In 1939, Bayerische Kraftwerk AG and Donauwerke AG merged to form Süddeutsche Kalkstickstoffe AG, based in Trostberg. In 1978 company's name was changed to SKW Trostberg AG
- Merger of Degussa Hüls AG with Trostberg AG to form Degussa AG in 2000. Merger of the Alz locations Trostberg, Schalchen, Hart and Waldkraiburg into AlzChem Holding GmbH in 2006
- Takeover by bluO in 2009, conversion to Alzchem AG 2011. In 2019 the company heavily invested in the area of feed additives with the construction of a dedicated CreAMINO® production facility
- Alzchem is brought into the listed Alzchem Group AG (formerly Softmatic AG). Alzchem Group AG is the new parent company of the Alzchem Group. 2019 Commissioning of investment projects CreAMINO® and Nitrile

Competitive Quality

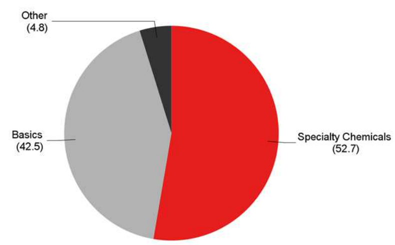
- Alzchem is a globally active, vertically integrated manufacturer of various chemical products of the calcium carbide/calcium cyanamide chain with a strategic focus on growth in the Specialty Chemicals business segment
- Alzchem's integrated manufacturing “Verbund" system enables efficiency gains in production. The company is the global leader or among the leading companies in its chosen fields of activity
- The company has four production facilities in Germany and one in Sweden that are complemented by two marketing companies in the US and in China allowing for global distribution of its products
- The company is benefiting from megatrends like sustainable energy production, population growth and increase in aging population. Its products offer attractive solutions that meet demand growth.
- Alzchem provides a highly diversified product portfolio ranging e.g. from dietary supplements, plant growth regulators to precursors for corona testing, thus addressing a wide range of customer industries

EBT development
in EUR m



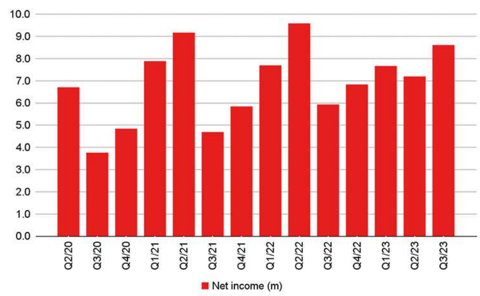
Source: Warburg Research

Sales by segments
2022; in %



Source: Warburg Research

Net income development
in EUR m



Source: Warburg Research

Summary of Investment Case

Investment triggers

- Strong attractive FCF generation despite capex above depreciation from FY 2024e onwards
- Favourable demand for high.margin products should allow for a continuation of positive mix-effects
- Attractive dividend yield of 4.2% (2023e)

Valuation

- Company trades on attractive multiples such as EV/EBITDA (2024e: 4.8x) and P/E (2024e: 6.9x). Sizeable discounts of the current share price to peers (SotP: EUR 43.31 per share) as well as to a fair value calculation by DCF (EUR 40.10)
- Positive growth prospects not adequately reflected in the current share price

Growth

- Tailwind from megatrends should drive future demand
- Past capacity expansions as well as the launch of new products should enable attractive volume growth in the 2024-2025 periods
- We expect the company to be able to achieve a rate of organic sales expansion that exceeds the rate of GDP growth

Competitive quality

- Global No 1-3 in selective niche markets
- High regulatory hurdles as well as the introduction of brands in its key products erect high barriers to entry in the respective markets
- The highest backward integration in the NCN chemical industry by far enables a Verbund structure that provides significant cost savings for the company

Company Overview

alzchem group

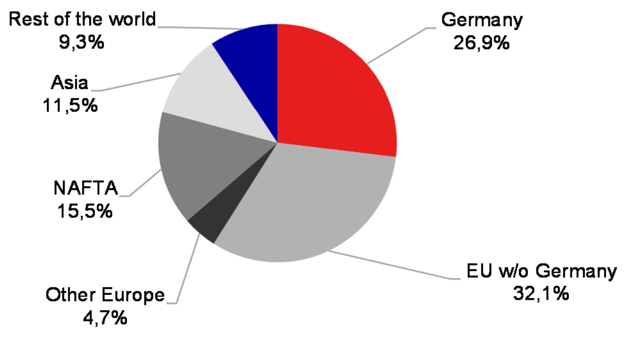
Segments (FY 2022)	Basics & Intermediates	Specialty Chemicals	Other & Holding	Group
Sales in EUR m	227,5	288,4	26,3	542,2
in % of total	*42,0%*	*53,2%*	*4,9%*	*100,0%*
EBITDA in EUR m	5,0	53,0	2,5	61,4
EBITDA Margin	*2,2%*	*18,4%*	*9,5%*	*11,3%*

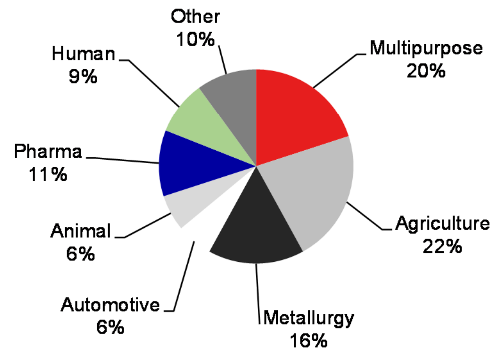
Segments	Basics & Intermediates	Specialty Chemicals
Product examples with Global Market Position	CaD No.1; Guanidine Salts No. 1; NITRALZ® Top 3	CREAMINO No. 1; Creapure® Top 3; Dormex® No. 1; Bioselect® No. 1

Applications	Nutrition	Renewable energy	Agriculture	Fine chemistry	Metallurgy

Customers: skw. Piesteritz, Beiselen, BASF, Merck, Bayer, Evonik, ASK Chemicals, Raiffeisen, ArcelorMittal

Sales by Regions (FY 2022)	Sales by Customer groups (FY 2022)





Source: Warburg Research

Competitive Quality

- Megatrends provide for growth potential
- Leading position in a number of niche markets
- High barriers to entry

Megatrends to drive mid-term growth

Benefitting from megatrends

Alzchem benefits from megatrends such as population growth and food production, aging population, energy efficiency, and sustainability. As a result, the company focuses mainly on unlocking the growth potential of new and existing products that cater to these megatrends.

Population growth

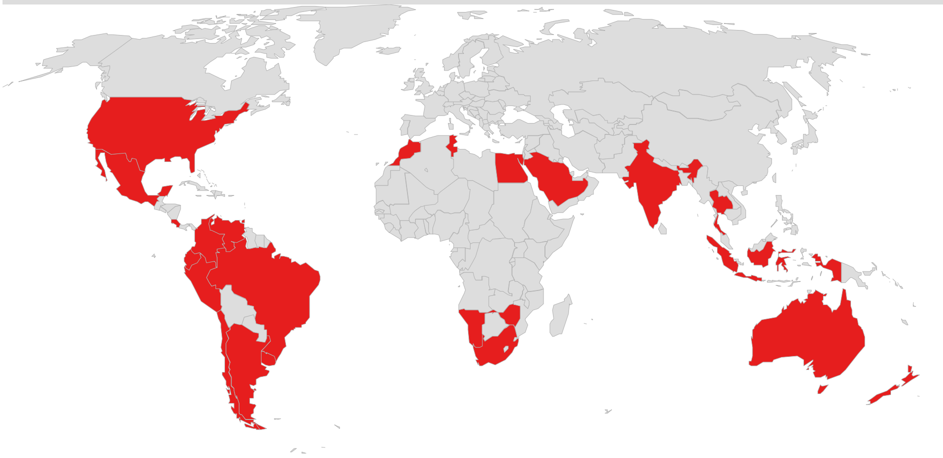
The UN predicts population growth well into 2035, however arable land is limited. For this reason, efficient processes and cultivation methods are required to ensure adequate food supply. Alzchem provides products that can be used for optimized yield-oriented agricultural production.

Products: Dormex® (plant growth regulator used in fruit production), CreAMINO® (nutrient additive for poultry and pigs), Perlka® (for healthy soil and plants)

Alzchem is the global No. 1 creatine supplier with its **CreAMINO**® brand. The product has country-specific approvals throughout the world. CreAMINO® is used as a feed additive for animals to improve their internal synthesis of creatine. Creatine is an essential component for energy transfer and supply in the body. Hence, CreAMINO® promotes animal growth by making feed metabolism more effective, reducing costs and enhancing productivity. It also reduces the ecological footprint of animal production in terms of feed volumes required per unit.

Dormex® is a plant growth regulator used in fruit production. Alzchem is global number 1 in the market. The plant growth regulator is used to break bud dormancy as well as stimulating more uniform and earlier bud-break. Dormex® is typically used in regions with rather mild winters where the climate is not cold enough to break crop buds. Dormex® enhances crop yield by accelerating the time to harvest. It also increases fruit yield by decreasing the rate of over cropping and poor leafing. Its main areas of application are grapes, apples, peaches and nectarines, kiwis, cherries and berries. Dormex® is listed as a plant growth regulator in 30 countries globally, including main fruit producing countries.

Dormex® is listed as a plant growth regulator in 30 countries worldwide



Source: Alzchem, Warburg Research

Perlka® is a special calcium cyanamide multi-effect fertilizer. It can reverse or prevent yield and quality losses caused by tightly timed crop rotations. The unique NCN binding form of the nitrogen in the fertilizer contributes to a long-term nitrogen supply, in line with plant demand. It's the calcium cyanamide seal that increases the biological activity of the soil. The fertilizer's calcium content is bio-available to plants due to its water solubility. It also improves the lime balance of the soil, whereas most nitrogen fertilizers tend to acidify the soil. After distribution, the substance decomposes into fertilized lime and plant-available nitrogen

Aging population

Creatine is a natural substance produced in the human body as well as in the bodies of animals. Most of the creatine in the human body is stored as phosphocreatine. Phosphocreatine is the bridge between energy stored in the human cells as ATP and extra cellular energy deposits. Phosphocreatine recycles and buffers energy, making it available on demand. The human body produces ca. 50-60% of its creatine demand, the rest is provided in food intake, which amounts to ca. 3-5g creatine intake/day. Creatine supplements are recommended for certain groups of people, e.g. those on a vegan diet, which rarely provides the human body with adequate daily creatine intake. It is also used by athletes who require a significantly higher daily intake of creatine. Evidence also suggests that that creatine supplementation has the potential to increase aging muscle mass and muscle strength, which can reduce the risk of falls and perhaps attenuate the loss of bone mineral. Preliminary evidence also indicates that creatine may have anti-inflammatory properties. Thus, creatine supplements are increasingly recommended for people beyond the age of 50. Alzchem is the only Europe-based supplier of creatine monohydrate, producing the branded **Creapure®** as a food supplement in sports nutrition. It also sells **Livadur®**, a dietary supplement that contains pure creatine and **Creavitalis®**, a creatine for health and food applications.

Energy efficiency

Renewable energies and higher energy efficiency are indispensable for the future of our planet. While other chemical companies will need to change their source of energy (in most cases: natural gas) to electricity in the next decades to achieve net zero, Alzchem is already relying on electricity as its main power source. Alzchem's product portfolio provides it with a good basis to participate in areas such as hydrogen-powered vehicles, lightweight construction, and wind energy. Alzchem is also developing sustainable products with a negative carbon footprint.

DYHARD® is Alzchem's brand for high-performance cross-linkers for hot-curing epoxy applications based on dicyandiamide curing agents, uron and imidazole accelerators, master batches and latent liquid cross-linkers. DYHARD® products are used in adhesives, in powder coating, in board connectors and most importantly, in the composite materials industry. Hardeners, accelerators and modifiers of the DYHARD® product range play an important role in the manufacturing of highly demanding end-products. DYHARD® cross-linkers are widely used in the automotive and aviation industry to reduce weight in comparison with the use of traditional materials as well as in the manufacturing of blades for wind turbines. They can also be used in the electronics industry and for the production of sports equipment.

Silzot HQ® is an α-silicon nitride powder which is used for the production of high-performance technical ceramics as well as for high-strength special steel grades. It has been produced in Trostberg since 1992. The product has been optimized since to provide ceramic manufacturers with good workability in their manufacturing process and to enable specific product characteristics. Silzot HQ® is suitable for the sintering of complex parts for high-end applications as well as for various technical and advanced ceramics. It is used in the production of wear and corrosion-resistant structural parts for the chemical industry, heavy-duty ball/roller bearings, cutting tools, high-endurance materials for the automotive and aerospace industries and other applications.

Silzot SQ® is an ultrapure silicon nitride powder for application in the solar industry. It is obtained from the direct chemical reaction of silicon metal (polysilicon) and ultrapure nitrogen. As a result, it can be used as a release agent for the casting of multicrystalline PV silicon ingots.

Eminex® suppresses methane and CO_2 emissions during manure slurry storage and hence improves the environmental footprint of animal production. The product was launched in September 2021. More than 50% of German methane emissions originate from liquid manure and biogas digestates. Eminex® can reliably suppress 90-100% methane and CO_2 emissions during long-term storage, which makes slurry storage environmentally friendly for the first time. In addition, Eminex® increases slurry quality by reducing space requirements for liquid manure and improving flow, resulting in time and cost savings during agitation. Last but not least, Eminex® eliminates highly toxic sulphide vapours.

High barriers to entry

Cost advantages of an integrated production without noticeable flexibility restrictions

Alzchem is a strongly vertically-integrated producer of specialty chemicals from the NCN value chain. Its competitors focus on some selected products from the NCN chain, while Alzchem can avail of opportunities in all parts of the value chain. The Verbund system provides cost synergies, economies of scale as well as flexibility in production. Its diversified production base and multitude of products makes the company less dependent on a specific product group or customer sector. It also allows for improved leverage of R&D costs. However, the company's FY 2022 highlighted the limits to the Verbund setup if drastic changes, like structurally higher raw-material and energy costs, hit the company out of the blue. Nevertheless, FY 2023 has so far clearly shown that Alzchem is in the position to pass on higher selling prices to its customers and its production setup is flexible enough to also deal with high volatility in capacity utilisation.

Regulatory barriers

Some of the sectors in which Alzchem is active are highly regulated. This applies especially to the market for biocidal and plant-protection products, the market for dietary supplements and animal feed additives and dual-use products as well as the pharma and the cosmetics sector. Alzchem has the required certifications and registrations in place, allowing it to sell its products to the respective markets. These certifications, permits and authorisations by public or private authorities are time-consuming and sometimes difficult to receive but place a regulatory moat around Alzchem's business model.

Know-how, IP and brands represent additional barriers

High product quality, reliability, process know-how and intellectual property rights as a result of investments in R&D protect Alzchem's business model. Its well-established brands represent another hurdle for new entrants to niche markets. This is especially true when it comes to the highly attractive products of the company's Specialty Chemicals segment.

Analysis of Return on Capital

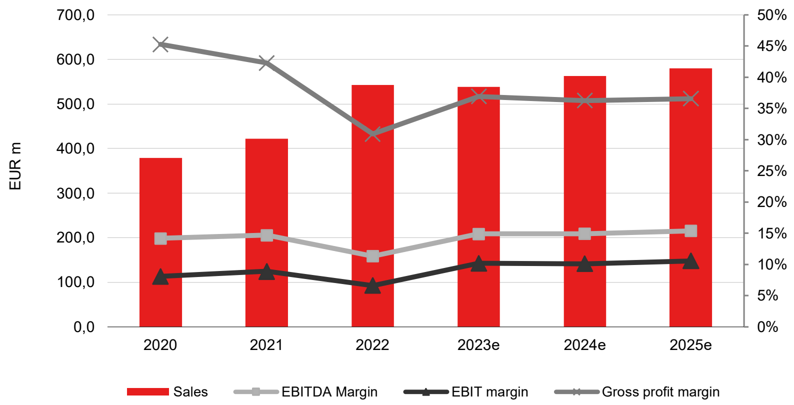
- Profits to rise in FY 2023e based on gross-margin expansion
- Attractive FCF generation supported by the OCF level
- FCF level allows for net-debt reduction, equity ratio to rise
- ROCE to improve as a result of higher earnings

Favourable FCF generation to continue despite capex > depreciation

Earnings set to improve from 2023e onwards

FY 2022 saw declining levels of profitability triggered by a significant increase in raw-material and energy costs. These huge and very rapid cost increases could not be passed on to customers at short notice. In FY 2023, however, we expect Alzchem to achieve a record result as prices were raised to cover the cost increases and there were positive effects from an improved product mix. This is mainly explained by increasing market penetration of its CreAMINO® and Creapure® products but also by cutting down on the production of low-volume bulk chemicals.

FY 2022 burdened by cost increases which were passed on to customers in FY 2023



Source: Alzchem, Warburg Research

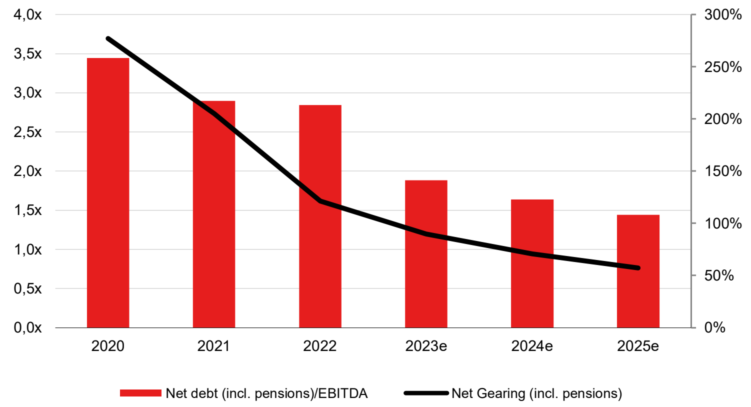
Net debt to decline on favourable FCF generation

With a dividend pay-out ratio of approx. 30-35% of EPS, which is at the lower end of the company's dividend policy (DPS = 30% - 50% of EPS), as well as capex of EUR 24.7m in FY 2023 followed by EUR 34.7m in the following periods, FCF generation should allow for a continued reduction in net financial debt. The most important swing factor in the company's net debt, however, has been pension provisions. As EBITDA is expected to hit a record level in FY 2023 and to expand in future periods, gearing is set to decline.

Pension provisions benefited from rising interest rates, but this trend came to a halt in FY 2023

Pension provisions amounted to EUR 141.8m in FY 2020, dwarfing net financial debt of EUR 43.6m. As a consequence of higher discount rates, pension provisions declined to EUR 90.1m by the end of FY 2022. In 2023e however, pension provisions will remain mostly unchanged yoy. Given that we are expecting either stable or slightly lower interest rates in the EU from FY 2024 onwards, fluctuations in pension provision are expected to be minor.

Net debt to decline on favourable FCF generation

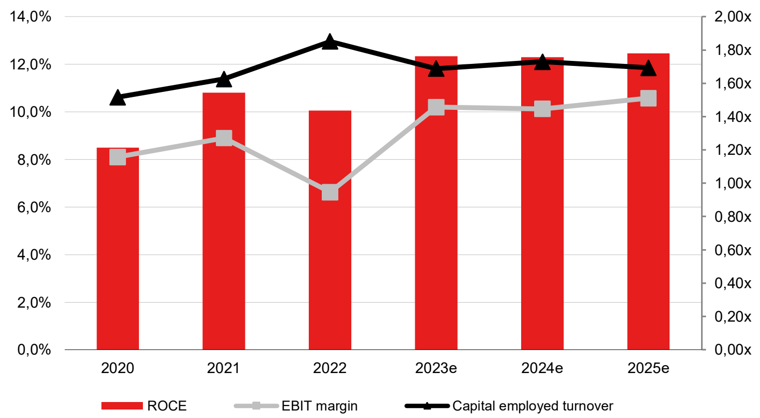


Source: Alzchem, Warburg Research

ROCE set to increase

Given favourable demand growth, debottlenecking of existing production facilities is not sufficient to provide the company with sufficient capacity increases. Major capacity expansions to supply growing markets however can rarely be utilized fully from the start. Hence, the most recent major capacity increase for CreAMINO® production in 2019 added 200% of new capacity in one go. As it takes time for the capacities to reach full utilisation, ROCE initially suffers before the positive effects from higher production volumes kick in. As Alzchem's capex was consistently ahead of its depreciation level in the 2018-2022 periods, capital tied up in fixed assets increased. In addition, FY 2022 EBIT declined due to raw-material and energy cost increases, which the company could not pass on to customers initially. As a consequence, ROCE declined. In FY 2023, the EBIT is expected to rise significantly, increasing ROCE to north of 12%. Given that profitability is expected to increase but the company is planning to raise capex ahead of depreciation from FY 2024 onwards, ROCE is set to be burdened in 2024 & 2025.

ROCE to jump on higher earnings in FY 2023e and to slowly increase in the following periods



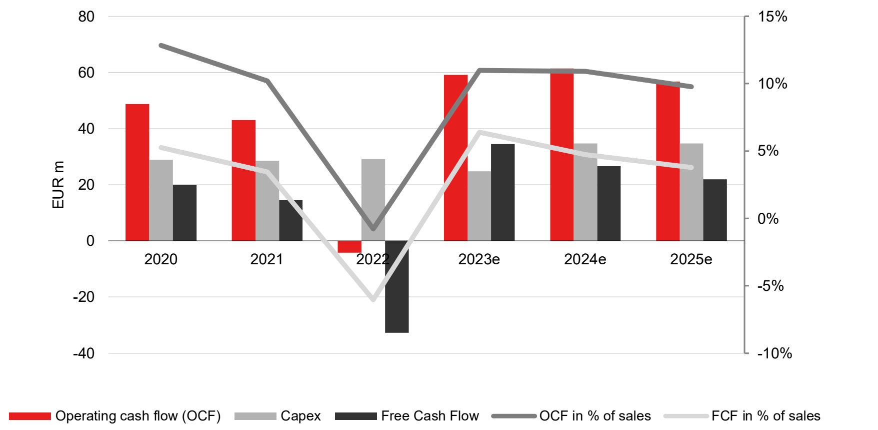
Source: Alzchem, Warburg Research

FCF to reflect capex growth ahead of depreciation in FY 2024 & 2025

Capex in FY 2022 was EUR 29.1m, ahead of the depreciation level of EUR 25.5m. This was driven by the expansion of Alzchem's Creapure® production capacities (EUR 13.8m). Given lower capacity utilisation and only some debottlenecking in FY 2023, WR expects capex to have come down to a level of EUR 24.7m, which would be slightly below depreciation (WRe: EUR 25.2m). To meet its goal of reducing the company's greenhouse gas emissions to zero as early as in 2033, the company plans to increase capex spending to a level of EUR 35m in FY 2024 and beyond, well ahead of depreciation.

FY 2022 FCF was hit by a major hike in working capital, driven by higher raw-material and energy costs, but also by a higher inventory levels to counter the effect of logistical disruptions. We do not expect this to be repeated in FY 2023e or beyond.

FY 2022 FCF hit by a significant working-capital increase



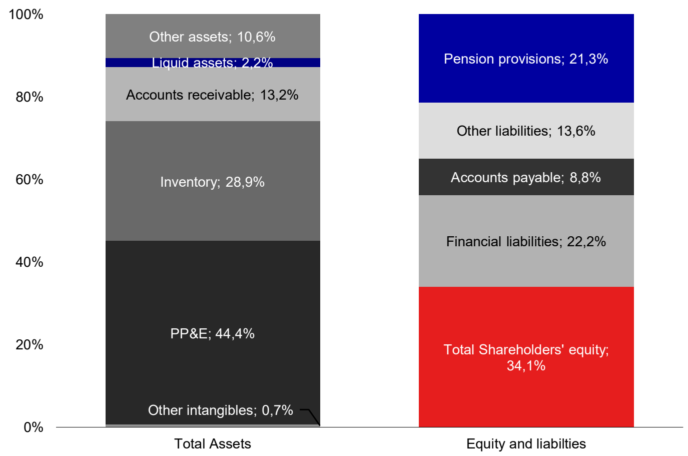
Source: Alzchem, Warburg Research

Equity ratio set to increase in the 2023e–2025e periods

The equity ratio is expected to increase from 34.1% in FY 2022 to 50.5% in FY 2025e as a consequence of lower financial debt. In contrast, the distribution of assets should change only slightly. Total assets are expected to increase by 5.2% to EUR 444.9m.

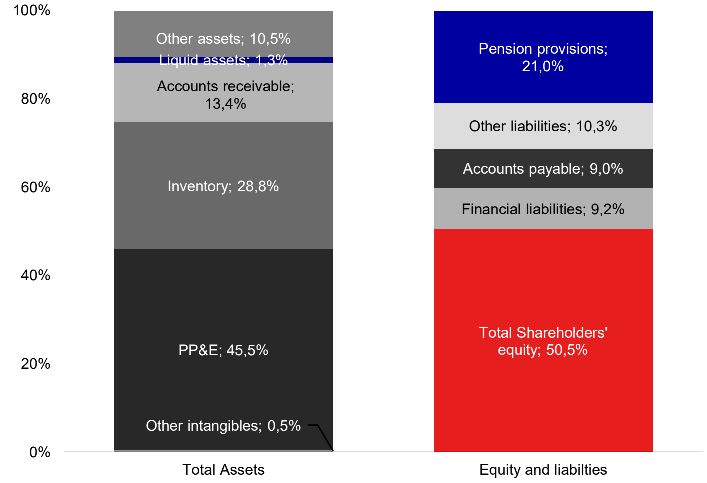
Balance sheet FY 2022 versus FY 2025e: net debt down, equity up

FY 2022 balance sheet structure: Assets dominated by PP&E, liabilities dominated by debt (financial liabilities & pension provisions)



Source: Alzchem, Warburg Research

FY 2025e balance sheet structure: Assets still dominated by PP&E but liabilities now dominated by equity



Source: Alzchem, Warburg Research

Growth / Financials

- Positive mix-effects and higher prices to boost FY 2023 EBITDA to a record level
- Rising raw-material and energy prices were passed on to customers throughout FY 2023
- Negative sales effects of forgoing low-margin business to peter off in FY 2024
- FY 2024 and 2025 to be driven by volume growth and continuation of positive mix

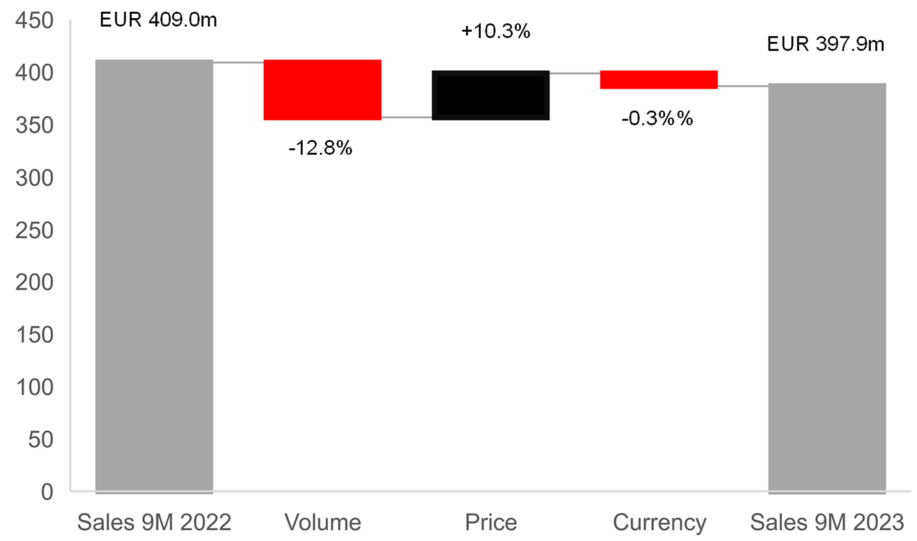
Company set to have generated a record EBITDA in FY 2023

Targeting a record result in FY 2023

FY 2023 driven by improvements in product mix

Alzchem recorded a 9M 2023 sales-decline of -2.7% yoy to EUR 397.9m. This was driven by lower volumes (-12.8% yoy), an adverse effect that was not completely offset by higher prices (10.3% yoy). FX effects were only slightly negative (-0.3% yoy). While sales in the Specialty Chemicals segment increased by 6.5% yoy to EUR 228.5m, the Basics & Intermediates segment recorded a sales-decline of -15.6% yoy to EUR 147.7m. Sales in the Other & Holding expanded by 10.5% yoy to EUR 21.7m. While higher prices in Specialty Chemicals more than offset a volume decline of -5.5%, it was the other way around in the Basics & Intermediates segment. Here, higher prices (+8.9%) had to succumb to the adverse effects of lower volumes (-24.1%). Alzchem decided to forego some low-margin business especially when competing with Asian competitors, who benefitted from significantly lower energy and raw-material costs. The company accepted market-share loss as long as it did not affect the efficiency of its production process. As a result, the Specialty Chemicals segment's share of Group sales increased, an effect we believe is here to stay not only for FY 2023 but also in future periods.

9M 2023 sales progression driven by negative volume but positive price effects



Source: Alzchem, Warburg Research

Alzchem generated an 9M 2023 EBITDA of EUR 56.3m, 19.8% ahead of last year's figure. At segment level, the previous year's figures were exceeded in the Basics & Intermediates and Specialty Chemicals segments. The previous year was affected by an enormous increase in the price of electricity as well as high volatility, which could not be passed on to customers at short notice. This had a negative impact on EBITDA. In 9M 2023 however, Alzchem was able to pass on the ongoing high costs to its customers. The strategy of focusing on higher-margin businesses while accepting lower volumes in the Basics & Intermediates segment strongly contributed to the positive development of Alzchem's EBITDA. While EBITDA in the Specialty Chemicals improved by 9.4% yoy to EUR 49.5m, the Basics & Intermediates EBITDA managed to jump by 482% yoy to EUR 6.3m thanks to the low basis of comparison of 2022. This helped to raise the group's EBITDA margin to 14.2%, significantly above the 11.5% of the same period in prior year.

Net income in 9M however was up only slightly (1.1%) to EUR 23.5m despite the significant improvement in EBITDA and EBIT. This was explained by a more negative financial result (EUR -4.3m compared to EUR +4.0m in the prior year). In 2023, higher interest rates led to higher interest payments, while the 9M 2022 financial result benefitted from a revaluation of pension provisions for the same reason.

We expect Alzchem to have achieved its FY 2023 guidance for sales at the prior year's level (EUR 540m) and EBITDA of approx. EUR 80m, which indicates an increase of ca. 30% yoy. The guidance was increased on 18.10.2023 to its current level. It required slight acceleration of EBITDA growth in Q4, with EBITDA expanding by 65% yoy (Q3: +61% yoy). This should have been driven by the ongoing impact of a favourable product mix and higher selling prices more than compensating for the effects of reduced volumes. **EBITDA of EUR 80m would mark the company's best EBITDA so far, which stands in stark contrast to the performance of the European chemical industry, which laments declining sales and a significant yoy-drop in 2023 profitability**.

FY 2024 & 2025: positive volume and mix effects to drive earnings

The adverse effect of volume declines from foregoing low-margin business, especially in the Basic & Intermediates segment, is expected to come to an end in H1 2024. Thus, the company should be able to return to positive sales growth from FY 2024 onwards. We are expecting sales to grow to by 4.6% yoy to EUR 562.8m in FY 2024 and by another 3.2% yoy to EUR 580.6m in FY 2025. This favourable sales development should be paired with EBITDA growth of 4.9% to EUR 84.0m in FY 2024 and 6.4% to EUR 89.4m in FY 2025.

Alzchem P&L 2020-2025e

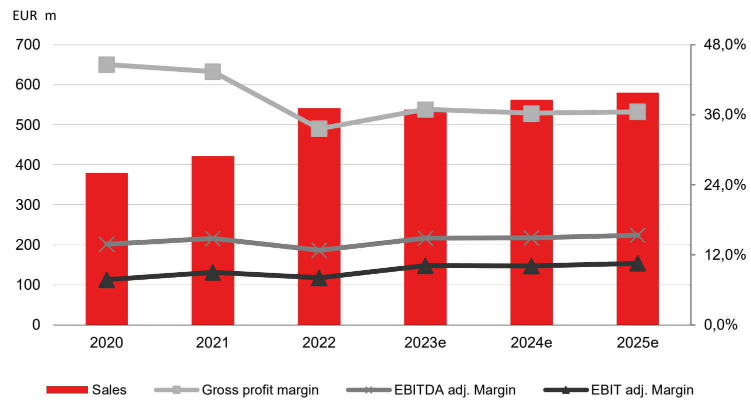
	FY 2020		FY 2021		FY 2022		Q1		Q2		Q3		Q4e		FY 2023e		FY 2024e		FY 2025e	
in EUR m																				
Sales	**379,257**	**0,8%**	**422,293**	**11,3%**	**542,223**	**28,4%**	**150,432**	**16,3%**	**126,599**	**32,0%**	**120,823**	**8,8%**	**140,421**	**5,4%**	**538,275**	**-0,7%**	**562,839**	**4,6%**	**580,602**	**3,2%**
thereof:																				
Specialty Chemicals	207,431	3,7%	220,499	6,3%	288,361	30,8%	85,783	31,4%	73,172	55,3%	69,545	21,4%	88,6812	20,0%	317,181	10,0%	340,067	7,2%	353,670	4,0%
Basics & Intermediates	146,434	-2,0%	176,274	20,4%	227,539	29,1%	57,337	-0,2%	46,038	8,4%	44,271	-6,9%	44,722	-15,0%	192,368	-15,5%	193,184	0,4%	197,048	2,0%
Other & Holding	25,392	-4,7%	25,520	0,5%	26,323	3,1%	7,312	9,5%	7,389	16,6%	7,007	12,8%	7,018	5,0%	28,726	9,1%	29,588	3,0%	29,884	1,0%
Change in inventories of finished & unfinished products	-2,514		10,028		22,193		0,916		9,105		0,147		-10,168		0,000		0,000		0,000	
Other operating income	10,671	-37,8%	11,360	6,5%	24,177	112,8%	5,574	37,0%	1,906	-11,1%	3,104	13,7%	12,473	48,2%	23,057	-4,6%	24,109	4,6%	24,870	3,2%
Cost of materials	-132,507	-6,9%	-170,671	28,8%	-288,877	69,3%	-76,159	3,6%	-62,374	48,0%	-48,545	-11,3%	-58,904	-10,8%	-245,982	-14,8%	-260,936	6,1%	-267,486	2,5%
Personnel expenses	-127,409	4,4%	-132,166	3,7%	-137,139	3,8%	-35,262	3,7%	-36,012	16,6%	-34,679	4,9%	-35,834	0,8%	-141,787	3,4%	-144,258	1,7%	-147,810	2,5%
Other operating expenses	-73,693	-0,1%	-78,798	6,9%	-101,136	28,3%	-26,584	15,6%	-21,352	21,7%	-21,317	1,8%	-24,199	14,2%	-93,452	-7,6%	-97,717	4,6%	-100,800	3,2%
EBITDA	**53,805**	**7,4%**	**62,046**	**15,3%**	**61,441**	**-1,0%**	**18,917**	**10,8%**	**17,872**	**29,2%**	**19,534**	**56,4%**	**23,788**	**65,0%**	**80,111**	**30,4%**	**84,038**	**4,9%**	**89,375**	**6,4%**
Margin	14,2%		14,7%		11,3%		12,6%		14,1%		16,2%		16,9%		14,9%		14,9%		15,4%	
Specialty Chemicals	44,125	5,9%	50,664	14,8%	53,014	4,6%	16,019	12,3%	14,936	47,9%	18,541	56,9%	20,397	161,9%	69,893	31,8%	74,815	7,0%	79,576	6,4%
Basics & Intermediates	8,981	71,2%	10,985	22,3%	4,983	-54,6%	2,780	-2,1%	2,410	-22,7%	1,065	-14,8%	2,460	-37,1%	8,715	74,9%	8,210	-5,8%	8,769	6,8%
Other & Holding	0,989	-78,1%	1,405	42,1%	2,533	80,3%	0,475	9,2%	0,438	-14,5%	0,721	43,9%	0,632	174,6%	2,266	-10,6%	1,775	-21,6%	1,793	1,0%
Consolidation	-0,290	-78,7%	1,008	-447,6%	0,911	-9,6%	-0,357	-24,2%	0,088	-21,4%	-0,793	-26,4%	0,300	-87,9%	-0,762	n.m	-0,762	0,0%	-0,762	0,0%
Depreciation and amortization	-23,097	18,5%	-24,474	6,0%	-25,543	4,4%	-6,319	0,2%	-6,335	2,1%	-6,574	-0,4%	-6,036	-8,8%	-25,264	-1,1%	-27,071	7,2%	-27,990	3,4%
EBIT	**30,708**	**0,4%**	**37,572**	**22,4%**	**35,898**	**-4,5%**	**12,598**	**17,0%**	**11,537**	**51,2%**	**12,960**	**119,8%**	**17,753**	**127,5%**	**54,848**	**52,8%**	**56,967**	**3,9%**	**61,385**	**7,8%**
Other interest and similar income	-1,375	-44,5%	0,427	-131,1%	7,851	#######	0,000		0,000		0,000		-0,213	-102,7%	-0,213	-102,7%	-0,222	4,6%	-0,229	3,2%
Interest and similar expenses	-2,135	-18,4%	-1,487	-30,4%	-2,467	n.m.	-1,833	n.m.	-1,555	432,5%	-0,925	-16,9%	-1,699	n.m.	-6,012	n.m.	-4,022	-33,1%	-33,112	n.m.
Result from ordinary business acitivities	**27,198**	**6,7%**	**36,512**	**34,2%**	**41,282**	**13,1%**	**10,765**	**-5,1%**	**9,982**	**36,0%**	**12,035**	**131,0%**	**15,841**	**73,2%**	**48,623**	**17,8%**	**52,723**	**8,4%**	**58,090**	**10,2%**
Taxes on income and earnings	-7,333	-0,2%	-8,748	19,3%	-11,059	26,4%	-3,055	-15,2%	-2,742	5,2%	-3,379	-598,4%	-4,438	95,6%	-13,614	23,1%	-14,763	8,4%	-16,265	10,2%
Consolidated result for the period	19,865	9,5%	27,764	39,8%	30,223	8,9%	7,710	-0,4%	7,240	53,0%	8,656	48,1%	11,360	66,2%	34,837	15,3%	37,790	8,5%	41,654	10,2%
thereof non-controlling interests	-0,171	0,0%	-0,171	0,0%	-0,171	0,0%	-0,043	0,0%	-0,043	0,0%	-0,043	2,4%	-0,042	0,0%	-0,171	0,0%	-0,171	0,0%	-0,171	0,0%
thereof AlzChem Group AG shareholders	**19,694**	**9,6%**	**27,593**	**40,1%**	**30,052**	**8,9%**	**7,667**	**-0,4%**	**7,197**	**53,5%**	**8,613**	**47,4%**	**11,360**	**66,2%**	**34,837**	**15,9%**	**37,790**	**8,5%**	**41,654**	**10,2%**
EpS (EUR)	1,94	9,6%	2,72	40,5%	2,96	9,0%	0,76	-0,5%	0,71	52,8%	0,85	47,2%	1,12	65,5%	3,42	15,5%	3,71	8,5%	4,09	10,2%
DpS (EUR)	0,77	2,7%	1,00	29,9%	1,05	5,0%									1,10	4,8%	1,15	4,5%	1,25	8,7%

Source: Warburg Research

Increase in earnings mostly driven by positive mix effects and growth in Specialty Chemicals

The margin expansion in FY 2023e is expected to be driven mostly by positive mix-effects. Alzchem decided to lose market share in low-margin bulk chemicals than to chase after volumes in low-margin products. This decision was driven by a decline in competitiveness given structurally higher prices for power and raw-materials in Europe, especially compared to its Asian competitors. In parallel, Alzchem sold higher volumes in high-margin specialty chemicals products like CreAMINO® and Creapure®. The continued margin improvement in the FY 2024 – 2025 periods is expected to be driven by the continuation of favourable demand, especially in the Specialty Chemicals segment while sales and earnings in the Basics & Intermediates segment should start stabilizing in FY 2024, followed by growth in FY 2025.

Alzchem: Earnings to be driven by positive mix-effects and volume growth



Source: Alzchem, Warburg Research

Positive earnings development to be reflected in the dividend

Alzchem has a policy of paying 30-50% of EPS as a dividend to shareholders. The pay-out ratio was 40% in FY 2020, 37% in FY 2021, and 35% in FY 2022. Given our expectation of a favourable earnings development going forward, dividends should rise accordingly. As a consequence, we expect the FY 2023 dividend per share to be EUR 1.10 followed by EUR 1.15 for FY 2024 and EUR 1.25 for FY 2025. Based on today's share price of ca. EUR 26, this would result in a 4.2% dividend yield for FY 2023, putting Alzchem in the upper echelon of dividend-paying companies in the chemical sector.

Valuation

- We have used a DCF calculation to derive a fair value of EUR 40.00 per Alzchem share
- We applied an FCF-value-potential calculation to gauge the company's ability to generate sustainable FCF
- As a consequence of the absence of directly comparable listed companies, we opted to use an SotP-calculation based on a number of chemical companies with comparable risk or product profiles to validate the result of the DCF calculation

Significant upside to the current share price

Our PT of EUR 40 is based on a DCF calculation

DCF model: FCF generation to increase as a consequence of profitable growth in Specialty Chemicals

The valuation of Alzchem is based on a three-stage DCF calculation which derives a fair value of EUR 40.10 per share. The fair value of the company assumes that Alzchem will be able to benefit from growth opportunities in its respective markets. Given that the company's business model is significantly geared to the success of its Specialty Chemicals segment, the fair value of the company is mostly derived from its mid-term (transitional period) and long-term (terminal value) performance. Thus, the DCF calculation is sensitive to profitability changes of Alzchem's products for the food & feed industry.

The three stages of the DCF calculation are:

- The first stage is based on detailed estimates regarding cash flow, balance sheet and P&L numbers for the years 2023–2025.
- The second stage is an assessment of the company's development in the years 2026–2035. The model is based on the anticipated effects of key drivers in terms of sales growth, development of the operating margin, changes in working capital and the evolution of capex and depreciation.
- The third stage is based on perpetual growth from 2036 onwards. It is based on a static sales growth rate with a fixed operating margin. Depreciation matches investments in tangible and intangible assets as well as investment in capitalised research projects.

Underlying assumptions included in the DCF model are based on the following scenario:

- Stage 1: The company is expected to generate organic sales growth in 2023e-2025e as a result of capacity expansions and increased market penetration especially in regard to its food (Creapure®, Livadur®, Alipure®) and feed products (CreAMINO®). With the anticipation of improved market penetration especially in Creapure® on the back of a higher production capacity, positive mix-effects should shape FY 2023 results despite lower sales especially in the Basic & Intermediates segment. We expect the positive trend to continue in the FY 2024 and 2025 periods as Alzchem plans further capacity expansions for its flagship products. The sales-decline in the Basic & Intermediates segment as a result of foregoing low-margin business should come to an end in FY 2024. Thus, Alzchem should return to profitable growth, predominantly driven by the performance of its Specialty Chemicals segment. Following a capex/sales ratio of 5.4% in 2022, we expect this number to decline to 4.6% in 2023e before expanding to 6.2% in 2024e and 6.0% in 2025. This capex expansion should predominantly be driven by investments in emission reduction measures.
- Stage 2: We expect Alzchem to generate volume growth of 2.2% to 3.5% p.a. and an EBITDA margin of 15.2-15.6%. This development should mostly be driven by its Specialty Chemicals segment. The working-capital level should remain at a level of 25.5% which we deem to be sustainable. The capex/sales ratio should gradually decline from an initial level of 5.9% to 5.0% in the given timeframe.

- Stage 3: A terminal growth rate of 1.0% was applied, as well as a 10.0% EBIT margin (EBITDA margin: 15.0%).

All three stages are free from effects resulting from acquisitions or divestments.

For the calculation of the WACC, a beta of 1.62 was used. The above-average risk is a result of: 1) limited liquidity of the shares – the current free float is 47.08%, which translates into a free float MC of approx. EUR 125m at the time of writing, 2) the company's balance-sheet strength – equity ratio of 34.1% (2022), net debt/EBITDA of 2.85x (2022), 3) the absence of an external credit rating, 4) limited visibility regarding the mid-term development of the company as well as structurally limited transparency as a B2B company. A market risk premium of 5.5% and a risk-free rate of 2.75% were applied, as well as a normalised tax rate of 28%. The resulting WACC is 9.24% and the calculated fair value EUR 40.10 per share

FCF Value Potential indicates a fair value of EUR 43.26 per share

WR's "FCF Value Potential" model reflects the ability of the company to generate sustainable free cash flows. It is based on the FCF potential – an FCF figure calculated on an "ex-growth" basis which assumes unchanged working capital and pure maintenance capex in a given year. The value indication is derived from the perpetuity of a given year's FCF potential with consideration of the weighted costs of capital. The fluctuating value indications for the various years add a timing element to the DCF model (our preferred valuation tool). We assume maintenance capex of Alzchem to amount to EUR 15.8m-16.3m in the FY 2023e–FY 2025e periods.

The FCF Value Potential model calculates the value of the Alzchem share at between EUR 39.00 (FY 2023e) and EUR 47.68 (FY 2025e). The mean of the FY 2023e - 2025e periods is EUR 43.26.

Sum-of-the-Parts valuation points to a fair value of EUR 43.31 per share

As a result of Alzchem's rather unique chemistry and product range, there are no publicly traded peers which match the company's setup. However, there are various listed chemical companies with activities in bulk chemicals that tend to be cyclical and are capital intensive. The difference is, their products are mostly derived from crude-oil derivates or natural gas, not from coke coal and electricity. We used a group consisting of Huntsman, Ube Industries, PetroChina Company and Kumho Petrochemical to create a synthetic proxy for the Basics & Intermediates segment of Alzchem. We used producers of food and feed additives like vitamins, fatty acids, flavour additives and amino acids as a proxy for the Specialty Chemicals segment. These peers consist of BASF, DuPont de Nemours, Clariant, Evonik, Lanxess and International Flavours and Fragrances (IFF). Since Bayer and Lanxess sold their stakes in Currenta to funds managed by Macquarie Infrastructure and Real Assets, Evonik is one of the very few publicly listed chemical companies that continue to operate sizeable chemparks and thus can be used as a basis for comparison when it comes to Alzchem's Other & Holding segment.

As we regard Alzchem as rather capital intensive, the Sum-of-the-Parts calculation focuses on EV/EBITDA multiples to eliminate the influence of varying depreciation levels of the respective companies. The SotP-valuation model points to a fair value of EUR 43.31 per Alzchem share.

Sum-of-the-Parts valuation

€ m	Sales 2023e	Sales 2024e	EBITDA* 2023e	EBITDA* 2024e	EBITDA-Margin 2023e	EBITDA-Margin 2024e	EBITDA (x) 2023e	EBITDA (x) 2024e	Fair value (calc.) 2023e	Fair value (calc.) 2024e
Specialty Chemicals	317,18	340,07	69,89	74,81	0,22	0,22	7,80	7,12	544,92	532,84
Basics & Intermediates	192,37	193,18	8,71	8,21	0,05	0,04	5,27	4,76	45,88	39,07
Other & Holding	28,73	29,59	2,27	1,78	0,08	0,06	5,22	4,78	11,83	8,49
Consolidation	0,00	0,00	-0,76	-0,76	n.m.	n.m.	6,09	5,56	-4,64	-4,23
Total	538,28	562,84	80,11	84,04	14,6%	14,8%			597,98	576,18
- Net debt**									-60,98	-45,64
- Pension liabilities**									-89,81	-91,86
- Minorities***									-2,12	-4,00
+ Financial investments***									0,01	0,01
Fair equity value									**537,01**	**530,54**
Fair value/share (€)									**43,91**	**42,71**
Average fair value/share (€)										**43,31**

** w/o extraordinary items*
*** At book value*
**** At market value*

Source: Alzchem, Warburg Research

Free Cash Flow Value Potential

Warburg Research's valuation tool "FCF Value Potential" reflects the ability of the company to generate sustainable free cash flows. It is based on the "FCF potential" - a FCF "ex growth" figure - which assumes unchanged working capital and pure maintenance capex. A value indication is derived via the perpetuity of a given year's "FCF potential" with consideration of the weighted costs of capital. The fluctuating value indications over time add a timing element to the DCF model (our preferred valuation tool).

in EUR m	2019	2020	2021	2022	2023e	2024e	2025e
Net Income before minorities	18.1	19.9	27.8	30.2	35.0	38.0	41.8
+ Depreciation + Amortisation	19.5	23.1	24.5	25.5	25.3	27.1	28.0
- Net Interest Income	-2.6	-2.1	-1.5	-2.5	-6.0	-4.0	-3.1
- Maintenance Capex	14.5	14.7	14.8	15.4	15.8	16.0	16.3
+ Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
= Free Cash Flow Potential	**25.8**	**30.4**	**38.9**	**42.8**	**50.5**	**53.1**	**56.6**
FCF Potential Yield (on market EV)	6.4 %	7.9 %	9.1 %	11.4 %	12.5 %	13.6 %	14.8 %
WACC	9.24 %	9.24 %	9.24 %	9.24 %	9.24 %	9.24 %	9.24 %
= Enterprise Value (EV)	**404.4**	**387.2**	**425.3**	**375.2**	**404.2**	**390.9**	**382.2**
= Fair Enterprise Value	**278.9**	**328.9**	**420.8**	**463.4**	**546.1**	**574.4**	**612.1**
- Net Debt (Cash)	84.7	84.7	84.7	84.7	61.0	45.6	35.4
- Pension Liabilities	90.1	90.1	90.1	90.1	89.8	91.9	93.3
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Market value of minorities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ Market value of investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
= Fair Market Capitalisation	**104.1**	**154.0**	**246.0**	**288.6**	**395.3**	**436.9**	**483.3**
Number of shares, average	10.2	10.2	10.1	10.1	10.2	10.2	10.2
= Fair value per share (EUR)	**10.23**	**15.14**	**24.27**	**28.47**	**38.85**	**42.93**	**47.49**
premium (-) / discount (+) in %					56.0 %	72.4 %	90.7 %

Sensitivity Fair value per Share (EUR)

	12.24 %	3.52	7.25	14.09	17.27	25.80	29.22	32.89
	11.24 %	5.37	9.43	16.88	20.34	29.42	33.02	36.94
	10.24 %	7.58	12.03	20.21	24.01	33.74	37.57	41.79
WACC	**9.24 %**	**10.23**	**15.14**	**24.27**	**28.47**	**38.85**	**42.93**	**47.49**
	8.24 %	13.60	19.14	29.30	34.02	45.54	49.98	55.01
	7.24 %	17.86	24.16	35.73	41.10	53.88	58.76	64.36
	6.24 %	23.49	30.79	44.22	50.45	64.90	70.34	76.71

- Historical volatility of the value indication is due to cyclical operative development

DCF model

	Detailed forecast period			Transitional period										Term. Value
Figures in EUR m	2023e	2024e	2025e	2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	
Sales	538.3	562.8	580.6	600.9	621.4	641.9	662.4	682.9	703.4	723.1	741.9	759.7	776.4	
Sales change	*-0.7 %*	*4.6 %*	*3.2 %*	*3.5 %*	*3.4 %*	*3.3 %*	*3.2 %*	*3.1 %*	*3.0 %*	*2.8 %*	*2.6 %*	*2.4 %*	*2.2 %*	*1.0 %*
EBIT	54.8	57.0	61.4	64.2	65.7	67.3	69.4	71.6	73.7	76.5	78.5	78.9	79.0	
EBIT-margin	*10.2 %*	*10.1 %*	*10.6 %*	*10.7 %*	*10.6 %*	*10.5 %*	*10.5 %*	*10.5 %*	*10.5 %*	*10.6 %*	*10.6 %*	*10.4 %*	*10.2 %*	
Tax rate (EBT)	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	
NOPAT	39.5	41.0	44.2	46.2	47.3	48.4	50.0	51.5	53.1	55.1	56.5	56.8	56.9	
Depreciation	25.3	27.1	28.0	29.6	31.2	32.9	33.9	35.0	36.0	36.3	37.3	38.1	39.0	
in % of Sales	*4.7 %*	*4.8 %*	*4.8 %*	*4.9 %*	*5.0 %*	*5.1 %*	*5.1 %*	*5.1 %*	*5.1 %*	*5.0 %*	*5.0 %*	*5.0 %*	*5.0 %*	
Changes in provisions	-0.3	2.0	1.4	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.9	2.7	
Change in Liquidity from														
- Working Capital	-0.7	4.5	3.2	5.2	5.2	5.2	5.2	5.2	5.2	5.0	4.8	4.5	4.3	
- Capex	24.7	34.7	34.7	35.5	36.0	36.6	36.4	36.2	35.9	36.2	37.1	38.0	38.8	
Capex in % of Sales	*4.6 %*	*6.2 %*	*6.0 %*	*5.9 %*	*5.8 %*	*5.7 %*	*5.5 %*	*5.3 %*	*5.1 %*	*5.0 %*	*5.0 %*	*5.0 %*	*5.0 %*	
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC Model)	40.4	30.9	35.7	38.4	40.6	42.8	45.5	48.4	51.3	53.4	54.9	55.3	55.5	56
PV of FCF	40.4	28.3	29.9	29.5	28.5	27.5	26.8	26.1	25.3	24.1	22.7	20.9	19.2	234
share of PVs	16.91 %			42.95 %										40.14 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	30.00 %	Financial Strength	1.60
Cost of debt (after tax)	3.6 %	Liquidity (share)	2.00
Market return	8.25 %	Cyclicality	1.50
Risk free rate	2.75 %	Transparency	2.00
		Others	1.00
WACC	**9.24 %**	**Beta**	**1.62**

Valuation (m)

Present values 2035e	349		
Terminal Value	234		
Financial liabilities	94		
Pension liabilities	90		
Hybrid capital	0		
Minority interest	2		
Market val. of investments	0		
Liquidity	9	No. of shares (m)	10.1
Equity Value	**406**	**Value per share (EUR)**	**40.10**

Sensitivity Value per Share (EUR)

		Terminal Growth						
Beta	WACC	0.25 %	0.50 %	0.75 %	**1.00 %**	1.25 %	1.50 %	1.75 %
1.88	10.2 %	32.46	32.90	33.36	33.84	34.36	34.90	35.47
1.75	9.7 %	35.16	35.68	36.22	36.79	37.40	38.04	38.73
1.68	9.5 %	36.63	37.19	37.78	38.40	39.06	39.76	40.51
1.62	9.2 %	38.18	38.78	39.42	**40.10**	40.83	41.60	42.42
1.56	9.0 %	39.82	40.48	41.18	41.92	42.71	43.55	44.46
1.49	8.7 %	41.56	42.28	43.04	43.85	44.72	45.65	46.64
1.36	8.2 %	45.37	46.23	47.15	48.13	49.18	50.31	51.52

		Delta EBIT-margin						
Beta	WACC	-0.8 pp	-0.5 pp	-0.3 pp	**+0.0 pp**	+0.3 pp	+0.5 pp	+0.8 pp
1.88	10.2 %	29.83	31.17	32.50	33.84	35.18	36.52	37.86
1.75	9.7 %	32.55	33.96	35.38	36.79	38.21	39.62	41.03
1.68	9.5 %	34.03	35.49	36.94	38.40	39.85	41.31	42.76
1.62	9.2 %	35.61	37.11	38.61	**40.10**	41.60	43.10	44.60
1.56	9.0 %	37.29	38.83	40.38	41.92	43.46	45.01	46.55
1.49	8.7 %	39.07	40.67	42.26	43.85	45.45	47.04	48.63
1.36	8.2 %	43.02	44.72	46.43	48.13	49.83	51.53	53.24

- The beta value reflects the limited liquidity of the shares (free-float 47.08%),
- In addition, transparency is reduced for structural reasons as Alzchem is positioned as a B2B company

Company & Products

Company history: Cyanamide chemistry remains the mainstay

While key chemical production processes especially in bulk chemicals have not changed dramatically since its beginnings more than a century ago, the ownership and name of the company has changed several times.

Alzchem: loyal to cyanamide chemistry

1895	Dr. Adolph Frank and Dr. Nikodem Caro succeed in binding nitrogen from the air with calcium carbides (nitrogenation)
1901	Dr. Albert Frank recognizes the benefits of using calcium cyanamide as a fertilizer
1908	Bayerische Stickstoffwerke AG (BStW) is founded, with head offices in Munich
1908-1912	Construction of the Trostberg calcium carbide plant, the carbide plant in Schalchen, the works canal and two hydropower plants in Trostberg and Schalchen
1915-1920	Construction of the plants at Piesteritz and Chorzow (Upper Silesia), and the carbide plant in Hart plus the hydropower plant at Hirten.
1920	Bayerische Kraftwerke AG is founded, with head offices in Berlin.
1939	Company renamed Süddeutsche Kalkstickstoff-Werke AG, with head offices at Trostberg.
starting 1945	Establishment of premium value-added product ranges in the metallurgy and NCN chemistry segments.
1968	The company moves into construction chemicals with the concrete plasticizer MELMENT®.
1971	Construction of the Muenchsmuenster petrochemical plant.
1974	The company goes international with production facilities at Bécancour/Quebec in Canada.
1978	Company's name is changed to SKW Trostberg AG.
1981	Company moves into the nature products business with hop extraction.
1993	Sister plant at Piesteritz transfers back to SKW.
1995	SKW is listed on the stock market.
1995-1999	Acquisition of Sanofi Bio-Industries S.A.Paris (SBI), Master Builders Technologies (MBT) and Goldschmidt AG. As a result of these mergers SKW expands its nature products, construction chemicals and performance chemistry segments.
2000	Merger of Degussa Hüls AG with SKW Trostberg AG to form the new Degussa AG.
2001	Founding of SKW Stahl Holding GmbH.
2002	Sale of SKW Piesteritz Holding GmbH. Inauguration of the Construction Chemicals Competence Center (German landscape architecture prize 2003) with a professorship at the Technical University Munich
2005	RAG Group becomes new majority shareholder.
2006	Merger of the Alz sites at Trostberg, Schalchen, Hart and Waldkraiburg into AlzChem Holding GmbH. The Construction Chemicals segment is sold to BASF
2009	bluO Fonds becomes new shareholder.
2011	Company changes its legal form to become AlzChem AG, concentrating heavily on the new markets of renewable energy, nutrition and the pharmaceutical industry
2013	The shares are taken over by the bluO partners
2014	Acquisition of SKW Metallurgy Sweden AB, renamed Nordic Carbide AB
2015	Alzchem invests in a dedicated CreAMINO® production facility
2017	AlzChem incorporated into the listed company Alzchem Group AG (formerly Softmatic AG) Alzchem Group AG new Group parent company of Alzchem Group
2019	Start of investment projects CreAMINO® and Nitrile
2022	Expansion of Creapure® production capacity

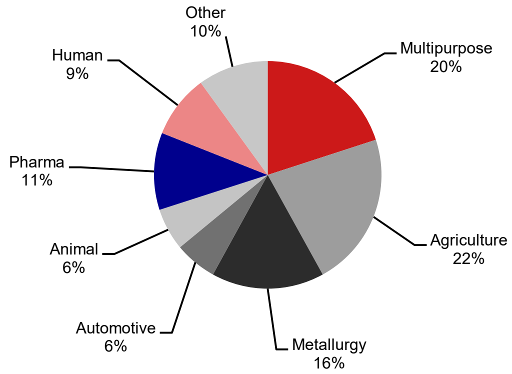
Source: Alzchem, Warburg Research

Markets, customers and suppliers

The agricultural sector is Alzchem's most important customer group

As a consequence of its comprehensive product portfolio, Alzchem provides its products to a wide range of diverse customer groups in various industries. Customers in the agricultural industry were the largest customer group in FY 2022, generating ca. 28% of group sales (Animal + Agriculture). However, as this customer group is rather diverse, both from a regional as well as from an application point of view, we rate the resulting cluster risk as manageable.

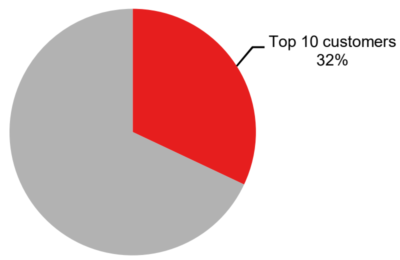
Sales by customer industry in FY 2022



Source: Alzchem, Warburg Research

Alzchem generated ca. one-third of its sales with its top 10 customers in FY 2022. This indicates only a minor cluster risk.

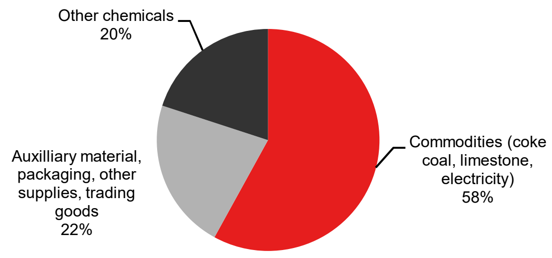
Alzchem generated ca. one-third of its sales with its Top 10 customers in FY 2022



Source: Alzchem, Warburg Research

In regard to raw materials, Alzchem is highly dependent on commodities (especially coke and electricity) for production at its five sites. Thus, any major move in the price of coke or electricity has a tangible impact on the company's margin before it can be passed on to customers. As the production of Alzchem's building block calcium carbide is highly energy-intensive and also a significant emitter of CO_2, production costs are also affected by major changes in the price of CO_2 certificates. Given the huge price increase in electricity in FY 2022 but also in coke coal and natural gas-based raw materials, WR estimates commodities to have amounted to ca. 60% of material costs in FY 2022 while other chemicals and other goods, such as packaging materials etc., should have accounted for the remaining 40%. As electrical power, natural gas and coke coal retreated from their 2022 price peaks, commodities are likely to have moved back closer to 50% in the FY 2023 cost mix. Alzchem cut production especially of low-margin bulk products in its Basic & Intermediates segment in FY 2023. This allowed the company to introduce a more flexible production pattern. It temporarily shut down part of its energy-intensive calcium carbide production when power prices temporarily spiked but produced flat-out in periods when power prices were more attractive.

Commodities (coke coal, limestone, electricity) to have accounted for more than 50% of material costs in FY 2023e

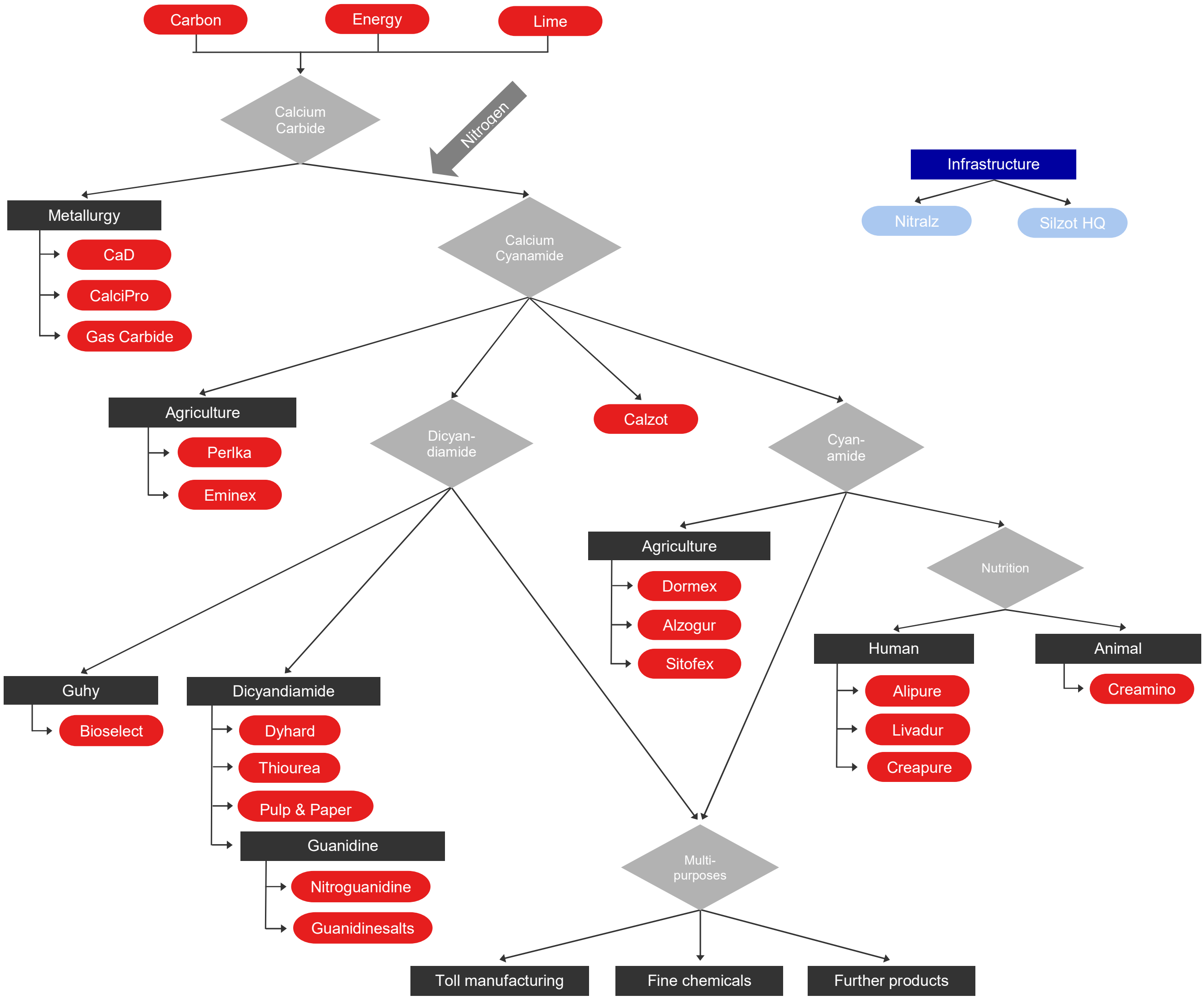


Source: Warburg Research

Verbund structure allows for cost-efficient production

Alzchem covers the cyanamide value chain with its integrated manufacturing setup (Verbund). It is based on calcium carbide which is generated from lime, coke and electricity at its Hart site. The calcium carbide is the starting point for intermediate products that are sold to external customers and also used internally as raw materials for the synthesis of specialty products in its plants in Trostberg, Schalchen and Waldkraiburg. The proximity of the sites allows for efficient just-in-time production. The Hart, Trostberg and Schalchen sites are interconnected by rail.

Full backward integration: Alzchem covers every important step in cyanamide chemistry



Source: Alzchem, Warburg Research

Company structure

A three-segment setup

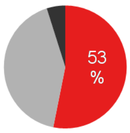
Alzchem operates four sites in and around Trostberg (Germany), which are in rather close proximity to each other, as well as one in Sundsvall, Sweden. The company has distribution companies in the US and China. The operating business of the company is divided along its value chain into the three business segments Specialty Chemicals, Basics & Intermediates, and Other & Holding.

- The Specialty Chemicals segment is engaged in the production and sale of high-quality specialty chemicals products such as Creapure®, CreAMINO®, Bioselect®, DYHARD® and Dormex®.
- The Basics & Intermediates segment produces basic and intermediate chemicals that are either used internally for the specialty chemicals production or sold to third parties. The latter serve a wide range of applications, e.g. in agriculture, steel production as well as in the automotive industry.

- The Other & Holding segment comprises activities that are not allocated to the other two segments. These are essentially services relating to the Trostberg and Hart chemical parks, which Alzchem operates mainly for its own purposes, but also for third parties. In addition, all administrative services are allocated to the segment.

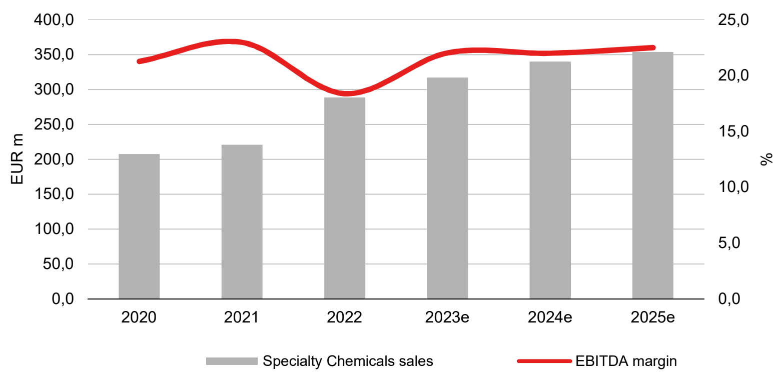
Specialty Chemicals segment

Specialty Chemicals: Leading market position in attractive niches

	2022 Segment Split	Global Market Position	Selected Key Brands	Description	End Market
Specialty chemicals	Net Sales  EBITDA-margin 18.4%	1	CREAMINO	A nutritional additive for broilers and pigs	Feed additive
		Top 3	Creapure®	Premium brand for Creatine monohydrate used as supplements in sports nutrition	Dietary supplement
		1	Dormex®	Plant growth regulator, used in fruit production	Agriculture
		1	Bioselect®	Highly purified form of guanidine hydrochloride salts	Pharma / API

Source: Warburg Research

Specialty Chemicals: Thriving on high-margin product growth



Source: Warburg Research

Complex, high-margin products

The products of the segment are mainly derived from cyanamide or dicyanamide, which are provided by the Basics & Intermediates segment. Specialty products tend to have a higher value within the NCN value chain and thus come with higher margins but lower volumes than products from the Basics & Intermediates segment. These products are manufactured at the sites in Trostberg (cyanamide-based), Schalchen (dicyandiamide-based) and Waldkraiburg (guanidine-based). Alzchem has significantly increased production capacity mainly of its flagship products CreAMINO® and Creapure® since 2019, raising volumes and profitability in the segment. Given ongoing high demand from the food additives and feed industry, we expect this trend to continue. Some of the segment's key products are:

Creapure®

Creapure® is Alzchem's brand name for creatine. It is marketed as a dietary supplement and mainly sold to the nutrition industry to improve energy usage and facilitate muscle growth and physical / cognitive performance.

CreAMINO®

CreAMINO® is Alzchem's brand name for guanidine acetic acid, an animal feed additive. It is used for a more stable and improved growth of feedstock, especially for poultry.

CreAMINO® is employed to increase efficiency as it aims to improve feed utilization, increase animal weight, reduce the fattening period and increase the ratio of breast meat. Thus, cost savings at customer-level should justify the usage and costs of the feed additive.

Alipure®

Alipure® is Alzchem's brand name for alpha-lipoic acid which is mainly used as a dietary supplement in pharmaceuticals and cosmetics to treat diabetics.

Dormex®

Dormex® is Alzchem's brand name for a plant growth regulator for the agricultural sector used in vineyards and orchards. It serves as a bud-breaking agent for perennial crops, e.g. grapes, kiwis, apples, pears and cherries and aims to improve bud-breaking time.

ALZOGUR®

ALZOGUR® is the brand name for a biocide for the livestock industry. It is used to treat liquid manure in pigsties to eliminate the infective agent of swine dysentery (pig diarrhoea), control stable flies and reduce irritant and harmful gas from liquid manure.

BREAK-THRU S 240® / BREAK-THRU S 301®

The BREAK-THRU® is the brand name for a family of products of siloxane-based tank-mix additives for use in the agricultural sector on a large variety of staple and specialty crops.

SITOFEX®

SITOFEX® is Alzchem's brand name for a plant growth regulator for the agricultural sector based on forchlorfenuron aiming to improve yield by increasing the size, weight and yield of fruit and berries as well as providing a longer shelf life by maintaining quality during transport and storage. Key target fruits are table grapes, kiwis, apples, pears and berries.

BioSELECT®

Bioselect® is Alzchem's brand name for a highly purified form of guanidine hydrochloride or thiocyanate salts for use in pharmaceutical products or as an active pharmaceutical ingredient in diagnostics and biotechnology.

Silzot SQ®

Silzot SQ® is Alzchem's brand name for a silicon nitride powder used as a release agent in the production of polycrystalline silicon ingots for the photovoltaic industry

Silzot HQ®

Silzot HQ® is Alzchem's brand name for a silicon nitride powder used as a raw material for silicon nitride-based ceramics. These are used for extreme mechanical and thermal operating conditions, such as ceramic bearings, cutting tools and ceramic components for the automotive industry.

Cyanamide

Cyanamide is a chemical building block. It is employed in agrochemical and pharma production of active ingredients. It is also used internally for the production of CREAPURE®, CreAMINO® and Dormex®

DYHARD®

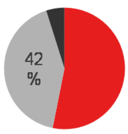
DYHARD® is Alzchem's brand name for a family of products that is based on finely ground dicyandiamide. It is sold in powder form or formulated with other products to provide a differentiated or higher value product which aims to improve handling and/or processing in the customer's application. DYHARD® products are mainly used in composites in epoxy prepregs. Prepreg: glass or fibre mat impregnated with the resin/cross linker combination and already partially hardened to allow it to be transported. Prepregs are used e.g. for wind turbine blades, airplanes, racing cars and sports equipment. Other DYHARD® usage is to be found in powder coatings, structural adhesives and electrical laminates.

Nitroguanidine

Nitroguanidine has been used as building block for insecticides, however this application lost its importance with the ban on neonicotinoides in the EU. Today, it is mostly sold as a component for propellants. The automotive industry uses it in igniting mixtures for airbag gas generators. Especially over the last two years, demand from military applications picked up substantially and is also expected to drive the future growth of this product.

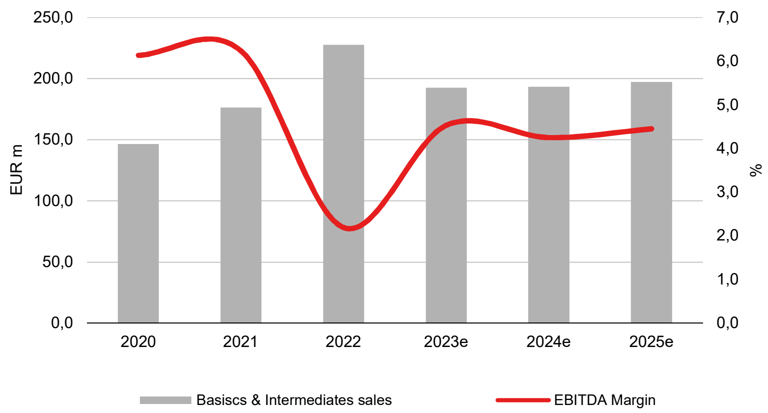
Basic & Intermediates segment

Basics & Intermediates: bulk chemicals for third parties and raw materials for Specialty Chemicals

Basics & Intermediates	Net Sales  EBIDTA Margin:	1[1]	CaD®	Calcium carbide-based process chemical for hot metal desulfurization	Steel Industry
		1	Guanidine Salts	Gas generant for air bags, key production intermediate	Airbags, Agrochemicals
		Top 3	NITRALZ®	High quality aliphatic and aromatic nitriles via gas phase technology	Pharma, Agriculture, Biocides & Pigments

Source: Alzchem, Warburg Research

Basic & Intermediates: bulk chemicals for third parties & raw materials for the Specialty Chemicals segment



Source: Alzchem, Warburg Research

The segment is responsible for calcium carbide production at the Hart site, the production of dicyandiamide at the Schalchen site and the production of cyanamide at the Trostberg site. The three chemicals are the backbone of Alzchem's value chains. They are marketed to external customers and used internally as raw materials in the Specialty Chemicals segment. As a consequence of the structural increase in power prices, Alzchem decided to cut down on the production of low-margin products in FY 2023. While this had a negative effect on the segment's sales, it improved its profitability. We expect the company to continue this strategy also in future periods. The key products of the segment are:

CaD®

CaD® is Alzchem's brand name for a product family used for desulfurisation in metal production. It is based on finely ground and homogenized calcium carbide. Depending on specifications by the customer (the European steel industry), agents like volatiles or slag modifiers are added to reduce iron losses.

Calzot®

Calzot® is Alzchem's brand name for an additive based on calcium cyanide for nitrogen alloying in liquid metal processing as well as in nitride hardening of finished components.

CalciPro®

CalciPro® is Alzchem's brand name for an additive based on calcium carbide for the calcium treatment of liquid steel.

Guanidine salts

Guanidine salts are based on dicyandiamide and used in a wide range of applications including propellants and agrochemicals. Alzchem uses guanidine salts as the starting material for nitroguanidine production.

Perlka®

Perlka® is Alzchem's brand name for a nitrogen fertilizer which is used for rapeseed, rice and vegetable production.

Nitralz®

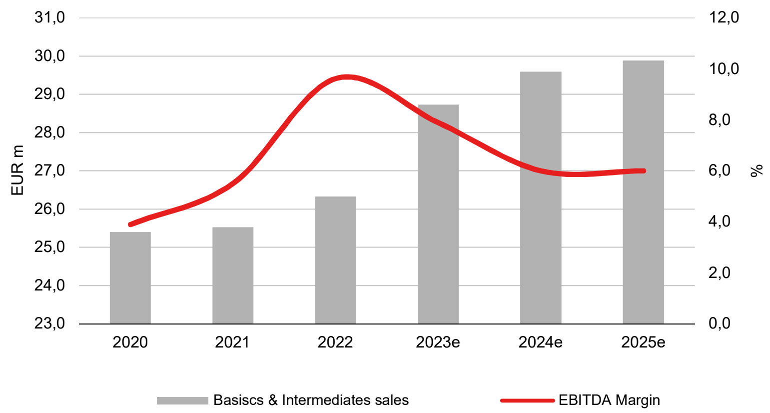
Nitralz® is Alzchem's brand name for nitriles which are chemical building blocks used in various industries. They are used in coatings, pharma products, agrochemicals and in pigment production.

Dicyandiamide

Dicyandiamide is a chemical building block used by the pharma industry for the production of metformin, a diabetes drug. Alzchem uses Dicyandiamide internally as a starting material for DYHARD and guanidine production.

Other & Holding segment

Other & Holding: Chempark management & unattributed activities



Source: Alzchem, Warburg Research

The segment is home to Alzchem's holding and other activities that do not fit into either of the two other segments. The majority of sales are generated by service operations including the operation of the Chemiepark Trostberg and site services for group companies as well as external customers. The segment provides infrastructure, utility, and maintenance services. In addition, Alzchem operates an electricity distribution network connecting its sites in Hart, Schalchen and Trostberg but also some external parties to the adjacent electricity distribution network. It also operates a natural gas distribution network at its site in Trostberg. While the segment's sales and earnings tend to fluctuate, the overall impact at group level tends to be minor.

Management and Supervisory Board

Alzchem's management team recently welcomed the new CFO, Andreas Lösler

CEO Andreas Niedermaier (born 1969): studied industrial engineering in Rosenheim, Germany. He started his career as a consultant for cost calculators and controllers at Kettner Maschinenbau GmbH. He worked as a controller for Vinnolit GmbH & Co. KG in Gendorf and Burghausen from 1997 to 1999, where he was responsible for production facility controlling. After that he joined a predecessor of Alzchem in 1999. He became a managing director of AlzChem Trostberg GmbH in 2010. In 2017, he joined the management board of Alzchem Group AG, initially as the CFO. He succeeded Mr. Jan Ulli Seibel as CEO in 2019.

CFO Andreas Lösler (born 1975): studied economics and business administration at the universities of Marburg and Hamburg as well as at the Copenhagen Business School. He started his career as a Senior Consultant at FAS AG, in 2004. Mr. Lösler became Senior Manager Group Accounting at Arques Industries AG in 2007 before starting his own advisory company DEOS Advisory GmbH in the same year. He started advising Alzchem back in 2012, supporting the company in particular with its IPO in 2017. Since June 2022, he has been the interim Head of Controlling & Accounting at Alzchem. He became CFO of Alzchem on 1.1.2024.

CSO Dr. Georg Weichselbaumer (born 1961) has a degree in chemistry from the Technical University of Munich (Germany), and a doctorate in inorganic chemistry. He started his career in 1989 in the research department of Höchst AG. From 1993 to 1996, he worked as a new business development manager at Höchst Celanese in the US. He transferred to Clariant when Höchst specialty chemicals merged with the Swiss company in 1997. At Clariant, he held various management and global sales positions for products from sites in Europe, the US and India. In 2007, he was in charge of the spin-off of businesses at sites in the US and Germany to the WeylChem Group, where he served as Managing Director until 2012. He switched to Alzchem in 2012 as a VP Chemistry and Building Blocks. In 2019, he was appointed to the company's management board.

COO Klaus Englmaier (born 1960) has a degree in engineering from the University of Applied Sciences Munich, Germany. He started his career at Wacker Chemie in Burghausen in 1985 but left for SKW Trostberg (a predecessor to Alzchem) in 1988. He remained with the company after the merger of SKW Trostberg with Degussa-Hüls to form Degussa, a major provider of chemical solutions that was rebranded under the new name of Evonik. At Evonik, he worked as a coordinator for the operative business until 2006. Mr. Englmaier became head of production at Alzchem in the same year and remained in this position until 2009 before becoming Head of Production as well as heading up the Trostberg and Hart sites. He became member of the management board of Alzchem in 2016.

Alzchem's supervisory board represents its key stakeholders

The chairman of the supervisory board, **Markus Zöllner** (born 1968) made a career in the telecom industry before becoming the managing director of four two na GmbH in 2004. He has a degree in industrial engineering from the University of Applied Sciences Rosenheim (Germany) as well as an MBA from WHU-Kellogg. He started his career as a project engineer at Mannesmann Mobilfunk GmbH in 1994 before moving on to Viag Interkom GmbH in 1996 to take up the position of Manager of Network Procurement. In 2000, he became Vice President of Procurement at Completel Paris NV and, in 2002 Managing Director of Tesion Telekommunikation GmbH. In 2003, he became Manging Director and CFO of Versatel Deutschland GmbH before leaving for Arques Industries AG in 2005 for the role of a board member which he held until 2007. Mr. Zöllner became a partner in private equity fund bluO International Affiliates in 2008 until the closure of the fund in 2013. Mr. Zöllner has been the CEO of four two na GmbH since 2008. four two na GmbH currently holds a 15.05% stake in Alzchem. Mr. Zöllner became a member of the supervisory board of Alzchem Group AG in 2017.

As a consequence of past positions, Mr. Zöllner has a wide range of operational experience in various sectors. He also has extensive committee experience from his work as supervisory board chairman for various companies. Mr. Zöllner has expertise in the areas of corporate management, strategy development, M&A and restructuring in a wide range of industrial sectors.

Prof. Dr. Martina Heigl-Maurer (born 1967) has a PhD in international tax law from the University of Bratislava (Slovakia) and a degree in business administration from the University of Applied Sciences Rosenheim (Germany). She started her career as associate in the tax consultancy and auditing company Dr. Kittl & Partner in 1994 before becoming a professor at the University of Applied Sciences Deggendorf (Germany) in 2009. Since 2013, she has been the chairwoman of the senate of the University of Applied Sciences Deggendorf (Germany). Since 2015, she has also been working as a tax consultant for Ecovis BLB Steuerberatungsgesellschaft. Prof. Dr. Martina Heigl-Maurer became a member of the supervisory board of Alzchem in 2017.

Prof. Dr. Heigl-Murauer has extensive knowledge of German national accounting (HGB), IFR standards and German tax law as well as profound professional experience in the national and international corporate environment as an independent tax consultant.

Dr. Caspar Freiherr von Schnurbein (born 1973) has a degree in law from the Julius-Maximilians University Würzburg (Germany) and a PhD in stock corporation law. He started his carrier at Ashurst as a corporate and M&A lawyer in 2003 in Munich before becoming the General Counsel M&A of the private equity fund bluO, Luxembourg in 2010. bluO was founded by Peter Löw and Martin Vorderwülbecke (heads of Arques Industries). bluO was closed in 2013, when bluO's assets were transferred into LIVIA Corporate Development SE. Since 2013, Dr. Freiherr von Schnurbein has been the General Counsel of LIVIA Corporate Development SE. LIVIA Corporate Development SE currently holds a 25.13%-stake in Alzchem Group AG. Dr. Freiherr von Schnurbein has been a member of the supervisory board of Alzchem Group AG since 2017.

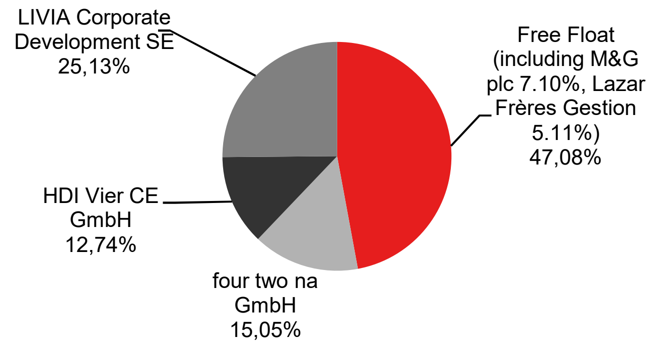
Dr. Freiherr von. Schnurbein has worked as a lawyer and in-house lawyer specializing in international law for over 15 years. He has broad expertise in corporate law and M&A transactions. As a long-time head of the legal department of an international holding, he is particularly well versed in the legal aspects of commercial enterprises.

Steve Röper (born 1976) has a degree in law from the University of Rostock. He started his career in 2004 as an associate lawyer for corporate and commercial law at HEUSSEN Rechtsanwaltsgesellschaft GmbH in Munich. He left in 2007 for the position of senior in-house lawyer at KraussMaffei Group in Munich. From 2009 to 2013, he worked as a general counsel for the private equity fund bluO. Mr. Röper has since worked as an independent lawyer in Munich. He has been a member of the supervisory board of Alzchem Group AG since 2017.

His work as a lawyer has given Mr. Röper vast practical experience in structuring and implementing international projects. The focus of his legal advice is in the areas of M&A and general corporate law.

Shareholder structure: free-float increased

Current shareholder structure



Source: Alzchem, Warburg Research

All major stakeholders have reduced their holdings in Alzchem since the end of the first secondary public offering in 2018 which increased the initial free-float from 1.2% to 26.1%. The second secondary public offering (ended 9.5.2021) boosted the free-float from 26.1% to 43.3%. According to the stakeholders, the secondary public offering was earmarked to increase the free-float of the Alzchem shares. Since then, LIVIA Corporate Development SW reduced its position further. The current free float of the company is 47.08%.

DCF model

Figures in EUR m	Detailed forecast period 2023e	2024e	2025e	Transitional period 2026e	2027e	2028e	2029e	2030e	2031e	2032e	2033e	2034e	2035e	Term. Value
Sales	538.3	562.8	580.6	600.9	621.4	641.9	662.4	682.9	703.4	723.1	741.9	759.7	776.4	
Sales change	*-0.7 %*	*4.6 %*	*3.2 %*	*3.5 %*	*3.4 %*	*3.3 %*	*3.2 %*	*3.1 %*	*3.0 %*	*2.8 %*	*2.6 %*	*2.4 %*	*2.2 %*	*1.0 %*
EBIT	54.8	57.0	61.4	64.2	65.7	67.3	69.4	71.6	73.7	76.5	78.5	78.9	79.0	
EBIT-margin	*10.2 %*	*10.1 %*	*10.6 %*	*10.7 %*	*10.6 %*	*10.5 %*	*10.5 %*	*10.5 %*	*10.5 %*	*10.6 %*	*10.6 %*	*10.4 %*	*10.2 %*	
Tax rate (EBT)	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	*28.0 %*	
NOPAT	39.5	41.0	44.2	46.2	47.3	48.4	50.0	51.5	53.1	55.1	56.5	56.8	56.9	
Depreciation	25.3	27.1	28.0	29.6	31.2	32.9	33.9	35.0	36.0	36.3	37.3	38.1	39.0	
in % of Sales	*4.7 %*	*4.8 %*	*4.8 %*	*4.9 %*	*5.0 %*	*5.1 %*	*5.1 %*	*5.1 %*	*5.1 %*	*5.0 %*	*5.0 %*	*5.0 %*	*5.0 %*	
Changes in provisions	-0.3	2.0	1.4	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.0	2.9	2.7	
Change in Liquidity from														
- Working Capital	-0.7	4.5	3.2	5.2	5.2	5.2	5.2	5.2	5.2	5.0	4.8	4.5	4.3	
- Capex	24.7	34.7	34.7	35.5	36.0	36.6	36.4	36.2	35.9	36.2	37.1	38.0	38.8	
Capex in % of Sales	*4.6 %*	*6.2 %*	*6.0 %*	*5.9 %*	*5.8 %*	*5.7 %*	*5.5 %*	*5.3 %*	*5.1 %*	*5.0 %*	*5.0 %*	*5.0 %*	*5.0 %*	
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Free Cash Flow (WACC Model)	40.4	30.9	35.7	38.4	40.6	42.8	45.5	48.4	51.3	53.4	54.9	55.3	55.5	56
PV of FCF	40.4	28.3	29.9	29.5	28.5	27.5	26.8	26.1	25.3	24.1	22.7	20.9	19.2	234
share of PVs	16.91 %			42.95 %										40.14 %

Model parameter

Derivation of WACC:		Derivation of Beta:	
Debt ratio	30.00 %	Financial Strength	1.60
Cost of debt (after tax)	3.6 %	Liquidity (share)	2.00
Market return	8.25 %	Cyclicality	1.50
Risk free rate	2.75 %	Transparency	2.00
		Others	1.00
WACC	**9.24 %**	**Beta**	**1.62**

Valuation (m)

Present values 2035e	349		
Terminal Value	234		
Financial liabilities	94		
Pension liabilities	90		
Hybrid capital	0		
Minority interest	2		
Market val. of investments	0		
Liquidity	9	No. of shares (m)	10.1
Equity Value	**406**	**Value per share (EUR)**	**40.10**

Sensitivity Value per Share (EUR)

		Terminal Growth						
Beta	WACC	0.25 %	0.50 %	0.75 %	**1.00 %**	1.25 %	1.50 %	1.75 %
1.88	10.2 %	32.46	32.90	33.36	33.84	34.36	34.90	35.47
1.75	9.7 %	35.16	35.68	36.22	36.79	37.40	38.04	38.73
1.68	9.5 %	36.63	37.19	37.78	38.40	39.06	39.76	40.51
1.62	9.2 %	38.18	38.78	39.42	**40.10**	40.83	41.60	42.42
1.56	9.0 %	39.82	40.48	41.18	41.92	42.71	43.55	44.46
1.49	8.7 %	41.56	42.28	43.04	43.85	44.72	45.65	46.64
1.36	8.2 %	45.37	46.23	47.15	48.13	49.18	50.31	51.52

		Delta EBIT-margin						
Beta	WACC	-0.8 pp	-0.5 pp	-0.3 pp	**+0.0 pp**	+0.3 pp	+0.5 pp	+0.8 pp
1.88	10.2 %	29.83	31.17	32.50	33.84	35.18	36.52	37.86
1.75	9.7 %	32.55	33.96	35.38	36.79	38.21	39.62	41.03
1.68	9.5 %	34.03	35.49	36.94	38.40	39.85	41.31	42.76
1.62	9.2 %	35.61	37.11	38.61	**40.10**	41.60	43.10	44.60
1.56	9.0 %	37.29	38.83	40.38	41.92	43.46	45.01	46.55
1.49	8.7 %	39.07	40.67	42.26	43.85	45.45	47.04	48.63
1.36	8.2 %	43.02	44.72	46.43	48.13	49.83	51.53	53.24

- The beta value reflects the limited liquidity of the shares (free-float 47.08%),
- In addition, transparency is reduced for structural reasons as Alzchem is positioned as a B2B company

Free Cash Flow Value Potential

Warburg Research's valuation tool "FCF Value Potential" reflects the ability of the company to generate sustainable free cash flows. It is based on the "FCF potential" - a FCF "ex growth" figure - which assumes unchanged working capital and pure maintenance capex. A value indication is derived via the perpetuity of a given year's “FCF potential” with consideration of the weighted costs of capital. The fluctuating value indications over time add a timing element to the DCF model (our preferred valuation tool).

in EUR m	2019	2020	2021	2022	2023e	2024e	2025e
Net Income before minorities	18.1	19.9	27.8	30.2	35.0	38.0	41.8
+ Depreciation + Amortisation	19.5	23.1	24.5	25.5	25.3	27.1	28.0
- Net Interest Income	-2.6	-2.1	-1.5	-2.5	-6.0	-4.0	-3.1
- Maintenance Capex	14.5	14.7	14.8	15.4	15.8	16.0	16.3
+ Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
= Free Cash Flow Potential	**25.8**	**30.4**	**38.9**	**42.8**	**50.5**	**53.1**	**56.6**
FCF Potential Yield (on market EV)	6.4 %	7.9 %	9.1 %	11.4 %	12.5 %	13.6 %	14.8 %
WACC	9.24 %	9.24 %	9.24 %	9.24 %	9.24 %	9.24 %	9.24 %
= Enterprise Value (EV)	**404.4**	**387.2**	**425.3**	**375.2**	**404.2**	**390.9**	**382.2**
= Fair Enterprise Value	**278.9**	**328.9**	**420.8**	**463.4**	**546.1**	**574.4**	**612.1**
- Net Debt (Cash)	84.7	84.7	84.7	84.7	61.0	45.6	35.4
- Pension Liabilities	90.1	90.1	90.1	90.1	89.8	91.9	93.3
- Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
- Market value of minorities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
+ Market value of investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
= Fair Market Capitalisation	**104.1**	**154.0**	**246.0**	**288.6**	**395.3**	**436.9**	**483.3**
Number of shares, average	10.2	10.2	10.1	10.1	10.2	10.2	10.2
= Fair value per share (EUR)	**10.23**	**15.14**	**24.27**	**28.47**	**38.85**	**42.93**	**47.49**
premium (-) / discount (+) in %					56.0 %	72.4 %	90.7 %

Sensitivity Fair value per Share (EUR)

	12.24 %	3.52	7.25	14.09	17.27	25.80	29.22	32.89
	11.24 %	5.37	9.43	16.88	20.34	29.42	33.02	36.94
	10.24 %	7.58	12.03	20.21	24.01	33.74	37.57	41.79
WACC	**9.24 %**	**10.23**	**15.14**	**24.27**	**28.47**	**38.85**	**42.93**	**47.49**
	8.24 %	13.60	19.14	29.30	34.02	45.54	49.98	55.01
	7.24 %	17.86	24.16	35.73	41.10	53.88	58.76	64.36
	6.24 %	23.49	30.79	44.22	50.45	64.90	70.34	76.71

- Historical volatility of the value indication is due to cyclical operative development

Valuation

	2019	2020	2021	2022	2023e	2024e	2025e
Price / Book	3.6 x	3.0 x	2.8 x	1.4 x	1.5 x	1.3 x	1.1 x
Book value per share ex intangibles	5.72	6.40	8.42	13.92	16.27	18.91	21.87
EV / Sales	1.1 x	1.0 x	1.0 x	0.7 x	0.8 x	0.7 x	0.7 x
EV / EBITDA	8.1 x	7.2 x	6.9 x	6.1 x	5.0 x	4.7 x	4.3 x
EV / EBIT	13.2 x	12.6 x	11.3 x	10.5 x	7.4 x	6.9 x	6.2 x
EV / EBIT adj.*	13.2 x	12.6 x	11.3 x	10.5 x	7.4 x	6.9 x	6.2 x
P / FCF	93.8 x	10.1 x	16.9 x	n.a.	7.4 x	9.5 x	11.5 x
P / E	12.0 x	10.2 x	8.9 x	6.7 x	7.3 x	6.7 x	6.1 x
P / E adj.*	12.0 x	10.2 x	8.9 x	6.7 x	7.3 x	6.7 x	6.1 x
Dividend Yield	3.5 %	3.9 %	4.1 %	5.3 %	4.4 %	4.6 %	5.0 %
FCF Potential Yield (on market EV)	6.4 %	7.9 %	9.1 %	11.4 %	12.5 %	13.6 %	14.8 %

*Adjustments made for: Restructuring costs, value adjustments, one-off earnings/losses

Consolidated profit & loss

In EUR m	2019	2020	2021	2022	2023e	2024e	2025e
Sales	**376.1**	**379.3**	**422.3**	**542.2**	**538.3**	**562.8**	**580.6**
Change Sales yoy	0.2 %	0.8 %	11.3 %	28.4 %	-0.7 %	4.6 %	3.2 %
Increase / decrease in inventory	-4.9	-2.5	10.0	22.2	0.0	0.0	0.0
Own work capitalised	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Sales	**371.2**	**376.7**	**432.3**	**564.4**	**538.3**	**562.8**	**580.6**
Material expenses	142.4	132.5	170.7	288.9	246.0	260.9	267.5
Gross profit	**228.8**	**244.2**	**261.7**	**275.5**	**292.3**	**301.9**	**313.1**
Gross profit margin	*60.8 %*	*64.4 %*	*62.0 %*	*50.8 %*	*54.3 %*	*53.6 %*	*53.9 %*
Personnel expenses	122.1	127.4	132.2	137.1	141.8	144.3	147.8
Other operating income	17.1	10.7	11.4	24.2	23.1	24.1	24.9
Other operating expenses	73.8	73.7	78.8	101.1	93.5	97.7	100.8
Unfrequent items	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA	**50.1**	**53.8**	**62.0**	**61.4**	**80.1**	**84.0**	**89.4**
Margin	*13.3 %*	*14.2 %*	*14.7 %*	*11.3 %*	*14.9 %*	*14.9 %*	*15.4 %*
Depreciation of fixed assets	19.5	23.1	24.5	25.5	25.3	27.1	28.0
EBITA	**30.6**	**30.7**	**37.6**	**35.9**	**54.8**	**57.0**	**61.4**
Amortisation of intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Goodwill amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	**30.6**	**30.7**	**37.6**	**35.9**	**54.8**	**57.0**	**61.4**
Margin	*8.1 %*	*8.1 %*	*8.9 %*	*6.6 %*	*10.2 %*	*10.1 %*	*10.6 %*
EBIT adj.	**30.6**	**30.7**	**37.6**	**35.9**	**54.8**	**57.0**	**61.4**
Interest income	0.1	0.0	0.0	0.0	0.9	1.9	1.2
Interest expenses	2.7	2.1	1.5	2.5	6.9	5.9	4.3
Other financial income (loss)	-2.5	-1.4	0.4	7.9	-0.2	-0.2	-0.2
EBT	**25.5**	**27.2**	**36.5**	**41.3**	**48.6**	**52.7**	**58.1**
Margin	*6.8 %*	*7.2 %*	*8.6 %*	*7.6 %*	*9.0 %*	*9.4 %*	*10.0 %*
Total taxes	7.3	7.3	8.7	11.1	13.6	14.8	16.3
Net income from continuing operations	**18.1**	**19.9**	**27.8**	**30.2**	**35.0**	**38.0**	**41.8**
Income from discontinued operations (net of tax)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income before minorities	**18.1**	**19.9**	**27.8**	**30.2**	**35.0**	**38.0**	**41.8**
Minority interest	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Net income	**18.0**	**19.7**	**27.6**	**30.1**	**34.8**	**37.8**	**41.7**
Margin	*4.8 %*	*5.2 %*	*6.5 %*	*5.5 %*	*6.5 %*	*6.7 %*	*7.2 %*
Number of shares, average	10.2	10.2	10.1	10.1	10.2	10.2	10.2
EPS	**1.77**	**1.94**	**2.72**	**2.96**	**3.42**	**3.71**	**4.09**
EPS adj.	1.77	1.94	2.72	2.96	3.42	3.71	4.09

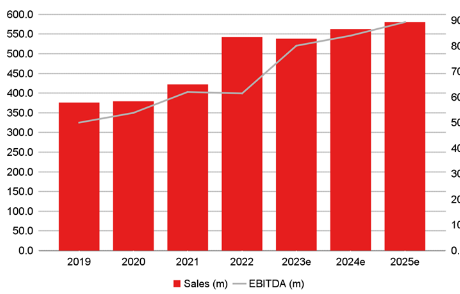
*Adjustments made for: Restructuring costs, value adjustments, one-off earnings/losses

Guidance: FY 2023: EBITDA slightly growing to up to EUR 80m

Financial Ratios

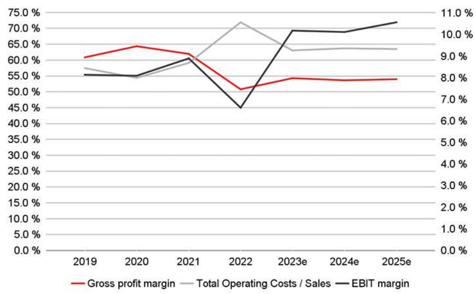
	2019	2020	2021	2022	2023e	2024e	2025e
Total Operating Costs / Sales	57.5 %	54.4 %	59.1 %	71.9 %	63.1 %	63.7 %	63.4 %
Operating Leverage	-46.3 x	0.5 x	2.0 x	-0.2 x	-72.5 x	0.8 x	2.5 x
EBITDA / Interest expenses	18.3 x	25.1 x	41.6 x	24.4 x	11.6 x	14.2 x	21.0 x
Tax rate (EBT)	28.8 %	27.0 %	24.0 %	26.8 %	28.0 %	28.0 %	28.0 %
Dividend Payout Ratio	42.1 %	39.4 %	36.5 %	35.2 %	32.0 %	30.8 %	30.4 %
Sales per Employee	219,834	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Sales, EBITDA
in EUR m



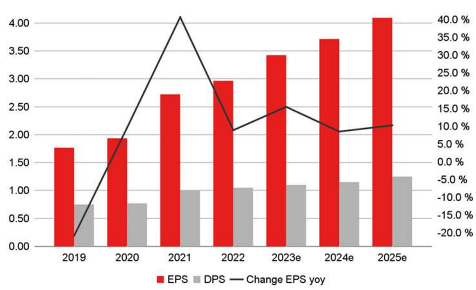
Source: Warburg Research

Operating Performance
in %



Source: Warburg Research

Performance per Share



Source: Warburg Research

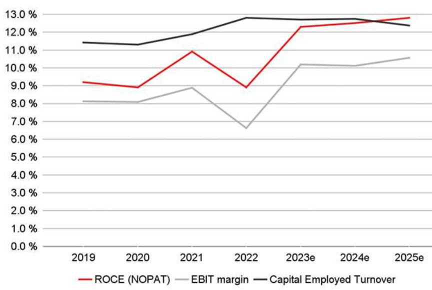
Consolidated balance sheet

In EUR m	2019	2020	2021	2022	2023e	2024e	2025e
Assets							
Goodwill and other intangible assets	1.5	1.8	2.3	3.0	2.7	2.4	2.2
thereof other intangible assets	1.5	1.8	2.3	3.0	2.7	2.4	2.2
thereof Goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Property, plant and equipment	175.5	183.6	186.5	187.8	187.5	195.4	202.4
Financial assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other long-term assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fixed assets	**177.0**	**185.4**	**188.8**	**190.7**	**190.2**	**197.8**	**204.5**
Inventories	74.6	67.4	86.7	122.4	121.8	125.5	128.2
Accounts receivable	32.5	33.1	40.8	55.7	55.3	57.8	59.7
Liquid assets	9.1	17.1	8.3	9.2	19.5	12.3	5.7
Other short-term assets	49.4	51.2	53.0	44.8	44.5	45.9	46.9
Current assets	**165.6**	**168.9**	**188.8**	**232.1**	**241.1**	**241.5**	**240.3**
Total Assets	**342.6**	**354.3**	**377.7**	**422.9**	**431.3**	**439.3**	**444.9**
Liabilities and shareholders' equity							
Subscribed capital	101.8	101.8	101.8	101.8	101.8	101.8	101.8
Capital reserve	-5.0	-4.2	-1.7	5.1	8.0	11.2	14.8
Retained earnings	-30.7	-25.5	-10.3	30.8	48.5	67.9	89.8
Other equity components	-6.3	-5.2	-2.1	6.3	10.0	14.0	18.4
Shareholders' equity	59.8	66.9	87.6	144.0	168.2	194.8	224.8
Minority interest	1.6	1.8	1.9	1.9	2.0	2.1	2.2
Total equity	**61.4**	**68.7**	**89.6**	**145.9**	**170.2**	**196.9**	**226.9**
Provisions	158.8	168.9	167.3	109.1	108.7	111.3	113.2
thereof provisions for pensions and similar obligations	134.6	141.8	140.0	90.1	89.8	91.9	93.3
Financial liabilities (total)	62.7	60.7	48.0	93.9	80.5	57.9	41.1
Short-term financial liabilities	11.9	12.7	10.5	66.4	23.1	10.8	11.0
Accounts payable	24.1	20.9	32.8	37.4	37.1	38.8	40.0
Other liabilities	35.7	35.1	39.9	36.5	34.8	34.4	23.6
Liabilities	**281.2**	**285.6**	**288.1**	**276.9**	**261.1**	**242.4**	**217.9**
Total liabilities and shareholders' equity	**342.6**	**354.3**	**377.7**	**422.9**	**431.3**	**439.3**	**444.9**

Financial Ratios

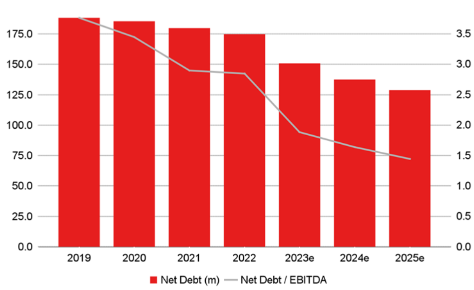
	2019	2020	2021	2022	2023e	2024e	2025e
Efficiency of Capital Employment							
Operating Assets Turnover	1.5 x	1.4 x	1.5 x	1.7 x	1.6 x	1.7 x	1.7 x
Capital Employed Turnover	1.5 x	1.5 x	1.6 x	1.7 x	1.7 x	1.7 x	1.6 x
ROA	10.2 %	10.6 %	14.6 %	15.8 %	18.3 %	19.1 %	20.4 %
Return on Capital							
ROCE (NOPAT)	9.2 %	8.9 %	10.9 %	8.9 %	12.3 %	12.5 %	12.8 %
ROE	28.4 %	31.1 %	35.7 %	25.9 %	22.3 %	20.8 %	19.9 %
Adj. ROE	28.4 %	31.1 %	35.7 %	25.9 %	22.3 %	20.8 %	19.9 %
Balance sheet quality							
Net Debt	188.3	185.4	179.8	174.8	150.8	137.5	128.8
Net Financial Debt	53.6	43.6	39.8	84.7	61.0	45.6	35.4
Net Gearing	306.8 %	270.0 %	200.7 %	119.8 %	88.6 %	69.8 %	56.7 %
Net Fin. Debt / EBITDA	107.1 %	81.1 %	64.1 %	137.8 %	76.1 %	54.3 %	39.7 %
Book Value / Share	5.9	6.6	8.6	14.2	16.5	19.1	22.1
Book value per share ex intangibles	5.7	6.4	8.4	13.9	16.3	18.9	21.9

ROCE Development



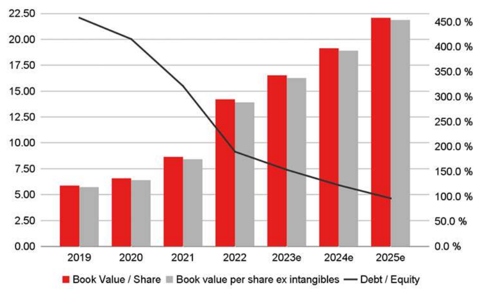
Source: Warburg Research

Net debt
in EUR m



Source: Warburg Research

Book Value per Share
in EUR



Source: Warburg Research

Consolidated cash flow statement

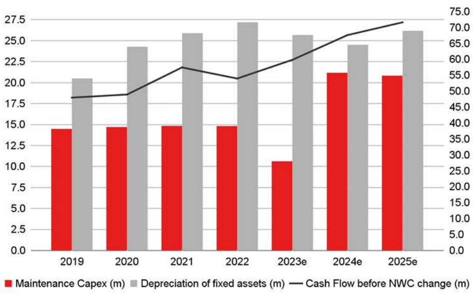
In EUR m	2019	2020	2021	2022	2023e	2024e	2025e
Net income	18.1	19.9	27.8	30.2	35.0	38.0	41.8
Depreciation of fixed assets	20.5	24.3	25.9	27.2	25.7	24.5	26.2
Amortisation of goodwill	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortisation of intangible assets	-1.0	-1.2	-1.4	-1.7	-0.4	2.6	1.8
Increase/decrease in long-term provisions	-1.0	-1.2	-1.4	-1.7	-0.4	2.6	1.8
Other non-cash income and expenses	11.4	7.2	6.6	-0.1	0.0	0.0	0.0
Cash Flow before NWC change	**48.0**	**49.0**	**57.4**	**54.0**	**59.9**	**67.6**	**71.6**
Increase / decrease in inventory	2.4	5.3	-16.5	-37.9	0.6	-3.7	-2.6
Increase / decrease in accounts receivable	-7.1	-5.8	1.8	-19.9	0.6	-3.9	-2.8
Increase / decrease in accounts payable	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Increase / decrease in other working capital positions	0.3	0.2	0.3	-0.3	-1.9	1.3	-9.6
Increase / decrease in working capital (total)	-4.4	-0.3	-14.4	-58.2	-0.7	-6.3	-14.9
Net cash provided by operating activities [1]	**43.6**	**48.7**	**43.0**	**-4.2**	**59.1**	**61.3**	**56.7**
Investments in intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Investments in property, plant and equipment	-41.4	-28.8	-28.5	-29.1	-24.7	-34.7	-34.7
Payments for acquisitions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from asset disposals	0.1	0.0	0.1	0.6	0.0	0.0	0.0
Net cash provided by investing activities [2]	**-41.3**	**-28.8**	**-28.5**	**-28.5**	**-24.7**	**-34.7**	**-34.7**
Change in financial liabilities	4.8	-1.9	-12.7	45.9	-13.5	-22.6	-16.8
Dividends paid	-9.3	-7.8	-8.0	-10.3	-10.7	-11.3	-11.8
Purchase of own shares	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capital measures	0.0	0.0	-1.0	0.0	0.0	0.0	0.0
Other	-1.6	-2.0	-1.9	-1.9	0.0	0.0	0.0
Net cash provided by financing activities [3]	**-6.2**	**-11.7**	**-23.6**	**33.6**	**-24.2**	**-33.8**	**-28.6**
Change in liquid funds [1]+[2]+[3]	**-3.9**	**8.2**	**-9.3**	**0.8**	**10.2**	**-7.2**	**-6.6**
Effects of exchange-rate changes on cash	0.1	-0.1	0.3	0.1	0.0	0.0	0.0
Cash and cash equivalent at end of period	9.1	17.1	8.3	9.2	19.5	12.3	5.7

Financial Ratios

	2019	2020	2021	2022	2023e	2024e	2025e
Cash Flow							
FCF	2.3	19.9	14.5	-32.8	34.4	26.6	22.0
Free Cash Flow / Sales	0.6 %	5.2 %	3.4 %	-6.0 %	6.4 %	4.7 %	3.8 %
Free Cash Flow Potential	25.8	30.4	38.9	42.8	50.5	53.1	56.6
Free Cash Flow / Net Profit	12.8 %	100.9 %	52.7 %	-109.0 %	98.8 %	70.4 %	52.8 %
Interest Received / Avg. Cash	1.1 %	0.1 %	0.0 %	0.5 %	6.3 %	12.0 %	13.4 %
Interest Paid / Avg. Debt	4.5 %	3.5 %	2.7 %	3.5 %	7.9 %	8.6 %	8.6 %
Management of Funds							
Investment ratio	11.0 %	7.6 %	6.8 %	5.4 %	4.6 %	6.2 %	6.0 %
Maint. Capex / Sales	3.9 %	3.9 %	3.5 %	2.8 %	2.9 %	2.8 %	2.8 %
Capex / Dep	212.3 %	124.8 %	116.6 %	113.8 %	97.8 %	128.2 %	124.0 %
Avg. Working Capital / Sales	22.0 %	21.4 %	20.6 %	21.7 %	26.1 %	25.3 %	25.2 %
Trade Debtors / Trade Creditors	135.0 %	158.6 %	124.6 %	149.0 %	149.0 %	149.0 %	149.0 %
Inventory Turnover	1.9 x	2.0 x	2.0 x	2.4 x	2.0 x	2.1 x	2.1 x
Receivables collection period (days)	32	32	35	38	38	38	38
Payables payment period (days)	62	58	70	47	55	54	55
Cash conversion cycle (Days)	161	160	151	145	163	159	158

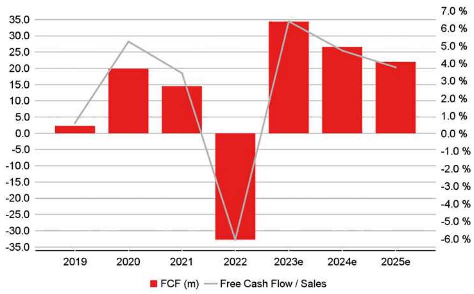
CAPEX and Cash Flow

in EUR m



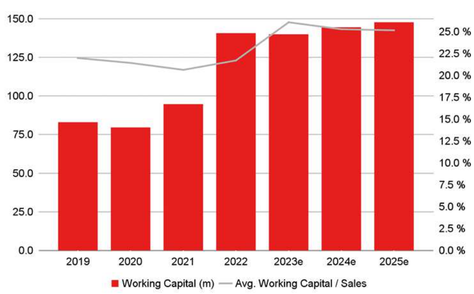
Source: Warburg Research

Free Cash Flow Generation



Source: Warburg Research

Working Capital



Source: Warburg Research

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Company	Disclosure	Link to the historical price targets and rating changes (last 12 months)
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Investment recommendation: expected direction of the share price development of the financial instrument up to the given price target in the opinion of the analyst who covers this financial instrument.

-B-	**Buy:**	The price of the analysed financial instrument is expected to rise over the next 12 months.
-H-	**Hold:**	The price of the analysed financial instrument is expected to remain mostly flat over the next 12 months.
-S-	**Sell:**	The price of the analysed financial instrument is expected to fall over the next 12 months.
"-"	**Rating suspended:**	The available information currently does not permit an evaluation of the company.

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING

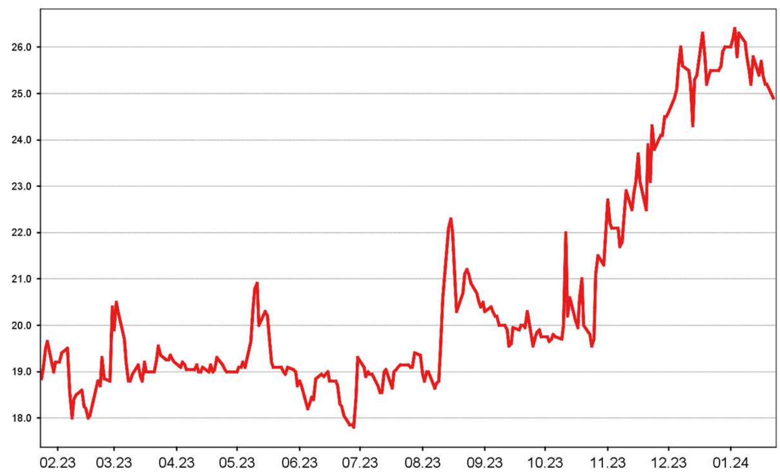
Rating	Number of stocks	% of Universe
Buy	151	72
Hold	46	22
Sell	7	3
Rating suspended	7	3
Total	**211**	**100**

WARBURG RESEARCH GMBH – ANALYSED RESEARCH UNIVERSE BY RATING …

… taking into account only those companies which were provided with major investment services in the last twelve months.

Rating	Number of stocks	% of Universe
Buy	46	82
Hold	7	13
Sell	0	0
Rating suspended	3	5
Total	**56**	**100**

PRICE AND RATING HISTORY ALZCHEM AS OF 23.01.2024



Markings in the chart show rating changes by Warburg Research GmbH in the last 12 months. Every marking details the date and closing price on the day of the rating change.

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